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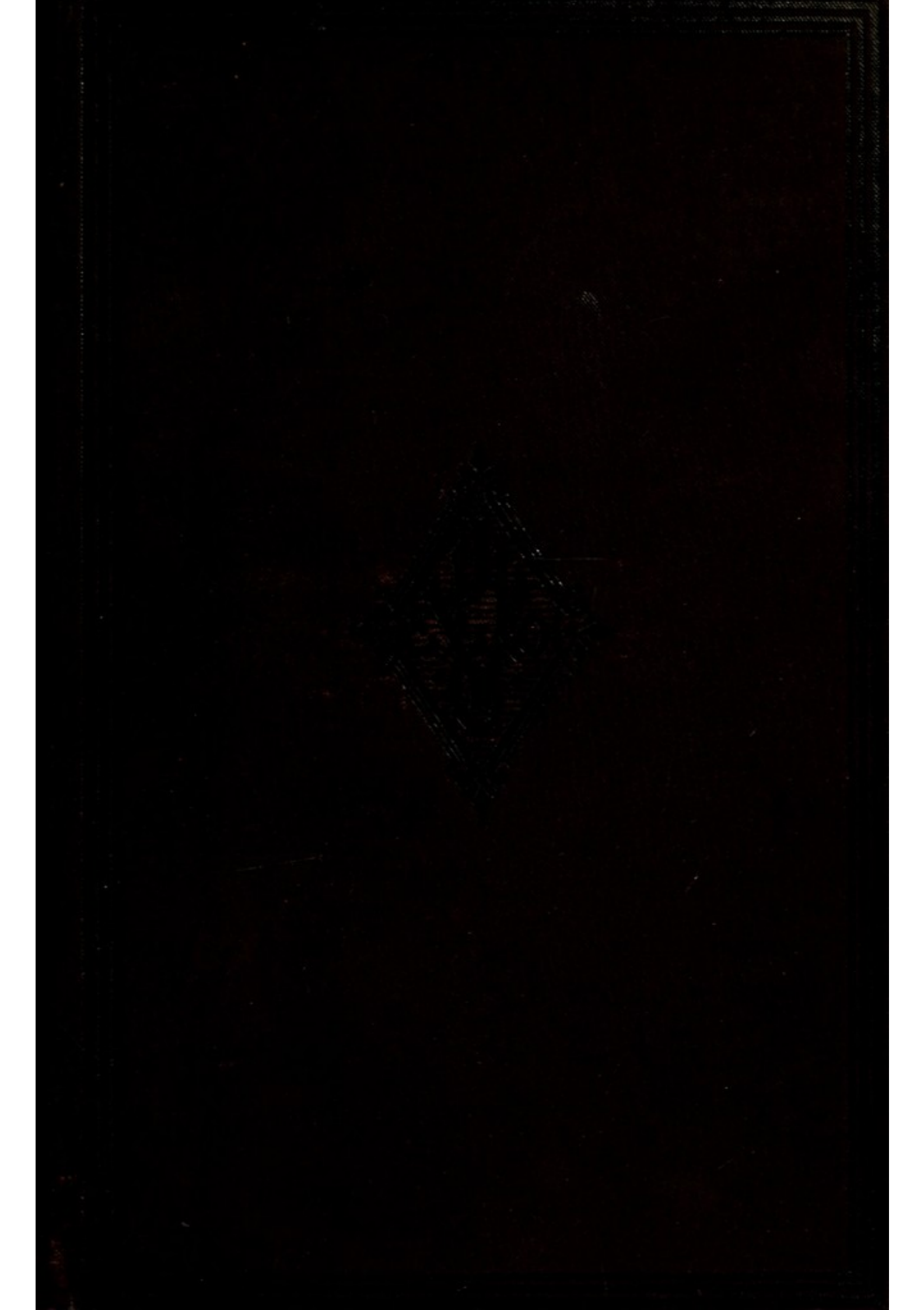
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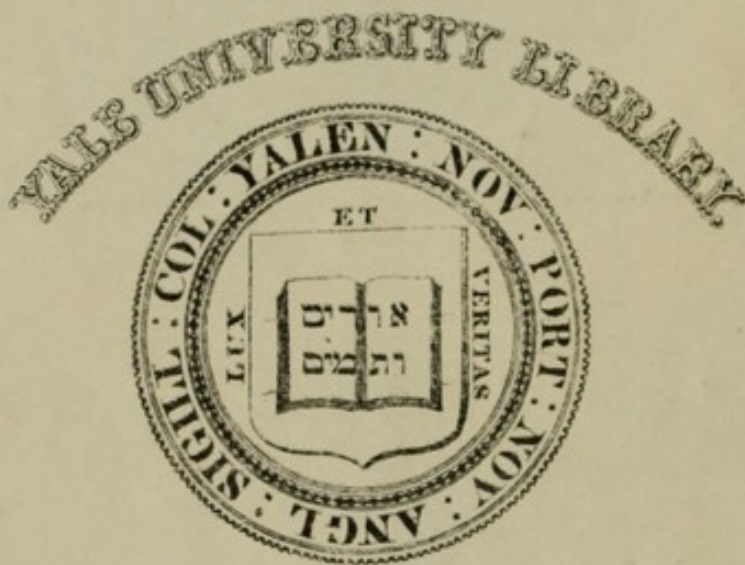
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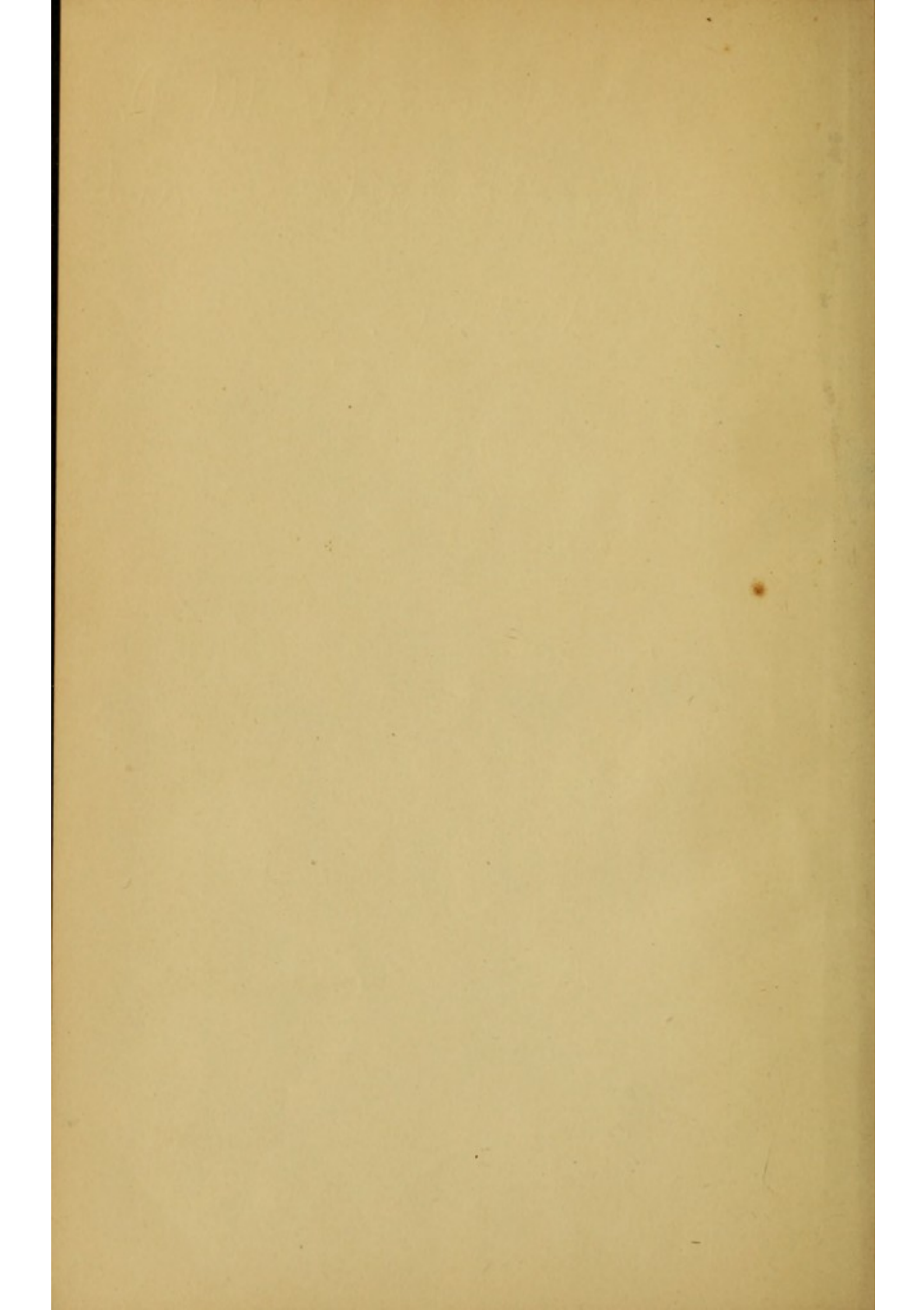


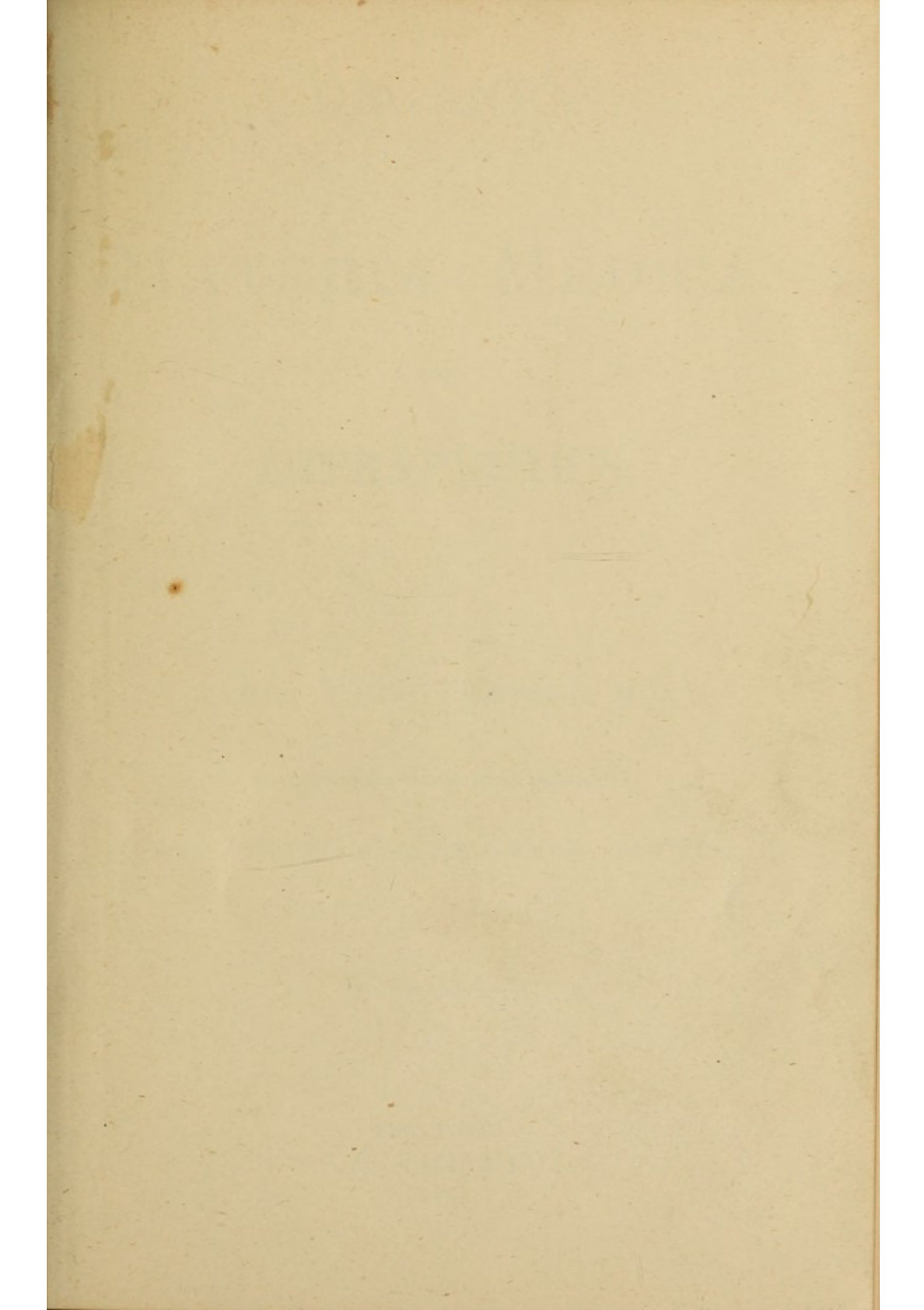


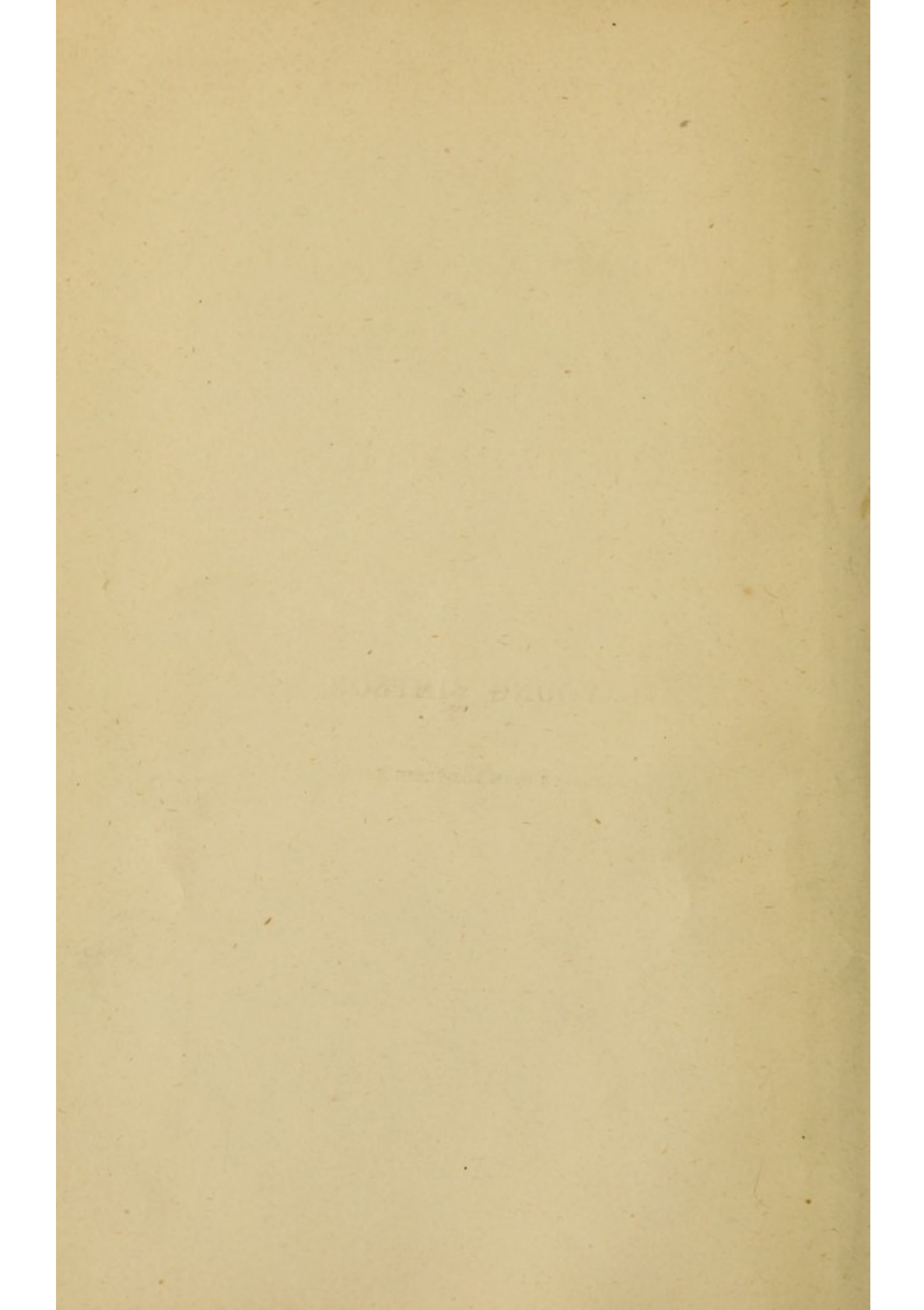
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James E. Newcomb, M.D.,
1890

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9

ORGANIC

MATERIA MEDICA

AND

THERAPEUTICS,

BY
JAMES YOUNG SIMPSON, M.D.

IN ACCORDANCE WITH THE SIXTH REVISION OF
THE UNITED STATES PHARMACOPŒIA.

NEW YORK:
J. H. VAIL & CO.
1885.

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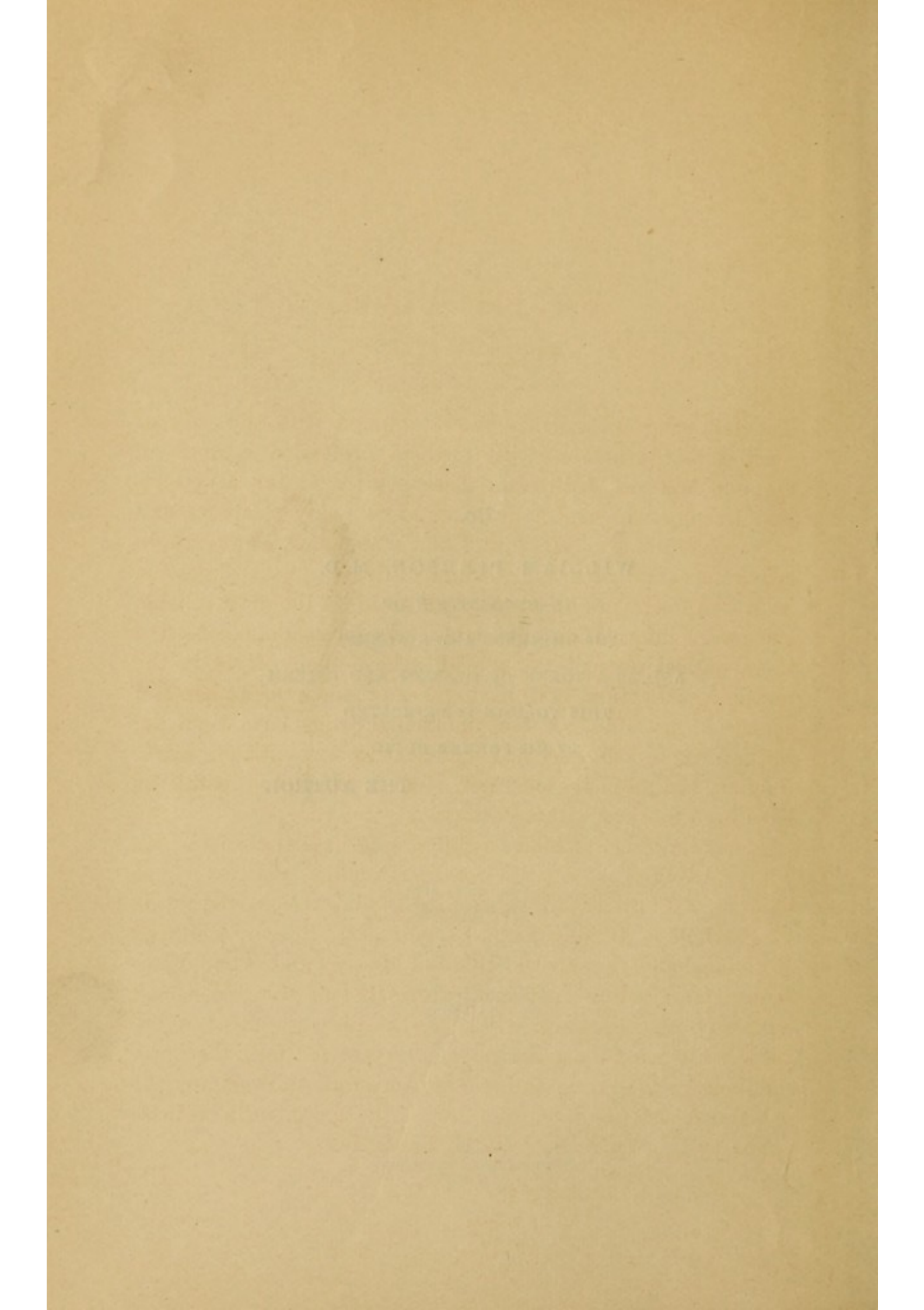
HIS EMINENCE AND KINDNESS

AND AS A TOKEN OF RESPECT AND ESTEEM

THIS VOLUME IS DEDICATED

BY HIS FORMER PUPIL

THE AUTHOR



PREFACE.

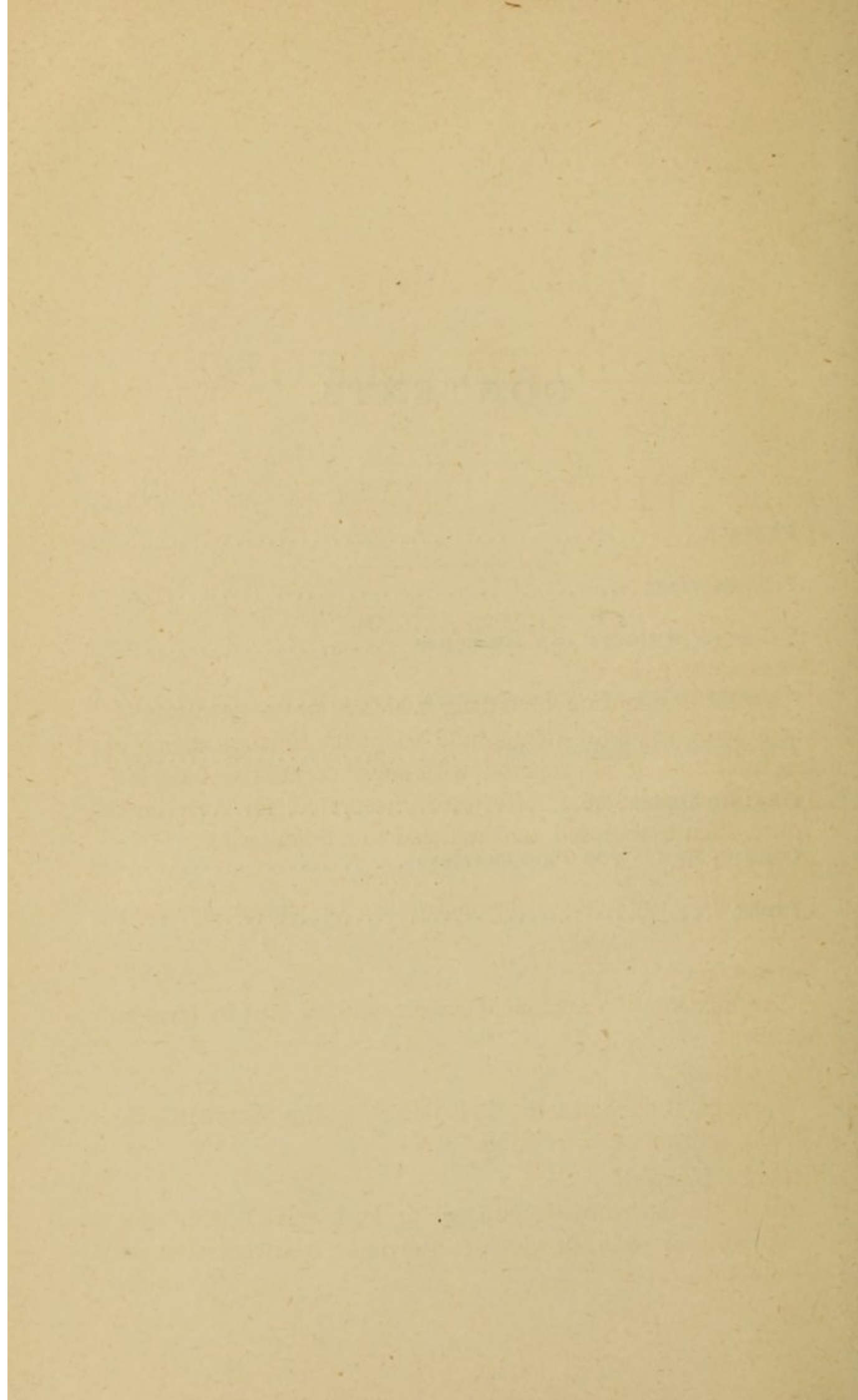
THE following volume has been compiled with the view of placing in the hands of the medical profession a work on Organic Materia Medica and Therapeutics, having a systematic arrangement especially adapted to ready reference and easy remembrance. If any of the statements in regard to appearances, properties, or actions of drugs appear dogmatic, let it be remembered that they are based on the most reliable and recent information obtainable. As far as practicable the therapeutical uses of the remedies have their origin in the physiological action, both having been made as complete and concise as possible. A few unofficinal drugs have been described whose value seemed sufficient to warrant their introduction, but all of these as well as all unofficinal preparations have been marked with an asterisk.

A small number of tables will be found in the volume which will probably prove of much service to the practitioner and student. Information has been freely drawn from the works of Bartholow, Biddle, Binz, Farquharson, Ringer, Phillips; Nothnagel and Rossbach; Stillé and Maisch; and Wood, Remington, and Sadtler; especially from that of the first-named authority, and the author takes great pleasure in thanking these writers for the assistance he has received from their productions. He also takes much pleasure in acknowledging the valuable assistance given him during the compilation of these pages by his friend Dr. John H. Bradshaw.

ORANGE, N. J., January, 1885.

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ORGANIC
MATERIA MEDICA
AND
THERAPEUTICS.

PREPARATIONS.

ABSTRACTUM (*Abstract*).

A solid preparation of a drug which is twice as strong as the extract and fluid extract, and about ten times as strong as the tincture. It is prepared with sugar of milk and alcohol, being first percolated, afterward macerated for forty-eight hours, then evaporated, and reduced to a fine powder.

ACETUM (*Vinegar*).

A solution of a medicinal substance in vinegar or acetic acid.

ADEPS (*Lard*).

The mixture of a medicinal substance with lard to form an ointment.

AQUA (*Water*).

A preparation consisting of water holding a volatile or gaseous substance in solution.

CERATUM (*Cerate*).

An ointment consisting of oil or lard, mixed with wax, spermaceti, or resin, to which one or more medicaments have been added.

CHARTA (*Paper*).

A paper containing some medicinal substance upon its surface or in its composition.

COLLODIUM (*Collodion*).

A mixture of gun-cotton, ether, and alcohol, holding in solution one or more other substances.

CONFECTIO (*Confection*).

A preparation of one or more medicinal substances with saccharine matter. It is in the form of a soft solid.

DECOCTUM (*Decoction*).

The solution of a drug prepared by boiling it in water.

ELIXIR (*Elixir*).

An aromatic, sweetened, spirituous preparation containing small quantities of medicinal substances.

EMPLASTRUM (*Plaster*).

A solid compound intended for external application, which is adhesive at the temperature of the body and has one or more medicinal substances in its composition.

EXTRACTUM (*Extract*).

A solid preparation resulting from the evaporation of the solutions of vegetable principles, obtained by exposing a dried drug to the action of a solvent, or by expressing the juice from a fresh plant.

EXTRACTUM FLUIDUM (*Fluid extract*).

A preparation made by evaporating a solution of a drug to a definite strength, which is such that one cubic centimeter of the preparation shall equal one gram of the crude drug.

GLYCERINUM (*Glycerine*).

A solution of a medicinal substance in glycerine.

INFUSUM (*Infusion*).

A preparation obtained by treating, with water, vegetable products which are only partially soluble in that liquid without the aid of ebullition.

LINIMENTUM (*Liniment*).

A preparation intended for external use and of such a con-

sistence as to be readily applied with the hand. It may be stimulating or sedative in its action.

LIQUOR (*Solution*).

An aqueous solution without sugar of a substance wholly soluble in water and not volatile or gaseous in its nature.

MASSA (*Mass*).

The mixture of a medicinal substance with other substances to form a solid mass from which pills are made.

MEL (*Honey*).

The preparation of a medicinal substance in honey.

MISTURA (*Mixture*).

The suspension of either a solid or liquid insoluble substance in a watery fluid by the aid of gum arabic, sugar, the yolks of eggs, or other viscid matter.

MUCILAGO (*Mucilage*).

An aqueous solution of gum or substance closely allied to it.

OLEATUM (*Oleate*).

This is a solution of a medicinal substance in oleic acid, and is obtained by triturating a solid substance in oleic acid until it is dissolved.

OLEORESINA (*Oleoresin*).

A preparation which consists of principles which when extracted by the means of ether have the property of self-preservation and retain a liquid or semi-liquid state upon the evaporation of the menstruum.

OLEUM (*Oil*).

A liquid or solid substance characterized by an unctuous feel, inflammability, and the property of producing a greasy stain upon paper. It may be either fixed or volatile.

PILULA (*Pill*).

A globular mass with which is incorporated one or more medicinal substances.

PULVIS (*Powder*).

A dry, solid preparation consisting of a mixture of one or more medicinal substances with another ingredient.

RESINA (*Resin*).

A preparation made by exhausting the substances from which they are obtained by alcohol, and then precipitating the resinous matter from the tincture, by the addition of water.

SPIRITUS (*Spirit*).

The solution of a volatile principle in alcohol.

SUPPOSITORIUM (*Suppository*).

A preparation, usually made with butter of cacao, of a cylindrical, conical, or spherical shape for the purpose of introducing remedies into the rectum.

SYRUPUS (*Syrup*).

A solution of sugar in water which contains some medicinal substance.

TINCTURA (*Tincture*).

The solution of a non-volatile medicinal substance in alcohol, prepared by maceration, digestion, or percolation.

TRITURATIO (*Trituration*).

A preparation made by grinding a medicinal substance with sugar of milk until a fine powder is obtained.

TROCHISCUS (*Troche*).

A flattened mass which consists of a powder incorporated with sugar and mucilage.

UNGENTUM (*Ointment*).

The mixture of a medicinal substance with lard and wax for external application.

VINUM (*Wine*).

The solution of one or more medicinal substances in wine.

TABLE OF WEIGHTS AND MEASURES.

I.—APOTHECARIES' SYSTEM.

II.—METRIC SYSTEM.

I.—APOTHECARIES' SYSTEM.

Weights (Troy).

	Symbol.	Latin.
The Pound.....	lb.	Libra.
The Ounce.....	℥	Uncia.
The Drachm.....	ʒ	Drachma.
The Scruple.....	ʒ	Scrupulum.
The Grain.....	gr.	Granum.

Pound.	Ounces.	Drachms.	Scruples.	Grains.
lb. 1	= 12	= 96	= 288	= 5,760
	℥ 1	= 8	= 24	= 480
		ʒ 1	= 3	= 60
			ʒ 1	= 20

Measures (Wine).

	Symbol.	Latin.
The Gallon.....	C	Congius.
The Pint.....	O	Octarius.
The Fluidounce.....	f ℥	Fluiduncia.
The Fluidrachm.....	f ʒ	Fluidrachma.
The Minim.....	℥	Minimum.

Gallon.	Pints.	Fluidounces.	Fluidrachms.	Minims.
C 1	= 8	= 128	= 1,024	= 61,440
	O 1	= 16	= 128	= 7,680
		f ℥ 1	= 8	= 480
			f ʒ 1	= ℥ 60

Domestic Measures.

The Teaspoon contains about	1	Drachm.
The Dessertspoon	"	" 2 Drachms.
The Tablespoon	"	" 4 Drachms.
The Wineglass	"	" 2 Fluidounces.
The Teacup	"	" 4 Fluidounces.

II.—THE METRIC SYSTEM.

Characteristics.

1. It rests upon a basis of a *constant* of nature (the measure of a ten-millionth part of the quadrant of the earth).
2. It is *harmonious* throughout, so that the units for the measurement of surface, volume, and weight all bear the simplest relation possible to the unit of length which is the basis of all.
3. It is *decimal*, so as to correspond with our arithmetic.

NAMES OF METRIC DIVISIONS.

The Units.

Weight, Gram (Gm.)	=	about 15.0	Troy Grains.
Length, Meter	=	"	39.3 Inches.
Cubic Capacity, Litre	=	"	33.8 Fluidounces.

For Subdivision.

Milli indicates the	$\frac{1}{1000}$	of the unit.
Centi	"	" $\frac{1}{100}$ " "
Deci	"	" $\frac{1}{10}$ " "

For Multiplication.

Deca indicates	10	times the unit.
Hecto	"	100 " "
Kilo	"	1,000 " "
Myria	"	10,000 " "

1 Gram = the weight of 1 Cubic Centimeter of water at 4° C., written 1.

1 Decigram * = $\frac{1}{10}$ of a Gram, written .1.

1 Centigram = $\frac{1}{100}$ of a Gram, written .01.

1 Milligram = $\frac{1}{1000}$ of a Gram, written .001.

1 Decagram * = 10 Grams, written 10.

1 Hectogram * = 100 Grams, written 100.

1 Kilogram = 1,000 Grams, written 1,000.

* The terms Decigram, Decagram, and Hectogram are disregarded, and the terms Grams and Centigrams used.

Measures.

As 1 Gram = the weight of one Cubic Centimeter of water weighed at 4° C. and is written 1, it is common to speak of the Cubic Centimeter as a Fluigram ; thus :

- 1 Fluigram is written 1.
- 1 Fluicentigram is written .01.
- 1 Litre is written 1,000.

Relation between the Metric and the Apothecaries' Systems.

- 1 Gram is equal to 15 Troy Grains.
- 1 Troy Grain is equal to $\frac{1}{15}$ Gram (.06).
- 1 Fluigram is equal to 15 Minims.
- 1 Minim is equal to $\frac{1}{15}$ Fluigram (.06).

- 1 Drachm is equal to 4 Grams.
- 1 Gram is equal to $\frac{1}{4}$ Drachm.
- 1 Fluidrachm is equal to 4 Fluigrams.
- 1 Fluigram is equal to $\frac{1}{4}$ Fluidrachm.
- 1 Centigram is equal to about $\frac{1}{6}$ Troy Grain.
- 1 Troy Grain is equal to about 6 Centigrams (.06).

RULES FOR CONVERSION.

1. To convert Troy Grains into Centigrams, multiply by 6.
2. To convert Centigrams into Troy Grains, divide by 6.
3. To convert Troy Grains into Milligrams, multiply by 60.
4. To convert Milligrams into Troy Grains, divide by 60.
5. To convert Troy Grains into Grams, or Minims into Fluigrams, multiply by 15.
6. To convert Grams into Grains, or Fluigrams into Minims, divide by 15.
7. To convert Drachms into Grams, or Fluidrachms into Fluigrams, multiply by 4.
8. To convert Grams into Drachms, or Fluigrams into Fluidrachms, divide by 4.

Gr. j.	=	.06 Gm.
3 j.	=	4.00 Gms.
$\frac{3}{4}$ j.	=	30.00 Gms.

APPROXIMATE EQUIVALENTS.

Grain.		Gram.	Grain.		Gram.
$\frac{1}{800}$	=	.000125	$\frac{1}{4}$	=	.015
$\frac{1}{400}$	=	.00016	$\frac{1}{2}$	=	.02
$\frac{1}{300}$	=	.00020	$\frac{3}{4}$	=	.03
$\frac{1}{250}$	=	.00025	$\frac{2}{3}$	=	.04
$\frac{1}{200}$	=	.00032	$\frac{3}{2}$	=	.045
$\frac{1}{100}$	=	.00065	1	=	.06
$\frac{1}{64}$	=	.001	$1\frac{1}{2}$	=	.10
$\frac{1}{50}$	=	.0013	2	=	.12
$\frac{1}{40}$	=	.0016	$2\frac{1}{2}$	=	.15
$\frac{1}{32}$	=	.002	3	=	.20
$\frac{1}{25}$	=	.0025	4	=	.25
$\frac{1}{20}$	=	.003	5	=	.30
$\frac{1}{16}$	=	.004	8	=	.50
$\frac{1}{12}$	=	.005	10	=	.60
$\frac{1}{8}$	=	.008	15	=	1.00
$\frac{1}{6}$	=	.01			

ABBREVIATIONS AND TRANSLATIONS.

Abbreviation.	Latin Word.	Translation.
Ad.....	Ad	To.
Add.....	Adde.....	Add.
Ad lib.....	Ad libitum.....	At pleasure.
āā.....	Ana.....	Of each.
Aq. destil.....	Aqua destillata.....	Distilled water.
Aq. ferv.....	Aqua fervens.....	Hot water.
Aq. fluvial.....	Aqua fluvialis.....	River-water.
Aq. font.....	Aqua fontana.....	Spring-water.
Aq. pluv.....	Aqua pluvialis.....	Rain-water.
Bis. in d.....	Bis in dies.....	Twice daily.
Bull.....	Bulliat, bulliant.....	Let boil.
Caps.....	Capsula.....	A capsule.
Chart.....	Chartula.....	A small paper.
Cib.....	Cibus.....	Food.
Coch. mag.....	Cochleare magnum.....	A tablespoon.
Coch. parv.....	Cochleare parvum.....	A teaspoon.
Collyr.....	Collyrium.....	An eye-wash.
Cum.....	Cum.....	With.
Dim.....	Dimidius.....	One-half.
Div.....	Divide.....	Divide.
Dos.....	Dosis.....	Dose.
Enem.....	Enema.....	An enema.
Ft.....	Fiat, fiant.....	Let there be made.
Fil.....	Filtrum.....	A filter.
Garg.....	Gargarisma.....	A gargle.
Gtt.....	Gutta, guttæ.....	A drop, drops.
Haust.....	Haustus.....	A draught.
Hor.....	Hora.....	An hour.
Ind.....	Indies.....	Daily.
Inj.....	Injectio.....	An injection.
Lot.....	Lotio.....	A lotion.
Mic. pan.....	Mica panis.....	A crumb of bread.
M.....	Misce.....	Mix.
Phil.....	Phiala.....	A vial.

Abbreviation.	Latin Word.	Translation.
Pocul	Poculum	A cup.
P. r. n.	Pro re nata.	As needed.
Q. s.	Quantum sufficit.	Sufficient quantity.
Q. h.	Quaqua hora.	Every hour.
Sat.	Saturatus	Saturated.
Scat.	Scatula	A box.
Ss.	Semissis.	A half.
Sig.	Signa.	Sign.
Solv.	Solve.	Dissolve.
Stat.	Statim.	Immediately.
Suppos.	Suppositoria.	A suppository.
Ter. sim.	Tere simul.	Rub together.
T. i. d.	Ter in die.	Three times a day.
Vehic.	Vehiculum.	A menstruum.
Vit.	Vitellus.	The yolk.

HYPODERMATIC MEDICATION.

THIS method of administering medicines is employed very largely and consists in injecting beneath the skin a solution containing the desired remedy. For the purpose of injection a small syringe, to which is attached a fine needle, is used. The agent selected is introduced by taking up a fold of skin between the forefinger and thumb of one hand, and with the other plunging the needle quickly in at a right angle to the fold, after which the solution is forced from the syringe into the tissue. The needle is then withdrawn and the puncture kept closed with the finger for a few moments so that the fluid may not escape.

Subcutaneous injections may be made to obtain—

1. A local effect.
2. A systemic effect.

When a local action is desired, the remedy is introduced at the spot where its effect is needed, but when the systemic action is desired the drug is injected usually into the arm, forearm, thigh, or abdominal tissue. Avoid puncturing a vein and be certain the point of the needle moves freely in the subcutaneous tissue before the solution is forced from the syringe. A slight amount of burning and swelling usually follows the injection, but soon subsides. Wheals, nodules, and abscesses sometimes occur, but are chiefly due to impure solutions, irritating drugs, and unclean needles.

Solutions tend to develop a vegetable organism, the *penicilium*, which grows at the expense of the drug and renders the solution cloudy, turbid, and inactive. Its growth may be retarded by using distilled water of eucalyptus and of cherry-laurel. Carbolic acid, benzoic acid, salicylic acid, boric acid, and resorcin may be added to the solution to retard detrimental changes, but prove somewhat irritating.

The following rules are serviceable to bear in mind when using solutions for hypodermatic injection:

1. The remedy should be entirely soluble in the menstruum.
2. The menstruum should be entirely free from foreign particles.
3. The solution should be neutral in reaction and not too concentrated.
4. No drug which coagulates the blood or produces local inflammation of a violent character should be used.

5. All solutions should be made fresh before using, if possible.

6. No solution which is cloudy or turbid should be employed.

The following is a list of the organic drugs usually employed for this method of medication :

Tinctura Aconiti.....	℥ j.-ij. (.06-.12).
Apomorphinæ Hydrochloras	Gr. $\frac{1}{16}$ (.004).
Atropinæ Sulphas.....	Gr. $\frac{1}{120}$ - $\frac{1}{48}$ (.0005-.0014).
*Caffeinæ Citras	Gr. ss.-j. (.03-.06).
*Conin	Gr. $\frac{1}{8}$ (.012).
*Curara	Gr. $\frac{1}{200}$ - $\frac{1}{100}$ (.00032-.00065).
Tinctura Digitalis.....	℥ ij.-xv. (.12-1.).
Extractum Ergotæ Fluidum.....	℥ v.-xx. (.30-1.2).
Hyoscyaminæ Sulphas.....	℥ $\frac{1}{100}$ - $\frac{1}{50}$ (.00065-.0013).
Morphinæ Sulphas.....	Gr. $\frac{1}{8}$ - $\frac{1}{3}$ (.008-.02).
*Nicotin.....	Gr. $\frac{1}{60}$ (.001).
Physostigminæ Salicylas.....	Gr. $\frac{1}{100}$ (.00065).
Pilocarpinæ Hydrochloras.....	Gr. $\frac{1}{16}$ - $\frac{1}{8}$ (.004-.01).
Quininæ Hydrobromas	Grs. v.-x. (.30-.60).
Strychninæ Sulphas.....	Grs. $\frac{1}{100}$ - $\frac{1}{50}$ (.00065-.0013).

A number of the alkaloids are sold in the form of compressed pellets which may be dissolved just before using, and should be employed for this reason.

* Drugs marked thus are unofficial.

ABSINTHIUM.

English Name.—Wormwood.

Origin.—The leaves and tops of *Artemisia Absinthium*.

Natural Order.—Compositæ.

Habitat.—A native of Europe, and is cultivated in America.

Constituents.—A volatile oil, which is composed principally of absinthol, is obtained from this drug. It also contains absinthin, resinous substance, coloring matter, chlorophyll, albumen, starch, lignin, saline matter, and acids.

Description.—The leaves are about 2 inches long, roundish-triangular in outline; the heads are numerous, sub-globose, with numerous small, pale yellow florets. Its odor is aromatic and its taste persistently bitter.

Solubility.—Yields its virtues to water and to alcohol.

GENERAL ACTION.

Bitter tonic. Antiperiodic. Anthelmintic. Diuretic. Emmenagogue.

PHYSIOLOGICAL ACTION.

CIRCULATORY SYSTEM.

It becomes diffused into the blood and renders it and the milk bitter.

DIGESTIVE SYSTEM.

It stimulates the stomach and acts as a bitter tonic.

GENITO-URINARY SYSTEM:

Kidneys.—The flow of urine is increased by this drug.

Uterus.—It sometimes exerts an emmenagogue action.

THERAPEUTICAL ACTION.

It is used only as a bitter tonic.

TOXICOLOGICAL ACTION.

In long-continued doses it produces hallucinations, muscular tremblings, stupor, and insensibility. In a very large

single dose it may cause insensibility, epileptiform convulsions, involuntary evacuations, and stertorous breathing. Death seldom occurs.

Treatment of Poisoning.—Emetics if needed, stimulants, and demulcents.

PREPARATIONS.

Vinum Aromaticum.....	Externally.
* Infusum Absinthii.....	℥ j.–℥ ij. (30.–60.).

ACACIA.

English Name.—Acacia.

Origin.—A gummy exudation from *Acacia verec*, and from other species of *Acacia*.

Natural Order.—Leguminosæ, Mimosæ.

Synonym.—Gum arabic.

Habitat.—Native of Africa and Arabia.

Constituents.—Its principal constituents are arabin ; a saccharine substance, arabinose ; and bassorin.

Description.—Obtained as roundish tears of various sizes, or broken into angular fragments, transparent and nearly colorless in thin pieces. It has a faint odor and a mucilaginous, insipid taste. There are a number of varieties of *Acacia*, namely : Turkey, Barbary, Senegal, India, Cape, and Australian gum.

Solubility.—Soluble in water, forming a thick mucilaginous paste, but insoluble in alcohol.

GENERAL ACTION.

Demulcent. Nutrient.

THERAPEUTICAL ACTION.

Administered in catarrhal inflammations of mucous membranes as a demulcent.

PREPARATIONS.

Syrupus Acaciæ.....	Vehicle.
Mucilago Acaciæ.....	Vehicle.

ACIDUM CITRICUM.

English Name.—Citric Acid.

Origin.—It is obtained from limes or lemons principally, but is present in the juice of many other fruits.

Description.—Obtained as colorless, right-rhombic prisms, not deliquescent except in moist air, but efflorescent in warm air. Its taste is agreeable and acid, but it has no odor.

Solubility.—Very soluble in water and in alcohol.

GENERAL ACTION.

Gastric stimulant. Intestinal stimulant. Mild refrigerant.

THERAPEUTICAL ACTION.

It is used in the treatment of *scurvy*, and as a refrigerant drink in certain fevers.

PREPARATIONS.

Acidum Citricum..... Gr. v.—gr. xxx. (.30–2.0).

Syrupus Acidi Citrici..... Vehicle.

ACIDUM TARTARICUM.

English Name.—Tartaric Acid.

Origin.—Is obtained from tartar or crude bitartrate of potash.

Description.—Nearly, or entirely colorless, solid, in the form of irregular, six-sided prisms, permanent in the air, and having an acid taste and no odor.

Solubility.—It is soluble in water and in alcohol.

GENERAL ACTION.

Gastric stimulant. Intestinal stimulant. Mild refrigerant.

THERAPEUTICAL ACTION.

This acid may be used in the treatment of *scurvy*, or as a refrigerant drink in fevers.

TOXICOLOGICAL ACTION.

In very large doses it may cause decided gastro-enteritis.

PREPARATION.

Acidum Tartaricum..... Gr. x.—gr. xx. (.6–1.2).

ACONITUM.

English Name.—Aconite.

Origin.—The tuberous root of *Aconitum Napellus*.

Natural Order.—Ranunculaceæ.

Synonyms.—Wolfsbane, Monkshood.

Habitat.—Native of Europe ; but is cultivated in America.

Constituents.—Its chief constituents are aconitin, a crystallizable alkaloid, and picroaconitin, an uncrystallizable alkaloid. The former exists in combination with aconitic acid.

Description.—

OF ROOT.—From $\frac{1}{2}$ to $\frac{3}{4}$ of an inch thick at the crown ; conically contracted below ; from 2 to 3 inches long ; dark brown externally, whitish internally ; with a rather thick bark ; without odor ; taste at first sweetish, soon becoming acrid, and producing a sensation of tingling and numbness.

OF ACONITIN.—It is obtained in an amorphous or crystalline form, with no odor and a bitter acrid taste.

Tests.—The root of aconite is distinguished from that of horseradish by its external brown color, and absence of odor when scraped. Solutions of the salts of aconitin produce a white precipitate with platinum bichloride, a yellowish with aurium terchloride, and a yellowish brown with free iodine.

Solubility.—

OF ROOT.—Yields its virtues to water and to alcohol.

OF ACONITIN.—Sparingly soluble in water, but freely soluble in alcohol.

GENERAL ACTION.

Motor depressant. Cardiac sedative. Antiphlogistic. Mild diuretic. Diaphoretic. Antipyretic. Local sedative.

Synergists.—Cardiac sedatives and motor depressants are synergistic, such as : conium, gelsemium, physostigma, jaborandi, arnica, hydrocyanic acid, veratrum viride, etc.

Antagonists and Incompatibles.—Alcohol, ether, ammonia, turpentine, digitalis, etc. ; in fact, all cardiac stimulants and motor excitants are antagonistic.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM :

Spinal Cord.—This drug causes a paralysis of the peripheral sensory nerves, afterward of the nerve-trunks themselves, and later of the sensory centres of the spinal cord. It also decreases the reflex irritability of the cord, and may paralyze the motor centres, and then the motor nerve-trunks, after having affected the sensory nerves.

Nerves.—In excessive doses it may cause dilatation of the pupil by paralyzing the third nerve.

CIRCULATORY SYSTEM :

Heart.—By acting on the cardiac ganglia and muscle, this drug decreases the heart's action in force and frequency. In large doses it may arrest the heart in diastole.

Vessels.—Arterial tension is lowered by its affecting the vaso-motor system and decreasing the heart's action.

Blood.—It is claimed that aconite lessens the formation of fibrin in the blood.

DIGESTIVE SYSTEM :

Mouth.—This drug produces a sensation of warmth, tingling, and numbness when dropped in the mouth.

Stomach.—A sensation of warmth is produced when it is taken into the stomach.

RESPIRATORY SYSTEM.

It has a paralyzing influence on the respiratory muscles and thus decreases the number of respirations. Expiration is apt to be prolonged, and may be followed by a pause.

GENITO-URINARY SYSTEM.

The flow of urine is increased.

CUTANEOUS SYSTEM.

Perspiration is increased, and sometimes an irritable vesicular eruption occurs during its administration.

TEMPERATURE.

Its action produces a decided fall in temperature.

THERAPEUTICAL ACTION.**NERVOUS SYSTEM.**

Aconite is often serviceable in *acute cerebral congestion, maniacal delirium, spinal congestion, and neuralgia.*

CIRCULATORY SYSTEM.

Great benefit may be derived from its judicious use in *fevers, especially the eruptive variety.* It is very useful in the treatment of *overaction of heart, hypertrophy without valvular lesions, and acute inflammations.*

DIGESTIVE SYSTEM.

Acute tonsillitis, acute pharyngitis, ulceration of tonsils, and all sore throats accompanied by fever are very much benefited by aconite.

RESPIRATORY SYSTEM.

It often proves valuable in the treatment of *acute catarrhal bronchitis, catarrhal pneumonitis, croupous pneumonitis and acute pleuritis.*

GENITO-URINARY SYSTEM.

Suppression of menses and congestive dysmenorrhœa are often relieved by its administration.

LOCALLY.

It is often curative as a local application for *neuralgia.*

TOXICOLOGICAL ACTION.

In poisoning by aconite we find burning and tingling in the throat and extremities; muscular weakness; shallow, feeble, and irregular respirations; cutaneous anæsthesia; cold, moist skin; shrunk, livid countenance; dilated pupils; convulsions possibly; and death may occur from cessation of the heart's action in diastole, and cessation of respiration, the intellect remaining clear until the end.

Antidotes and Treatment of Poisoning.—Evacuate stomach, and administer stimulants and digitalis by the mouth. Apply heat externally, and keep up artificial respiration. Give atropine hypodermatically to overcome the depression of the heart's action, and keep the patient lying down.

PREPARATIONS.

Abstractum Aconiti.....	Gr. ss.-j. (.03-.06).
Extractum Aconiti.....	Gr. j.-ij. (.06-.12).
Extractum Aconiti Fluidum.....	℥ss -j. (.03-.06).
Tinctura Aconiti.....	℥j.-iij. (.06-.18).

ALCOHOL.

Origin.—Obtained by the vinous fermentation of fruit-sugar. It may thus be obtained from grapes, apples, rye, etc.

Description.—It is a transparent, colorless, volatile liquid, having a burning taste and a pungent, agreeable odor. It is also inflammable, giving a blue flame without smoke.

Tests.—If a portion be evaporated to $\frac{1}{5}$ its volume, the residue should not turn reddish if an equal amount of sulphuric acid is added. If a portion of at least 50 c.c. be evaporated to dryness in a glass vessel, no residue nor color should appear. If an equal volume of a solution of potassa be treated with it in a test-tube, an immediate darkening of the liquid should not occur.

GENERAL ACTION.

Cerebral sedative. Depresso-motor. Cardiac stimulant. Arterial dilatant. Gastric stimulant. Intestinal stimulant. Respiratory depressant. Thermafacient. Local stimulant.

Synergists.—Chloral, opium, bromides, etc., aid its action.

Antagonists.—Camphor, asafetida, valerian, cannabis indica, etc., antagonize its action.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM:

Brain.—The first effect of alcohol upon the brain is to increase its functional activity, but secondarily this effect is

more or less lost, the ideas becoming less acute, and a tendency to sleep occurring.

Spinal Cord.—The spinal cord is at first stimulated, and the muscular movements are rendered more active, but afterward coördination is impaired.

Nerves.—This drug lessens the sensibility of the cutaneous nerves, and in large doses paralyzes the vaso-motor system, thus giving rise to arterial dilatation. In small doses the vaso-motor nerves are stimulated.

CIRCULATORY SYSTEM :

Heart.—In small doses it increases the frequency of the heart's action, the systole being more rapid, and the diastole shorter, but in large doses causes a depression of the heart.

Vessels.—In small doses it stimulates the vaso-motor nerves, thus causing arterial contraction, and in large paralyzes the same, the arteries then becoming dilated.

Blood.—By contracting the arterioles in small doses it prevents the migration of white corpuscles in inflammatory diseases. Its direct effect on the blood is to diminish the power of the red corpuscles to carry oxygen.

DIGESTIVE SYSTEM :

Stomach.—Small doses produce hyperæmia of the gastric mucous membrane, and increase the appetite and digestive power ; but large doses check the gastric secretion, and are liable to cause nausea and anorexia.

Intestines.—It causes an increase in the intestinal secretions.

RESPIRATORY SYSTEM.

The respirations are increased in number by the administration of small doses, but rendered slower by the effect of large.

GENITO-URINARY SYSTEM.

As a rule the urine is increased by the administration of alcohol, but there is a diminution in the quantity of urea, uric acid, and chloride of sodium excreted.

CUTANEOUS SYSTEM.

In medicinal doses cutaneous transpiration is increased.

The local application of alcohol to the skin excites a sense of heat and superficial stimulation.

TEMPERATURE.

The temperature is increased by the administration of this drug, but experience has shown that its habitual use does not increase the power of resistance to cold.

THERAPEUTICAL ACTION.

NERVOUS SYSTEM.

In a full dose alcohol will often relieve *pain* and produce *sleep*. It is very useful as a stimulant in the treatment of *shock*.

CIRCULATORY SYSTEM.

In *cardiac failure* alcohol is very serviceable.

DIGESTIVE SYSTEM.

Its administration will often relieve *anorexia*, *atonic dyspepsia*, *gastralgia*, *nausea*, *diarrhœa*, and *colic*.

RESPIRATORY SYSTEM.

Its use is highly recommended in *chronic phthisis*.

LOCALLY.

As a local stimulant its application is indicated for *bed-sores*, *sore nipples*, *inflamed joints*, and *excessive perspiration*.

HYPODERMATICALLY.

When the stomach is unable to retain alcohol, by injecting it subcutaneously its action may be obtained more speedily and with more certainty.

TOXICOLOGICAL ACTION.

In *acute* cases of poisoning we have the following symptoms : hallucinations, coma, contracted or dilated pupils, slow or stertorous breathing, slow pulse, cool surface. In *chronic* cases we find trembling, hemianæsthesia, chronic gastritis, weakened heart's action, increased amount of urine containing casts, and after death we find a cirrhotic condition of the kidneys, liver, brain, spleen, and other organs.

Treatment of Poisoning.—The treatment of the acute form of poisoning is to evacuate the stomach, and if necessary, the

administration of ammonia, digitalis, and coffee, and the application of cold to the head.

PREPARATIONS.

Alcohol Dilutum.....	45½ per cent. by weight.
Vinum Album.....	10-12 per cent. by weight.
Vinum Album Fortius.....	20-25 per cent. by weight.
Vinum Rubrum.....	10-12 per cent. by weight.
Spiritus Frumenti.....	44-50 per cent. by weight.
Spiritus Vini Gallici.....	39-47 per cent. by weight.
Spiritus Juniperi.....	97 per cent. by weight.

ALLIUM.

English Name.—Garlic.

Origin.—The bulb of *Allium sativum*.

Natural Order.—Liliaceæ.

Habitat.—It grows wild in Sicily, Italy, and the South of France, but is cultivated in all civilized countries.

Constituents.—It contains an essential oil, consisting of allyl combined with sulphur, and also mucilage, albumen, fibrous matter, saccharine matter, and water.

Description.—The bulb is somewhat spherical in form, about an inch in diameter, with a portion of the stem attached, covered with a white, membranous envelope, and consists of 5 or 6 smaller bulbs, of a curved, oblong shape, called cloves of garlic. They have a strong, irritating, characteristic odor, and a bitter, acrid taste.

Solubility.—It yields its virtues to water and to alcohol.

GENERAL ACTION.

Mild cardiac stimulant. Gastric stimulant. Expectorant. Blennorrhetic. Diuretic. Anthelmintic. Local irritant.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM.

This drug mildly stimulates the nervous system.

CIRCULATORY SYSTEM.

It increases the heart's action.

DIGESTIVE SYSTEM.

By stimulating the gastric mucous membrane it acts as a stomachic.

RESPIRATORY SYSTEM.

This drug stimulates the bronchial mucous membrane and increases the bronchial secretion.

GENITO-URINARY SYSTEM.

The flow of urine is promoted by its administration.

CUTANEOUS SYSTEM.

At times garlic increases the flow of perspiration decidedly. When applied locally to the skin it produces stimulation, irritation, or inflammation.

THERAPEUTICAL ACTION.**NERVOUS SYSTEM.**

It may prove efficacious in *spasmodic cough*, *headache*, and *nervous vomiting*.

DIGESTIVE SYSTEM.

Garlic is useful in *atonic dyspepsia* and *catarrhal gastritis* of a subacute variety.

RESPIRATORY SYSTEM.

Subacute bronchitis of children may be benefited by garlic.

LOCALLY.

It is very useful as a counter-irritant in *bronchitis*, *pleuritis*, and *spasmodic coughs* of children.

PREPARATION.

Syrupus Allii..... 3 j.—3 ij. (4.—8.).

ALOE.

English Name.—Aloes.

Origin.—The inspissated juice of the leaves of Aloe Socotrina.

Natural Order.—Liliaceæ.

Synonym.—Socotrine aloes, Hepatic aloes.

Habitat.—Found upon the Island of Socotra, and upon the eastern coast of Africa.

Constituents.—Aloin, the active principle of the drug, is obtained in the form of socaloin.

Description.—Obtained in the form of pieces, which are yellowish or reddish-brown in color, and become darker on exposure to air. The interior is much lighter than the exterior. The pieces have a peculiar and not unpleasant odor, and a strongly bitter taste.

Solubility.—Soluble in alcohol, but less so in water.

GENERAL ACTION.

Gastric stimulant. Cholagogue. Mild acrid cathartic. Emmenagogue. Aphrodisiac.

PHYSIOLOGICAL ACTION.

CIRCULATORY SYSTEM.

The purgative principles of aloes become diffused into the blood, and the milk of a mother may thus acquire a purgative action.

DIGESTIVE SYSTEM :

Liver.—It increases the flow of bile.

Intestines.—This drug acts principally on the large intestine, and a movement takes place about 10 or 12 hours after its administration.

GENITO-URINARY SYSTEM :

Uterus.—Aloes act as a decided emmenagogue, increasing the menstrual flow and possibly causing abortion.

Sexual Appetite.—By increasing the blood-supply to the genitals it promotes sexual appetite.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

This is a very useful drug for *indigestion* associated with constipation. For *constipation* from weakness of the muscular coat of large intestine it is very beneficial. *Constipation* from *hypochondriasis* and *melancholia* is often relieved by its

use. Also *hæmorrhoids* dependent upon a relaxed condition of the hæmorrhoidal veins are benefited by aloes.

GENITO-URINARY SYSTEM.

It often proves beneficial in *amenorrhœa*, and *atonic menorrhagia*.

PREPARATIONS.

Pilulæ Aloes (1 = grs. ij.)	j.-iij.
Pilulæ Aloes et Asafœtidæ (1 = gr. 1¼).	ij.-v.
Pilulæ Aloes et Ferri (1 = gr. j.)	j.-iij.
Pilulæ Aloes et Mastiches (1 = grs. ij.)	j.-ij.
Pilulæ Aloes et Myrrhæ (1 = grs. ij.)	iij.-vj.
Tinctura Aloes	3 j.- ̄ ss. (4.-16.).
Tinctura Aloes et Myrrhæ	3 ss.- 3 j. (2.-4.).
Vinum Aloes	3 j. (4.).
Aloe Purificata	grs. j.-v. (.06-.3.).
Extractum Aloes Aquosum	grs. ij.-x. (.12-.6.).

ALTHÆA.

English Name.—Marshmallow.

Origin.—The root of *Althæa officinalis*.

Natural Order.—Malvaceæ.

Habitat.—Native of Europe, and found in different portions of the United States.

Constituents.—This drug contains asparagin, starch, sugar, and mucilage.

Description.—Occurs as cylindrical or somewhat conical pieces, from 3 to 6 inches long, about ½ inch in diameter, externally white and internally whitish and fleshy. It has a faint odor, and a sweetish, mucilaginous taste.

Solubility.—Yields its property to boiling water.

GENERAL ACTION.

Demulcent.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

It is used as a demulcent in *gastro-enteritis*.

RESPIRATORY SYSTEM.

Bronchial catarrh may be benefited by its administration.

GENITO-URINARY SYSTEM.

It is beneficial for *catarrhal inflammation* of the genital tract.

PREPARATION.

Syrupus Althææ..... 3 j.— $\frac{7}{8}$ ss. (4.—16.).

AMMONIACUM.

English Name.—Ammoniac.

Origin.—The gum-resin obtained from *Dorema Ammoniacum*.

Natural Order.—Umbelliferae, Orthospermæ.

Habitat.—Native of Persia.

Constituents.—Contains a volatile oil, bassorin, gum, resin, and water.

Description.—It is obtained in the form of roundish tears, from 2 to 8 lines in diameter, opaque, yellowish on the outside, whitish within, compact, and homogeneous. Their taste is slightly sweetish, bitter, and somewhat acrid, and their smell peculiar.

Solubility.—Partly soluble in water and in alcohol.

GENERAL ACTION.

Cerebral excitant. Cardiac stimulant. Expectorant. Cathartic. Diuretic. Emmenagogue. Diaphoretic.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM.

It somewhat excites the brain, increasing its activity.

CIRCULATORY SYSTEM.

The heart's action is somewhat hastened.

DIGESTIVE SYSTEM :

Stomach.—By stimulating the gastric mucous membrane it promotes appetite and digestive power.

Intestine.—It increases the intestinal secretion and may act as a cathartic in large doses.

RESPIRATORY SYSTEM.

The secretion of the bronchial tubes is augmented.

GENITO-URINARY SYSTEM:

Kidneys.—The kidneys are stimulated and the flow of urine increased.

Uterus.—It may promote the menstrual flow.

CUTANEOUS SYSTEM.

The perspiration is increased by its administration, due to stimulation of the sudoriferous glands.

THERAPEUTICAL ACTION.

RESPIRATORY SYSTEM.

As an expectorant its administration is beneficial in *chronic bronchitis*.

GENITO-URINARY SYSTEM.

Amenorrhœa may be benefited by this drug.

LOCALLY.

Ammoniac is used as a resolvent for certain *tumors* and *enlarged joints*.

PREPARATIONS.

Emplastrum Ammoniaci.

Emplastrum Ammoniaci cum Hydrargyro.

Mistura Ammoniaci..... $\frac{3}{4}$ ss.— $\frac{3}{4}$ j. (16.—30.).

AMYGDALUS.

English Name.—Almond.

Origin.—The bitter seed, *Amygdala Amara*; and the sweet seed, *Amygdala Dulcis*, of *Amygdala communis*.

Natural Order.—Rosaceæ, Amygdaleæ.

Synonyms.—Bitter Almond, Sweet Almond.

Habitat.—Native of Persia, Syria, and Barbary, but cultivated in Europe and the United States.

Constituents—

OF BITTER ALMOND.—It yields a volatile oil (*Oleum Amygdalæ Amaræ*), hydrocyanic acid, amygdalin, and emulsin.

OF SWEET ALMOND.—Contains emulsin, fixed oil, albumen, sugar, gum, fibrous matter, and water.

OF BOTH VARIETIES.—A fixed oil (*Oleum Amygdalæ Expressum*) is obtained from the bitter and sweet varieties.

Description—

OF BITTER SEEDS.—About an inch long, oblong, covered with a cinnamon-brown, scurfy testa. The embryo has the shape of the seed, is white, oily, and has a bitter taste.

OF SWEET SEEDS.—These closely resemble the bitter seeds, but have a bland, sweetish taste.

OF THE FIXED OIL.—Clear, colorless, or slightly greenish-yellow, nearly inodorous, and having a bland, sweetish taste.

OF THE VOLATILE OIL.—This oil has a yellowish color, a bitter, acrid, burning taste, and a marked odor of the kernels.

Solubility—

OF BITTER SEEDS.—When triturated with water they yield a milk-white emulsion which emits an odor of hydrocyanic acid.

OF SWEET SEEDS.—When triturated with water they yield a milk-white emulsion from which the odor of hydrocyanic acid is emitted.

GENERAL ACTION.

Motor depressant. Cardiac sedative. Respiratory depressant. The action of this drug is due to the hydrocyanic acid which it contains.

Synergists.—Conium, gelsemium, physostigma, aconite, veratrum viride, etc.; in fact, all motor depressants, aid its action.

Antagonists and Incompatibles.—Nux-vomica, digitalis, cimicifuga, belladonna, etc., are antagonistic. Metallic salts are incompatible.

PHYSIOLOGICAL ACTION.**NERVOUS SYSTEM :**

Brain.—It causes giddiness and slight stupor.

Special Nerves.—This drug decreases the excitability of nerve-trunks and also lessens their power of reacting to stimulation.

CIRCULATORY SYSTEM :

Heart.—By its action on the cardiac nerves and the muscular structure of the heart, it causes a decrease in the number and force of the heart-beats, and also renders them irregular.

Blood.—The blood is rendered dark because of insufficient decarbonization, which is due to spasm of the pulmonary arterioles and paresis of the respiratory muscles.

RESPIRATORY SYSTEM.

The number of respirations is decreased and the breathing may become very irregular from the action of this drug on the respiratory centre of the medulla, or from its paralyzing influence on the terminal filaments of the pneumogastric nerve.

THERAPEUTICAL ACTION.**NERVOUS SYSTEM.**

Acute mania, melancholia, and cerebral irritation have been benefited by its administration.

DIGESTIVE SYSTEM.

Vomiting of pregnancy, reflex vomiting, gastralgia, enteralgia, and irritative dyspepsia may be controlled by its use.

RESPIRATORY SYSTEM.

Pertussis, nervous coughs, and asthma have been benefited by this drug.

TOXICOLOGICAL ACTION.

Slight over-doses produce transient giddiness, nausea, faintness, a feeble pulse, and muscular weakness. In fatal doses we obtain sudden insensibility ; protruding eyes ; dilated pupils ; cold extremities ; slow, convulsive respirations ; feeble, irregular pulse ; involuntary evacuations ; tetanic convulsions, and death.

Treatment of Poisoning.—Ammonia by inhalation and by injection into the veins. Artificial respiration, and hypodermatic injections of atropine as a respiratory stimulant. Douches alternately of hot and cold water may be used on the chest to stimulate respiration. The effect of the poison soon wears off, and we should endeavor to keep the patient alive until this has occurred.

PREPARATIONS.

Mistura Amygdalæ.....	Vehicle.
Syrupus Amygdalæ.....	3 j.— $\frac{7}{8}$ ss. (4.—16.).
Oleum Amygdalæ Amaræ.....	$\mathbb{M}\frac{1}{4}$ —j. (.01—.06).
Oleum Amygdalæ Expressum.....	3 j.— $\frac{7}{8}$ j. (4.—30.).
Aquæ Amygdalæ Amaræ.....	3 ss.—3 ij. (2.—8.).

AMYLUM.

English Name.—Starch.

Origin.—The fecula of the seed of *Triticum vulgare*.

Natural Order.—Graminaceæ.

Habitat.—Europe, United States, and wherever wheat is found.

Constituents.—Dextrin, amidin, and amylin are obtained from starch.

Description.—Occurs as white, pulverulent, opaque, column-shaped masses, with a somewhat crystalline appearance.

Test.—It forms a blue color when mixed with iodine.

Solubility.—Forms a semi-transparent paste or opaque solution with boiling water. Insoluble in alcohol and in cold water.

GENERAL ACTION.

Nutrient. Demulcent.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

It is used as an enema for *dysentery*, and is the *antidote* to iodine, forming iodide of starch.

LOCALLY.

May be used to absorb irritating discharges.

PREPARATIONS.

Amylum Iodatum..... 3 j.— $\frac{2}{3}$ ss. (4.—16.).

Glyceritum Amyli..... (1—10).

ANISUM.

English Name.—Anise.

Origin.—The fruit of *Pimpinella Anisum*.

Natural Order.—Umbelliferæ, Orthospermæ.

Habitat.—A native of Egypt and the Levant, but has been cultivated in Europe and America.

Constituents.—Its active ingredient is a volatile oil (*Oleum Anisi*). A bland fixed oil and a greenish oil have also been obtained from the fruit.

Description—

OF SEEDS.—The seeds are about $\frac{1}{6}$ of an inch long, ovate, compressed at the sides, grayish, and contain oil-tubes. Their taste is warm, sweet, and aromatic, and their odor fragrant.

OF THE VOLATILE OIL.—Colorless or yellowish, with the peculiar odor and taste of the seeds.

Solubility.—The seeds yield their virtues sparingly to boiling water and freely to alcohol.

GENERAL ACTION.

Aromatic. Tonic. Carminative. Galactagogue.

THERAPEUTICAL ACTION.

Used with benefit for *flatulent colic*, and as a corrective to other medicines.

PREPARATIONS.

Aquæ Anisi..... Vehicle.

Oleum Anisi..... ℥j.—v. (.06—30).

Spiritus Anisi..... 3 j.—3 ij. (4.—8.).

ANTHEMIS.

English Name.—Anthemis.

Origin.—The flower-heads of *Anthemis nobilis*.

Natural Order.—Compositæ.

Synonym.—Chamomile.

Habitat.—A native of Europe and cultivated in the United States.

Constituents.—It contains a volatile oil and a bitter principle.

Description.—The flower-heads are large, almost spherical, and of a dull white color. They have a fragrant odor, and a warmish, bitter, aromatic taste.

Solubility.—Yields its taste and odor to water and to alcohol.

GENERAL ACTION.

Aromatic. Bitter tonic.

PHYSIOLOGICAL ACTION.**DIGESTIVE SYSTEM.**

In moderate doses it increases the appetite and improves digestion, but in large acts as an emetic.

THERAPEUTICAL ACTION.**DIGESTIVE SYSTEM.**

May prove beneficial for *dyspepsia* and *general debility*.

LOCALLY.

As a fomentation this drug will benefit *inflammation* and *indolent ulcers*.

PREPARATIONS.

*Infusum Anthemidis..... $\frac{3}{4}$ j.— $\frac{3}{4}$ ij. (30.—60.).

Oleum Anthemidis..... gtt. v.—xv. (.30—.90).

APOCYNUM.

English Name.—Apocynum.

Origin.—The root of *Apocynum cannabinum*.

Natural Order.—Apocynaceæ.

Synonyms.—Canadian Hemp, Milk Weed.

Habitat.—Native of United States.

Constituents.—It contains a peculiar active principle called apocynin, a bitter principle, tannin, gallic acid, resin, wax, caoutchouc, fecula, and lignin.

Description.—The root has a yellowish-brown color externally, and a yellowish-white appearance internally; it is about 5 or 6 feet in length, and exudes a milky juice. Its taste is nauseous, acid, and bitter, and its odor strong.

Solubility.—Yields its virtues to water and to alcohol, but more readily to the former.

GENERAL ACTION.

Emetic. Cathartic. Diuretic. Diaphoretic.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM :

Stomach.—It causes emesis in large or continued doses.

Intestines.—It acts as a cathartic in large doses.

GENITO-URINARY SYSTEM.

The flow of urine is decidedly increased by its administration.

CUTANEOUS SYSTEM.

This drug stimulates the sudoriferous glands, and thus increases perspiration.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

May be administered as a cathartic.

GENITO-URINARY SYSTEM.

Dropsy may be much improved by its diuretic action.

PREPARATION.

*Decoctum Apocyni ʒ j.— ʒ ij. (30.—60.).

ARNICA.

English Name.—Arnica.

Origin.—The flower-heads, Arnicae Flores; and rhizome and rootlets, Arnicae Radix; of Arnica montana.

Natural Order.—Compositæ.

Synonym.—Leopard's Bane.

Habitat.—A native of Siberia, Europe, and United States.

Constituents.—Its most active ingredient probably is a substance called arnicin. But it also contains inulin, angelic acid, formic acid, and essential oil.

Description—

OF FLOWER-HEADS.—About $1\frac{1}{2}$ of an inch broad, depressed, roundish, and bearing about 16 yellow florets. They have a feeble, aromatic odor, and a bitter, acrid taste.

OF RHIZOME AND ROOTLETS.—The rhizome is about 2 inches long, and $\frac{1}{8}$ to $\frac{1}{6}$ of an inch thick, externally brown and internally whitish. The rootlets are numerous, thin, fragile, and grayish brown. Their odor is somewhat aromatic and their taste aromatic and pungently bitter.

OF ARNICIN.—Obtained as amorphous, yellow masses with an acrid taste.

Solubility—

OF CRUDE DRUG.—Yields its virtues to water and to alcohol.

OF ARNICIN.—Slightly soluble in water, freely soluble in alcohol.

GENERAL ACTION.

Motor depressant. Cardiac sedative. Sialagogue. Gastro-intestinal stimulant. Diuretic. Diaphoretic.

Synergists.—Cardiac sedatives; as, digitalis, aconite, veratrum viride, etc., are synergistic.

Antagonists.—Cardiac stimulants are antagonistic, such as ammonia, alcohol, camphor, opium, asafetida, etc.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM :

Brain.—It first stimulates and afterward depresses the brain, producing headache and giddiness.

Spinal Cord.—It stimulates first and then depresses the spinal cord, and may produce spasmodic action of the limbs.

CIRCULATORY SYSTEM :

Heart.—It primarily stimulates the heart and afterward depresses it, decreasing the number of beats.

Vessels.—It decreases arterial tension in full doses.

DIGESTIVE SYSTEM :

Mouth.—Arnica stimulates the salivary glands to increased secretion, and produces a sense of heat and acidity in the fauces.

Stomach.—It stimulates the stomach in small doses, but in large causes irritation, with nausea and vomiting.

Intestines.—It stimulates the intestinal mucous membrane in small doses, and in large may produce choleraic diarrhoea.

RESPIRATORY SYSTEM.

The respirations are first increased in frequency, but are soon decreased and depressed.

GENITO-URINARY SYSTEM.

This drug increases the flow of urine.

CUTANEOUS SYSTEM.

Internally it increases perspiration. Applied locally arnica acts as a stimulant, and a very long application may cause irritation or inflammation.

THERAPEUTICAL ACTION.

NERVOUS SYSTEM.

Its administration has proved useful in *mania*, *melancholia*, and *delirium tremens*.

CIRCULATORY SYSTEM.

As a cardiac sedative it may prove beneficial in *fevers* and *inflammatory diseases*.

DIGESTIVE SYSTEM.

It has been recommended in *dysentery*, *diarrhoea*, and *typhoid fever*.

GENERAL DISEASES.

Rheumatism and *gout* have been benefited by its use.

LOCALLY.

Its decoction or infusion may be used with much efficacy in

sprains, bruises, and slight wounds, but the tincture should be avoided as too irritating.

TOXICOLOGICAL ACTION.

At first it causes excitement, but afterward giddiness, dilatation of pupil from paralysis of third nerve, muscular paralysis, spasmodic movements of limbs, cardiac depression, nausea, vomiting, purging, depression of respiratory action, diuresis, low temperature, and possibly death from collapse.

Treatment of Poisoning.—Evacuate stomach, and administer dilute vegetable acids and stimulants.

PREPARATIONS.

Of the Flowers—

Tinctura Arnicæ Florum ℥ v. - 3 ss. (.30-2.).

Of the Root—

Extractum Arnicæ Radicis grs. v. - x. (.30-.60).

Extractum Arnicæ Radicis Fluidum . ℥ v. - xx. (.30-1.2).

Tinctura Arnicæ Radicis ℥ v. - 3 ss. (.30-2.).

Emplastrum Arnicæ.

ASAFÆTIDA.

English Name.—Asafetida.

Origin.—A gum-resin obtained from the root of *Ferula Narthex* and of *Ferula Scorodosma*.

Natural Order.—Umbelliferae, Orthospermæ.

Habitat.—Native of Persia, Afghanistan, and neighboring countries.

Constituents.—From the resin is obtained ferulaic acid. The gum-resin contains a volatile oil. The drug also yields bassorin, extractive matter, and salts.

Description.—The gum-resin occurs as irregular masses, of a yellowish or reddish-brown color externally, and exhibits a whitish fracture, which becomes red and then a dull yellowish-brown on exposure. Its odor is alliaceous, extremely fetid and tenacious, and its taste bitter, acrid, and lasting.

Solubility.—It yields its virtues to alcohol.

GENERAL ACTION.

Cerebral excitant. Antispasmodic. Cardiac stimulant. Sialagogue. Gastric stimulant. Laxative. Respiratory stimulant. Expectorant. Diuretic. Emmenagogue. Aphrodisiac. Diaphoretic. Thermafacient.

Synergists.—Gum-resins, aromatics, balsams, alcohol, ether, cerebral excitants, etc., are synergistic.

Antagonists and Incompatibles.—Cold, arterial sedatives, acids, and neutral salts antagonize its action.

PHYSIOLOGICAL ACTION.**NERVOUS SYSTEM :**

Brain.—It mildly stimulates the brain, increasing rapidity of thought. It may also cause giddiness and cephalalgia.

Spinal Cord.—In sufficient dose it diminishes reflex irritability of the cord.

CIRCULATORY SYSTEM :

Heart.—It quickens the cardiac beats.

Vessels.—Arterial pressure is increased to some degree, probably from increased heart's action.

Blood.—Its active ingredients diffuse themselves slowly into the blood, but are not known to affect this fluid.

DIGESTIVE SYSTEM :

Mouth.—The flow of saliva is increased and the breath usually rendered offensive.

Stomach.—The gastric juice is increased in amount and the gastric mucous membrane stimulated, thus promoting appetite and digestion.

Intestines.—It stimulates the intestinal mucous membrane to increased peristalsis and therefore acts as a laxative. It is eliminated from the intestines to a certain degree.

RESPIRATORY SYSTEM :

Bronchial Tubes.—It promotes bronchial secretion by stimulating the mucous membrane and is partially eliminated by this source.

Respirations.—It slightly increases the number of respirations.

GENITO-URINARY SYSTEM :

Kidneys.—This drug locally stimulates the kidneys by being eliminated by them, and the flow of urine is therefore increased.

Uterus.—It promotes the menstrual flow by locally stimulating the uterus, also by increasing arterial tension, and by the action of its phosphorus compounds.

Sexual Appetite.—By local stimulus, increased arterial tension, and the action of its phosphorus compounds, sexual desire is increased.

CUTANEOUS SYSTEM.

It is partially eliminated by the sudoriferous glands and thus perspiration is promoted.

TEMPERATURE.

An elevation of temperature occurs for a time from its administration.

THERAPEUTICAL ACTION.

NERVOUS SYSTEM.

Its administration has proved very beneficial in *hypochondriasis*, *epilepsy*, and *hysteria*.

Sometimes this drug may relieve *infantile convulsions* due to reflex irritability.

DIGESTIVE SYSTEM.

Enfeebled digestion, *flatulent colic*, *hysterical flatulence*, and *constipation* may be helped by its use, but it produces very disagreeable eructations.

RESPIRATORY SYSTEM.

Subacute bronchitis may be benefited by its administration, and as an antispasmodic it relieves to some degree *pertussis* and *asthma*.

GENITO-URINARY SYSTEM.

As an emmenagogue it may benefit *amenorrhœa*.

CUTANEOUS SYSTEM.

Chronic eczema has been benefited by its continued use.

TOXICOLOGICAL ACTION.

In very large doses it may cause gastro-intestinal irritation, with nausea, vomiting, and purging.

Treatment of Poisoning.—Evacuate stomach and treat the symptoms.

PREPARATIONS.

Emplastrum Asafoetidæ.

Mistura Asafoetidæ..... $\frac{z}{3}$ ss.— $\frac{z}{3}$ j. (16.—30.).

Pilulæ Aloes et Asafoetidæ.. (1 = gr. $\frac{1}{3}$). ij.—v.

Pilulæ Asafoetidæ..... (1 = grs. iij.). ij.—v.

Pilulæ Galbani Compositæ. (1 = gr. ss.). ij.—iv.

Tinctura Asafoetidæ..... 3 ss.—3 j. (2.—4.).

Mistura Magnesiae et Asafoetidæ..... $\mathfrak{M}$ xv.—3 ss. (1.—2.).

ASCLEPIAS.

English Name.—Asclepias.

Origin.—The root of *Asclepias tuberosa*.

Natural Order.—Asclepiadaceæ.

Synonyms.—Pleurisy Root, Butterfly Weed.

Habitat.—It is very abundant in the United States.

Constituents.—It contains a peculiar principle with no name, also tannic acid, gallic acid, albumen, pectin, gum, starch, two resins, a fixed oil, fatty matter, and various salts.

Description.—The root is from 1 to 6 inches in length and about $\frac{3}{4}$ of an inch thick. Externally it is orange-brown and internally whitish. It has no odor, but a bitterish, somewhat acrid taste.

Solubility.—It yields its virtues to water.

GENERAL ACTION.

Cardiac sedative. Carminative. Expectorant. Diaphoretic.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

Dyspepsia, flatulence, diarrhœa, and dysentery have been benefited by its administration.

RESPIRATORY SYSTEM.

Bronchitis, pneumonitis, and especially pleuritis, have been much helped by its use.

GENERAL DISEASES.

As a diaphoretic it is useful in *fevers*, and *rheumatism* may be treated by its administration with good results.

PREPARATION.

* Pulvis Asclepias..... Grs. xx.—3 j. (1.2–4.).

ASPIDIUM.

English Name.—Aspidium.

Origin.—The rhizome of *Aspidium Filix-mas*, and of *Aspidium marginale*.

Natural Order.—Filices.

Synonym.—Male Fern.

Habitat.—Found in Europe, Asia, and Northern Africa.

Constituents.—An acid called filicic acid is obtained from it, and also two others named tannaspidic and pteritannic acids. It also contains a volatile oil, fixed oil, albumen, gum, tannic acid, gallic acid, pectin, lignin, and various salts.

Description.—The rhizome is externally of a brownish color and internally of a yellowish-white or reddish color. It has a feeble odor and a sweetish, bitter, astringent, nauseous taste.

Solubility.—It yields its virtues to ether.

GENERAL ACTION.

Tonic. Anthelmintic.

THERAPEUTICAL ACTION.

It is used almost exclusively for *tænia solium*, and *bothriocephalus latus*.

TOXICOLOGICAL ACTION.

In sufficient doses it causes gastro-intestinal irritation, with severe diarrhoea and emesis.

Treatment of Poisoning.—Evacuate stomach and treat the symptoms.

PREPARATION.

Oleoresina Aspidii..... ℥x. - 3 j. (.60-4.).

AURANTIUM.

English Name.—Orange.

Origin.—Aurantii Amari Cortex, commonly called Bitter Orange Peel, is the rind of the fruit of *Citrus vulgaris*; Aurantii Dulcis Cortex, commonly called Sweet Orange Peel, is the rind of the fruit of *Citrus Aurantium*; Aurantii Flores, commonly called Orange Flowers, are obtained from *Citrus vulgaris* and *Citrus Aurantium*.

Natural Order.—Aurantiaceæ.

Synonyms.—Bitter Orange Peel, Sweet Orange Peel, Orange Flowers.

Habitat.—Indigenous to China and India, but has been cultivated in Europe, America, West Indies, and other warm climates.

Constituents—

OF AURANTII AMARI CORTEX.—Its properties are due to a volatile oil (*Oleum Aurantii Corticis*).

OF AURANTII DULCIS CORTEX.—A volatile oil, and a bitter principle called hesperidin are its chief constituents.

OF AURANTII FLORES.—These contain a volatile oil.

Description—

OF AURANTII AMARI CORTEX.—It has a thin external layer of a deep orange color, which contains a number of vesicles filled with a volatile oil. Its internal layer is white and fungous. The external layer has a fragrant, aromatic odor, and a bitter taste, but the inner layer is inodorous.

OF AURANTII DULCIS CORTEX.—Closely resembles bitter orange peel, and has an orange-yellow color. It has a sweetish, fragrant odor, and an aromatic, slightly bitter taste.

OF AURANTII FLORES.—These are about $\frac{1}{2}$ inch long, and have

a peculiar shape. Their odor is very fragrant, and their taste aromatic and bitter.

OF OLEUM AURANTII CORTICIS.—This is a volatile oil obtained from the fresh orange-peel. It has a pale, yellowish color, an aromatic odor, and an aromatic, bitter taste.

Solubility—

OF AURANTII AMARI CORTEX.—Yields its properties to water and to alcohol.

OF AURANTII DULCIS CORTEX.—Yields its properties to water and to alcohol.

OF AURANTII FLORES.—They yield their virtues to water and to alcohol.

GENERAL ACTION.

Of Aurantii Amari Cortex.—Mild tonic. Carminative. Vehicle.

Of Aurantii Dulcis Cortex.—Aromatic. Vehicle.

Of Aurantii Flores.—Antispasmodic.

THERAPEUTICAL ACTION.

Used as a vehicle and corrective in the form of preparations of the bark, and also in pharmaceutical preparations. Preparations of the flowers have been recommended as an antispasmodic in *chorea*.

TOXICOLOGICAL ACTION.

If subjected to its influence for a long time patients may develop cephalalgia, dizziness, tinnitus aurium, gastralgia, and dysphagia. Epileptiform convulsions, twitchings, colic, and death may occur from its administration in excessive doses to children.

PREPARATIONS.

Of Aurantii Amari Cortex—

Extractum Aurantii Amari Fluidum.. ℥x. - 3 j. (.60-4.).

Tinctura Aurantii Amari..... 3 j. - 3 ij. (4.-8.).

Of Aurantii Dulcis Cortex—

Syrupus Aurantii..... 3 j. - $\frac{3}{4}$ ss. (4.-16.).

Tinctura Aurantii Dulcis..... 3 j. - 3 ij. (4.-8.).

Of Aurantii Flores—

Syrupus Aurantii Florum..... ʒj. (4.).

Aqua Aurantii Florum..... Vehicle.

Oleum Aurantii Florum.

Spiritus Odoratus.

Of Oleum Aurantii Corticis—

Elixir Aurantii..... Vehicle.

Spiritus Aurantii..... Vehicle.

AZEDARACH.*English Name.*—Azedarach.*Origin.*—The bark of the root of *Melia Azedarach*.*Natural Order.*—Meliaceæ.*Synonyms.*—Pride of China, Pride of India, Bead Tree.*Habitat.*—It is a native of Syria, Persia, and India, but is naturalized in the Southern States.*Constituents.*—A bitter alkaloid called margosin is supposed to be its active principle.*Description.*—Occurs in curved pieces of variable size and thickness. They are reddish-brown on their external, and whitish or brownish on their internal surface. The drug is inodorous, but has a sweetish taste at first, which afterward becomes bitter and nauseous.*Solubility.*—It yields its virtues to boiling water.**GENERAL ACTION.**Cardiac stimulant. Gastric stimulant. Emetic. Cathartic. Anthelmintic. Diaphoretic. Resembles *Spigelia* in its action.**PHYSIOLOGICAL ACTION.****CIRCULATORY SYSTEM.**

This drug is supposed to accelerate the heart's action.

DIGESTIVE SYSTEM :*Stomach.*—In small doses it stimulates the gastric mucous membrane, and in large causes emesis.*Intestines.*—It stimulates the intestines, causing catharsis.

THERAPEUTICAL ACTION.**DIGESTIVE SYSTEM.**

Used entirely as an anthelmintic for *lumbricoides*. It should be followed by a cathartic.

CUTANEOUS SYSTEM.

As an ointment it is occasionally used in *trichophytosis capitis*.

TOXICOLOGICAL ACTION.

Vertigo, defective sight, convulsions, emesis, purging, and even death may follow excessively large doses.

Treatment of Poisoning.—Evacuate stomach and treat the symptoms.

PREPARATION.

*Decoctum Azedarach..... $\frac{z}{3}$ ss.— $\frac{z}{3}$ j. (16.—30.).

BALSAMUM PERUVIANUM.

English Name.—Balsam of Peru.

Origin.—A balsam obtained from *Myroxylon Pereiræ*.

Natural Order.—Leguminosæ, Papilionaceæ.

Habitat.—A native of Central America.

Constituents.—It contains benzoic and cinnamic acids, resin, and a volatile oil called cinnamein.

Description.—A thick liquid, of a dark reddish-brown color ; a somewhat smoky, balsamic, and agreeable odor ; and a warm, bitter, afterward acrid taste.

Solubility.—It is entirely dissolved by alcohol.

GENERAL ACTION.

Mild cardiac stimulant. Tonic. Expectorant. Diuretic. Diaphoretic. Thermafacient.

PHYSIOLOGICAL ACTION.**CIRCULATORY SYSTEM.**

The heart is increased in force and frequency by its action.

DIGESTIVE SYSTEM.

It increases digestive power, and promotes the action of the mucous membrane of the entire alimentary canal.

RESPIRATORY SYSTEM.

The secretion of the bronchial mucous membrane is augmented by its administration.

GENITO-URINARY SYSTEM.

This drug slightly increases the flow of urine.

CUTANEOUS SYSTEM.

Applied locally it stimulates the skin, and internally promotes cutaneous transpiration.

THERAPEUTICAL ACTION.**RESPIRATORY SYSTEM.**

It is often serviceable in the treatment of *bronchitis*.

GENITO-URINARY SYSTEM.

Balsam of Peru is often beneficial in *gonorrhœa*, *gleet*, and *leucorrhœa*.

LOCALLY.

As an application to *indolent ulcers* and *wounds* it is very helpful.

PREPARATION.

Balsamum Peruvianum..... 3 ss. (2.).

BALSAMUM TOLUTANUM.

English Name.—Balsam of Tolu.

Origin.—A balsam obtained from *Myroxylon toluifera*.

Natural Order.—Leguminosæ, Papilionaceæ.

Habitat.—A native of Carthageria.

Constituents.—It contains benzoic and cinnamic acids, resin, and a volatile oil, consisting principally of toluene.

Description.—A yellowish or brownish-yellow, semifluid or nearly solid mass, having an agreeable, balsamic odor, and a mild, aromatic taste.

Solubility.—Entirely soluble in alcohol, but almost insoluble in water.

GENERAL ACTION.

Stimulant expectorant. Tonic.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM.

It acts as a stimulant to the gastric mucous membrane.

RESPIRATORY SYSTEM.

This drug stimulates the bronchial mucous membrane and increases its secretion.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

It is often used as a flavoring ingredient of numerous medicines.

RESPIRATORY SYSTEM.

It may often prove beneficial for *chronic bronchitis* and *coughs*.

PREPARATIONS.

Syrupus Tolutanus..... $\frac{7}{3}$ ss.— $\frac{7}{3}$ j. (16.—30.).

Tinctura Tolutana..... 3 j.—3 ij. (4.—8.).

BELLADONNA.

English Name.—Belladonna.

Origin.—The root, Belladonnæ Radix ; and the leaves, Belladonnæ Folia ; of *Atropa Belladonna*.

Natural Order.—Solanaceæ.

Synonym.—Deadly Nightshade.

Habitat.—It is a native of Europe, but is cultivated in this country.

Constituents.—The peculiar principle of this drug is the alkaloid atropine, but it also contains another, called hyoscyamin ; and chlorophyll, wax, gum, starch, albumen, lignin, and salts.

Description.—

OF THE ROOT.—Occurs in cylindrical, somewhat tapering, longitudinally wrinkled pieces, from $\frac{1}{2}$ an inch to 1 inch or

more in thickness; externally brownish-gray, internally whitish; nearly inodorous, and having a sweetish, afterward bitterish and strongly acrid taste.

OF THE LEAVES.—The leaves are from 4 to 6 inches long, broad, ovate, tapering at the apex; entire on the margin; smooth, thin, the upper surface brownish green; the lower surface grayish green; having a slight odor and a bitterish, disagreeable taste.

OF ATROPINE.—Obtained as colorless, or white acicular crystals, permanent in the air, odorless, and having a bitter, acrid taste.

OF ATROPINÆ SULPHAS.—A white, indistinctly crystalline powder, permanent in the air, odorless, and having a very bitter, nauseating taste.

Tests.—Solutions of atropine give a reddish-brown precipitate when mixed with a solution of iodine in potassium iodide, which is insoluble in potash or acetic acid.

If a solution of hydrobromic acid saturated with free bromine be added to a solution of atropine we obtain a crystalline yellow precipitate, which is insoluble in caustic alkalies, mineral acids, or acetic acid. With nitric acid solutions of atropine form a yellowish solution, which later becomes colorless.

Solubility—

OF ROOT AND LEAVES.—Yield their virtues to water and to alcohol.

OF ATROPINE.—Soluble in 300 parts of water at normal temperatures, in 35 parts of boiling water, but very soluble in alcohol.

OF ATROPINÆ SULPHAS.—Soluble in water and alcohol at a normal temperature, but very soluble in boiling water and in boiling alcohol.

GENERAL ACTION.

Cerebral stimulant. Excito-motor. Mydriatic. Cardiac stimulant. Arterial contractant. Laxative. Respiratory stimulant. Diuretic. Local sedative.

Synergists.—Excito-motors are synergistic, such as stramonium, hyoscyamus, nux vomica, picrotoxin, ergot, cimicifuga, digitalis, etc.

Antagonists and Incompatibles.—Caustic alkalies are incompatible, and opium and physostigma are its principal antagonists.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM :

Brain.—It affects the brain but little in small doses, but in full medicinal doses may produce headache, vertigo, illusions, hallucinations, or active delirium of a joyful or quarrelsome character.

Spinal Cord.—In large doses it may cause muscular weakness, inco-ordination, or motor paralysis, but does not affect sensibility.

Nerves.—Belladonna causes dilatation of the pupil by paralyzing the terminal filaments of the third nerve, which control the circular fibres of the iris, and allowing the sympathetic system to exert its full influence on the radiating fibres. This action on the pupil causes dimness of vision and blurred objects. In large doses it diminishes the excitability of the motor nerves by acting on their terminal filaments and on their nerve-trunks. It also impairs the sensibility of the sensory nerves to a certain extent.

CIRCULATORY SYSTEM :

Heart.—By paralyzing the pneumogastric terminal filaments and stimulating the cardiac ganglia of the sympathetic, this drug increases the heart's action in force and frequency.

Vessels.—In moderate doses, belladonna increases arterial tension by stimulating the sympathetic vaso-motor nerves, but in large doses may cause arterial dilatation.

DIGESTIVE SYSTEM :

Mouth.—It paralyzes the chorda tympani terminal filaments and thus checks the secretion of the submaxillary gland. Dryness of the oral mucous membranes occurs, and sometimes blueness of the lips from its action.

Stomach.—This drug first represses but afterward increases the gastric secretions.

Intestines.—From its action on the intestines we first find dryness and afterward increased secretion. It also stimulates the unstriated muscular fibres of the intestines and thus promotes peristalsis. By this action the stools are increased in number and rendered more liquid.

RESPIRATORY SYSTEM.

The respirations are increased in number and depth, but not in ratio to the cardiac beats.

GENITO-URINARY SYSTEM :

Kidneys.—The flow of urine and the products of destructive metamorphosis are increased by its action.

Bladder.—In large doses belladonna increases the desire to evacuate the bladder but decreases the power of doing so by partially paralyzing the vesical muscular fibres.

CUTANEOUS SYSTEM.

Belladonna decreases cutaneous transpiration and may cause an eruption to appear on the skin, usually on the face and trunk before the extremities, of a scarlet hue, which is due to hyperæmia of the cutaneous vessels, and may be mistaken for scarlatina. Locally it acts as a sedative.

TEMPERATURE.

A full medicinal dose causes a decided rise in temperature, which is not long maintained, for arterial dilatation soon occurs and causes its decrease.

THERAPEUTICAL ACTION.

NERVOUS SYSTEM.

Belladonna is often very beneficial in the treatment of *migraine, insomnia, neuralgia, and epilepsy.*

DIGESTIVE SYSTEM.

It is very serviceable in *mercurial ptyalism, acute pharyngitis, gastralgia, gastric ulcer, irritative dyspepsia, chronic gastritis, and constipation.*

RESPIRATORY SYSTEM.

Very good results are obtained from its use in *acute nasal catarrh, laryngismus stridulus, aphonia, pertussis, and asthma.*

GENITO-URINARY SYSTEM.

Belladonna often proves a most excellent remedy in *incontinence of urine, nocturnal seminal emissions, ovarian dysmenorrhœa, and neuralgic dysmenorrhœa.*

GENERAL DISEASES.

It is useful in the treatment of *diphtheria, erysipelas, typhoid fever, typhus fever, and colica pictonum.*

CUTANEOUS SYSTEM.

Administered internally it may prove very efficacious in *prurigo, herpes zoster, eczema, hyperidrosis, and sweating of phthisis.*

LOCALLY.

Excellent results are often seen from its application for *myalgia, localized sweating, galactorrhœa, abscesses, boils, pruritus vulvæ, and fissures of the anus.* As a local sedative and mydriatic, atropine is indicated in *phlyctenular keratitis, iritis, blepharospasm, and photophobia.*

HYPODERMATICALLY.

The active principle will often control, when administered subcutaneously, *tic-douloureux, sciatica, delirium tremens, neuralgic dysmenorrhœa, asthma, sea-sickness, cholera, enuresis, spermatorrhœa, and insomnia.*

TOXICOLOGICAL ACTION.

Toxic symptoms usually show themselves in one or two hours, but may appear in twenty minutes, or not until four or five hours have passed. They consist of headache, giddiness, drowsiness, great thirst, dysphagia, emesis, strong and rapid pulse, flushed countenance, sparkling eyes, extreme dilatation of pupils, aphonia, cutaneous numbness, inability to walk, joyful or maniacal delirium, scarlet eruption on skin, desire to urinate but inability to do so, and finally coma.

Antidotes and Treatment of Poisoning.—Empty stomach by emetics or stomach-pump. Give opium or physostigma

hypodermatically, jaborandi internally, and externally apply stimulation.

PREPARATIONS.

Atropina gr. $\frac{1}{200}$ - $\frac{1}{50}$ (.0003-.0012).

Atropinæ Sulphas gr. $\frac{1}{200}$ - $\frac{1}{50}$ (.0003-.0012).

Of the Leaves—

Tinctura Belladonnæ ℥v.- 3 ss. (.30-2).

Extractum Belladonnæ Alcoholicum. gr. ss.-j. (.03-.06).

Unguentum Belladonnæ (1-10).

Of the Root—

Abstractum Belladonnæ gr. $\frac{1}{2}$ (.03).

Extractum Belladonnæ Fluidum ℥j.-v. (.06-.30).

Emplastrum Belladonnæ.

Linimentum Belladonnæ.

BENZOINUM.

English Name.—Benzoin.

Origin.—A balsamic resin obtained from *Styrax Benzoin*.

Natural Order.—Styracææ.

Synonym.—Benjamin Tree.

Habitat.—A native of Java, Sumatra, Borneo, Loos, and Siam.

Constituents.—This drug contains benzoic acid, cinnamic acid, cinnamein, vanillin, resin, extractive and volatile oil.

Description—

OF CRUDE DRUG.—Occurs in lumps consisting of agglutinated, yellowish-brown tears, internally milk-white; or in the form of a reddish-brown mass, more or less mottled from whitish tears imbedded in it.

OF BENZOIC ACID.—Obtained as white, lustrous scales, or friable needles, permanent in the air, having a slight aromatic odor of benzoin, and a warm, acid taste.

Solubility—

OF CRUDE DRUG.—Wholly soluble in alcohol and imparts a portion of the benzoic acid to boiling water.

OF BENZOIC ACID.—Soluble in 500 parts of water, or 3 parts of alcohol at normal temperatures; but soluble in 15 parts of boiling water or 1 part of boiling alcohol.

GENERAL ACTION.

Action is due to benzoic acid. Cardiac stimulant. Expectorant. Diaphoretic. Antiseptic. Local irritant.

PHYSIOLOGICAL ACTION.

CIRCULATORY SYSTEM.

It stimulates the heart to a certain degree.

RESPIRATORY SYSTEM.

The bronchial secretion is increased by its administration.

GENITO-URINARY SYSTEM.

The urine is rendered more acid by its use, and benzoic acid is eliminated from the kidneys as hippuric acid.

CUTANEOUS SYSTEM.

This drug promotes cutaneous transpiration, and may prove irritating when applied locally.

THERAPEUTICAL ACTION.

RESPIRATORY SYSTEM.

Benzoin may prove useful in the treatment of *chronic bronchitis* and *chronic laryngitis*.

GENITO-URINARY SYSTEM.

Chronic cystitis and *incontinence of urine* may be much benefited by its administration.

LOCALLY.

Applied locally it is serviceable for *indolent ulcers*, *foul wounds*, *chapped hands*, *fissured nipples* and *fissures of the anus*.

PREPARATIONS.

Tinctura Benzoini	3 ss.—3 ij. (2.—8.).
Tinctura Benzoini Composita	3 ss.—3 ij. (2.—8.).
Adeps Benzoinatus	(1—50).
Acidum Benzoicum ..	grs. v.—xx. (.30—1.2).

BRAYERA.

English Name.—Brayera.

Origin.—The female inflorescence of *Brayera anthelmintica*.

Natural Order.—Rosaceæ, Roseæ.

Synonym.—Kousso, Koosso, Cusso.

Habitat.—A native of Abyssinia.

Constituents.—Its active ingredient is koossin, but it also contains fatty matter, chlorophyll, wax, resin, sugar, gum, tannic acid, and other extractives.

Description.—

OF CRUDE DRUG.—Occurs as bundles, rolls, or compressed clusters, having a greenish-yellow or light-brown color. Its odor is slightly fragrant and tea-like, and its taste bitter and nauseous.

OF KOSSIN.—It has a yellowish or yellowish-white color, and a persistent, bitter, and acrid taste, and an odor like Russian leather.

Solubility.—

OF CRUDE DRUG.—Yields its virtues most completely to alcohol.

OF KOSSIN.—Sparingly soluble in water, but freely soluble in alcohol.

GENERAL ACTION.

Anthelmintic.

PHYSIOLOGICAL ACTION.

It sometimes acts as a cathartic and rarely as an emetic.

THERAPEUTICAL ACTION.

Used entirely as an anthelmintic, and chiefly for *tape-worm*. Usually brings away the worm without the administration of a cathartic.

PREPARATIONS.

Extractum Brayeræ Fluidum..... 3 ij.—3 iv. (8.—16.).

Infusum Brayeræ..... O ss. (500.).

BRYONIA.

English Name.—Bryonia.

Origin.—The root of *Bryonia alba* and of *Bryonia dioica*.

Natural Order.—Cucurbitaceæ.

Synonym.—Bryony.

Habitat.—A native of Europe.

Constituents.—It contains a peculiar bitter principle called bryonin, and also gum, resin, sugar, a concrete oil, albumen, and various salts.

Description.—

OF THE ROOT.—Occurs in transverse sections about 2 inches in diameter, with a thin, rough, grayish-brown bark, the central portion being whitish or grayish, with numerous small wood-bundles arranged in circles, and projecting, radiating lines; inodorous, and taste disagreeably bitter.

OF BRYONIN.—A white powder with an extremely bitter taste.

Solubility.—

OF CRUDE DRUG.—Yields its active properties to water.

OF BRYONIN.—Soluble in water and in alcohol.

GENERAL ACTION.

Hydragogue cathartic. Diuretic. Local irritant.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM :

Stomach.—In moderate doses it stimulates the stomach, but in large may cause emesis.

Intestines.—It stimulates the intestinal glands and increases their secretion, thus rendering the evacuations more frequent and more watery.

GENITO-URINARY SYSTEM.

The flow of urine is increased by its administration.

CUTANEOUS SYSTEM.

It may produce irritation or vesication when applied to the skin.

THERAPEUTICAL ACTION.**DIGESTIVE SYSTEM.**

As a hydragogue cathartic it may prove of benefit in *ascites*, *passive pleuritis with effusion*, and *constipation*.

GENERAL DISEASES.

It is sometimes used with good effect in *rheumatic arthritis*.

PREPARATION.

Tinctura Bryoniæ..... 3 ss.—3 j. (2.—4.).

BUCHU.

English Name.—Buchu.

Origin.—The leaves of *Barosma betulina*, of *Barosma crenulata*, and of *Barosma serratifolia*.

Natural Order.—Rutaceæ, Diosmeæ.

Habitat.—Native of Cape of Good Hope.

Constituents.—Its chief constituent is a volatile oil, from which is obtained barosma camphor. It also contains resin, gum, albumen, coloring matter, and salts.

Description.—The leaves are about $\frac{3}{8}$ of an inch long, roundish or obovate, with a rather wedge-shaped base, pale green in color, having a strongly aromatic odor, and mint-like, pungent, bitterish taste.

Solubility.—Yields its virtues to water and to alcohol.

GENERAL ACTION.

Blennorrhetic. Diuretic. Diaphoretic.

PHYSIOLOGICAL ACTION.**DIGESTIVE SYSTEM.**

This drug stimulates the stomach and increases appetite and digestive power.

GENITO-URINARY SYSTEM :

Kidneys.—It increases the flow of urine.

Bladder.—Buchu stimulates the vesical mucous membrane and increases its secretion.

CUTANEOUS SYSTEM.

Cutaneous transpiration is promoted by its administration.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

Some advantage may be derived from its use in *atonic dyspepsia* and *flatulency*.

GENITO-URINARY SYSTEM.

The most frequent use of this drug is for *cystitis*, *pyelitis*, *urethritis*, and *gonorrhœa*.

PREPARATIONS.

Extractum Buchu Fluidum.....	3 ss.—3 j. (2.—4.).
Infusum Buchu.....	$\frac{3}{4}$ j.— $\frac{3}{4}$ ij. (30.—60.).
Tinctura Buchu.....	3 j.— $\frac{3}{4}$ ss. (4.—16.).

***CAFFEA.**

English Name.—Coffee.

Origin.—The seed of *Coffea arabica*.

Natural Order.—Rubiaceæ.

Habitat.—The tree is a native of Southern Arabia, Abyssinia, and some other parts of Africa.

Constituents.—Caffein, caffeo-tannic acid, and caffeic acid are its principal active ingredients.

Description—

OF THE SEEDS.—They have a slightly sweetish, somewhat austere taste, and a faint, peculiar odor.

OF CAFFEIN.—Obtained as soft, flexible, colorless crystals, which have a silky lustre. The crystals are odorless, and have a bitter taste.

Tests.—Nitric and sulphuric acids should dissolve caffein without color, and test solutions of iodide of mercury and of iodide of potassium should not precipitate its aqueous solution.

Solubility—

OF THE SEEDS.—They yield their chief virtues to boiling water.

OF CAFFEIN.—Very soluble in boiling alcohol, soluble in boiling water, and less soluble in alcohol and in water at a lower temperature.

GENERAL ACTION.

Antispasmodic. Cardiac stimulant. Gastric stimulant. Laxative. Respiratory depressant. Diuretic. Thermafacient. Alterative.

Synergists.—Camphor, asafetida, valerian, serpentaria, cannabis indica, coca, and guarana all assist its action.

Antagonists and Incompatibles.—Tannic acid, mercuric salts, and iodide of potassium precipitate it from its solutions. Opium is its physiological antagonist.

PHYSIOLOGICAL ACTION.**NERVOUS SYSTEM :**

Brain.—It first produces drowsiness, which is followed by excitement, and in sufficient doses by hallucinations, delirium, muscular tremblings, or convulsions.

Spinal Cord.—The reflex functions of the cord are at first augmented and afterward diminished.

CIRCULATORY SYSTEM :

Heart.—The heart's action is at first increased, but later decreased by paralysis of the cardiac muscle or its contained ganglia.

Vessels.—Arterial tension is at first increased and afterward diminished.

DIGESTIVE SYSTEM :

Stomach.—The appetite and digestive power are increased by its stimulating effect on the gastric glands.

Intestines.—It causes an increase in the number of stools by relaxing the intestines.

RESPIRATORY SYSTEM :

The number of respirations increases at first but later de-

creases, and in toxic doses the respirations cease before the heart-beats.

GENITO-URINARY SYSTEM.

It promotes the flow of urine decidedly, but diminishes the amount of urea excreted.

TEMPERATURE.

A rise of temperature at first occurs, but is followed by a fall when paralysis commences.

THERAPEUTICAL ACTION.

NERVOUS SYSTEM.

Cephalalgia, *opium narcosis*, and *hypochondriasis* have been benefited by it, especially the former.

CIRCULATORY SYSTEM.

As a cardiac stimulant it is employed in *valvular insufficiency*, *cardiac dilatation*, and *fatty degeneration of the heart*.

DIGESTIVE SYSTEM.

It is very useful as a tonic and in the treatment of *gastric catarrh*, *atonic dyspepsia*, *cholera morbus*, *cholera infantum*, and *diarrhoea of phthisis*.

RESPIRATORY SYSTEM.

Benefit has been derived from its use in *pertussis*, *spasmodic asthma*, and *hay fever*.

GENITO-URINARY SYSTEM.

It may often prove of benefit as a diuretic in *chronic nephritis*.

GENERAL DISEASES.

For the relief of *dropsy* it is very useful, especially when it is of cardiac origin.

HYPODERMATICALLY.

Neuralgia and *chronic alcoholic insomnia* have been relieved by its subcutaneous injection.

TOXICOLOGICAL ACTION.

In toxic doses it causes hallucinations, delirium, convulsions, fever, weak pulse, diminished respirations, and general paralysis.

Treatment of Poisoning.—Emetics, stomach-pump, and treat symptoms.

PREPARATIONS.

Caffeina.....	grs. j.-v. (.06-.30).
*Caffeinæ Citratis.....	grs. j.-iij. (.06-.18).

CALAMUS.

English Name.—Calamus.

Origin.—The rhizome of *Acorus Calamus*.

Natural Order.—Araceæ.

Synonym.—Sweet Flag.

Habitat.—A native of the United States, Europe, and Western Asia.

Constituents.—It contains a volatile oil, soft resin, gum, starch, lignin, and salts.

Description.—Occurs in pieces of various lengths, about $\frac{3}{4}$ of an inch broad, brownish-red externally and whitish internally. Its taste is strongly pungent and its odor aromatic.

Solubility.—It yields its properties to boiling water.

GENERAL ACTION.

Aromatic tonic. Carminative. Adjuvant.

THERAPEUTICAL ACTION.

Useful in *dyspepsia* and *flatulency*.

PREPARATION.

Extractum Calami Fluidum.....	3 ss.—3 j. (2.-4.).
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CALENDULA.

English Name.—Calendula.

Origin.—The fresh flowering herb of *Calendula officinalis*.

Natural Order.—Compositæ.

Synonym.—Marigold.

Habitat.—Native of Europe, and cultivated in the United States.

Constituents.—Its chief constituent is calendulin.

Description—

OF THE HERB.—The stem is angular and rough, the leaves thickish, hairy, and slightly toothed, the flower-heads nearly 2 inches broad. The odor is slightly narcotic, and the taste bitter and salty.

OF CALENDULIN.—A yellowish, bitter, amorphous principle, which has no taste.

Solubility—

OF THE HERB.—Yields its virtues to alcohol and to boiling water.

OF CALENDULIN.—It is soluble in alcohol, and swells with water into transparent jelly.

GENERAL ACTION.

Antispasmodic. Mild cardiac stimulant. Diuretic. Emmenagogue. Diaphoretic. Alterative. Resolvent.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

It is recommended for the relief of *bilious vomiting*, *hepatic congestion*, and *catarrhal jaundice*.

GENITO-URINARY SYSTEM.

Benefit may be obtained from its use in *amenorrhœa*.

GENERAL DISEASES.

Scrofula, *typhoid fever*, and *cancer* are among the diseases supposed to be helped by its administration.

LOCALLY.

It is employed as an application to *contusions*, *wounds*, and *ulcers*.

PREPARATION.

Tinctura Calendulæ 3 ss.—3 j. (2.—4.)

CALUMBA.

English Name.—Calumba.

Origin.—The root of *Jateorrhiza Calumba*.

Natural Order.—Menispermaceæ.

Synonym.—Columbo.

Habitat.—A native of Mozambique, and is cultivated in some African and East Indian Islands.

Constituents.—Columbin and berberin are its principal ingredients, but it also contains columbic acid, a volatile oil, a nitrogenous substance, a bitter, yellow ingredient, starch, and salts.

Description.—

OF THE ROOT.—Occurs in round pieces about $\frac{1}{4}$ of an inch thick, having a brownish, wrinkled appearance externally, and a yellow color internally. Its taste is very bitter and its odor slightly aromatic.

OF COLUMBIN.—Obtained as beautiful, transparent, quadrilateral, prismatic crystals, with a very bitter taste, but no odor.

OF BERBERIN.—Obtained as fine, yellow needles.

Solubility.—

OF THE ROOT.—It yields its virtues to water and to alcohol, and readily absorbs moisture from the atmosphere.

OF COLUMBIN.—Soluble to a slight degree in water and in alcohol.

OF BERBERIN.—Very slightly soluble in water, and freely soluble in alcohol.

GENERAL ACTION.

Mild bitter tonic. Gastric stimulant. Demulcent.

THERAPEUTICAL ACTION.

It is beneficial in *nausea, vomiting, dysentery*, and as a tonic during convalescence.

PREPARATIONS.

Extractum Calumbæ Fluidum 3 ss.—3 j. (2.-4.).

Tinctura Calumbæ 3 j.—3 iv. (4.-16.).

CAMBOGIA.

English Name.—Gamboge.

Origin.—A gum-resin obtained from *Garcinia Hanburii*.

Natural Order.—Guttiferæ.

Habitat.—Obtained exclusively from Siam and Cochin-China.

Constituents.—Its chief ingredients are a gum and a resin, but it also contains other minor ingredients.

Description.—Occurs as pipe gamboge, which is in cylindrical rolls from 1 to 3 inches in diameter, and has an orange color; or as cake or lump gamboge, which is in irregular masses, and mixed with sticks and other impurities. Good gamboge is inodorous and has no taste unless chewed, when it is acrid.

Solubility.—Partly soluble in alcohol, and yields a yellow emulsion when triturated with water.

GENERAL ACTION.

Emetic. Strong hydrogogue cathartic. Diuretic.

PHYSIOLOGICAL ACTION.**DIGESTIVE SYSTEM :**

Stomach.—In small doses it stimulates the stomach to increased secretion, and in large doses causes vomiting.

Intestines.—It increases the secretion of the intestinal glands, and produces watery evacuations accompanied by pain.

GENITO-URINARY SYSTEM.

The flow of urine is decidedly augmented by its administration in small and often-repeated doses.

THERAPEUTICAL ACTION.**DIGESTIVE SYSTEM.**

It may be given to relieve *constipation*, but only in combination with other cathartics of a corrective nature.

GENERAL DISEASES.

Dropsy may be much benefited by its use in combination with saline cathartics and diuretics.

TOXICOLOGICAL ACTION.

In large doses it produces vomiting and purging with violent gastro-enteritis, but seldom proves fatal.

Treatment of Poisoning.—If emesis does not occur soon, give emetics, and treat the inflammatory symptoms with demulcents and opiates.

PREPARATION.

Pilulæ Catharticæ Compositæ... (1 = gr. $\frac{1}{4}$ (.015)) 1-3.

CAMPHORA.

English Name.—Camphor.

Origin.—A stearopten derived from *Cinnamomum Camphora*.

Natural Order.—Lauraceæ.

Habitat.—A native of China, Japan, and other parts of Eastern Asia, but has been cultivated in Europe.

Constituents.—Camphoric acid, camphoronic acid, cymol, and oil of camphor are obtained from it.

Description.—Occurs in white, translucent masses, of a tough consistence and crystalline structure. It has a pungent taste and a penetrating odor.

Solubility.—Quite soluble in alcohol, but precipitates on addition of water.

GENERAL ACTION.

Cerebral stimulant. Antispasmodic. Cardiac stimulant. Arterial contractant. Gastric stimulant. Diuretic. Aphrodisiac. Local irritant.

Synergists.—Asafetida, ammonia, valerian, serpentaria, cannabis indica, coca, guarana, coffea, and opium, all increase its action on the cerebrum.

Antagonists and Incompatibles.—Water precipitates it from its alcoholic solutions. Aconite, veratrum viride, pulsatilla, gelsemium, and antimony, all antagonize its action, being cardiac sedatives.

PHYSIOLOGICAL ACTION.**NERVOUS SYSTEM.**

It causes mental exhilaration when given in full therapeutic doses.

CIRCULATORY SYSTEM:

Heart.—It increases the heart's action in moderate doses, but causes it to become slower when administered in large.

Vessels.—It increases arterial tension.

DIGESTIVE SYSTEM.

It stimulates the gastric mucous membrane, and thus increases its secretion.

GENITO-URINARY SYSTEM.

In large doses it may decrease sexual appetite, but in moderate doses increases it.

CUTANEOUS SYSTEM.

Cutaneous transpiration is promoted by its internal administration, and the skin becomes irritated by its local application.

THERAPEUTICAL ACTION.**NERVOUS SYSTEM.**

As an antispasmodic, it is used in the treatment of *hysteria*, *pertussis*, and *asthma*, and as a sedative is administered in *mania*, *melancholia*, and *delirium tremens*.

DIGESTIVE SYSTEM.

Summer diarrhœa, *flatulency*, and *cholera* have been benefited by its use.

RESPIRATORY SYSTEM.

As an inhalation, or internally, it is recommended for *acute coryza*.

GENITO-URINARY SYSTEM.

It often helps *priapism*, *dysmenorrhœa*, *nymphomania*, and *chordee*.

GENERAL DISEASES.

It is employed for *typhoid fever* and *hospital gangrene*.

LOCALLY.

Good effect may be obtained by applying it locally for the relief of *toothache*, *myalgia*, and *lumbago*.

TOXICOLOGICAL ACTION.

In toxic doses it produces convulsions, stupor, slow pulse, gastric and intestinal burning, diminished reflex action, pale and moist skin, and frequent micturition. No deaths have been reported in adults, and but few in children.

Treatment of Poisoning.—Evacuate stomach, and give opium, coffee, and sedatives.

PREPARATIONS.

Aqua Camphoræ.....	3 j.— $\overline{3}$ j. (4.—30.).
Ceratum Camphoræ.	
Linimentum Camphoræ.	
Linimentum Saponis.	
* Oleum Camphoræ.....	$\overline{\text{m}}$ ij.—iij. (.12.—.18).
Spiritus Camphoræ.....	$\overline{\text{m}}$ v.—3 j. (.30.—4.).
Tinctura Opii Camphorata.....	3 j.—3 iv. (4.—16.).

CANNABIS AMERICANA.

English Name.—American Cannabis.

Origin.—Cannabis sativa.

Natural Order.—Urticaceæ, Cannabineæ.

Synonym.—American Hemp.

Habitat.—The American Cannabis is grown in the Southern United States.

Constituents.—It contains a principle called cannabin, which is probably the active ingredient, a volatile oil, and other extractives.

Description.—The stem is about 6 feet long; the leaves are opposite below, and alternate above; the leaflets linear-lanceolate; the flowers are axillary; the odor is heavy; and the taste bitter and slightly acrid.

Solubility.—Yields its virtues to alcohol.

GENERAL ACTION.

Same as Cannabis Indica, but milder in degree.

CANNABIS INDICA.

English Name.—Indian Cannabis.

Origin.—The flowering tops of the female plant of *Cannabis sativa*.

Natural Order.—Urticaceæ, Cannabineæ.

Synonyms.—Indian Hemp. *Gunjah* is the dried compressed female flowers. *Churrus* is an impure resinous exudation. *Bang* is a name applied to a mixture of the larger leaves and capsules without the stems. *Hashish* is the same as bang.

Habitat.—It is a native of Caucasus, Persia, the north of India, and is cultivated in Europe, Asia, and the United States.

Constituents.—Cannabin, a peculiar substance, is probably the active principle, and it also contains a volatile oil, a bitter extractive, chlorophyll, coloring matter, and salts.

Description—

OF THE FLOWERING TOPS.—About 2 inches long, with a few leaves, branching, compressed, brittle, having leaflets and numerous sheathing, pointed bracts, each containing 2 small flowers, sometimes with nearly ripe fruit, and more or less adherent from a resinous exudation. Their odor is narcotic and peculiar, and their taste slightly acrid.

OF CANNABIN.—It is an amorphous, brown resin, having a warm, bitter, acrid, and somewhat balsamic taste, and a fragrant odor.

Solubility—

OF THE FLOWERING TOPS.—Yield their virtues to alcohol.

OF CANNABIN.—Soluble in alcohol.

GENERAL ACTION.

Cerebral stimulant. Analgesic. Gastric stimulant. Aphrodisiac.

Synergists.—Alcohol, ether, narcotics, and mydriatics, aid its action.

Antagonists and Incompatibles.—Strychnine is its physiological antidote, and caustic alkalies, acids, and induced electricity, also antagonize it.

PHYSIOLOGICAL ACTION.**NERVOUS SYSTEM :**

Brain.—In full doses it produces mental exhilaration and a feeling of contentment. It relieves pain and causes sleep.

Nerves.—A marked degree of numbness and tingling is experienced, which is followed by cutaneous anæsthesia and a diminution of the muscular sense from the action of the drug on the nerves. Sometimes dilatation of the pupil and disorders of vision follow its use in full doses.

CIRCULATORY SYSTEM.

In some cases the heart's action has become quickened by its administration.

DIGESTIVE SYSTEM.

The appetite and digestive power are increased by its stimulation of the gastric mucous membrane.

RESPIRATORY SYSTEM.

The respirations are rendered slower in some cases.

GENITO-URINARY SYSTEM :

Uterus.—Some investigators claim that it causes uterine contractions.

Sexual Appetite.—As a rule, it increases the sexual desire.

THERAPEUTICAL ACTION.**NERVOUS SYSTEM.**

Chorea, neuralgia, senile trembling, epilepsy, tetanus, hydrophobia, delirium tremens, and acute mania have all been treated by its administration with more or less success.

DIGESTIVE SYSTEM.

It is often indicated in *cholera morbus* and *diarrhœa*.

GENITO-URINARY SYSTEM.

In the treatment of *impotence, menorrhagia, and gonorrhœa*, it is often serviceable.

GENERAL DISEASES.

Rheumatism is often relieved by its use.

TOXICOLOGICAL ACTION.

Large doses produce loss of appreciation of time, joyful

or violent delirium, sense of weight in the lower extremities, dilatation of the pupil, hallucinations, catalepsy, and coma. A desire to kill is often present, and persons under its influence are called "haschaschins." Often after recovery the patient is unable to remember what happened.

Antidotes and Treatment of Poisoning.—Evacuate the stomach, give sulphate of strychnine hypodermatically, and combat symptoms.

PREPARATIONS.

Extractum Cannabis Indicæ..... gr. $\frac{1}{4}$ – $\frac{1}{2}$ (.015–.03).

Extractum Cannabis Indicæ Fluidum. ℥ $\frac{1}{2}$ –j. (.03–.06).

Tinctura Cannabis Indicæ..... ℥v.–xx. (.30–1.2).

CANTHARIS.

English Name.—Cantharides.

Origin.—Cantharis vesicatoria.

Order.—Coleoptera.

Synonym.—Spanish flies.

Habitat.—They abound in Spain, Italy, and the south of France, but are also found in the temperate climates of Europe and Asia.

Constituents.—Cantharidin is the active ingredient of cantharides, and they also contain chlorophyll, black matter, a yellow, viscid matter, fatty matter, and salts.

Description—

OF SPANISH FLIES.—About 1 inch long and $\frac{1}{4}$ inch broad; the anthemæ filiform, black in the upper part, and of a shining, coppery-green color in other parts, and having ample, membranous, transparent wings. The powder is grayish-brown, and contains green, shining particles. The odor of the drug is strong and disagreeable, and its taste acrid, burning, and urinous.

OF CANTHARIDIN.—Occurs as white, crystalline scales of a shining, micaceous appearance, having no taste nor odor.

Solubility—

OF SPANISH FLIES.—Alcohol and water extract their virtues.

OF CANTHARIDIN.—Nearly insoluble in water and in cold alcohol, but soluble in hot alcohol.

GENERAL ACTION.

Cardiac stimulant. Gastric stimulant. Intestinal stimulant. Diuretic. Aphrodisiac. Thermafacient. Local irritant.

Synergists.—Its action is promoted by oleum terebinthinæ, copaiba, cubeba, capsicum, juniper, sabina, etc.

Antagonists.—Camphor counteracts this drug to a certain degree, and opium tends to relieve its irritating effects on the alimentary canal.

PHYSIOLOGICAL ACTION.**CIRCULATORY SYSTEM :**

Heart.—In small doses this drug increases the heart's action in force and frequency, and in large doses increases its frequency but decidedly lessens its force.

Vessels.—In small doses it increases, and in large decreases arterial tension.

DIGESTIVE SYSTEM :

Stomach.—In moderate doses it stimulates the stomach and causes a sensation of warmth, but in large, causes nausea and vomiting.

Intestines.—Large doses produce intestinal irritation, marked by stools increased in number and containing mucus and blood.

GENITO-URINARY SYSTEM :

Kidneys.—It increases the flow of urine.

Bladder.—Produces either stimulation or irritation of the bladder, in accordance with the size of the dose.

Sexual Appetite.—By stimulating the genital organs it increases the sexual appetite, but is too irritating to be employed for this purpose.

CUTANEOUS SYSTEM.

Applied to the skin it causes stimulation, irritation, inflammation, or vesication, depending upon the length of time it is applied and the strength of the solution used.

TEMPERATURE.

It usually causes an increase of temperature in small doses, but in large causes a decline in bodily heat.

THERAPEUTICAL ACTION.

GENITO-URINARY SYSTEM.

Chronic pyelitis and *chronic cystitis* may be benefited by its administration. It proves very serviceable when employed in *prostorrhœa*, *gleet*, *spermatorrhœa*, and *amenorrhœa*, when due to a want of tonicity.

LOCALLY.

As a counter-irritant it is very useful for controlling *pain* and *inflammation*.

TOXICOLOGICAL ACTION.

Muscular tremblings, convulsions, coma, ptyalism, hematemesis, abdominal tenderness, bloody stools containing mucus, tenesmus, strangury, priapism, lumbar pain, hematuria, and abortion are the symptoms apt to follow an overdose.

Treatment of Poisoning.—Evacuate stomach by emetics or stomach-pump. Administer opium, demulcents, and mucilaginous drinks for gastro-enteritis present, and use stimulants for prostration.

PREPARATIONS.

Ceratum Cantharidis..... (about 1-3).

Ceratum Extracti Cantharidis..... (1-6).

Charta Cantharidis.

Collodium cum Cantharide.

Emplastrum Picis cum Cantharide.

Linimentum Cantharidis.

Tinctura Cantharidis..... ℥ij.-v. (.12-.30).

CAPSICUM.

English Name.—Capsicum.

Origin.—The fruit of *Capsicum fastigiatum*.

Natural Order.—Solanaceæ.

Synonyms.—Cayenne pepper, African pepper, Red pepper.

Habitat.—A native of Asia and of America.

Constituents.—Its active principle is called capsaicin, and it also contains resin, a volatile oil, a fixed oil, and an alkaloid resembling conin in odor.

Description.—

OF THE FRUIT.—Conical, from $\frac{1}{2}$ to $\frac{3}{4}$ of an inch long, having a red, membranous covering, containing yellowish seeds. Its taste is very hot and its odor peculiar.

OF CAPSAICIN.—Obtained as colorless crystals.

Solubility.—

OF THE FRUIT.—Imparts its virtues to water and to alcohol.

OF CAPSAICIN.—Slightly soluble in water and very soluble in alcohol.

GENERAL ACTION.

Cardiac stimulant. Gastric stimulant. Intestinal stimulant. Diuretic. Aphrodisiac. Thermafacient. Local irritant.

PHYSIOLOGICAL ACTION.**CIRCULATORY SYSTEM.**

The heart's action is increased in frequency by its stimulating properties.

DIGESTIVE SYSTEM :

Stomach.—By stimulating the gastric mucous membrane, it increases the flow of gastric juice, promotes the appetite and digestive power, and causes a sensation of warmth.

Intestines.—The evacuations become more copious and watery by its stimulating effect on the intestinal secretions.

GENITO-URINARY SYSTEM :

Kidneys.—The flow of urine is augmented by its administration.

Bladder.—The bladder is also stimulated by capsicum, and in full doses, it sometimes causes vesical tenesmus.

Sexual Appetite.—The sexual desire is increased.

CUTANEOUS SYSTEM.

When applied to the skin this drug causes heat, inflammation, and sometimes vesication.

TEMPERATURE.

By its general stimulating action, the bodily heat is raised to some degree.

THERAPEUTICAL ACTION.

CIRCULATORY SYSTEM.

In *fevers* of a low type some benefit may be derived from its use.

DIGESTIVE SYSTEM.

It often proves serviceable in *atonic dyspepsia*, *chronic dyspepsia* from alcoholism, and *flatulent colic*.

GENITO-URINARY SYSTEM.

Chronic parenchymatous nephritis, *chronic pyelitis*, *chronic cystitis*, *prostorrhœa*, *functional impotence*, and *spermatorrhœa* have all been greatly benefited by its use.

GENERAL DISEASES.

In *delirium tremens* sleep may often be obtained by its administration, and combined with quinine we find it very efficacious in *intermittent fever*, when there is a want of sensibility on the part of the stomach.

LOCALLY.

Capsicum is much used as a gargle in *tonsillitis*, *pharyngitis*, and *scarlatinal sore throat*, and as a counter-irritant for the relief of pain and inflammation.

PREPARATIONS.

Emplastrum Capsici.....	
Extractum Capsici Fluidum.....	℥ v.—x. (.30—.60).
Oleoresina Capsici.....	℥ j. (.06).
Tinctura Capsici.....	℥ x.—3 j. (.60—4.).

CARDAMOMUM.

English Name.—Cardamom.

Origin.—The fruit of *Elettaria Cardamomum*.

Natural Order.—Zingiberaceæ.

Habitat.—A native of Malabar.

Constituents.—The fruit yields a volatile oil, a fixed oil, starch, yellow coloring-matter, and salts.

Description.—The fruit is ovoid or oblong in shape, from $\frac{2}{5}$ to $\frac{4}{5}$ of an inch in length, having a pale buff color, a thin, nearly tasteless pericarp; and containing seeds of a reddish-brown color, an agreeable odor, and a pungent, aromatic taste.

Solubility.—The fruit yields its virtues to water and to alcohol.

GENERAL ACTION.

Aromatic tonic. Carminative. Adjuvant.

THERAPEUTICAL ACTION.

This drug is useful in *flatulency*, and as an adjuvant to tonic and purgative medicines.

PREPARATIONS.

Tinctura Cardamomi.....	3 j.—3 ij. (4.—8.).
Tinctura Cardamomi Composita ...	3 j.—3 iv. (4.—16.).
Extractum Aromaticum Fluidum ..	℥x.—xx. (.60—1.2).
Pulvis Aromaticus.....	gr. x.—xxx. (.60—2.).

CARUM.

English Name.—Caraway.

Origin.—The fruit of *Carum Carvi*.

Natural Order.—Umbelliferæ, Orthospermæ.

Habitat.—A native of Europe, but cultivated in this country.

Constituents.—Its chief ingredient is a volatile oil (*Oleum Cari*).

Description—

OF THE FRUIT.—About 2 lines in length, slightly curved, with longitudinal ridges, which are of a light-yellowish color, while the intervening spaces are dark-brown. It has an agreeable, aromatic smell, and a warm, spicy taste.

OF THE VOLATILE OIL.—It is a colorless, or pale-yellow, thin liquid, having a mild, spicy taste, and an aromatic, characteristic odor.

Solubility—

OF THE FRUIT.—Yields its virtues slowly to water and more readily to alcohol.

OF THE VOLATILE OIL.—Soluble in an equal weight of alcohol.

GENERAL ACTION.

Aromatic tonic. Carminative. Adjuvant.

THERAPEUTICAL ACTION.

Used in *flatulency*, and as an adjuvant or corrective to other medicines.

PREPARATIONS.

Oleum Cari. ℥j.-x. (.06-.60).
Spiritus Juniperi Compositus. 3 ij.-3 iv. (8.-16.)

CARYOPHYLLUS.

English Name.—Cloves.

Origin.—The unexpanded flowers of *Eugenia caryophyllata*.

Natural Order.—Myrtaceæ.

Habitat.—They are obtained chiefly from the Moluccas.

Constituents.—It contains an active principle called caryophyllin, another called eugenin, a volatile oil (*Oleum Caryophylli*), tannin, gum, and resin.

Description—

OF THE UNEXPANDED FLOWERS.—About $\frac{1}{2}$ inch long, dark-brown, with a calyx-tube surmounted by a globular head. Their internal color is reddish, their taste hot, pungent, aro-

matic, and very permanent, and their odor strong and fragrant.

OF CARYOPHYLLIN.—A white, resinous substance, crystallizing in fasciculi of fine, diverging, silky needles, having no odor nor taste.

OF THE VOLATILE OIL.—When recent it is clear and colorless, but on standing changes to yellow and then to red. Its taste is hot, acrid, and aromatic, and its odor characteristic.

Solubility—

OF THE UNEXPANDED FLOWERS.—Their odor is taken up by water, but not their taste. Alcohol extracts all their virtues.

OF CARYOPHYLLIN.—Soluble in boiling alcohol.

OF THE VOLATILE OIL.—Very soluble in alcohol.

GENERAL ACTION.

Aromatic tonic. Condiment. Adjuvant.

THERAPEUTICAL ACTION.

Useful in *flatulency*, and as a corrective or adjuvant to other medicines, and as a condiment.

PREPARATION.

Oleum Caryophylli..... ℥ j.—v. (.06—.30).

CASCARILLA.

English Name.—Cascarilla.

Origin.—The bark of *Croton Eluteria*.

Natural Order.—Euphorbiaceæ.

Synonym.—Sweet-wood.

Habitat.—It is found principally in the West Indies, especially in the Bahamas.

Constituents.—Its chief ingredient is a principle called cascarillin, but it also contains a volatile oil, tannin, a red coloring matter, wax, resin, gum, fatty matter, and salts.

Description—

OF THE BARK.—Occurs as quills or curved pieces, about $\frac{1}{12}$ of an inch long, having a grayish, corky external layer and a

smooth inner surface, with a warm, very bitter taste, and a strong aromatic odor.

OF CASCARILLIN.—A white, crystalline substance, inodorous, but having a bitter taste.

Solubility—

OF THE BARK.—Its active properties are partially extracted by water, and fully by alcohol.

OF CASCARILLIN.—Very slightly soluble in water, and readily soluble in alcohol.

GENERAL ACTION.

Aromatic tonic. Gastric stimulant.

THERAPEUTICAL ACTION.

Very useful in the treatment of *indigestion*, and as an adjuvant or corrective to other medicines.

PREPARATION.

Infusum Cascarillæ ʒ ij. (60.).

CASSIA FISTULA.

English Name.—Cassia Fistula.

Origin.—The fruit of Cassia Fistula.

Natural Order.—Leguminosæ, Cæsalpinieæ.

Synonym.—Purging Cassia.

Habitat.—A native of Upper Egypt and India, but is naturalized in the West Indies and South America.

Constituents.—It contains sugar, gum, a substance resembling tannin, a substance resembling gluten, and coloring matter.

Description.—The fruit is from 18 to 24 inches long, nearly an inch in thickness, blackish-brown, internally divided transversely into numerous cells, each of which contains a glossy seed imbedded in a blackish-brown, sweet pulp.

GENERAL ACTION.

Mild laxative.

THERAPEUTICAL ACTION.

Is used to relieve *constipation*, but may cause nausea and griping.

PREPARATION.

Confectio Sennæ..... 3 j.—3 ij. (4.—8.).

CASTANEA.

English Name.—Castanea.

Origin.—The leaves of *Castanea vesca*.

Natural Order.—Cupuliferae.

Synonym.—Chestnut.

Constituents.—It contains chlorophyll, tannin, gallic acid, gum, resin, salts, albumen, and fat.

Description.—The leaves are from 4 to 10 inches long, and 2 inches wide, oblong-elliptical, sharp at the end, and serrated, with a bright color, very little smell, and a slightly astringent, bitterish taste.

Solubility.—The leaves yield their virtues freely to water, and less freely to alcohol.

GENERAL ACTION.

Mild astringent.

THERAPEUTICAL ACTION.**DIGESTIVE SYSTEM.**

It is often of service in *diarrhoea*, and *catarrhal inflammation* of the intestinal canal.

RESPIRATORY SYSTEM.

This remedy is employed very frequently for the relief of *pertussis*.

PREPARATION.

Extractum Castaneæ Fluidum..... 3 ss.—3 ij. (2.—8.).

CATECHU.

English Name.—Catechu.

Origin.—An extract prepared from the wood of *Acacia Catechu*.

Natural Order.—Leguminosæ, Mimoseæ.

Habitat.—A native of the East Indies.

Constituents.—It contains catechin, quercitin, catechu-tannic acid, catechu-red, and mucilage.

Description.—The crude drug consists of masses of various shapes and sizes, of a rusty-brown color externally, and yellowish-brown to a dark-brown color internally. It has no odor, but has an astringent, bitter taste.

Solubility.—Yields its virtues to water and to alcohol, but much more readily to the latter.

GENERAL ACTION.

Powerful astringent. Mild bitter tonic. Mild styptic.

THERAPEUTICAL ACTION.**DIGESTIVE SYSTEM.**

It is often curative when administered for the relief of *diarrhœa*.

LOCALLY.

As an injection it is very beneficial for *gonorrhœa*, *gleet*, and *leucorrhœa*. Hemorrhages from mucous membranes may be controlled by its application.

PREPARATIONS.

Tinctura Catechu Composita..... 3 j.—3 ij. (4.–8.).

Trochisci Catechu..... 1 = gr. j. (.06).

CAULOPHYLLUM.

English Name.—Caulophyllum.

Origin.—Rhizome and rootlets of *Caulophyllum thalictroides*.

Natural Order.—Berberidaceæ.

Synonyms.—Blue Cohosh, Papoose Root, Squaw Root, Blueberry Root.

Habitat.—Found in most parts of the United States.

Constituents.—It contains saponin, albumen, gum, starch, two resins, coloring matter, extractive matter, and phosphoric acid.

Description.—The rhizome is about 4 inches long and $\frac{1}{4}$ inch thick. Gray-brown in color externally, whitish in color internally, tough, and woody. The rootlets are matted, about 4 inches long and $\frac{1}{2}$ of an inch thick, rather tough; nearly inodorous; taste sweetish, slightly bitter and acrid.

Solubility.—Yields its virtues to water and to alcohol.

GENERAL ACTION.

Emmenagogue. Diaphoretic.

THERAPEUTICAL ACTION.

As an emmenagogue it may be used for *amenorrhœa* and *uterine inertia*.

PREPARATION.

Tinctura Caulophylli..... 3 j.—3 ij. (4.—8.).

CETRARIA.

English Name.—Cetraria.

Origin.—Cetraria islandica.

Natural Order.—Lichenes.

Synonym.—Iceland Moss.

Habitat.—Found in the northern latitudes of the old and new continents, especially in Iceland, Norway, and New England.

Constituents.—Cetrarin, a bitter principle; a starchy substance, chlorophyll, sugar, salts, and extractive matter.

Description.—Consists of leaves of peculiar shape, of a brownish- or grayish-white color, sometimes marked with blood-red spots. It is almost odorless, and has a bitter, mucilaginous taste.

Solubility.—Its soluble principles are extracted by boiling water.

GENERAL ACTION.

Demulcent. Tonic. Nutrient.

THERAPEUTICAL ACTION.**DIGESTIVE SYSTEM.**

As a demulcent it is often serviceable in the treatment of *catarrhal gastritis*, and *catarrhal enteritis*.

RESPIRATORY SYSTEM.

It may be employed with benefit in *bronchitis*.

PREPARATION.

Decoctum Cetrariæ Ad. lib.

CHELIDONIUM.

English Name.—Chelidonium.

Origin.—Derived from *Chelidonium majus*.

Natural Order.—Papaveraceæ.

Synonym.—Celandine, Tetterwort.

Habitat.—A native of Europe, but cultivated in this country.

Constituents.—It contains two alkaline principles called chelerythrin and chelidonin; a neutral principle, chelidoxanthin; chelidonic acid, albumen, and various salts.

Description.—The plant is 1 or 2 feet high; bears primate leaves; small, yellow flowers; and emits a yellow, opaque juice when cut. It has a faint, unpleasant odor, and a bitter, acrid, and lasting taste.

Solubility.—Water extracts its virtues.

GENERAL ACTION.

Acrid purgative. Expectorant. Diuretic. Diaphoretic. Alterative. Local irritant.

THERAPEUTICAL ACTION.**DIGESTIVE SYSTEM.**

It is employed in the treatment of *constipation* and *jaundice*.

CUTANEOUS SYSTEM.

As a local application it is beneficial in the treatment of *urticaria*, *eczema*, and other *itching skin diseases*.

PREPARATION.

*Pulvis Chelidonii gr. x.—3 j. (.6–4.).

CHENOPODIUM.

English Name.—Chenopodium.

Origin.—The fruit of *Chenopodium ambrosioides*.

Natural Order.—Chenopodiaceæ.

Synonyms.—American Wormseed, Jerusalem Oak.

Habitat.—A native of the United States.

Constituents.—Its medical virtues depend upon a volatile oil (*Oleum Chenopodii*).

Description—

OF THE SEED.—They exist as small spherical grains not larger than the head of a pin, having a dull greenish-yellow, or brownish color, a peculiar, somewhat terebinthinate odor, and a bitter, pungent taste.

OF THE VOLATILE OIL.—It is of a light yellow color when first distilled, but becomes deeper yellow or brownish by age. It has the peculiar flavor of the plant to a high degree, and a peculiar, aromatic odor.

Solubility.—The oil is soluble in alcohol.

GENERAL ACTION.

Anthelmintic.

THERAPEUTICAL ACTION.

Very useful for the expulsion of *intestinal worms*, especially the *lumbrici* of children. It should be followed by a brisk cathartic.

PREPARATION.

Oleum Chenopodii ℥ v.—x. (.30–.60).

CHIMAPHILA.

English Name.—Chimaphila.

Origin.—The leaves of *Chimaphila umbellata*.

Natural Order.—Ericaceæ.

Synonyms.—Pipsissewa, Prince's Pine, Wintergreen.

Habitat.—A native of America, Europe, and Asia.

Constituents.—It contains a peculiar whitish substance, chimaphilin; tannic acid, chlorophyll, sugar, resin, salts, and various extractive matters.

Description—

OF THE LEAVES.—About 2 inches long, wedge-shaped, dark green on the upper surface, nearly inodorous, and having an astringent, bitterish taste.

OF CHIMAPHILIN.—Obtained as beautiful, golden-yellow, acicular crystals, inodorous, and tasteless.

Solubility—

OF THE LEAVES.—They yield their active properties to boiling water and to alcohol.

OF CHIMAPHILIN.—Nearly insoluble in water, but soluble in alcohol.

GENERAL ACTION.

Tonic. Astringent. Blennorrhetic. Diuretic.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

It is beneficial in *atonic dyspepsia* and *anorexia*.

GENITO-URINARY SYSTEM.

Its diuretic properties make it useful in various *renal diseases*.

PREPARATION.

Extractum Chimaphilæ Fluidum..... 3 ss.—3 j. (2.—4.).

CHIRATA.

English Name.—Chirata.

Origin.—*Ophelia Chirata*.

Natural Order.—Gentianaceæ.

Synonyms.—Chirayta, Chiretta.

Habitat.—A native of East India.

Constituents.—A peculiar bitter substance, called chiratin; ophelic acid, sugar, soft resin, chlorophyll, and wax.

Description.—

OF CRUDE DRUG.—The entire drug is used, and is imported in the form of bundles, consisting mainly of the stems, which contain a yellowish pith with portions of the root attached. It has an intensely bitter taste, and is inodorous.

OF CHIRATIN.—A yellow hygroscopic powder, feebly crystallizable, and very bitter.

Solubility.—

OF CRUDE DRUG.—It imparts its virtues to water and to alcohol.

OF CHIRATIN.—Sparingly soluble in cold water, and more so in hot. Readily dissolved by alcohol.

GENERAL ACTION.

Bitter tonic. Gastric stimulant.

THERAPEUTICAL ACTION.

Used chiefly for the relief of *dyspepsia* and *anorexia*.

PREPARATIONS.

Extractum Chiratae Fluidum..... ℥ x.-xx. (.6-1.2).

Tinctura Chiratae..... 3 ss.-3 j. (2.-4.).

CHONDRUS.

English Name.—Chondrus.

Origin.—Chondrus crispus and Chondrus mammilosus.

Natural Order.—Algæ.

Synonym.—Irish Moss, Carrageen.

Habitat.—Found chiefly on the southern and western coasts of Ireland, and also on the coast of New England.

Constituents.—Its chief constituent is carrageenin, a peculiar mucilaginous principle. But it also contains starch, resins, mucus, fatty matter, and various chemical substances.

Description.—The fresh drug has a yellowish or dirty-white color, containing purplish-red portions. It is nearly inodorous, and has a mucilaginous taste.

Solubility.—It swells up in water, but is almost entirely dissolved when boiled.

GENERAL ACTION.

Demulcent. Nutrient.

THERAPEUTICAL ACTION.

It is used as a demulcent in *inflammations* of the *respiratory* and *digestive organs*, and also in poultices.

PREPARATION.

* Decoctum Chondri..... ʒ j.— ʒ ij. (30.—60.).

CHRYSAROBINUM.

English Name.—Chrysarobin.

Origin.—A mixture of proximate principles extracted from Goa-Powder, a substance found deposited in the wood of the trunk of Andira Araroba.

Natural Order.—Leguminosæ, Papilionaceæ.

Synonym.—It is commonly miscalled Chrysophanic acid.

Habitat.—The tree is a native of Brazil.

Description.—A pale orange-yellow, crystalline powder, permanent in the air, and having no odor nor taste.

Solubility.—Almost entirely insoluble in water, and slightly soluble in alcohol.

GENERAL ACTION.

Gastro-intestinal stimulant. Purgative. Local irritant.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM.

In medicinal doses it produces large, watery, and brownish intestinal evacuations.

CUTANEOUS SYSTEM.

When applied to the skin it produces irritation, redness, heat, sometimes pain, itching, swelling, or a papular eruption. It turns the skin yellow very often.

THERAPEUTICAL ACTION.

It is employed chiefly for the cure of skin diseases due to vegetable parasites, such as *tinea trichophytina*, *tinea favosa*, and *tinea versicolor*, and in the treatment of *psoriasis*. When applied to the head or face it should be most carefully watched, for swelling of the face and œdema of the eyelids are apt to occur.

TOXICOLOGICAL ACTION.

A large dose causes decided gastro-intestinal irritation, accompanied with vomiting and purging.

Treatment of Poisoning.—Administer demulcents and treat symptoms.

PREPARATIONS.

Chrysarobinum grs. iiij.—x. (.18—.60).

Unguentum Chrysarobini (1—10).

CIMICIFUGA.

English Name.—Cimicifuga.

Origin.—The rhizome and rootlets of *Cimicifuga racemosa*.

Natural Order.—Ranunculaceæ.

Synonyms.—Black Snakeroot, Cohosh.

Habitat.—A native of the United States.

Constituents.—It contains a neutral, crystalline principle, tannic and gallic acids, a volatile oil, gum, starch, and two resins.

Description.—The rhizome is from $\frac{1}{3}$ of an inch to 1 inch thick, 7 inches long, with a rugged, blackish-brown caudex, and a whitish interior; it has a peculiar faint disagreeable odor, and a bitter, somewhat astringent taste.

Solubility.—It yields its virtues to boiling water and to alcohol.

GENERAL ACTION.

Excito-motor. Antispasmodic. Cardiac stimulant. Arterial contractant. Gastro-intestinal stimulant. Expectorant. Diuretic. Emmenagogue. Aphrodisiac. Diaphoretic.

Synergists.—Its action is increased by digitalis, ergot, belladonna, nux-vomica, etc.

Antagonists and Incompatibles.—Alcohol, ammonia, and most stimulants of that character antagonize its effect. Salts of iron are incompatible with the drug.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM.

In large doses cimicifuga causes vertigo, sleep, dilated pupils, and relieves pain and controls spasm to a certain degree.

CIRCULATORY SYSTEM :

Heart.—The number of heart-beats is lessened, but their force is increased.

Vessels.—Arterial tension is raised by its administration.

DIGESTIVE SYSTEM :

Stomach.—The gastric secretions are augmented, and the appetite and digestive power increased.

Intestines.—By promoting the intestinal secretions it sometimes proves laxative in its effect.

RESPIRATORY SYSTEM.

The bronchial mucous membrane is stimulated, and an increased secretion of mucus is present.

GENITO-URINARY SYSTEM :

Kidneys.—The flow of urine is promoted to a certain extent, and the odor of the drug is imparted to this secretion.

Uterus.—It stimulates the muscular fibres of the uterus to contraction, and increases the menstrual flow.

Sexual Appetite.—The sexual desire is rendered stronger by its administration.

CUTANEOUS SYSTEM.

Cutaneous transpiration is somewhat augmented by this drug.

THERAPEUTICAL ACTION.

NERVOUS SYSTEM.

Cimicifuga has been used with some benefit for *hypochondriasis*, *neuralgia*, and *chorea*.

CIRCULATORY SYSTEM.

In *dilated* or *fatty heart* its administration is indicated, being safer than digitalis.

DIGESTIVE SYSTEM.

Enfeebled digestion, anorexia, and alcoholic dyspepsia may be much benefited by this drug.

RESPIRATORY SYSTEM.

For *acute bronchitis, caseous pneumonitis, and phthisis* it is highly recommended. It does not prove curative in the latter disease, but will often ameliorate the symptoms.

GENITO-URINARY SYSTEM.

Congestive dysmenorrhœa, puerperal mania, and ovarian neuralgia have been much relieved by its use. As a tonic to the genital organs it will prove serviceable in the treatment of *spermatorrhœa*.

GENERAL DISEASES.

Its administration will often markedly relieve *acute and chronic rheumatism and rheumatic myalgia*.

PREPARATIONS.

Extractum Cimicifugæ Fluidum 3 ss.—3 j. (2.—4.).

Tinctura Cimicifugæ 3 ss.—3 ij. (2.—8.).

CINCHONA.

English Name.—Cinchona.

Origin.—The bark of any species of Cinchona containing at least 3 per cent. of its peculiar alkaloids. Varieties : the barks of Cinchona Calisaya, Cinchona succirubra, and Cinchona Condaminea ; commonly called Cinchona Flava, or yellow cinchona ; Cinchona Rubra, or red cinchona ; and Cinchonæ Pallidæ Cortex, or pale cinchona bark ; respectively.

Natural Order.—Rubiaceæ, Cinchoneæ.

Synonyms.—Cinchona bark, Peruvian bark. The yellow bark is also called Calisaya bark. The pale bark is called Loxa

bark or Lima bark, and the red bark is sometimes called *Cascarilla roxa* and *Colorada*.

Habitat.—All varieties of this bark are natives of South America.

Constituents—

OF *CINCHONA FLAVA*.—This variety contains a large proportion of quinine, but very little cinchonine.

OF *CINCHONA RUBRA*.—This variety contains considerable quantities of quinine and cinchonine.

OF **CINCHONA PALLIDA*.—The pale barks contain a much larger proportion of cinchonine, quinidine, and cinchonidine, than of quinine.

OF ALL THE BARKS.—Cinchonine and quinine are the two principal alkaloids obtained from this drug. These exist in the bark, combined with kinic acid, in the state of kinate of cinchonine and kinate of quinine. There have also been obtained from this bark the following alkaloids: quinidine, isomeric with quinine; cinchonidine, isomeric with cinchonine. By means of heat, we obtain quinicin from quinine, the two being isomeric; and cinchonicin from cinchonine, these two also being isomeric. We also obtain from the barks a volatile oil, fatty matter, red and yellow coloring matter, and cincho-tannic acid. Chinoidin or quinoidin is a resinous substance consisting of amorphous natural alkaloids obtained from the barks, and of artificially produced crystalline alkaloids.

Description—

OF *CINCHONA FLAVA*.—It comes in quills or flat pieces from 3 inches to 2 feet long, and from $\frac{1}{4}$ inch to 3 inches in diameter, and of variable thickness. It is covered with a brownish epidermis, which is fissured and wrinkled. The bark itself is one or two lines thick, of a fibrous texture, and has a brownish-yellow color, and a taste less astringent but more bitter than the pale bark. The odor of this variety is faint.

OF *CINCHONA RUBRA*.—It occurs as quills or flat pieces from $\frac{1}{2}$ inch to 2 inches in diameter, and varying greatly in size. The epidermis is of a brownish or reddish-brown color, and

rugged, the layer beneath it being dark red and brittle, while the interior parts are fibrous and of a lively brownish-red color. Its taste is bitter and astringent, and its odor similar to the other barks. The powder is of a reddish color.

OF *CINCHONA PALLIDA.—Occurs in flat pieces or quills varying in length from a few inches to a foot and a half, and in thickness from $\frac{1}{2}$ line to 3 lines. These quills occur singly or doubly. Their color externally is of a light gray, white, or grayish fawn. Their color internally varies from a brownish orange to yellow. They have a moderately bitter and somewhat astringent taste, and a feeble odor. This bark is not used as much as the other two because it contains less quinine. The powder is of a pale fawn color.

OF QUININE.—Quinine is whitish, rather flocculent, and not crystalline; with care it may be crystallized in silky needles from its alcoholic solution. It is inodorous and very bitter.

OF CINCHONINE.—It occurs in white, somewhat lustrous prisms or needles, which are permanent in the air and odorless. At first it is nearly tasteless, but afterward is bitter. It has an alkaline reaction.

OF QUINIDINE.—It is obtained as hard, shining and colorless crystals, which are easily pulverized, forming a snow-white powder. Its taste is bitter, but less so than quinine.

OF CINCHONIDINE.—It is usually seen in white, light, pulverulent masses.

OF QUININÆ SULPHAS.—Snow-white, loose, filiform crystals, fragile and somewhat flexible, making a very light and easily compressible mass; these crystals are lustreless from superficial efflorescence after standing in the air. They have a persistent, very bitter taste, no odor, and a neutral reaction.

OF CINCHONINÆ SULPHAS.—It occurs as hard, white, shining prisms, permanent in the air. Its taste is very bitter, it has no odor, and its reaction is neutral or faintly alkaline.

OF QUININÆ BISULPHAS.—This occurs as colorless, clear, orthorhombic crystals or small needles. It is efflorescent and becomes opaque by exposure to air. It is odorless but has a very bitter taste, and a strongly acid reaction.

OF QUININÆ HYDROBROMAS.—This salt consists of colorless lustrous needles permanent in the air. It has a very bitter taste, no odor, and a slightly alkaline or neutral reaction.

OF QUININÆ HYDROCHLORAS.—It occurs as white, lustrous needles, forming tufts which are permanent in ordinary air. It has no odor, a very bitter taste, and a neutral or faintly alkaline reaction.

OF QUININÆ VALERIANAS.—This salt is nearly white, pearly, lustrous in appearance. It consists of crystals which are permanent in the air, and have a slight odor of valerianic acid, a bitter taste, and a neutral reaction.

OF QUINIDINÆ SULPHAS.—This salt we find as white, silky needles, permanent in the air. It has no odor, very little taste, and a neutral or faintly alkaline reaction.

OF CINCHONIDINÆ SULPHAS.—It occurs as white, silky, lustrous needles, or thin, quadratic prisms. It is odorless, has a very bitter taste, and a neutral or faintly alkaline reaction.

OF CHINOIDIN OR QUINOIDIN.—This occurs as a brownish-black solid, breaking when cold, with a resinous, shining fracture. It becomes plastic when warmed. It has a bitter taste, no odor, and an alkaline reaction.

Tests—

OF QUININE.—Quinine should afford no color, or none darker than a pale yellow, with undiluted sulphuric acid. It should not be reddened by nitric acid. It burns slowly without leaving a residue. It has a vivid blue fluorescence when dissolved in diluted sulphuric acid. If it is treated first with fresh chlorine water, and then with a slight excess of water of ammonia, it produces an emerald green color.

OF CINCHONINE.—A solution of this alkaloid in diluted sulphuric acid should not exhibit more than a slight blue fluorescence. On precipitating the alkaloid from this solution, by water of ammonia, it is very sparingly dissolved by the latter, and requires at least 300 parts of ether for solution. This salt should not be colored, or but very slightly, by addition of sulphuric acid.

Solubilities—

OF THE BARKS.—They yield their virtues to water and to alcohol.

OF QUININE.—Soluble in 900 parts of boiling water, and in 1,600 parts of cold water, in 6 parts of cold alcohol, and 2 parts of boiling alcohol. It is soluble in about 5 parts of chloroform, and 25 parts of ether. Readily soluble in dilute acids.

OF CINCHONINE.—Almost insoluble in cold or hot water. Soluble in 110 parts of cold alcohol or 28 parts of boiling alcohol. It is soluble in 371 parts of ether or 350 parts of chloroform. Readily soluble in dilute acids.

OF QUINIDINE.—Quite insoluble in water. Soluble in 143 parts of ether, and in 12 parts of alcohol.

OF CINCHONIDINE.—Slightly soluble in cold water, a little more so in hot. Dissolves in 20 parts of alcohol and in 78 parts of ether.

OF QUININÆ SULPHAS.—Soluble in 740 parts of water, or 65 parts of alcohol at normal temperatures. Dissolves in 30 parts of boiling water, or 3 parts of boiling alcohol. Very slightly soluble in chloroform or ether. Is soluble in dilute acids or acidulated water.

OF CINCHONINÆ SULPHAS.—Soluble in 70 parts of water and 6 parts of alcohol at ordinary temperatures. Dissolves in 14 parts of boiling water, in $1\frac{1}{2}$ parts of boiling alcohol, and in 60 parts of chloroform, but is insoluble in ether, and soluble in diluted acid.

OF QUININÆ BISULPHAS.—Soluble in 10 parts of water and 32 parts of alcohol at normal temperatures. Is very soluble in boiling water or boiling alcohol.

OF QUININÆ HYDROBROMAS.—Soluble in 16 parts of water and 3 parts of alcohol at normal temperatures. Very soluble in boiling water or alcohol, and dissolves in 6 parts of ether and 12 parts of chloroform.

OF QUININÆ HYDROCHLORAS.—Soluble in 34 parts of water and 3 parts of alcohol at normal temperatures. Readily soluble in boiling water and in alcohol.

OF QUININÆ VALERIANAS.—Soluble in 100 parts of water and 5 parts of alcohol at normal temperatures. Soluble in 40 parts of boiling water, 1 part of boiling alcohol, and slightly soluble in ether.

OF CINCHONIDINÆ SULPHAS.—Soluble in 100 parts of water and 71 parts of alcohol at normal temperatures. Soluble in 4 parts of boiling water and 12 parts of boiling alcohol, and freely soluble in acidulated water.

OF QUINIDINÆ SULPHAS.—Soluble in 100 parts of water and in 8 parts of alcohol at the normal temperatures. Soluble in 7 parts of boiling water and very soluble in boiling alcohol.

OF CHINOIDIN OR QUINOIDIN.—Almost insoluble in water, freely soluble in alcohol, chloroform, and dilute acids; partially soluble in ether.

GENERAL ACTION.

Cerebral stimulant. Spinal depressant. Cardiac depressant. Bitter tonic. Gastric stimulant. Intestinal astringent. Oxytocic. Antipyretic. Antiperiodic. Antiseptic. Local irritant.

Synergists.—Bitter tonics, iron, arsenic, acids, and all substances promoting constructive metamorphosis.

Antagonists and Incompatibles.—Tannic acid, alkalies, alkaline carbonates, alkaline earths, preparations of iodine either render insoluble or precipitate the alkaloids of cinchona. Mercury, the iodides, and salts of copper, zinc, and lead are all antagonistic, because they favor destructive metamorphosis.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM:

Brain.—This drug is supposed by authorities to cause cerebral hyperæmia, thus giving *tinnitus aurium* with partial deafness, giddiness, and vertigo, with a feeling of fulness in the head. Amblyopia and amaurosis may be caused by full doses.

Spinal Cord.—It reduces reflex irritability of the spinal cord.

CIRCULATORY SYSTEM:

Heart.—In small doses it accelerates the heart's action, but

in large amount reduces the number of its beats and their force.

Vessels.—In large doses it diminishes arterial tension.

Blood.—It checks the amoeboid movements of the white corpuscles, thus decreasing their tendency to migration under inflammatory conditions. It also diminishes the oxydizing power of the blood, reducing the power of the red blood corpuscle as carriers of active oxygen.

DIGESTIVE SYSTEM :

Mouth.—In therapeutic doses it increases the flow of saliva because of its bitter properties.

Stomach.—It increases the flow of the gastric juice and the digestive powers of the stomach. This action is due to its bitter properties. It also promotes the appetite, but, if too long continued, may cause gastric catarrh.

Intestines.—It acts as an astringent on the intestinal mucous membrane, and may thus cause constipation.

RESPIRATORY SYSTEM.

It has no action on this system as yet detected.

GENITO-URINARY SYSTEM :

Kidneys.—This drug is chiefly eliminated by the kidneys.

Uterus.—There seems to be sufficient reason to believe that this drug is an oxytocic.

TEMPERATURE.

Small doses have but little effect upon the temperature, but in states of pyrexia, large doses will cause marked reduction of animal heat.

THERAPEUTICAL ACTION.

NERVOUS SYSTEM.

In *cerebral diseases* marked by adynamia this drug is sometimes found very useful.

CIRCULATORY SYSTEM.

In localized *inflammations* and *fevers* of a low type it has often proved very beneficial.

DIGESTIVE SYSTEM.

In *sore throat* marked by decided fever full doses of cin-

chona are indicated. As a bitter tonic it gives marked benefit in *atonic dyspepsia* and *catarrhal gastritis*. Its astringent action indicates its use in *diarrhœa* and *dysentery*.

RESPIRATORY SYSTEM.

This drug is indicated in almost all acute diseases of the respiratory system, such as *acute coryza*, *acute laryngitis*, *acute bronchitis*, *acute pneumonitis*, *acute pleuritis*, *hay fever*, *laryngismus stridulus*, and *chronic bronchitis*.

GENITO-URINARY SYSTEM.

In *urethral fever* this drug is serviceable.

GENERAL DISEASES.

In *intermittent fever* and all diseases of a periodic nature, quinine is the most valuable agent we have. In *remittent*, *typhoid*, and *typhus fevers* it may be used with decided benefit, and is also indicated in nearly all diseases marked with an increase in animal heat. This drug has been shown to control *septic diseases* in a marked manner when given in large doses. *Septicæmia*, *pycæmia*, *puerperal fever*, and *erysipelas* have all been benefited by it.

CUTANEOUS SYSTEM.

In diseases of low order marked by *excessive perspiration* this drug is useful. We may also administer it to advantage in *erythema nodosum*, and skin diseases caused by a decreased power of assimilation.

LOCALLY.

As an antiseptic and astringent it may be used on certain *ulcers* or *wounds*. In combination with alcohol it controls *excessive perspiration*.

HYPODERMATICALLY.

By this mode of administration it has proved useful in *intermittent fever*, *insolation*, and *malarial neuralgia*.

TOXICOLOGICAL ACTION.

In poisonous doses it produces intense headache, dizziness, vertigo, dilated pupils, delirium, coma, or convulsions.

PREPARATIONS.

Extractum Cinchonæ	gr. ij.—gr. xv. (.12-.90).
Extractum Cinchonæ Fluidum. ℥v.—℥xv. (.30-.90).	
Infusum Cinchonæ	℥ j.—℥ ij. (30.-60.).
Tinctura Cinchonæ	3 ss.—3 ij. (2.-8.).
Tinctura Cinchonæ Composita. 3 ss.—3 ij. (2.-8.).	
Cinchoninæ Sulphas	gr. j.—gr. xxx. (.06-2.).
Cinchonidinæ Sulphas	gr. ij.—℥ ij. (.12-2.6).
Cinchonina	gr. ij.—℥ ij. (.12-2.6).
Quinina	gr. j.—gr. xxx. (.06-2.).
Quininæ Sulphas	gr. j.—gr. xxx. (.06-2.).
Quininæ Bisulphas	gr. j.—gr. xxx. (.06-2.).
Quininæ Hydrobromas	gr. j.—gr. xxx. (.06-2.).
Quininæ Hydrochloras	gr. j.—gr. xxx. (.06-2.).
Quiniæ Valerianas	gr. j.—gr. xx. (.06-1.2).
Quinidinæ Sulphas	gr. j.—gr. xxx. (.06-2.).
Ferri et Quininæ Citras	gr. v.—gr. x. (.30-.60.).
Liquor Ferri et Quininæ Citratis	3 ss.—3 j. (2.-4.).
Syrupus Ferri, Quininæ et Strychninæ Phosphatum	3 ss.—3 j. (2.-4.).
Chinoidin or Quinoidin	gr. x.—3 i. (.60-4.).

CINNAMOMUM.

English Name.—Cinnamon.

Origin.—The inner bark of the shoots of *Cinnamomum zeylanicum*; or the bark of the shoots of one or more undetermined species of *Cinnamomum*.

Natural Order.—Lauraceæ.

Synonym.—Cassia.

Habitat.—This drug is obtained from the island of Ceylon.

Constituents.—It contains a volatile oil (*Oleum Cinnamomi*), resin, tannin, lignin, bassorin, mucilage, and sugar.

Description.—

OF CRUDE DRUG.—It is found in the shops in long cylindrical pieces which are very thin and smooth, and have a yellowish-

brown color. This drug has a fragrant, warm odor, and a sweetish, aromatic, slightly astringent taste.

OF THE VOLATILE OIL.—A pale-yellow liquid, becoming darker and thicker by age and exposure to the air. It has a characteristic taste and odor.

Solubility—

OF CRUDE DRUG.—It yields its virtues wholly to alcohol, but less completely to water.

OF THE VOLATILE OIL.—Readily soluble in alcohol.

GENERAL ACTION.

Aromatic stimulant. Carminative. Mild astringent.

THERAPEUTICAL ACTION.

It is used chiefly as a carminative and adjuvant, but is employed in the treatment of *diarrhœa* and *uterine hemorrhages*.

PREPARATIONS.

Aqua Cinnamomi.....	Vehicle.
Oleum Cinnamomi.....	℥j.—℥ij. (.06–.12.).
Tinctura Cinnamomi.....	3 j.—3 iv. (4–16.).
Spiritus Cinnamomi.....	℥x.—3 j. (.60–4.).
Extractum Aromaticum Fluidum...	℥x.—℥xx. (.60–1.2).
Pulvis Aromaticus.....	gr. x.—3 ss. (.60–2.).

COCCUS.

English Name.—Cochineal.

Origin.—The dried female of *Coccus cacti*.

Order.—Hemiptera.

Habitat.—Found in Mexico and in Central America, and is said to have been discovered in the West Indies and southern parts of the United States.

Constituents.—This drug contains a coloring matter, called carminic acid, stearine, oleine, an odorous fatty acid, and various salts.

Description.—The dried insect occurs in the form of roundish or somewhat angular grains about $\frac{1}{8}$ of an inch in diam-

eter, convex on one side and concave or flat on the other, and wrinkled. The grains have a purplish-gray or purplish-black color, and yield a dark-red powder on being pulverized. They have a faint odor, and a slightly bitterish taste.

Solubility.—The drug yields its properties to water and to alcohol.

GENERAL ACTION.

Coloring agent. Anodyne and anti-spasmodic properties have been ascribed to it.

THERAPEUTICAL ACTION.

It is used chiefly as a coloring agent in pharmaceutical preparations. *Pertussis* and *neuralgia* are supposed to be controlled by its administration.

PREPARATION.

Coccus..... gr. $\frac{1}{3}$ —gr. $\frac{1}{2}$ (.02–.03).

COLCHICUM.

English Name.—Colchicum.

Origin.—The corm, *Colchici Radix*; and the seed, *Colchici Semen*; of *Colchicum autumnale*.

Natural Order.—Melanthaceæ.

Synonym.—Meadow-saffron.

Habitat.—A native of the temperate parts of Europe and of North America.

Constituents.—Its active principle is an alkaloid called colchicin. It also contains fatty matter, yellow coloring matter, gum, starch, inulin, lignin, and gallic acid.

Description—

OF THE CORM.—About 1 inch long and ovoid in shape, externally of a brownish color, and internally white and solid. It has no odor, but a sweetish-bitter and acrid taste.

OF THE SEED.—Nearly spherical in shape, and about $\frac{1}{8}$ of an inch in diameter, having a reddish-brown color externally and

a whitish color internally. They have no odor, but a bitter, acrid taste.

Solubility—

OF THE CORM.—It yields its virtues readily to alcohol and to water.

OF THE SEED.—Alcohol and water extract their medical properties.

GENERAL ACTION.

Cardiac sedative. Gastric stimulant. Mild hydrogogue cathartic. Cholagogue. Diuretic. Diaphoretic. Local irritant.

Synergists.—Gastric stimulants, purgatives, cardiac sedatives, and alkalies promote the action of colchicum.

Antagonists and Incompatibles.—Tannic acid retards its absorption by uniting with the alkaloid to form an insoluble tannate. Gastro-intestinal stimulants physiologically antagonize its action.

PHYSIOLOGICAL ACTION.

CIRCULATORY SYSTEM.

The force and frequency of the heart's action is somewhat lowered by its administration.

DIGESTIVE SYSTEM :

Stomach.—In small doses it stimulates, and in large, irritates the gastric mucous membrane.

Liver.—The flow of bile is increased.

Intestines.—The glandular apparatus of the intestines is stimulated to increased secretion, the stools frequently being large and watery in character.

GENITO-URINARY SYSTEM.

The flow of urine is augmented, and an excess of urea and uric acid is found present.

CUTANEOUS SYSTEM.

Cutaneous transpiration is promoted by a stimulation of the sudoriferous glands.

THERAPEUTICAL ACTION.

NERVOUS SYSTEM.

This drug often proves serviceable in *acute cerebral hyper-*

æmia, *uræmia*, and *cerebral diseases* due to a deficient elimination of the products of waste from the kidneys.

DIGESTIVE SYSTEM.

It often benefits *constipation* and *hepatic torpor*.

GENITO-URINARY SYSTEM.

Gonorrhœa and *chordee* may be relieved by its administration.

GENERAL DISEASES.

The chief use of colchicum is in the treatment of *acute gout*, *subacute* and *chronic rheumatism*.

TOXICOLOGICAL ACTION.

If taken in excessive doses this drug may cause slow pulse, nausea, vomiting, purging, muscular feebleness, and possibly death from cessation of heart's action.

Treatment of Poisoning.—Demulcents, emetics, and purgatives are indicated.

Cardiac stimulants should be given to overcome its influence on the heart.

PREPARATIONS.

Of the Root—

Extractum Colchici Radicis..... gr. j.-ij. (.06-.12).

Extractum Colchici Radicis Fluidum ℥ ij.-v. (.12-.30).

Vinum Colchici Radicis..... ℥ v.-3 ss. (.30-2.).

Of the Seed—

Extractum Colchici Seminis Fluidum. ℥ ij.-x. (.12-.60).

Tinctura Colchici..... 3 ss.-3 j. (2.-4.).

Vinum Colchici Seminis..... 3 ss.-3 j. (2.-4.).

COLOCYNTHIS.

English Name.—Colocynth.

Origin.—The fruit of *Citrullus Colocynthis*, deprived of its rind.

Natural Order.—Curcubitaceæ.

Synonym.—Bitter Cucumber.

Habitat.—This plant is a native of Turkey, and abounds in the islands of the Archipelago; it also grows in various parts of Africa and Asia.

Constituents.—Its active principle is a gluoside termed colocynthin. It also contains fixed oil, a resin, gum, extractives, salts, and lignin. A peculiar resinous substance termed colocynthein is obtained from colocynthin.

Description.—As found in the shops, colocynth is in the shape of whitish balls about the size of an orange, very light and spongy; they are filled with numerous seeds which form about $\frac{3}{4}$ of their weight. They have no odor, but an intensely bitter taste.

Solubility.—Yields its virtues to water and to alcohol.

GENERAL ACTION.

Violent hydrogogue cathartic. Cholagogue.

PHYSIOLOGICAL ACTION.

It is a decided gastro-intestinal stimulant, produces watery evacuations, and increases the flow of bile. In large doses it may cause violent gastro-enteritis, or prove fatal.

THERAPEUTICAL ACTION.

It is used for *obstinate constipation*, and for symptoms accompanying this condition. It should not be given when inflammation of the gastro-intestinal tract is present.

PREPARATIONS.

Extractum Colocynthidis gr. ij.—v. (.12–.30).

Extractum Colocynthidis Compositum gr. v.—x. (.30–.60).

Pilulæ Catharticæ Compositæ (1=gr. $1\frac{1}{3}$ (.08)). 1–3

CONIUM.

English Name.—Conium.

Origin.—The full-grown fruit of *Conium maculatum*.

Natural Order.—Umbelliferae, Campylospermæ.

Synonym.—Hemlock.

Habitat.—It is a native of Europe, but has been naturalized in the United States.

Constituents.—Its active principle is a volatile alkaloid, conin. Another alkaloid called conhydrin has been found mixed with conin, and another principle named methyl-conin has been obtained from conin. An acid called coniic acid has been obtained from the drug, and also resin, gum, albumen, coloring matter, and salts.

Description—

OF THE FRUIT.—The fruit have a roundish, ovate shape, are striated, and about a line and a half in length by a line in breadth. They have a yellowish-gray color, a feeble odor, and a bitterish taste.

OF CONIN.—This alkaloid is obtained as a volatile, yellowish, oily liquid of a very acrid taste and a strong penetrating odor.

Solubility—

OF THE FRUIT.—It yields its virtues to alcohol ; less readily to water.

OF CONIN.—Freely soluble in alcohol, and slightly so in water.

GENERAL ACTION.

Motor depressant. Antispasmodic.

Synergists.—Motor depressants, such as gelsemium, arnica, physostigma, tobacco, hydrocyanic acid, aconite, veratrum veride, etc., increase its action.

Antagonists and Incompatibles.—Caustic alkalies and tannic acid are chemically incompatible with conium. Excito-motors, such as nux vomica, belladonna, picrotoxin, digitalis, cimicifuga, stramonium, hyoscyamus, etc., are physiologically antagonistic to this drug.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM :

Spinal Cord.—It causes first exaltation, but afterward depression of the reflex action of the spinal cord. This action is supposed to be caused by an extension of the action of the

drug from the peripheral nerve filaments along the nerve trunks to the spinal cord.

Nerves.—The first action of this drug is supposed to be one of paralysis of the terminal filaments of the motor nerves. This action next affects the nerve trunks, decreasing their excitability, and then extends to and influences the spinal cord.

GENITO-URINARY SYSTEM.

It is eliminated, in part, by the urine.

THERAPEUTICAL ACTION.

NERVOUS SYSTEM.

In *acute mania, chorea, tetanus, hydrophobia, and epilepsy* this drug has proved beneficial. It is also recommended in *paralysis agitans, pertussis, asthma, laryngismus stridulus, and blepharospasm*, because of its antispasmodic action.

HYPODERMATICALLY.

Its active principle may be used subcutaneously if we desire an immediate effect of the drug. It is apt to prove irritant when administered in this form.

PREPARATIONS.

Abstractum Conii.....	gr. i.—gr. iiij. (.06—.18).
Extractum Conii Alcoholicum.	gr. ss.—gr. j. (.03—.06).
Extractum Conii Fluidum.....	℥j.—℥v. (.06—.30).
Tinctura Conii.....	℥j.—3 x. (.60—4.)

COPAIBA.

English Name.—Copaiba.

Origin.—The oleoresin of *Copaifera Langsdorffii* and of other species of *Copaifera*.

Synonym.—Balsam of Copaiba.

Natural Order.—Leguminosæ, Papilionaceæ.

Habitat.—This drug exists in Brazil and other parts of South America.

Constituents.—It is an oleoresin, from which is obtained an acid called copaivic acid. It also contains a minute portion of a substance which appears to be acetic acid. It differs from the true acids in containing no benzoic nor cinnamic acid. Its oil is volatile, and is called (*Oleum Copaibæ*).

Description—

OF THE OLEORESIN.—It is transparent or translucent, more or less viscid, of a liquid consistency, and of a color varying from pale yellow to brownish yellow; has a peculiar aromatic odor, and a bitterish, hot, nauseous taste.

OF THE VOLATILE OIL.—A colorless or pale-yellowish liquid having the characteristic odor of copaiba and a pungent taste.

OF THE RESIN.—A yellowish or brownish-yellow resin with a weak odor and characteristic taste of copaiba.

Solubility.—The oleoresin is readily soluble in absolute alcohol.

GENERAL ACTION.

Gastro-intestinal irritant. Expectorant. Diuretic. Blenorrhetic. Diaphoretic.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM.

It has a nauseous, bitter taste. Very apt to cause indigestion, anorexia, gastric irritation, and occasionally diarrhoea.

RESPIRATORY SYSTEM.

It has a slight expectorant action, but this is of minor importance.

GENITO-URINARY SYSTEM.

It increases the flow of urine without increasing specially the solid constituents. It is believed to have a selective action on the genito-urinary mucous membrane, rendering it less susceptible to irritation.

CUTANEOUS SYSTEM.

Its internal administration stimulates the skin, and may produce a bright-red papular eruption.

THERAPEUTICAL ACTION.**RESPIRATORY SYSTEM.**

Some authorities recommend it as an expectorant in *acute* and *chronic bronchitis*.

GENITO-URINARY SYSTEM.

Gonorrhœa is the disease in which this drug is most used. It often causes marked benefit, but should not be given until the more acute symptoms have subsided. It is also recommended in *subacute* and *chronic cystitis* and *urethritis*.

CUTANEOUS SYSTEM.

Certain cutaneous diseases marked by irritation are benefited by this drug.

PREPARATIONS.

Massa Copaibæ	gr. v.-xxx. (.30-2.).
Oleum Copaibæ.....	℥ v.-xx. (.30-1.2).
Oleoresin Copaibæ	℥ v.-3 ss. (.30-2.).
Resina Copaibæ.....	gr. v.-x. (.30-.60).

CORIANDRUM.

English Name.—Coriander.

Origin.—The fruit of *Coriandrum sativum*.

Natural Order.—Umbelliferae, Coelospermæ.

Habitat.—It is a native of Italy, but grows wild in most parts of Europe.

Constituents.—Its properties depend upon a volatile oil (*Oleum Coriandri*) which may be obtained from it.

Description.—

OF THE FRUIT.—The fruit is globular, about $\frac{1}{8}$ inch in diameter. Separable into two half-fruits which are only bound together by the membranous pericarp. Its color is grayish or brownish-yellow. It has an aromatic odor and taste.

OF THE VOLATILE OIL.—It is a colorless or yellowish liquid, having the characteristic smell and taste of coriander.

Solubility.—By maceration it imparts its virtues to alcohol, and less readily to water.

GENERAL ACTION.

Aromatic. Adjuvant. Corrective.

THERAPEUTICAL ACTION.

It is used almost entirely in combination with other medicines to correct their taste or griping qualities.

PREPARATION.

Oleum Coriandri..... ℥ j.-v. (.06-.30).

CORNUS.

English Name.—Cornus.

Origin.—The bark of the root of *Cornus florida*.

Synonym.—Dogwood.

Natural Order.—Cornaceæ.

Habitat.—Found in most parts of the United States, but is most abundant in the Middle States.

Constituents.—A bitter principle, cornin or cornic acid, has been obtained from the drug, and it also contains gum, resin, tannin, gallic acid, fixed oil, wax, lignin, coloring matter, and salts.

Description.—

OF CRUDE DRUG.—Is obtained in the form of curved pieces of various sizes of about $\frac{1}{8}$ inch thick. It has a reddish-gray color, an astringent, bitter taste, and no odor.

Solubility.—Yields its virtues to water and to alcohol.

GENERAL ACTION.

Cardiac stimulant. Tonic. Astringent. Thermafacient.

PHYSIOLOGICAL ACTION.

CIRCULATORY SYSTEM.

This drug is supposed to increase the force and frequency of the heart's action.

DIGESTIVE SYSTEM.

It acts as an aromatic tonic and astringent on the stomach and intestines.

TEMPERATURE.

It is claimed that its administration causes a slight increase in the heat of the body.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

On account of its aromatic and tonic properties, it is administered as a *corrective* with other medicines.

GENERAL DISEASES.

It is sometimes administered in *intermittent fever* or *fevers* of a low type, but is much inferior to cinchona.

PREPARATION.

Extractum Cornus Fluidum..... 3 ss.—3 j. (2.—4.).

CREASOTUM.

English Name.—Creasote.

Origin.—Obtained from wood-tar by distillation.

Constituents.—Contains phenol or carbolic acid, creasol, oxycreasol, methyl-creasol, and phloral.

Description.—

OF CREASOTE.—A colorless or yellowish, strongly refractive, oily liquid, which becomes brown, or reddish-yellow, upon exposure to light, and has a penetrating, smoky odor, and a burning, caustic taste.

OF PHENOL OR CARBOLIC ACID.—Obtained as colorless, interlaced needle-shaped crystals, sometimes acquiring a pinkish tint, deliquescent upon exposure, having a distinctive, slightly aromatic odor, and a sweetish taste when diluted.

Solubility.—

OF CREASOTE.—Soluble in 80 parts of water at normal temperatures, in 12 parts at a boiling temperature, and entirely soluble in absolute alcohol.

OF PHENOL OR CARBOLIC ACID.—Soluble in 20 parts of water at normal temperatures, and entirely soluble in absolute alcohol.

GENERAL ACTION.

Creasote and carbolic acid resemble each other in action. Gastric stimulant. Intestinal stimulant. Respiratory stimulant. Local anæsthetic. Local irritant. Antiseptic.

PHYSIOLOGICAL ACTION.**DIGESTIVE SYSTEM :**

Stomach.—It stimulates the gastric mucous membrane, producing a sensation of warmth.

Intestines.—It stimulates the intestinal tract.

RESPIRATORY SYSTEM.

By stimulating the respiratory centres and peripheral filaments of the pneumogastric, it causes an increase in the frequency of respiration. It is partially eliminated by the lungs.

GENITO-URINARY SYSTEM.

It is also partially eliminated by the kidneys.

CUTANEOUS SYSTEM.

When administered internally it is partially eliminated by this channel, and when applied to the skin it acts as an irritant or escharotic. Its local application also renders the skin less sensitive to touch or pain.

THERAPEUTICAL ACTION.**DIGESTIVE SYSTEM.**

Carbolic acid very often relieves *pharyngitis*, *vomiting*, and has a beneficial action in the treatment of *cholera morbus*, *cholera infantum*, and *gastric fermentation*.

RESPIRATORY SYSTEM.

Inhalation of carbolic acid proves of great utility in the treatment of *laryngitis*, *chronic bronchitis*, *pertussis*, and *phthisis*.

CUTANEOUS SYSTEM.

Carbolic acid is very serviceable in the treatment of *pityriasis*, *tinea tonsurans*, *favus*, *scabies*, *prurigo*, and *eczema*.

GENERAL DISEASES.

Diphtheria, *erysipelas*, *scarlatina*, and *typhoid fever* are helped by its administration.

LOCALLY.

Carbolic acid is a very powerful and frequently-used antiseptic. As a surgical dressing it has met with great favor since it was so strongly advocated by Lister. In the form of parenchymatous injections it is successfully employed in *lupus*, *abscesses*, *synovitis*, *fistula*, *hydrocele*, and *internal hemorrhoids*. As an application to the *sore throat of diphtheria* and *scarlet fever* it is often used, and is very efficient in the treatment of *chronic endocervicitis*, *chronic endometritis*, and *ulcers of the cervix*.

TOXICOLOGICAL ACTION.

In poisonous doses it produces paralysis of the extremities, tetanic convulsions of a reflex character, vertigo, contracted pupils, cardiac depression, increased respiration, reduced temperature, dark-colored urine, marked gastro-enteritis. The post-mortem appearances are escharotic spots on the mucous membrane of the alimentary canal, if a concentrated solution has been used; the viscera being filled with dark, imperfectly coagulated blood.

Antidotes and Treatment of Poisoning.—A saturated solution of saccharate of calcium has been recommended as a chemical antidote. Atropine is its physiological antidote, and dilute drinks should be administered to aid the elimination of the drug.

PREPARATIONS.

Creasotum.....	℥ j.—iij. (.06–.18).
Aqua Creasoti.....	3 j.—3 iv. (4–16.).
Acidum Carbolicum.....	gr. j.—gr. iij. (.06–.18).
Unguentum Acidi Carbolicum....	(1–10).

CROCUS.

English Name.—Crocus.

Origin.—The stigmas of *Crocus sativus*.

Natural Order.—Iridaceæ.

Synonym.—Saffron.

Habitat.—It is a native of Greece and Asia Minor, but is cultivated all over Europe, and in this country.

Constituents.—A peculiar extractive called polychroite has been obtained from it. This extractive is a glucoside, and being decomposed, yields the coloring matter of saffron which is called crocin. The drug also contains a volatile oil, wax, gum, albumen, lignin, and saline matter.

Description.—The stigmas are 1 inch or more long, expanded and notched at the upper extremity, and narrowing toward the lower. They have an orange-brown color, a strong, peculiar aromatic odor, and a bitterish, aromatic taste.

Solubility.—The drug yields its properties to alcohol.

GENERAL ACTION.

Used only for coloring and flavoring purposes.

THERAPEUTICAL ACTION.

It was once considered stimulant, anti-spasmodic, narcotic, and emmenagogue in its effects, but the latest experiments prove that it has very little action.

PREPARATION.

Tinctura Croci..... 3 j.—3 ij. (4.—8.).

CUBEBA.

English Name.—Cubeb.

Origin.—The unripe fruit of *Cubeba officinalis*.

Natural Order.—Piperaceæ.

Synonym.—Cubebæ.

Habitat.—A native of Java, Penang, and other parts of the East Indies.

Constituents—Its principal constituent is a volatile oil (*Oleum Cubebæ*); it also contains a crystallizable substance called cubebin, and a resinous body called cubebic acid.

Description—

OF THE UNRIPE FRUIT.—The fruit is globular, about $\frac{1}{6}$ inch in

diameter, of a blackish or grayish-brown color externally, and of a whitish color internally. It has a strong, spicy odor, and an aromatic pungent taste.

OF THE VOLATILE OIL.—This has a greenish color, which becomes yellowish by age and has the smell of cubebs, and a warm, aromatic, pungent taste.

Solubility.—Yields its virtues principally to alcohol.

GENERAL ACTION.

Cardiac stimulant. Aromatic. Gastric stimulant. Laxative. Expectorant. Blennorrhetic. Diuretic. Emmenagogue. Aphrodisiac. Diaphoretic.

PHYSIOLOGICAL ACTION.

CIRCULATORY SYSTEM.

It increases the action of the heart and vascular system.

DIGESTIVE SYSTEM :

Stomach.—It promotes the appetite and increases the digestive power in moderate doses. In large and long-continued doses it may cause gastric catarrh.

Intestines.—It acts as a laxative if given in a full medicinal dose.

RESPIRATORY SYSTEM.

It stimulates the bronchial mucous membrane, thus increasing its secretion.

GENITO-URINARY SYSTEM :

Kidneys.—In sufficient dose it decidedly promotes the flow of urine.

Uterus.—The menstrual flow is augmented by its administration.

Sexual Appetite.—It increases the sexual passion in man.

CUTANEOUS SYSTEM.

Its administration causes an increase in perspiration, and sometimes causes an eruption like urticaria.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

In *atonic dyspepsia*, *chronic gastritis*, or *chronic gastro-enteritis*, it may prove useful.

RESPIRATORY SYSTEM.

In *chronic bronchitis* marked by profuse expectoration it will often prove quite efficient.

GENITO-URINARY SYSTEM.

Gonorrhœa is the disease for which it is most used, and it may be administered in the acute stage.

Chronic cystitis, vesicle irritability, leucorrhœa, and other inflammations of the mucous membrane of the genito-urinary tract are much benefited by its administration.

PREPARATIONS.

Extractum Cubebæ Fluidum.....	3 ss.—3 i. (2.—4.).
Oleum Cubebæ.....	℥ v.—xxx. (.30—2.).
Oleoresina Cubebæ.....	℥ v.—xxx. (.30—2.).
Tinctura Cubebæ	3 j.—3 ij. (4.—8.).
Trochisci Cubebæ.....	(1 = oleo-resin gr. $\frac{1}{2}$).

CYDONIUM.

English Name.—Cydonium.

Origin.—The seed of *Cydonia vulgaris*.

Natural Order.—Rosaceæ, Pomeæ.

Synonym.—Quince Seed.

Habitat.—A native of Europe, but cultivated in the United States.

Constituents.—It contains a mucilaginous principle which is called cydonin.

Description.—The seeds are about $\frac{1}{4}$ inch long, ovate in shape, reddish brown externally, whitish internally, inodorous, and insipid or slightly bitter in taste.

Solubility.—The drug yields its virtues to water.

GENERAL ACTION.

Demulcent. Nutrient.

THERAPEUTICAL ACTION.

Used as demulcent and nutrient.

PREPARATION.

Mucilago Cydonii..... Vehicle.

CYPRIPEDIUM.

English Name.—Cypripedium.

Origin.—The rhizome and rootlets of *Cypripedium pubescens* and of *Cypripedium parviflorum*.

Natural Order.—Orchidaceæ.

Synonyms.—Ladies Slipper, Moccasin Plant.

Habitat.—It is found in different parts of the United States.

Constituents.—It contains a volatile oil, a volatile acid, tannic and gallic acids, two resins, gum, glucose, starch, and lignin.

Description.—The rhizome is often nearly 4 inches long, from $\frac{1}{8}$ to $\frac{3}{16}$ of an inch thick. It is closely covered with wiry rootlets varying from 4 to 20 inches in length and has a dark-brown or orange-brown color, a faint but heavy odor, and a sweetish, bitter, and somewhat pungent taste.

Solubility.—Yields its virtues to water and to alcohol.

GENERAL ACTION.

Nerve stimulant. Antispasmodic.

THERAPEUTICAL ACTION.

Has proved beneficial in certain forms of *hypochondriasis*, *neuralgia*, and *nervous irritability*.

PREPARATION.

Extractum Cypripedii Fluidum 3 ss.—3 i. (2.—4.).

DIGITALIS.

English Name.—Digitalis.

Origin.—The leaves of *Digitalis purpurea*, collected from plants of the second year's growth.

Natural Order.—Scrophulariaceæ.

Synonym.—Foxglove.

Habitat.—This drug grows wild in Europe, but is cultivated in America.

Constituents.—Digitalis contains a neutral principle called digitalin, which is its active ingredient; two acids, one fixed,

called digitalic acid, and one volatile, named antirrhinic acid. Besides these principles, it contains a volatile oil, fatty matter, red coloring matter, chlorophyll, albumen, starch, sugar, gum, lignin, and salts.

Description—

OF THE LEAVES.—From 4 to 12 inches long, ovate, oblong in shape, dull-green above and paler beneath ; their odor is faint and tea-like, and their taste bitter and nauseous.

OF DIGITALIN.—It is obtained as a white or yellowish-white powder, having no odor and a very bitter taste.

Solubility—

OF THE LEAVES.—Yield their virtues to water and to alcohol.

OF DIGITALIN.—Soluble in alcohol and in chloroform, but nearly insoluble in water or in ether.

GENERAL ACTION.

Excito-motor. Cardiac stimulant. Arterial contractant. Gastric stimulant. Intestinal stimulant. Diuretic. Oxytocic. Anaphrodisiac. Antipyretic.

Synergists.—Excito-motors, such as belladonna, cimicifuga, stramonium, ergot, nux vomica, etc., all tend to increase its action.

Antagonists and Incompatibles.—Cinchona preparations and certain preparations of iron are chemically incompatible. Cardiac sedatives, such as opium, aconite, lobelia, tobacco, and veratrum viride, antagonize its action physiologically.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM :

Brain.—In full medicinal doses it produces headache, dizziness, sense of constriction around the head, disturbances of vision, languor, and muscular depression. It may cause hallucinations and delirium.

Spinal Cord.—It lowers the reflex activity of the cord, and may paralyze it, causing prostration, muscular trembling, or convulsions, when given in full doses.

Nerves.—Digitalis lessens the sensibility of the motor and

sensory nerves in very large doses. In medicinal doses it stimulates the cardiac ganglia and the peripheral inhibitory fibres of the pneumogastric.

CIRCULATORY SYSTEM :

Heart.—It decreases the number of heart-beats, prolonging diastole and energizing systole. This action seems to depend partly upon a direct influence on the cardiac muscle and by a stimulation of the cardiac inhibitory fibres of the pneumogastric. If given in too large or long-continued doses, it may paralyze the pneumogastric, and allow the sympathetic full play, thus increasing the number of cardiac beats.

Vessels.—In moderate doses it causes a rise in arterial pressure. This is probably caused by its stimulating effect on the vaso-motor nerves, thus producing contraction of the arteries.

Blood.—The active constituents diffuse into the blood, but their action on this fluid is not definitely known.

DIGESTIVE SYSTEM :

Stomach.—In moderate doses it may increase the appetite, but in large, it is apt to cause nausea and vomiting.

Intestines.—In large doses it may cause purging.

GENITO-URINARY SYSTEM :

Kidneys.—Digitalis increases the flow of urine in disease, but seldom does so in the healthy person. Its diuretic action is due to an increase in arterial tension and an especial action which the drug has on the Malpighian tufts. With the exception of urea and uric acid, it increases the solid constituents of the urine as well as the fluid.

Uterus.—Digitalis stimulates the muscular fibres of the uterus, causing them to contract.

Sexual Appetite.—By diminishing the blood supply to the erectile tissue of the generative organs, it decreases the power of erection, and diminishes sexual appetite.

TEMPERATURE.

It decreases the temperature in pyrexia, but affects it little in health.

THERAPEUTICAL ACTION.**NERVOUS SYSTEM.**

Congestive cephalalgia, acute mania, and delirium tremens often call for the use of this drug.

CIRCULATORY SYSTEM.

In *valvular insufficiency*, with weakness of the heart's action, its use is indicated. It should not be used in *hypertrophy* which is compensatory. In *œdema* from weakness of the heart's action it may be given with marked benefit.

RESPIRATORY SYSTEM.

In *pulmonary hemorrhage* it is very useful, because it slows the heart's action and contracts the arterioles. *Acute pneumonitis* has been reported to have been benefited by its administration. *Phthisis*, especially in the incipient stage, has been much helped by its judicious use.

GENITO-URINARY SYSTEM.

It is of great value in *acute desquamative nephritis*, when marked by dropsy. *Spermatorrhœa*, associated with a relaxed condition of the genitals, may be treated with marked benefit by digitalis. It is also of use in *menorrhagia*.

GENERAL DISEASES.

Rheumatic fever, scarlet fever, typhoid fever, and nearly all diseases marked by a high temperature, will often be relieved by the slowing of the heart's action following its use. *Anasarca* and *œdema* due to obstructed circulation will be much relieved by its action on the arterioles and its increase of the flow of the urine.

CUTANEOUS SYSTEM.

Digitalis is useful in *cutaneous diseases* marked by local hemorrhages.

TOXICOLOGICAL ACTION.

Dilatation of the pupils, vomiting, purging, excessive thirst, and death through paralysis of the cardiac muscle. Most authorities believe this drug is not an accumulative poison.

Treatment of Poisoning.—Evacuate stomach, administer stim-

ulants, treat symptoms, and keep the patient lying down, because syncope may follow exertion.

PREPARATIONS.

Abstractum Digitalis.....	gr. ss.—gr. j. (.03—.06).
Extractum Digitalis.....	gr. $\frac{1}{4}$ —gr. j. (.015—.06).
Extractum Digitalis Fluidum....	℥ss.—ij. (.03—.12).
Infusum Digitalis.....	3 j.— $\bar{3}$ ss. (4.—16.).
Tinctura Digitalis	℥v.—3 ss. (.30—2.).

DULCAMARA.

English Name.—Dulcamara.

Origin.—The young branches of *Solanum Dulcamara*.

Natural Order.—Solanaceæ.

Synonym.—Bittersweet, Woody Nightshade.

Habitat.—Native of Europe, but naturalized in the United States.

Constituents.—Its virtues are supposed to depend, at least in part, on an alkaloid called solanin. A peculiar principle called pieroglycion has been obtained from it, and also gum, extractive, gluten, green wax, resin, benzoic acid, starch, lignin, and various salts of lime.

Description.—

OF CRUDE DRUG.—As found in the shops, it is of various lengths, cylindrical, and about $\frac{1}{4}$ inch thick. Externally it is wrinkled with a grayish-ash color. It has a slight odor, and a bitter taste, which afterward becomes sweet.

OF SOLANIN.—It is obtained in the form of a white, opaque powder, or as delicate acicular crystals. It is inodorous, but has a bitter taste.

Solubility.—

OF CRUDE DRUG.—Yields its virtues to boiling water.

OF SOLANIN.—Soluble in alcohol, but scarcely soluble in water.

GENERAL ACTION.

Narcotic. Blennorrhetic. Diuretic. Diaphoretic.

PHYSIOLOGICAL ACTION.**NERVOUS SYSTEM.**

This drug seems to be possessed of feeble narcotic properties.

DIGESTIVE SYSTEM.

By stimulation it slightly increases the secretion of the mucous membrane of the alimentary canal.

GENITO-URINARY SYSTEM.

The flow of urine is somewhat increased by its use, and some authors claim that it decreases sexual appetite.

CUTANEOUS SYSTEM.

It stimulates the skin, increasing its secretion.

THERAPEUTICAL ACTION.**GENERAL DISEASES.**

It has been recommended in the treatment of *rheumatism* and *gout*, but its efficacy in these diseases has been disputed.

CUTANEOUS SYSTEM.

Its principal use now is for the cure of *psoriasis*, *pityriasis*, and *eruptions* of a squamous character.

LOCALLY.

Sometimes it is applied locally to *skin diseases*, which are benefited by its internal administration.

TOXICOLOGICAL ACTION.

In toxic doses it causes semi-coma, speechlessness, jactations, hurried breathing, lividness of the skin, cold sweats, feeble pulse, sometimes general convulsions.

Treatment of Poisoning.—Evacuate stomach, administer stimulants, and treat symptoms.

PREPARATION.

Extractum Dulcamaræ Fluidum 3 ss.—3 ij. (2.—8.).

ELATIRINUM.

English Name.—Elatirinum.

Origin.—A neutral principle extracted from Elaterium, a substance deposited by the juice of the fruit of *Ecballium Elaterium*.

Natural Order.—Cucurbitaceæ.

Synonym.—Squirting Cucumber.

Habitat.—A native of the south of Europe, and is cultivated in Great Britain.

Constituents.—The active principle of elaterium is elaterin, the drug we now have under consideration. It also contains chlorophyll, starch, lignin, and saline matters.

Description.—

OF ELATERIN.—It is obtained in the form of small, colorless, shining, hexagonal scales or prisms. These have a bitter, somewhat acrid taste, but no odor.

OF ELATERIUM.—It occurs in thin, flat, or slightly curved cakes or fragments of a greenish-gray color, becoming yellowish by exposure, of a feeble odor, and a bitter, somewhat acrid taste.

Solubility.—Elatirin is insoluble in water, moderately soluble in alcohol, and freely soluble in boiling alcohol.

GENERAL ACTION.

Gastric stimulant. Intestinal stimulant. Sialagogue. Hydragogue cathartic. Diuretic.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM :

Mouth.—Increases the flow of saliva, and leaves a persistent bitter taste.

Stomach.—In medicinal doses it slightly stimulates the stomach, but in excessive doses causes nausea and vomiting.

Intestines.—Its action on the intestines is such as to cause profuse watery stools.

GENITO-URINARY SYSTEM.

It increases the flow of urine to a certain extent.

THERAPEUTICAL ACTION.**DIGESTIVE SYSTEM.**

Its chief use is as a hydragogue cathartic, to reduce *cedema* or *ascites*.

GENITO-URINARY SYSTEM.

In *uræmia*, or *renal dropsy*, by increasing the flow of urine, it may prove beneficial.

TOXICOLOGICAL ACTION.

In excessive doses it causes nausea, vomiting, profuse watery stools, great weakness, and prostration. It has proved fatal.

Treatment.—Demulcents and treat symptoms.

PREPARATION.

Trituratio Elaterini gr. $\frac{1}{4}$ —gr. j. (.015–.06).

ERCOTA.

English Name.—Ergot.

Origin.—The sclerotium of *Claviceps purpurea*, replacing the grain of *Secale cereale*.

Natural Order.—Graminaceæ.

Synonyms.—Ergot of Rye, Spurred Rye, *Secale cornutum*.

Habitat.—It is found principally in America and Europe.

Constituents.—Its chief constituent is sclerotic acid. It also contains scleromucin, a mucilaginous matter; sclererythrin, a red coloring matter; scleroiodin, a bluish-black powder; fusco-sclerolinic acid; picrosclerotin, a highly poisonous alkaloid; and scleroxanthin and sclerocrystallin, two crystalline substances.

Description—

OF ERGOT.—Obtained in solid, somewhat flexible grains, from $\frac{1}{3}$ inch to $1\frac{1}{2}$ inch long, from $\frac{1}{2}$ line to 3 lines in thickness, of a violet-brown color, often somewhat glaucous externally, and yellowish-white or violet-white within. It has an unpleasant smell, and a taste which is at first scarcely perceptible, but ultimately disagreeable and somewhat acrid.

OF SCLEROTIC ACID.—It is a yellowish-brown, hygroscopic substance, with no odor nor taste.

Solubility—

OF ERGOT.—Yields its virtues to water and to alcohol.

GENERAL ACTION.

Cardiac sedative. Arterial contractant. Gastro-intestinal irritant. Mild diuretic. Oxytocic.

Synergists.—Electricity, cold, digitalis, belladonna, all aid its action on the vascular system. Sabine and gossypium aid its action on the uterus.

Antagonists and Incompatibles.—Aconite, veratrum viride, tobacco, lobelia, hydrocyanic acid, physostigma, etc., antagonize its action. Caustic alkalies and metallic salts are chemically incompatible.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM.

Brain.—By causing cerebral anæmia it gives rise to pain in the head, dimness of vision, and vertigo.

CIRCULATORY SYSTEM:

Heart.—It causes a slowing of the action of the heart and increase of its strength.

Vessels.—By contracting the arterioles it causes a very decided rise in arterial tension.

DIGESTIVE SYSTEM.

It irritates the alimentary canal, causing pain, and occasionally vomiting or purging.

GENITO-URINARY SYSTEM:

Kidneys.—By increasing the tension in the Malpighian bodies it increases the urinary flow.

Bladder.—It tends to contract the bladder by acting on its unstriated muscular fibres.

Uterus.—Its most marked action is on the uterus, for it contracts the uterine muscular fibres in a very decided manner.

THERAPEUTICAL ACTION.**NERVOUS SYSTEM.**

By contracting the arterioles of the cerebro-spinal system it is beneficial in diseases marked by *hyperæmia* or *inflammation*; *meningitis*, *acute myelitis*, *congestive cephalalgia*, *epileptic mania*, and *cerebral hyperæmia* may be benefited by its use.

CIRCULATORY SYSTEM.

In *dilatation of the heart* without valvular lesions its use is indicated. In *arterial hemorrhages*, from almost any of the organs, its administration will prove serviceable.

DIGESTIVE SYSTEM.

Hæmatemesis, *chronic diarrhoea*, *dysentery*, and *intestinal hemorrhage* often call for the use of ergot.

RESPIRATORY SYSTEM.

This drug may prove serviceable in the acute stage of *pneumonitis* and in *hæmoptysis*.

GENITO-URINARY SYSTEM.

Its use is indicated in *hæmaturia*, *incontinence of urine*, *spermatorrhœa*, and *impotence*, especially when associated with a lax condition of muscular fibres. We derive most benefit from its action on the uterus in cases of *congestive dysmenorrhœa*, *metrorrhagia*, *menorrhagia*, *chronic metritis*, *uterine fibroids*, and in the parturient state.

CUTANEOUS SYSTEM.

Acne is very often relieved by the administration of this drug.

HYPODERMATICALLY.

The action of ergot may be obtained by its hypodermatic use much more readily and with greater rapidity than by its internal administration.

TOXICOLOGICAL ACTION.

In a toxic dose it causes pain in the head, dimness of vision, giddiness, stupor, vomiting, purging, and colic. If its use is continued for too long a time, we obtain chronic ergotism, which may be either *convulsive* or *gangrenous* in its character.

With the *convulsive* we have vertigo, disorders of vision, numbness of fingers and toes, tetanic convulsions of certain muscles of the body, intestinal cramp, diarrhœa, feeble pulse, cold surface, and very much increased appetite. In the *gangrenous form* we find the patient suffers from numbness, formication, coldness of the surface, vomiting, diarrhœa, and finally gangrene of certain portions of the body, usually the extremities.

Treatment of Poisoning.—Discontinue the ergot and treat the symptoms.

PREPARATIONS.

Extractum Ergotæ.....	gr. iiij.—xij. (.18—.72).
Extractum Ergotæ Fluidum.....	gtt. xx.—3 i. (1.2—4.).
Vinum Ergotæ.....	3 j.—3 ij. (4.—8.).
*Ergotin	gr. j.—iiij. (.06—.18).

ERYTHROXYLON.

English Name.—Erythroxyton.

Origin.—The leaves of Erythroxyton Coca.

Natural Order.—Erythroxyllaceæ.

Habitat.—Grows wild in various parts of South America.

Constituents.—An alkaloid cocaine is its principal constituent. It also contains a peculiar bitter principle, resin, tannin, an aromatic principle, extractives, chlorophyll, and salts of lime; a volatile alkaloid, hygrin, a variety of tannic acid, and coca-tannic acid have also been obtained.

Description—

OF THE LEAVES.—The leaves are oval-oblong and pointed, about 2 inches or more in length, and an inch in their greatest breadth. They have a fine green color, and an agreeable odor, resembling that of tea, and possess an aromatic, bitter taste.

OF COCAINE.—It occurs in colorless, transparent prisms, or in light, white, spongy fragments, having no odor, but a bitter taste.

OF COCAINÆ HYDROCHLORAS.—This salt is formed by the combination of cocaine with hydrochloric acid. It may be obtained as an almost white crystalline powder, permanent in the air, having very little odor and a bitter taste.

Solubility—

OF THE LEAVES.—The leaves yield their virtues partly to water, and more completely to alcohol.

OF COCAINE.—Nearly insoluble in water, but more soluble in alcohol.

OF COCAINÆ HYDROCHLORAS.—It is soluble in all proportions in hot water and in alcohol, and in somewhat less than half its weight of water at ordinary temperatures.

GENERAL ACTION.

Cerebral excitant. Antispasmodic. Cardiac stimulant. Thermafacient. Alterative. Local anæsthetic.

Synergists.—Drugs promoting constructive metamorphosis or that cause cerebral stimulation increase its action. Among these we find cannabis indica, valerian, asafoetida, camphor, caffeine, etc.

Antagonists and Incompatibles.—Mineral acids and metallic salts are incompatible. Agents promoting destructive metamorphosis antagonize its action; as xanthoxylum, sanguinaria, stillingia, guaiacum, colchicum, antimony, silver, mercury, zinc, lead, etc.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM :

Brain.—Its administration increases mental activity, causing wakefulness and relief from fatigue. This action may be preceded for a short time by drowsiness.

Spinal Cord.—This drug impairs the power of voluntary co-ordination.

Nerves.—It diminishes the excitability of the motor nerves and excites the sensory nerves when given by the mouth. In large doses it may cause paralysis of the sensory nerves. Hydrochlorate of cocaine applied locally to the peripheral

nerves causes the parts to which they are distributed to become anæsthetic. This is especially so of the eye and mucous membranes generally.

CIRCULATORY SYSTEM :

Heart.—It momentarily depresses, but quickly causes an increase in the action of the heart.

Vessels.—Its administration first causes diminution, but afterward an increase in the blood pressure. It is to its power of contracting arterioles and capillaries that the local anæsthetic properties of cocaine have been attributed, the drug thus acting mechanically.

RESPIRATORY SYSTEM.

This drug causes an increase in the respiratory power. Its local application to the mucous membrane of the nose diminishes its vascularity and sensibility primarily, which in some cases may be followed by reactionary epistaxis.

GENITO-URINARY SYSTEM.

It is eliminated by the kidneys, but causes a decrease in the excretion of urea, thus antagonizing destructive metamorphosis. Cocaine applied locally to the mucous membrane of the genito-urinary tract causes temporary anæsthesia of this part.

TEMPERATURE.

It causes an elevation of temperature.

THERAPEUTICAL ACTION.

NERVOUS SYSTEM.

This drug is useful in *nervous prostration* attended by fatigue. It has also been used with benefit for *neuralgia*.

RESPIRATORY SYSTEM.

It has been found beneficial in *phthisis*.

GENERAL DISEASES.

It is indicated in the treatment of all diseases attended by much tissue-waste.

LOCALLY.

The astonishing anæsthetic properties of hydrochlorate of cocaine, when applied locally to the conjunctiva, make it

an exceedingly important agent for rendering painless operations upon the eye. A two per cent. solution of this salt is generally employed. Operations upon mucous membranes may be made painless by its application. It has been found useful in acute coryza, hay-fever, and rose-colds. By removing the sensibility of the parts it facilitates laryngoscopic examinations. Painful micturition and hyperæsthesia of the urethra, bladder; and vagina, dysphagia, and neuralgia have been relieved by the use of this salt.

HYPODERMATICALLY.

By its subcutaneous use hydrochlorate of cocaine has given good results in local neuralgias and dysmenorrhœa. Injected in the seat of minor operations, it helps to render incisions of the superficial structures painless.

TOXICOLOGICAL ACTION.

In excessive doses it may cause tremors, hallucinations, loss of voluntary co-ordination, sensory paralysis, and paralysis of the heart and respiratory centre.

Treatment of Poisoning.—Evacuate stomach and intestines, and treat the symptoms.

PREPARATIONS.

Extractum Erythroxyli Fluidum 3 ss.—3 ij. (2.—8.).

*Cocainæ Hydrochloras Local use.

EUCALYPTUS.

English Name.—Eucalyptus.

Origin.—Leaves of Eucalyptus globulus.

Natural Order.—Myrtaceæ.

Synonym.—Blue Gum-tree.

Habitat.—Native of Australia, but has been cultivated in Algeria, Southern Europe, and in some parts of the United States.

Constituents.—Its principal constituent is a volatile oil (Oleum Eucalypti), from which is obtained eucalyptol and

cymol. Chlorophyll, resin, tannin, and extractive matters have also been obtained from it.

Description—

OF LEAVES.—From 6 to 12 inches long, rounded below, tapering above, of a grayish-green color. They have a strongly camphoraceous odor, and a pungent, aromatic, somewhat bitter and astringent taste.

OF THE VOLATILE OIL.—A pale, yellow liquid or colorless, having a characteristic aromatic odor, and a pungent, spicy, cooling taste.

OF EUCALYPTOL.—It is very liquid, nearly colorless, and has a strong, aromatic, camphoraceous odor.

Solubility—

OF LEAVES.—Yield their virtues to water in some degree, but do so more readily to alcohol.

OF THE VOLATILE OIL.—Soluble in alcohol.

OF EUCALYPTOL.—Slightly soluble in water, but very soluble in alcohol.

GENERAL ACTION.

Cardiac stimulant. Sialagogue. Stomachic. Laxative. Respiratory stimulant. Expectorant. Diuretic. Diaphoretic. Thermafacient. Disinfectant.

Synergists.—Simple bitters, aromatic bitters, hydrastis, and cinchona promote its action, because of their restorative powers.

Antagonists and Incompatibles.—Alkalies, vegetable acids, colchicum, sanguinaria, guaiacum, vegetable astringents, etc., all antagonize its action, because of their destructive tendency. Mineral acids, iron, mercury, lead, zinc, etc., are chemically incompatible.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM.

In full doses it may cause wakefulness.

CIRCULATORY SYSTEM :

Heart.—The action of the heart is increased.

Vessels.—It lowers arterial tension.

Blood.—It diffuses readily into the blood, but is not known to affect it in any way.

DIGESTIVE SYSTEM :

Mouth.—It increases the flow of saliva, and has a warm camphoraceous taste.

Stomach.—It stimulates the gastric mucous membrane, promotes the flow of gastric juice, and thus increases the appetite and digestive power.

Intestines.—By increasing the intestinal secretion it renders the movements larger and easier.

RESPIRATORY SYSTEM :

Bronchial Tubes.—It is eliminated by the bronchial mucous membrane, and increases its secretion.

Respirations.—The number of respirations is increased.

GENITO-URINARY SYSTEM.

It promotes the flow of urine, and is partially eliminated by the kidneys.

CUTANEOUS SYSTEM.

It is a powerful diaphoretic, and is partially eliminated by the skin.

Temperature.—It increases the temperature, but by its diaphoretic action secondarily lowers it.

THERAPEUTICAL ACTION.

NERVOUS SYSTEM.

Hysteria, asthma, and chorea have been benefited by eucalyptus.

DIGESTIVE SYSTEM.

In *atonic dyspepsia, chronic gastritis, chronic enteritis, and constipation*, it may prove useful.

RESPIRATORY SYSTEM.

Chronic bronchitis and bronchorrhœa may be benefited by its use.

GENITO-URINARY SYSTEM.

In *chronic desquamative nephritis, granular degeneration of*

the kidneys, and chronic catarrh of the bladder, its use is indicated.

GENERAL DISEASES.

Some good may be derived from its use in *intermittent fever*, but the results in this disease are contradictory.

LOCALLY.

As a local application in *stomatitis*, *pharyngitis*, and *tonsillitis*, it may prove efficient after the acute stage. As a disinfectant application to *ulcers* and *sores* it is helpful.

HYPODERMATICALLY.

The water of eucalyptus has been recommended as a vehicle for hypodermatic medication, because of its power to prevent the development of the *penicillium*.

PREPARATIONS.

Extractum Eucalypti Fluidum	℥ xv.—3 i. (1.—4.).
Oleum Eucalypti	℥ x.—xv. (.60—1.).
*Eucalyptol	gtt. v.—x. (.30—.60).

EUONYMUS.

English Name.—Euonymus.

Origin.—The bark of *Euonymus atropurpureus*.

Natural Order.—Celastraceæ.

Synonym.—Wahoo, Spindle Tree, Burning Bush.

Habitat.—Grows in America, principally throughout the Northern and Western States.

Constituents.—Its chief constituent is a bitter principle named euonymin. It also contains asparagin, a soft resin, a crystallizable resin, a yellow resin, a brown resin, fixed oil, wax, starch, albumen, glucose, pectin, and various organic and inorganic salts.

Description—

OF DRIED BARK.—Occurs in thin pieces, whitish, with a dark-grayish epidermis. It has a feeble, peculiar, not disagreeable

odor, and a bitterish, slightly sweetish taste, with a somewhat pungent after-taste.

OF EUONYMIN.—It is an uncrystallizable, intensely bitter substance.

Solubility—

OF CRUDE DRUG.—It imparts its virtues to water and to alcohol.

OF EUONYMIN.—Soluble in water and in alcohol.

GENERAL ACTION.

Mild drastic cathartic. Cholagogue.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM:

Liver.—This drug is a decided hepatic stimulant, increasing the flow of bile.

Intestines.—It is an excellent cathartic, increasing the intestinal secretions to some extent.

THERAPEUTICAL ACTION.

It is very useful in *hepatic torpor* and *constipation*.

PREPARATION.

Extractum Euonymi..... gr. iij.-v. (.18-.30).

EUPATORIUM.

English Name.—Eupatorium.

Origin.—The leaves and flowering tops of *Eupatorium perfoliatum*.

Natural Order.—Compositæ.

Synonyms.—Thoroughwort, Boneset.

Habitat.—Indigenous to America.

Constituents.—It contains a peculiar bitter principle, chlorophyll, resin, undetermined crystalline matter, gum, tannin, yellow coloring matter, extractive, lignin, salts, and traces of a volatile oil.

Description.—The leaves are from 4 to 6 inches long, tapering, rough above, downy and resinous-dotted beneath. The flower-heads are numerous, and marked by 10 or 15 white florets. It has a faint odor, and a strongly bitter and somewhat peculiar taste.

Solubility.—Its properties are readily imparted to water and to alcohol.

GENERAL ACTION.

Stimulant tonic. Emetic. Laxative. Expectorant. Diaphoretic. Anthelmintic.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM :

Stomach.—In small doses it acts as a stomachic, but in large doses may cause emesis.

Intestines.—In large doses it will prove laxative, and anthelmintic properties have been ascribed to it.

RESPIRATORY SYSTEM.

It increases the secretion from the bronchial mucous membrane.

CUTANEOUS SYSTEM.

It promotes the flow of perspiration.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

It may prove beneficial in *dyspepsia* and *anorexia*.

RESPIRATORY SYSTEM.

In *nasal catarrh*, *epidemic influenza*, and in the latter stages of *pneumonitis* and *bronchitis* its use is indicated.

GENERAL DISEASES.

Good results from its administration have been reported in *rheumatism*, *intermittent fever* and *typhoid fever*.

PREPARATION.

Extractum Eupatorii Fluidum 3 ss.—3 j. (2.-4.).

FICUS.

English Name.—Fig.

Origin.—The fleshy receptacle of *Ficus Carica*.

Natural Order.—Urticaceæ, Artocarpeæ.

Habitat.—Imported into this country chiefly from Smyrna. The trees are found in the south of Europe, particularly in France and Italy.

Constituents.—Its principal constituents are grape sugar, and gum or mucilage.

Description.—The best specimens of the dried fruit are yellowish or brownish in color, and somewhat translucent when held to the light. They have a sweet, viscid pulp, in which are lodged numerous small yellow seeds. They have a sweet, fruity odor, and a very sweet, mucilaginous taste.

Solubility.—They yield their virtues to water.

GENERAL ACTION.

Demulcent. Laxative. Nutrient.

THERAPEUTICAL ACTION.

This drug is used chiefly as a laxative in *constipation*.

PREPARATION.

Confectio Sennæ..... 3 j.—3 ij. (4.—8.).

FÆNICULUM.

English Name.—Fennel.

Origin.—The fruit of *Fœniculum vulgare*.

Natural Order.—Umbelliferæ, Orthospermæ.

Habitat.—It is a native of Europe, but is also abundant in Asia.

Constituents.—Its principal constituent is an essential oil* (*Oleum Fœniculi*).

Description.—

OF FRUIT.—Fennel seeds are oval-oblong, from 1 to 4 lines in length, flat on one side, convex on the other. They have

a brownish or a dark grayish-green color, a fragrant odor, and a taste which is warm, sweet, and aromatic.

OF THE ESSENTIAL OIL.—This is colorless or yellowish in appearance, and has the odor and taste of the seeds.

Solubility.—Yields its virtues to hot water, but more freely to alcohol.

GENERAL ACTION.

Aromatic. Carminative. Stomachic.

THERAPEUTICAL ACTION.

It is used principally as a corrective of disagreeable medicines.

PREPARATIONS.

Aqua Fœniculi..... 3 j.— $\frac{7}{3}$ ss. (4.—16.).

Oleum Fœniculi ℥v.—xv. (.30—1.).

FRANGULA.

English Name.—Frangula.

Origin.—The bark of Rhamnus Frangula.

Natural Order.—Rhamnaceæ.

Synonym.—Buckthorn.

Habitat.—Grows throughout Europe and Russian Asia.

Constituents.—Its chief constituent is frangulin, but it also contains an amorphous glucoside, avornin; and another glucoside, emodin, this being the same principle which is found in rheum. Resin and tannin have also been obtained from it.

Description.—

OF THE BARK.—It occurs as quills about $\frac{1}{2}$ inch thick, the outer surface of which is gray-brown or blackish-brown, and the inner surface smooth and pale brownish-yellow in color. It is nearly inodorous, but has a sweetish and bitter taste.

OF FRANGULIN.—Obtained in the form of fine yellow crystals.

Solubility.—It yields its virtues to water, but more readily to alcohol.

GENERAL ACTION.

Emetic. Mild acrid cathartic. Mild diuretic. Anthelmintic.

PHYSIOLOGICAL ACTION.**DIGESTIVE SYSTEM :**

Stomach.—It stimulates the stomach in small doses, but in large irritates it and may cause emesis.

Intestines.—It acts as a mild acrid cathartic on the intestines, increases the number of stools and their fluidity, but causes no griping. Anthelmintic properties have also been ascribed to it.

GENITO-URINARY SYSTEM.

Some authorities claim for it a mild diuretic action.

THERAPEUTICAL ACTION.

Its chief use is for the relief of *constipation*.

PREPARATION.

Extractum Frangulæ Fluidum 3 ss.—3 j. (2.—4.).

GALBANUM.

English Name.—Galbanum.

Origin.—A gum-resin obtained from *Ferula galbaniflua*, and probably from other allied plants.

Natural Order.—Umbelliferæ, Orthospermæ.

Habitat.—Is a native of Persia.

Constituents.—It contains a volatile oil, resin, and mucilage.

Description.—It appears in the form of masses composed of whitish, yellowish, or reddish tears, from the size of a pin's head to that of a pea. These tears are irregularly agglutinated by a darker colored yellowish-brown or greenish substance more or less translucent, and generally mixed with pieces of stalk, seeds, and other foreign matters. The odor of galbanum is peculiar and disagreeable ; its taste is bitterish, warm, and acrid.

Solubility.—It is wholly soluble, with the exception of impurities, in dilute alcohol, and triturated with water forms an imperfect milky solution.

GENERAL ACTION.

Antispasmodic. Stimulant. Expectorant. Local irritant.

Synergists.—Its action is promoted by cardiac stimulants and antispasmodics; such as asafetida, camphora, ammoniacum, valeriana, serpentaria, etc.

Antagonists and Incompatibles.—Cardiac sedatives and spinal sedatives, such as the bromides, chloral, opium, etc., antagonize its action.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM.

This drug has some antispasmodic properties.

CIRCULATORY SYSTEM.

It slightly increases the heart's action.

RESPIRATORY SYSTEM.

The secretion of the bronchial mucous membrane is slightly increased by its action.

CUTANEOUS SYSTEM.

It stimulates the skin when applied locally.

THERAPEUTICAL ACTION.

RESPIRATORY SYSTEM.

It may prove useful in *chronic bronchitis* and other *chronic bronchial affections*.

LOCALLY.

It may be applied locally as a rubefacient.

PREPARATIONS.

Emplastrum Galbani.

Pilulæ Galbani Compositæ (1=gr. jss. (.09)) 2-4.

GALLA.

English Name.—Nut-gall.

Origin.—Excrescences on *Quercus infectoria*, caused by the punctures and deposited ova of *Cynips Gallæ tinctoriæ*.

Order.—Hymenoptera.

Synonyms.—Nutmall, Dyer's Oak.

Habitat.—Galls are collected in Syria and Asia Minor.

Constituents.—Its principal constituents are tannic acid (Acidum Tannicum) and gallic acid (Acidum Gallicum).

Description.—

OF GALLS.—They are nearly round, from the size of a pea to that of a very large cherry, with a surface usually studded with small tuberosities. Externally they are of a dark-bluish or lead color, sometimes with a greenish tinge, and internally are whitish or brownish, and are hard, solid, and brittle. Their taste is very astringent and bitter, and they have little or no odor.

OF TANNIC ACID.—This drug is found not only in nutgall, but also in vegetable astringents, of which it forms the active principle. It is solid, uncrystallizable, and white or slightly yellowish in appearance, and is inodorous, but has a strongly astringent taste.

OF GALLIC ACID.—This acid is analogous to tannic acid, in containing one molecule of water. It occurs in the form of delicate, silky, acicular crystals, which are colorless when quite pure, but become slightly brownish by standing in the shops. It is inodorous, and has a sourish, astringent taste.

Tests.—

FOR TANNIC ACID.—It produces a white, flocculent precipitate with a solution of gelatine; a bluish-black precipitate with ferric salts; and white precipitate with solutions of the vegetable alkalies. It coagulates albumen.

FOR GALLIC ACID.—This drug does not coagulate albumen nor gelatine, and therefore differs from tannic acid. It forms a bluish-black precipitate with ferric salts.

Solubility.—

OF GALLS.—They yield their virtues to boiling water, and much more readily to alcohol.

OF TANNIC ACID.—Very soluble in water, but much less soluble in alcohol.

OF GALLIC ACID.—Slightly soluble in cold, but readily soluble in boiling water and in alcohol.

GENERAL ACTION.

Vegetable astringent. Gastro-intestinal astringent. Hæmostatic.

Synergists.—Agents increasing waste are synergistic, such as colchicum, guaiacum, sanguinaria, vegetable astringents, etc.

Antagonists and Incompatibles.—Salts of antimony, lead, silver; alkalies, mineral acids, and ferric salts, are all chemically incompatible. It precipitates albumen, gelatine, and vegetable alkaloids.

PHYSIOLOGICAL ACTION.

CIRCULATORY SYSTEM.

If injected into the veins, it causes coagulation of the albumen of the blood, and occasions thrombosis.

DIGESTIVE SYSTEM :

Mouth.—It checks the secretions of the mucous membrane of the mouth by its astringent properties.

Stomach.—By constringing the mucous membrane of the stomach it diminishes the gastric secretion, and by precipitating pepsin from the gastric juice renders it inoperative, and thus impairs digestion.

Intestines.—It causes constipation by diminishing the secretion of the intestinal mucous membrane, and restraining peristalsis.

CUTANEOUS SYSTEM.

It also acts as an astringent when applied locally.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

In hæmatemesis, atonic dyspepsia, catarrhal gastritis, subacute and chronic diarrhœa, chronic dysentery, and intestinal hemorrhage, it will often prove very efficacious. Diarrhœa of phthisis and cholera infantum will also be aided by its use.

RESPIRATORY SYSTEM.

As a hæmostatic it may prove beneficial in *bronchial* and *pulmonary hemorrhages*.

GENITO-URINARY SYSTEM.

It is often serviceable in *chronic cystitis*, *pyelitis*, *albuminuria*, *hæmaturia*, *metrorrhagia*, and *menorrhagia*.

CUTANEOUS SYSTEM.

Its internal administration may control to some degree the *sweating of phthisis*.

LOCALLY.

It often proves beneficial when locally applied as a styptic in certain inflammatory conditions and for certain relaxed tissues, such as *local hemorrhages*, *relaxed palate*, *tonsillitis*, *pharyngitis*, and *ulcers of the skin*; also as an astringent in *conjunctivitis*, *keratitis*, *ulcers of the cornea*, and *chronic otorrhœa*. It is used to advantage as an injection in *gonorrhœa*, *vaginitis*, and *cervicitis*, and as an application for the relief of *vulvitis*, *hemorrhoids*, and *fissures of the anus*.

PREPARATIONS.

Tinctura Gallæ.....	3 i.—3 ii. (4.—8.).
Unguentum Gallæ.....	(1—10).
Collodium Stypticum	(1—5).
Trochisci Acidi Tannici.....	(1=gr. j. or (.06)).
Unguentum Acidi Tannici	(1—10).
Unguentum Acidi Gallici	(1—10).

GAULTHERIA.

English Name.—Gaultheria.

Origin.—The leaves of *Gaultheria procumbens*.

Natural Order.—Ericaceæ.

Synonyms.—Wintergreen, Partridge-berry, Deer-berry, Teaberry, Mountain-tea.

Habitat.—It is indigenous to America.

Constituents.—Its principal constituent is a volatile oil (*Oleum Gaultheriæ*), and it also contains arbutin, tannin, sugar, etc.

Description—

OF LEAVES.—Their shape is obovate or roundish oval, about $1\frac{1}{2}$ inches long, and $\frac{3}{4}$ of an inch or more broad. They are bright green above, paler beneath, and of unequal sizes, and have a fragrant odor, and an aromatic, astringent taste.

OF THE VOLATILE OIL.—When obtained it is nearly colorless, or of a brownish-yellow or reddish color. It has a sweetish, slightly pungent, and peculiar taste, and a very agreeable characteristic odor. Salicylic acid may be made from this oil by the employment of potassic hydrate.

Solubility—

OF LEAVES.—Yield their virtues to alcohol and to water.

OF THE VOLATILE OIL.—Wholly soluble in alcohol.

GENERAL ACTION.

Aromatic. Carminative. Stomachic.

PHYSIOLOGICAL ACTION.**DIGESTIVE SYSTEM.**

It acts as a gastric stimulant, increasing the appetite and digestive power.

CUTANEOUS SYSTEM.

When applied to the skin it has a slight anæsthetic or sedative action.

THERAPEUTICAL ACTION.**DIGESTIVE SYSTEM.**

It may be administered for *impaired digestion* and *flatulency*. Its principal use is as a flavoring ingredient or corrective to other medicines.

GENERAL DISEASES.

This drug has been highly recommended lately for the treatment of *acute* and *subacute rheumatism*, and its administration for these diseases has met with favor.

PREPARATIONS.

Oleum Gaultheriæ ℥ij. -v. (.12-.30).
Spiritus Gaultheriæ ℥x. -xx. (.60-1.2).

GELSEMIUM.

English Name.—Gelsemium.

Origin.—The rhizome and rootlets of *Gelsemium semper-virens*.

Natural Order.—Loganiaceæ.

Synonym.—Yellow Jasmine, Carolina Jasmine.

Habitat.—A native of the Southern States.

Constituents.—Its principal constituents probably are gelsemin, a peculiar alkaloid, and gelseminic acid. It also contains gum, starch, pectic acid, albumen, gallic acid, fixed oil, fatty resin, dry acrid resin, coloring matter, volatile oil, lignin, extractive, and salts.

Description.—

OF CRUDE DRUG.—Occurs as pieces about 1 inch long, externally of a pale-brown color, and having a slightly feeble narcotic odor, and a bitterish, not unpleasant taste.

OF GELSEMIN.—It is a colorless, inodorous solid, not yet obtained in well-defined crystals, and having an intensely bitter and persistent taste.

Solubility.—

OF CRUDE DRUG.—Yields its virtues to alcohol and to water.

OF GELSEMIN.—Sparingly soluble in water, but freely soluble in chloroform.

GENERAL ACTION.

Motor depressant. Cardiac sedative. Respiratory depressant. Diaphoretic. Refrigerant.

Synergists.—Physostigma, tobacco, hydrocyanic acid, aconite, veratrum viride, opium, etc., increase its action.

Antagonists and Incompatibles.—Alcohol, digitalis, asafetida, belladonna, cimicifuga, nux vomica, etc., all antagonize its action. Caustic alkalies and tannic acid are chemically incompatible.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM :

Brain.—In moderate doses it produces mental calm and languor.

Spinal Cord.—If given in sufficient doses it acts as a spinal depressant, paralyzing first motility and then sensibility.

Nerves.—Although it paralyzes the motor and sensory nerves, it acts on the central ganglia, and not on the nerve-trunks nor peripheral fibres themselves. It causes dilatation of the pupil, and in lethal doses first affects the sixth nerve and then the third, causing a paralysis of the parts which they supply.

CIRCULATORY SYSTEM :

Heart.—It decreases the number of heart-beats. This is effected by lessening the irritability of the excito-motor ganglia of the heart, and by diminishing the number of the respirations.

Vessels.—It decreases arterial pressure by slowing the heart's action and affecting the vaso-motor nerves.

RESPIRATORY SYSTEM.

Gelsemium diminishes the number of respirations, causing them to become labored, from a paretic state of the respiratory muscles.

CUTANEOUS SYSTEM.

It tends to increase perspiration, especially in large doses.

TEMPERATURE.

It lowers the temperature, probably by increasing perspiration.

THERAPEUTICAL ACTION.

NERVOUS SYSTEM.

This drug has been reported successful in the treatment of *tetanus*. In *acute mania*, *delirium tremens*, and *delirium* from different forms of *meningitis*, its administration is often attended with good results.

RESPIRATORY SYSTEM.

It often controls in a remarkable degree *spasmodic asthma*, *pertussis*, and *spasmodic laryngeal cough*. It is highly recommended in the acute stages of *pneumonitis* and *pleuritis*.

GENITO-URINARY SYSTEM.

In *dysmenorrhœa* and *ovarian neuralgia* it may prove beneficial.

GENERAL DISEASES.

Good results have been reported from its use in *intermittent* and *remittent fever*.

TOXICOLOGICAL ACTION.

In sufficiently large doses it causes vertigo, dilated pupils, paralysis of certain of the ocular muscles, loss of vision, staggering, great muscular weakness, partial loss of motion and sensation, feeble and intermittent cardiac contractions, labored respirations, and profuse perspiration. Death occurs from asphyxia, and the respirations cease before the cardiac contractions. Consciousness is retained until near the end, when coma ensues from carbon dioxide poisoning.

Treatment of Poisoning.—Evacuate stomach, and administer stimulants, principally alcohol. Apply warmth, and use artificial respiration. Stimulate respiration by the faradic current.

PREPARATIONS.

Extractum Gelsemii Fluidum.....	℥ij.-iij. (.12-.18).
Tinctura Gelsemii.....	℥x.-xx. (.06-1.2).

GENTIANA.

English Name.—Gentian.

Origin.—The root of *Gentiana lutea*.

Natural Order.—Gentianaceæ.

Synonym.—Yellow Gentian.

Habitat.—Native of Europe.

Constituents.—A bitter principle called gentio-picrin, from which is obtained an amorphous neutral substance called gentio-genin, is its principal ingredient. Another constituent called gentianin, from which is obtained two other substances called phloroglucin and oxysalicylic acid, is also obtained from the root.

Description.—Gentian is found in the shops in pieces of various dimensions and shapes, usually of considerable length, consisting sometimes of longitudinal slices and sometimes of

the root cut transversely. The pieces are of a yellowish-brown color on the outside, yellowish or reddish within, and of a soft, spongy texture. Their odor is faint and peculiar, and their taste sweetish and persistently bitter.

Solubility.—Yields its virtues to water and to alcohol.

GENERAL ACTION.

Bitter tonic.

Synergists.—Quassia, calumba, coptis, serpentaria, cascarrilla, etc.; in fact, all restorative agents are synergistic.

Antagonists and Incompatibles.—Tannic acid, lead salts, and silver salts are incompatible, and destructive agents are antagonistic.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM:

Mouth.—This drug has a bitter taste, and increases the flow of saliva.

Stomach.—It increases the flow of the gastric secretions, promotes the appetite, and aids digestion.

Intestines.—In full doses it may act as a mild laxative.

THERAPEUTICAL ACTION.

In *atonic dyspepsia*, *chronic gastric catarrh*, and *anorexia*, it may prove very useful. It is very effective as an enema in the treatment of *ascarides vermiculares*.

PREPARATIONS.

Extractum Gentianæ gr. x.-xxx. (.60-2.).

Extractum Gentianæ Fluidum ℥x.-xxx. (.60-2.).

Tinctura Gentianæ Composita 3 j.-3 ij. (4.-8.).

GERANIUM.

English Name.—Geranium.

Origin.—The rhizome of *Geranium maculatum*.

Natural Order.—Geraniaceæ.

Synonyms.—Crane's Bill, Crow-foot.

Habitat.—Native of the United States.

Constituents.—Contains tannic and gallic acids, oleo-resin, gum, pectin, sugar, starch, albumen, resin, red coloring matter, chlorophyll, lignin, and various salts.

Description.—Geranium occurs in pieces from 1 to 3 inches long, from $\frac{1}{4}$ to $\frac{1}{2}$ inch in thickness, somewhat flattened, contorted, wrinkled, tuberculated, and beset with slender fibres. Externally it is of an umber-brown color, and internally of a reddish-gray color. It has no odor, but an astringent taste without bitterness.

Solubility.—Yields its virtues to water and to alcohol.

GENERAL ACTION.

Astringent.

PHYSIOLOGICAL ACTION.

As an astringent it decreases the secretions of the alimentary canal.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

May be used in *diarrhœa*, *chronic dysentery*, *cholera infantum*, and *hemorrhages* from the mucous membrane of the digestive tract with much benefit.

LOCALLY.

It is often efficacious as an application to relaxed *uvula*, *aphthæ*, *indolent ulcers*, and as an injection in *gonorrhœa* and *leucorrhœa*.

PREPARATION.

Extractum Geranii Fluidum 3 ss.—3 j. (2.—4.).

GLYCYRRHIZA.

English Name.—Glycyrrhiza.

Origin.—The root of *Glycyrrhiza glabra*.

Natural Order.—Leguminosæ, Papilionaceæ.

Synonym.—Licorice Root.

Habitat.—A native of the south of Europe, Barbary, Syria, and Persia, but is cultivated in England, Germany, and the north of France.

Constituents.—Its chief ingredient is a peculiar substance called glycyrrhizin. It also contains a crystallizable principle identical with asparagin; starch, albumen, a brown acrid resin, lignin, extractive matter, and salts.

Description—

OF THE ROOT.—Obtained in long cylindrical pieces, $\frac{1}{2}$ inch to 2 inches thick; externally grayish-brown and longitudinally wrinkled; internally yellowish; having a sweet, somewhat acrid taste, and no smell.

OF GLYCYRRHIZIN.—This substance is a glucoside, having a peculiar, transparent, yellow appearance, and a sweet taste.

Solubility—

OF THE ROOT.—Yields its virtues to hot water and to alcohol.

OF GLYCYRRHIZIN.—Scarcely soluble in cold water, but soluble in boiling water and in alcohol.

GENERAL ACTION.

Demulcent. Adjuvant.

THERAPEUTICAL ACTION.

It is used chiefly as a demulcent in *catarrhal inflammations of mucous membranes*, especially of the respiratory organs, and as an adjuvant or corrective to other medicines.

PREPARATIONS.

- Extractum Glycyrrhizæ Fluidum Adjuvant.
- Extractum Glycyrrhizæ Purum Adjuvant.
- Glycyrrhizinum Ammoniatum gr. v.—xv. (.30–.90).
- Mistura Glycyrrhizæ Composita 3 j.— $\bar{3}$ ss. (4–16.).
- Pulvis Glycyrrhizæ Compositus 3 j.—3 ij. (4–8.).
- Trochisci Glycyrrhizæ et Opii (1–10).

GOSSYPIMUM.

English Name.—Cotton.

Origin.—Gossypii Radicis Cortex is the bark of the root of Gossypium herbaceum and of other species of Gossypium. Gossypium consists of the hairs of the seed of Gossypium herbaceum and other species of Gossypium, freed from adhering impurities and deprived of fatty matter.

Natural Order.—Malvaceæ.

Synonyms.—Purified Cotton, Absorbent Cotton.

Habitat.—It is a native of Asia, but is cultivated in most tropical countries and the United States.

Constituents.—From the root is obtained a peculiar resin and mucilage, and a fixed oil (Oleum Gossypii Seminis) is obtained from the seeds.

Description.—

OF THE BARK OF THE ROOT.—It is obtained in thin, flexible bands or quilled pieces; its outer surface is brownish-yellow, and its inner whitish. It has no odor, but a very slightly acrid and faintly astringent taste.

OF COTTON.—Consists of soft, white, fine filaments, inodorous and tasteless. Under the microscope they appear as hollow and twisted bands.

OF THE FIXED OIL.—A bright, pale yellow, oily liquid, odorless, and having a bland, nut-like taste.

Solubility.—Yields its virtues to water and to alcohol.

GENERAL ACTION.

Emmenagogue.

PHYSIOLOGICAL ACTION.

This drug promotes uterine contractions.

THERAPEUTICAL ACTION.**GENITO-URINARY SYSTEM.**

May be used in *amenorrhœa* and as an oxytocic.

LOCALLY.

Absorbent cotton is used a great deal as surgical dressing.

PREPARATIONS.

Extractum Gossypii Radicis Fluidum . . . 3 ss. — 3 j. (2.—4.).

Oleum Gossypii Seminis.

Linimentum Calcis.

Pyroxylinum.

Collodium.

Collodium cum Cantharide.

Collodium Flexile.

Collodium Stypticum.

GRANATUM.

English Name.—Pomegranate.

Origin.—The bark of the root of *Punica Granatum*.

Natural Order.—Granataceæ.

Habitat.—The tree grows wild on both shores of the Mediterranean, in Arabia, Persia, Bengal, China, Japan, and has been introduced in all sufficiently warm, civilized countries.

Constituents.—The bark contains punico-tannic acid, and may be resolved into elegic acid; it also yields mannite, but its active ingredient is an alkaloid called pelleturin. Three other substances called methylpelleturin, pseudopelleturin, and isopelleturin have been obtained from the bark.

Description.—The bark is obtained in thin quills or fragments from 2 to 4 inches long, little over $\frac{1}{2}$ inch thick; the outer surface being yellowish-gray, and the inner one smooth and grayish-yellow. It has little or no smell, but has an astringent taste without disagreeable bitterness.

Solubility.—Yields its virtues to water and to alcohol.

GENERAL ACTION.

Astringent. Anthelmintic.

PHYSIOLOGICAL ACTION.**DIGESTIVE SYSTEM :**

Mouth.—When the bark of the root is chewed it turns the saliva yellow.

Stomach.—In full doses it may cause nausea and vomiting.

Intestines.—In small doses it acts as an astringent, but in large may produce catharsis.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

It is used chiefly for *tænia*, and should be preceded by a brisk cathartic. As an astringent it has been employed in *diarrhœa* and *gastric catarrh*.

LOCALLY.

It may prove useful as a gargle in *sore throat*, or as an injection in *gonorrhœa* and *leucorrhœa*.

TOXICOLOGICAL ACTION.

In excessive doses it may cause nausea, vomiting, purging, colic, and some prostration.

Treatment of Poisoning.—Evacuate stomach and intestines, and treat symptoms.

PREPARATION.

*Decoctum Granati..... $\frac{7}{3}$ ss. (16.).

GRINDELIA.

English Name.—Grindelia.

Origin.—The leaves and flowering tops of *Grindelia robusta*.

Natural Order.—Compositæ.

Habitat.—Native of North and South America.

Constituents.—An oil, resin, and a crystalline body have been obtained from this drug.

Description.—The leaves are about 2 inches or less long, pale green, smooth, finely dotted, and brittle. The stems are about 18 inches long, and have some of the flower-heads adherent. The taste of the drug is warmish, peculiar, and very persistent.

Solubility.—Yields its virtues to water and to alcohol.

GENERAL ACTION.

Antispasmodic. Cardiac sedative. Gastro-intestinal stimulant. Expectorant. Respiratory depressant. Diuretic.

Synergists.—Motor depressants, such as conium, physostigma, picrotoxin, woorara, etc., increase its action.

Antagonists and Incompatibles.—Excito-motors, such as nuxvomica, digitalis, cimicifuga, etc., antagonize its action.

PHYSIOLOGICAL ACTION.**NERVOUS SYSTEM.**

It acts as an antispasmodic in moderate doses, and may prove hypnotic and dilate the pupils in large doses.

CIRCULATORY SYSTEM.

It slows the heart's action to a certain degree.

DIGESTIVE SYSTEM.

It stimulates the gastro-intestinal mucous membrane.

RESPIRATORY SYSTEM :

Bronchial Tubes.—It increases the secretion of the bronchial mucous membrane, and is partially eliminated by this source.

Respiration.—Its administration causes a decrease in the number of respirations.

GENITO-URINARY SYSTEM.

It stimulates the kidneys, causing an increase in the flow of urine, and is partially eliminated by this channel.

THERAPEUTICAL ACTION.**NERVOUS SYSTEM.**

As an antispasmodic it may prove of benefit in *asthma* and *pertussis*.

RESPIRATORY SYSTEM.

It is recommended in *bronchitis* and *pneumonitis*.

GENITO-URINARY SYSTEM.

Chronic pyelitis and *chronic cystitis* may be helped by its use.

LOCALLY.

It is useful as an application to poisoning by *rhus toxicodendron*.

PREPARATION.

Extractum Grindeliæ Fluidum..... ℥x.- 3 j. (.6-4.).

GUAIACUM.

English Name.—Guaiac.

Origin.—The heart-wood, Guaiaci Lignum, of Guaiacum officinale and of Guaiacum sanctum; and the resin, Guaiaci Resina, of the wood of Guaiacum officinale.

Natural Order.—Zygophyllaceæ.

Synonym.—The heart-wood is called Lignum Vitæ.

Habitat.—The drug is a native of the West Indies.

Constituents.—From the resin the following substances may be obtained: Guaiaconic acid, guaiaretic acid, guaiac acid, guaiac bitter-resin, gum, ash constituents, coloring matter, and impurities. Guaiacene, guaiacol, kreosol, and pyroguaicin are also obtained from the resin.

Description—

OF THE WOOD.—Is imported in the shape of logs or billets, covered with a thick, gray bark, which presents on its inner surface and upon the edges, when broken, numerous shining, crystalline points. It is very hard and heavy.

OF THE RESIN.—Occurs as irregular or somewhat globular masses of a glassy lustre, and of a deep greenish-brown or dark-olive color wherever the air can penetrate. The parts which are not exposed to the air have a reddish-brown or hyacinthine hue. Its odor is feeble but fragrant, and its taste, at first scarcely perceptible, becomes acrid after a short period.

Solubility.—Water dissolves a small proportion of guaiac, but alcohol takes up all of its virtues.

GENERAL ACTION.

Stimulant. Blennorrhetic. Diaphoretic. Emmenagogue.
Alterative.

PHYSIOLOGICAL ACTION.**CIRCULATORY SYSTEM.**

This drug slightly stimulates the heart.

DIGESTIVE SYSTEM.

In large doses it acts as a laxative.

RESPIRATORY SYSTEM.

It increases the secretion of bronchial mucus.

GENITO-URINARY SYSTEM.

In full doses it will often prove an emmenagogue.

CUTANEOUS SYSTEM.

This drug is a decided stimulant and diaphoretic, increasing the flow of perspiration in a marked degree.

THERAPEUTICAL ACTION.**DIGESTIVE SYSTEM.**

In *acute pharyngitis* and *acute tonsillitis* it often proves of much value.

RESPIRATORY SYSTEM.

In *chronic pulmonary catarrh* it may prove of benefit.

GENITO-URINARY SYSTEM.

It is recommended in *amenorrhœa* and *dysmenorrhœa*.

GENERAL DISEASES.

It may be given to advantage in *chronic rheumatism*, *gout*, *secondary syphilis*, and *scrofulous diseases*.

CUTANEOUS SYSTEM.

It has been highly recommended for *cutaneous eruptions*.

LOCALLY.

Its local application will prove of benefit in *pharyngitis* and *tonsillitis*.

PREPARATIONS.

Tinctura Guaiaci 3 ss.— 3 ij. (2.—8.).

Tinctura Guaiaci Ammoniata 3 ss.— 3 ij. (2.—8.).

GUARANA.

English Name.—Guarana.

Origin.—A dried paste prepared from the crushed or ground seeds of *Paullinia sorbilis*.

Natural Order.—Sapindaceæ.

Habitat.—Native of Brazil.

Constituents.—It contains a crystallizable principle called guaranin, which is identical with caffein; also tannic acid, which has received the name of paullinitannic acid. A concrete volatile oil, an aromatic liquid, volatile oil, a greenish fixed oil, gum, albumen, and starch are also derived from this drug.

Description.—The masses which are prepared from the seeds are of a reddish-brown color, hard, somewhat glossy in appearance, rugose on the surface, and occur in the form of subglobular or elliptic cakes, or cylindrical sticks. They have a slight, peculiar odor, resembling chocolate, and an astringent, bitter taste.

Solubility.—The masses are partly soluble in alcohol and in water.

GENERAL ACTION.

Cerebral excitant. Cardiac sedative. Gastro-intestinal stimulant. Respiratory depressant. Alterative.

Synergists.—Coca, cannabis indica, serpentaria, valerian, asafetida, camphor, etc., are synergistic.

Antagonists and Incompatibles.—Cerebral sedatives are antagonistic; as alcohol, chloroform, opium, bromides, etc. Tannic acid, iodide of potassium, and salts of mercury are incompatible.

PHYSIOLOGICAL ACTION.**NERVOUS SYSTEM.**

This drug has the same action as caffein, causing at first drowsiness, and afterward cerebral excitement with wakefulness.

CIRCULATORY SYSTEM :

Heart.—It at first increases the heart's action, but afterward decreases it.

Vessels.—Primarily it increases arterial tension, but later diminishes it.

DIGESTIVE SYSTEM :

Stomach.—In small doses it stimulates the gastric glands to increased secretion, and promotes appetite and digestive power.

Intestines.—In medicinal doses it increases the peristaltic movements of the intestines, thus acting as a laxative.

GENITO-URINARY SYSTEM.

More urea is excreted by the urine during its administration than normally.

THERAPEUTICAL ACTION.

NERVOUS SYSTEM.

It often proves very beneficial in *hemicrania*, *neuralgia*, *hypochondriasis*, and “*sick headache*.”

DIGESTIVE SYSTEM.

It may prove efficacious in *atonic diarrhoea* and *diarrhoea of phthisis*.

PREPARATION.

Extractum Guaranæ Fluidum..... 3 j.—3 ij. (4.—8.).

GUTTA-PERCHA.

English Name.—Gutta-Percha.

Origin.—The concrete exudation of *Isonandra Gutta*.

Natural Order.—Sapotaceæ.

Habitat.—A native of the East Indies.

Constituents.—Two resinous products called fluavil and alban have been obtained from gutta-percha.

Description.—In its crude state it is grayish or yellow, often with red-brown streaks, hard, rather horny, somewhat flexible, but scarcely elastic.

Solubility.—It becomes very soft at the temperature of boil-

ing water, is insoluble in water or alcohol, but soluble in chloroform, oil of turpentine, and benzin.

GENERAL ACTION.

Local protective.

THERAPEUTICAL ACTION.

It is used in surgery as a protective, and for splints and instruments. The solution is used as a vehicle in the local treatment of *skin diseases*.

PREPARATION.

Liquor Gutta-Perchæ.

HÆMATOXYLON.

English Name.—Hæmatoxylon.

Origin.—The heart-wood of Hæmatoxylon Campechianum.

Natural Order.—Leguminosæ, Papilionaceæ.

Synonym.—Logwood.

Habitat.—A native of Campeachy, the shores of Honduras Bay, and other parts of tropical America, and has become naturalized in Jamaica.

Constituents.—Contains a peculiar principle called hæmatoxylin, a volatile oil, an oleaginous or resinous matter, two brown substances, a nitrogenous substance resembling gluten, free acetic acid, tannic acid and various salts.

Description.—Logwood is hard, compact, heavy, of a deep red color, becoming purplish-black on exposure; internally brown-red and marked with irregular concentric circles. It has a slight, peculiar odor, and a sweet, somewhat astringent taste.

GENERAL ACTION.

Mild astringent. Coloring agent. Astringent action due to tannic acid.

Synergists.—Tonics, bitters as a rule, and substances containing tannic or gallic acid favor its action.

Antagonists and Incompatibles.—Mineral acids, salts of antimony, lead, silver, alkalies, and the salts of iron are chemically incompatible. Vegetable alkaloids and gelatine form insoluble precipitates.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM.

This drug has a mild, astringent action on the gastro-intestinal mucous membrane.

GENITO-URINARY SYSTEM.

It may impart a pink color to the urine.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

As an astringent it may prove useful in *cholera infantum*, *chronic diarrhœa*, and *chronic dysentery*.

LOCALLY.

It may be used as an astringent application to *inflammation of mucous membranes*.

PREPARATION.

Extractum Hæmatoxyli..... gr. x.-xxx. (.60-2.).

HAMAMELIS.

English Name.—Hamamelis.

Origin.—The fresh leaves of *Hamamelis Virginica*.

Natural Order.—Hamamelaceæ.

Synonym.—Witch Hazel.

Habitat.—Native of the United States.

Constituents.—It contains tannic acid and a volatile principle.

Description.—The leaves are about 4 inches long, obovate or oval, slightly heart-shaped and oblique at the base, and nearly smooth. They are inodorous, and have an astringent, bitter taste.

Solubility.—The leaves yield their virtues to water and to alcohol.

GENERAL ACTION.

Astringent. Local sedative.

PHYSIOLOGICAL ACTION.

CIRCULATORY SYSTEM.

Internally and locally this drug acts as an astringent, contracting the blood-vessels and decreasing hemorrhage.

CUTANEOUS SYSTEM.

This drug has a sedative action when applied to the skin.

THERAPEUTICAL ACTION.

CIRCULATORY SYSTEM.

It is used internally with success in hemorrhages, namely, *hæmatemesis*, *hæmoptysis*, and *hæmaturia*.

LOCALLY.

As a local application it proves useful in *hemorrhoids*, *sprains*, *bruises*, and *local inflammations*.

PREPARATION.

Extractum Hamamelidis Fluidum.... 3 ss.—3 j. (2.—4.).

HEDEOMA.

English Name.—Hedeoma.

Origin.—The leaves and tops of *Hedeoma pulegioides*.

Natural Order.—Labiatae.

Synonym.—Pennyroyal.

Habitat.—Native of United States.

Constituents.—Its principal constituent is an essential oil (*Oleum Hedeomæ*).

Description.—

OF LEAVES AND TOPS.—The leaves are oblong-lanceolate and serrated, and the flowers pale blue, spotted, small, and arranged in axillary whorls. Their odor is strong and mint-like, and their taste warm and pungent.

OF THE VOLATILE OIL.—It has a light-yellow color, and an odor and taste similar to that of the herb.

Solubility.—The drug yields its virtues to boiling water.

GENERAL ACTION.

Stimulant aromatic.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM.

It stimulates the gastro-intestinal tract.

GENITO-URINARY SYSTEM.

Given in the form of a warm infusion, it may act as an emmenagogue.

THERAPEUTICAL ACTION.

It is given with benefit in *flatulency* and *nausea*. It may also be given as a corrective to other medicines.

PREPARATION.

Oleum Hediomæ..... gtt. ij.-x. (.12-.60).

HUMULUS.

English Name.—Hops.

Origin.—The strobiles of *Humulus Lupulus*.

Natural Order.—Urticacæ, Cannabineæ.

Habitat.—Native of North America and of Europe.

Constituents.—It contains a principle called lupulin, a bitter principle called lupulite, a volatile oil, a resin, humulo-tannic acid, salts, and extractives.

Description.—

OF CRUDE DRUG.—The strobiles consist of numerous, thin, translucent, veined, leaf-like scales, which are of a pale, greenish-yellow color, and contain, near the base, two small, round, black seeds. Their odor is strong, peculiar, fragrant, and somewhat narcotic, and their taste very bitter, aromatic, and slightly astringent.

OF LUPULIN.—Obtained in the state of a yellowish powder, mixed with minute particles of the scales, and having the peculiar flavor of hops.

GENERAL ACTION.

Cerebral sedative. Cardiac stimulant. Aromatic tonic. Mild astringent. Diaphoretic. Mild anaphrodisiac.

Synergists.—Cerebral sedatives, such as the bromides, opium, alcohol, etc., are synergistic.

Antagonists and Incompatibles.—Cerebral stimulants, such as camphor, asafetida, cannabis indica, etc., antagonize its action.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM.

It first causes cerebral excitement, which is afterward followed by a disposition to sleep.

CIRCULATORY SYSTEM.

This drug causes an increase in the heart's action.

DIGESTIVE SYSTEM.

It increases the appetite and digestive power by acting as an aromatic tonic.

GENITO-URINARY SYSTEM.

In some degree it lessens the sexual appetite.

CUTANEOUS SYSTEM.

Its administration causes diaphoresis.

THERAPEUTICAL ACTION.

NERVOUS SYSTEM.

As a cerebral sedative this drug is useful in *insomnia* and *delirium tremens*.

DIGESTIVE SYSTEM.

Atonic dyspepsia, *flatulent colic*, and *diarrhœa* are helped by its administration.

GENITO-URINARY SYSTEM.

Spermatorrhœa is often benefited by its use.

LOCALLY.

Hops may be used as an ingredient of poultices, and are

supposed to exert some slight anodyne action when used in this way.

PREPARATIONS.

Tinctura Humuli	3 j.-iij. (4.-12.).
Extractum Lupulinii Fluidum....	℥ x.-℥ xv. (.60-.90).
Oleoresina Lupulinii.....	gr. ij.-v. (.12-.30).

HYDRASTIS.

English Name.—Hydrastis.

Origin.—The rhizome and rootlets of *Hydrastis Canadensis*.

Natural Order.—Ranunculaceæ.

Synonyms.—Golden Seal, Yellow Root, Orange Root, Yellow Puccoon, Indian Dye, Indian Turmeric.

Habitat.—Native of the United States.

Constituents.—Its active principle is an alkaloid called hydrastin, and it also contains berberin, albumen, starch, fatty matter, resin, coloring matter, sugar, lignin, and various salts.

Description—

OF RHIZOME AND ROOTLETS.—The dried root is about $1\frac{1}{2}$ inch long and $\frac{1}{4}$ inch thick. Externally it is yellowish-gray, and internally, bright reddish-yellow. The rootlets are thin, brittle, with a thick, yellow bark, and subquadrangular, woody centre. The odor of the drug is strong, sweetish, and somewhat narcotic, and its taste is bitter and peculiar.

OF HYDRASTIN.—This principle crystallizes in brilliant four-sided prisms, which are white or colorless when pure, inodorous, and almost tasteless in consequence of their insolubility in the saliva.

Solubility—

OF CRUDE DRUG.—Yields its virtues to water and to alcohol.

OF HYDRASTIN.—Nearly insoluble in water, but is readily dissolved by alcohol.

GENERAL ACTION.

Cerebral stimulant. Cholagogue. Laxative. Diuretic.

Synergists.—Vegetable tonics are synergistic.

Antagonists and Incompatibles.—Alkalies, tannic acid, and muriatic acid are chemically incompatible with this drug. Drugs promoting destructive metamorphosis are antagonistic.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM.

This drug is supposed to act as a mild stimulant to the nervous system.

DIGESTIVE SYSTEM :

Stomach.—Hydrastis acts as a tonic to the mucous membrane of the stomach, increasing the gastric juice and digestive power, and increasing the appetite.

Liver.—It increases the flow of bile.

Intestines.—The intestinal mucous membrane is stimulated by hydrastis, and the stools are increased in number and rendered softer.

GENITO-URINARY SYSTEM.

It increases the flow of urine.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

The administration of this drug has proved efficacious in *stomatitis, follicular pharyngitis, follicular tonsillitis, atonic dyspepsia, chronic gastritis, acute catarrhal jaundice, and constipation.*

GENITO-URINARY SYSTEM.

Much benefit may be derived from its use in *chronic cystitis, gonorrhœa, and certain forms of Bright's disease.*

GENERAL DISEASES.

In *cachexia and general debility* its administration will prove of benefit, and it may prove very efficacious in the treatment of *intermittent fever.*

LOCALLY.

As a local application it is very useful in *sore throat, pharyngeal ulcerations, sloughing sores, and chancroids, and is often ser-*

viceable as an injection in *gonorrhœa*, *prostatorrhœa*, or *leucorrhœa*.

PREPARATIONS.

Extractum Hydrastis Fluidum.....	3 j.-ij. (4.-8.).
Tinctura Hydrastis.....	3 ss.-j. (2.-4.).

HYOSCYAMUS.

English Name.—Hyoscyamus.

Origin.—Leaves of *Hyoscyamus Niger*.

Natural Order.—Solanaceæ.

Synonym.—Henbane.

Habitat.—A native of Europe, but is cultivated in this country.

Constituents.—From this drug is obtained two alkaloids : one crystallizable, called hyoscyamine, and the other amorphous, called hyoscyne ; fixed oil, fatty substance, sugar, gum, starch, albumen, bassorin, salts, and a very poisonous, empyreumatic oil.

Description.—

OF LEAVES.—Ovate or ovate-oblong, sometimes 10 inches long, 4 inches broad, grayish-green, glandular, hairy ; odor heavy and narcotic ; taste bitter and somewhat acrid.

OF HYOSCYAMINE.—This alkaloid crystallizes in colorless, transparent, silky needles. It has no odor, but an acrid, disagreeable taste.

OF HYOSCYAMINÆ SULPHAS.—Occurs as small, golden yellow, or yellowish-white scales or crystals ; or a yellowish-white, amorphous powder. On exposure to air it deliquesces. It has no odor, and a bitter and acrid taste.

Solubility.—

OF CRUDE DRUG.—Yields its virtues to diluted alcohol.

OF HYOSCYAMINE.—Slightly soluble in water ; very soluble in alcohol.

OF HYOSCYAMINÆ SULPHAS.—Very soluble in water and in alcohol.

GENERAL ACTION.

Cerebral stimulant. Narcotic. Spinal depressant. Mydriatic. Cardiac stimulant. Arterial contractant. Respiratory stimulant. Diuretic. Local sedative.

Synergists.—Belladonna, stramonium, nux vomica, picrotoxin, cimicifuga, digitalis, etc., are synergistic.

Antagonists and Incompatibles.—Caustic alkalies are incompatible. Conium, gelsemium, jaborandi, physostigma, aconite, veratrum viride, etc., are antagonistic.

PHYSIOLOGICAL ACTION.**NERVOUS SYSTEM :**

Brain.—It stimulates the brain when given in large doses.

Spinal Cord.—In sufficient doses it may cause motor paralysis and incoordination.

Nerves.—By paralyzing the terminal filaments of the third nerve it allows the sympathetic to produce dilatation of the pupil by its action on the radiating fibres of the iris, thus causing dimness of vision. It also decreases the irritability of the nerves.

CIRCULATORY SYSTEM :

Heart.—Hyoscyamus increases the force and frequency of the heart's action by paralyzing the terminal filaments of the pneumogastric and stimulating the cardiac ganglia of the sympathetic.

Vessels.—It stimulates the vaso-motor nerves of the sympathetic system, and thus increases arterial tension; but in excessive doses may cause dilatation.

DIGESTIVE SYSTEM :

Mouth.—This drug produces dryness of the mucous membrane of the mouth by paralyzing the terminal filaments of the chorda tympani, and thus checking salivary secretion.

Stomach.—Gastric secretion is first decreased, and afterward increased.

Intestines.—Intestinal secretion is first checked, but afterward increased. The unstriped muscular fibres of the intes-

tine are stimulated and peristalsis increased. It thus promotes intestinal evacuations.

RESPIRATORY SYSTEM.

The respirations are accelerated and increased in depth by its administration.

GENITO-URINARY SYSTEM.

The amount of the solid constituents of the urine is increased by the use of hyoscyamus.

CUTANEOUS SYSTEM.

This drug decreases perspiration.

TEMPERATURE.

It increases animal heat in medicinal doses, but decreases it in excessive doses.

THERAPEUTICAL ACTION.

NERVOUS SYSTEM.

It is very beneficial in the treatment of *neuralgia*, *epilepsy*, and *insomnia*. *Tetanus*, *locomotor ataxia*, and *paralysis agitans* have been benefited by its administration.

DIGESTIVE SYSTEM.

It may prove curative in *dyspepsia*, and useful as a laxative in *habitual constipation*.

RESPIRATORY SYSTEM.

In *asthma*, *laryngeal cough*, and *pertussis* it often proves very useful.

GENITO-URINARY SYSTEM.

It may be used with advantage in the treatment of *neuralgic dysmenorrhœa*, *irritable bladder*, and *incontinence of urine*.

LOCALLY.

It is often curative when applied to *irritable ulcers* and *superficial inflammations*.

HYPODERMATICALLY.

The active principle of this drug is used hypodermatically for *mania*, *insanity*, *dementia*, *delirium*, *paralysis agitans*, *chorea*, *mercurial trembling*, *spasmodic cough*, and *hiccough*.

TOXICOLOGICAL ACTION.

In lethal doses it causes drowsiness, thirst, dysphagia, rapid pulse, flushed countenance, dilatation of pupils, emesis, inability to urinate, and possibly loss of speech.

Antidotes and Treatment of Poisoning.—Evacuate stomach by emetics or stomach-pump. Give opium or physostigma hypodermatically. Give jaborandi internally, and apply stimulants externally.

PREPARATIONS.

Abstractum Hyoscyami.....	gr. ij.-iij. (.12-.18).
Extractum Hyoscyami Alcoholicum.	gr. j.-ij. (.06-.12).
Extractum Hyoscyami Fluidum....	℥j.-x. (.06-.60).
Tinctura Hyoscyami	3 j.-ij. (4.-8.).
Hyoscyaminæ sulphas	$\frac{1}{60}$ (.0003).

ICHTHYOCOLLA.

English Name.—Isinglass.

Origin.—The swimming bladder of *Acipenser Huso* and of other species of *Acipenser*.

Order.—Sturiones.

Habitat.—These species of fish inhabit the interior waters of Russia.

Constituents.—Isinglass may be converted into amido-acetic acid.

Description.—Isinglass is the purest form of gelatine with which we are acquainted, and is obtained in separate sheets, sometimes rolled, of a horny or pearly appearance, whitish or yellowish, semi-transparent, iridescent, inodorous, and insipid.

Solubility.—It is almost entirely soluble in boiling water and in boiling alcohol. A solution in 24 parts of boiling water forms a transparent jelly on cooling.

GENERAL ACTION.

Nutrient. Pharmaceutical agent.

THERAPEUTICAL ACTION.**DIGESTIVE SYSTEM.**

It is used in pharmacy, in making capsules, and in coating pills.

LOCALLY.

It is used as a basis for plasters, and as a vehicle for the application of various remedies for *skin diseases*.

PREPARATION.

Emplastrum Ichthyocollæ.

IGNATIA.

English Name.—Ignatia.

Origin.—The seed of *Strychnos Ignatii*.

Natural Order.—Loganiaceæ.

Synonym.—Bean of Saint Ignatius.

Habitat.—The tree is a native of the Philippine Islands.

Constituents.—This drug contains the same active principles as *nux vomica*; namely, strychnine, brucine, igasurine, and igasuric acid. It also contains a volatile principle, extractive, gum, resin, coloring matter, fixed oil, and bassorin.

Description—

OF THE SEED.—They are about $1\frac{1}{2}$ inch long, oblong or ovate, irregularly angular, dull brownish or blackish, very hard and horny, the albumen somewhat translucent, enclosing an irregular cavity with an oblong embryo, inodorous, and very bitter.

GENERAL ACTION.

Its action is similar to that of *nux vomica*.

PREPARATIONS.

Abstractum Ignatiæ..... gr. j. (.06).

Tinctura Ignatiæ..... ℥x. - 3 j. (.60-4.).

ILLICIUM.

English Name.—Illicium.

Origin.—The fruit of *Illicium anisatum*.

Natural Order.—Magnoliaceæ

Synonym.—Star Anise.

Habitat.—A native of Asia and America.

Constituents.—It contains a volatile oil (*Oleum Anisi*), from which may be obtained anethol.

Description.—The fruit is pedunculate, about $\frac{1}{2}$ inch long, rather woody, wrinkled, and of a brown color externally, internally reddish-brown. It contains a single, flattish, oval, glossy, brown-yellow seed. Its odor is peculiar, and its taste sweetish and aromatic.

Solubility.—Yields its virtues sparingly to boiling water; freely to alcohol.

GENERAL ACTION.

Aromatic tonic. Carminative. Galactagogue.

THERAPEUTICAL ACTION.

Used with benefit in the treatment of *flatulent colic*, and as a corrective to other medicines.

PREPARATIONS.

Aqua Anisi.....	Vehicle.
Oleum Anisi	℥j.-v. (.06-.30).
Spiritus Anisi.....	3 j.-ij. (4.-8.).

INULA.

English Name.—Inula.

Origin.—The root of *Inula Helenium*.

Natural Order.—Compositæ.

Synonym.—Alecampagne.

Habitat.—Native of Europe, but is cultivated in America.

Constituents.—A substance resembling starch, called inulin, is its peculiar principle.

Description.—The dried root is obtained in transverse, con-

cave slices or longitudinal sections, with overlapping bark, externally wrinkled and brown, internally grayish, and dotted with numerous shining, yellowish-brown cells. The odor is peculiar and aromatic, and the taste bitter and pungent.

Solubility.—Its virtues may be extracted by water and by alcohol ; more thoroughly by the latter.

GENERAL ACTION.

Stimulant tonic. Expectorant. Diuretic. Emmenagogue. Diaphoretic.

Synergists.—Its action is increased by cardiac stimulants and tonics.

Antagonists and Incompatibles.—Cardiac sedatives and astringents antagonize its action.

PHYSIOLOGICAL ACTION.

CIRCULATORY SYSTEM.

This drug is a mild stimulant, slightly increasing the action of the heart.

DIGESTIVE SYSTEM.

In the stomach it acts as a tonic, stimulating the mucous membrane and increasing the appetite.

RESPIRATORY SYSTEM.

This drug is a mild stimulant to the bronchial mucous membrane, and acts as an expectorant.

GENITO-URINARY SYSTEM.

It is supposed that alecampane has slight emmenagogue properties.

CUTANEOUS SYSTEM.

The flow of perspiration is slightly increased by its action.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

Its administration may prove beneficial in *atonic dyspepsia*.

RESPIRATORY SYSTEM.

This drug is chiefly used for *chronic pulmonary affections* marked by profuse bronchial secretion.

GENITO-URINARY SYSTEM.

It is occasionally resorted to in the treatment of *amenorrhœa*.

CUTANEOUS SYSTEM.

Various *skin diseases* may be treated by its internal administration.

LOCALLY.

This drug sometimes proves serviceable as a local application to *cutaneous diseases*.

PREPARATION.

* Pulvis Inulæ..... ℥j.- 3j. (1.2-4.).

IPECACUANHA.

English Name.—Ipecac.

Origin.—The root of *Cephaelis Ipecacuanha*.

Natural Order.—Rubiaceæ, Coffeæ.

Habitat.—The plant is a native of Brazil.

Constituents.—Its emetic property resides in an alkaloid called emetin, and it also contains a peculiar acid called ipecacuanhic acid. Fatty matter, wax, gum, starch, sugar, lignin, resin, salts, and a volatile oil have also been extracted from the root.

Description—

OF THE ROOT.—About 4 inches long, and about $\frac{1}{8}$ inch thick ; mostly simple, contorted, dull gray-brown or blackish, finely wrinkled ; bark thick, brittle, brownish, and easily separable. Its odor is slight, peculiar, and nauseous, and its taste bitterish, acrid, and nauseating.

OF EMETIN.—When perfectly pure it is whitish, pulverulent, unalterable in the air, inodorous, and slightly bitter.

Solubility—

OF ROOT.—Yields its virtues to water and to alcohol.

OF EMETIN.—Sparingly soluble in cold water, more soluble in hot water, and very soluble in alcohol.

GENERAL ACTION.

Emetic. Cholagogue. Expectorant. Diaphoretic. Local irritant.

Synergists.—Its action is promoted by emetics and expectorants.

Antagonists and Incompatibles.—Salts of lead, mercury, and vegetable acids are incompatible. Bismuth, hydrocyanic acid, and narcotics generally tend to prevent its emetic action.

PHYSIOLOGICAL ACTION.**NERVOUS SYSTEM :**

Brain.—In large dose this drug stimulates the centre of the medulla oblongata, which presides over the act of vomiting, and thus causes emesis.

Spinal Cord.—It also diminishes activity of the spinal cord.

RESPIRATORY SYSTEM.

In moderate doses ipecac increases the secretions of the broncho-pulmonary mucous membrane.

DIGESTIVE SYSTEM :

Stomach.—In small doses it acts as a tonic, and increases the gastric secretions, but in large doses produces nausea and vomiting, with no subsequent depression.

Liver.—It stimulates the liver and promotes the secretion of bile ; the composition of the latter remains normal.

Intestines.—The intestinal mucous membrane is stimulated and its secretion augmented by the action of ipecac.

CUTANEOUS SYSTEM.

When applied to the skin, it may cause inflammation, pustulation, or even ulceration. Internally it promotes cutaneous transpiration.

THERAPEUTICAL ACTION.**DIGESTIVE SYSTEM.**

As an emetic ipecac will often relieve *acute indigestion* and *dyspepsia* due to undigested food, and in small doses often arrests *vomiting of pregnancy* and *vomiting of drunkards*. It also proves very successful in the treatment of *acute dysentery*, *chronic dysentery*, and *summer diarrhœa*.

RESPIRATORY SYSTEM.

Bronchial hemorrhage, hæmoptysis, and epistaxis may be very much relieved by its administration. Ipecac also proves very serviceable in the treatment of *acute coryza, acute bronchitis, capillary bronchitis, pertussis, and hay asthma*. If given in sufficient dose to cause emesis, it may check *laryngismus stridulous* and *catarrhal laryngitis*.

GENITO-URINARY SYSTEM.

Good results have been obtained from its administration in *menorrhagia* and *post-partum hemorrhage*.

LOCALLY.

Its efficacy is often shown when employed as a spray in *chronic bronchitis, bronchial asthma, and fibroid phthisis*.

TOXICOLOGICAL ACTION.

In lethal doses it causes nausea, vomiting, purging, diminution of respiration, fall of temperature, and possibly death by paralysis of the respiratory muscles, the heart continuing its action after the respirations have ceased.

PREPARATIONS.

Extractum Ipecacuanhæ Fluidum...	℥v.-xxx. (.30-2.).
Syrupus Ipecacuanhæ.....	℥xxx.- 3 ij. (2.-8.).
Vinum Ipecacuanhæ.....	℥x.- 3 j. (.60-4.).
Pulvis Ipecacuanhæ et Opii.....	(gr. x.-gr. j.) gr. ij.-xv. (.12-.90.)
Tinctura Ipecacuanhæ et Opii.....	(℥x. = gr. j.) ℥ij. - x. (.12-.60).
Trochisci Ipecacuanhæ.....	(1 = gr. $\frac{1}{4}$ (.015)).
Trochisci Morphinæ et Ipecacuanhæ	(1 = gr. $\frac{1}{12}$ (.005)).

IRIS.

English Name.—Iris.

Origin.—The rhizome and rootlets of *Iris versicolor*.

Natural Order.—Iridaceæ.

Synonym.—Blue-flag.

Habitat.—This drug is found in all parts of the United States.

Constituents.—It contains resin, starch, gum, tannin, sugar, and fixed oil. An impure oleoresin called irisin is also prepared from the drug.

Description.—The rhizome is horizontal, consisting of joints 2 to 4 inches long, cylindrical in the lower half, flattish near the upper extremity, and terminated by a circular scar, the color being reddish-brown. The rootlets are long, simple, and crowded near the broad end. The odor of the drug is slight, and its taste acrid and nauseous.

Solubility.—Imparts its properties to boiling water, and still more strongly to alcohol.

GENERAL ACTION.

Gastric stimulant. Cholagogue. Cathartic. Diuretic.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM :

Stomach.—In small doses it stimulates the gastric mucous membrane, and in large produces nausea and vomiting.

Liver.—This drug is a very decided hepatic stimulant.

Intestines.—It stimulates the intestinal glands, causing an increase in the number of stools and their liquidity, without producing much irritation.

GENITO-URINARY SYSTEM.

The flow of urine is promoted by its administration.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

The principal use of this drug is as a cholagogue and cathartic in *constipation*, especially if associated with jaundice.

GENITO-URINARY SYSTEM.

As a diuretic it may prove useful in the treatment of *dropsy*.

GENERAL DISEASES.

Some benefit may be derived from its administration in *malarial jaundice* and *bilious remittent fever*.

PREPARATIONS.

Extractum Iridis.....	gr. j.-ij. (.06-.12).
Extractum Iridis Fluidum.....	℥ v.-x. (.30-.60).
*Irisin.....	gr. j.-v. (.06-.30).

JALAPA.

English Name.—Jalap.

Origin.—The tuberous root of *Exogonium Purga*.

Natural Order.—Convolvulaceæ.

Habitat.—A native of Mexico.

Constituents.—This drug contains a soft resin called jalapin, and a hard resin called convolvulin; also, extractives, coloring matter, sugar, gum, albumen, starch, lignin, bassorin, water, and various salts.

Description.—

OF THE ROOT.—The root of this plant is a roundish, somewhat pear-shaped tuber, and is heavy, compact, hard, and brittle; externally brown and wrinkled, internally of a grayish color, diversified by darker concentric circles. The odor, when the root is cut or broken, is heavy, sweetish, and rather nauseous, and the taste sweetish, somewhat acrid, and disagreeable.

OF CONVULVULIN.—Colorless and transparent, in thin layers, inodorous, and tasteless.

Solubility.—

OF THE ROOT.—Yields its active properties partly to water, and completely to diluted alcohol.

OF CONVULVULIN.—Slightly soluble in chloroform, and insoluble in ether.

GENERAL ACTION.

Gastric stimulant. Hydragogue cathartic. Cholagogue.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM:

Stomach.—In medicinal doses it stimulates the stomach to some degree, but in large doses produces nausea.

Liver.—Jalap decidedly increases the flow of bile.

Intestines.—This drug increases the intestinal secretions, and causes the stools to become more frequent and soft or watery. It operates in from two to four hours.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

The drug is principally used as a cholagogue and cathartic in the treatment of *constipation* and *hepatic torpor*. As a hydragogue cathartic it may prove very efficacious in the treatment of *anasarca* or *ascites*.

GENERAL DISEASES.

In the treatment of the acute stage of *fevers* and *inflammations* it may prove beneficial as a revulsive.

PREPARATIONS.

- Abstractum Jalapæ gr. x.-xv. (.60-.90).
 Pulvis Jalapæ Compositus .. (gr. iij. = gr. j.) 3 ss- 3 j. (2.-4.).
 Resina Jalapæ gr. ij.-v. (.12-.30).
 Pilulæ Catharticæ Compositæ (1 = gr. j., 1-3).

JUGLANS.

English Name.—Juglans.

Origin.—The inner bark of the root of *Juglans cinerea*.

Natural Order.—Juglandaceæ.

Synonyms.—Butternut, Oilnut, White Walnut.

Habitat.—A native of Canada and of the United States.

Constituents.—Contains a volatilizable acid called juglandic acid, also bitter extractive, oily matter, a volatile acid, resin, and salts.

Description.—The crude drug occurs in flat or curved pieces from $\frac{1}{8}$ to $\frac{1}{4}$ inch thick; the outer surface deep brown, the inner surface smooth and striate. The odor of the bark is feeble, and the taste bitter and somewhat acrid.

Solubility.—Yields its medical virtues to boiling water.

GENERAL ACTION.

Cathartic. Cholagogue.

PHYSIOLOGICAL ACTION.**DIGESTIVE SYSTEM :**

Liver.—This drug increases the flow of bile.

Intestines.—It stimulates the mucous membrane of the alimentary canal, increasing the number of stools, and causing no pain nor irritation.

THERAPEUTICAL ACTION.

This drug is much employed in *habitual constipation* and *dysentery*. It is also used as a cholagogue.

PREPARATION.

Extractum Juglandis gr. v.-x. (.30-.60).

JUNIPERUS.

English Name.—Juniper.

Origin.—The fruit of *Juniperus communis*.

Natural Order.—Coniferae.

Habitat.—Native of Europe, and is naturalized in the United States.

Constituents.—It owes its properties principally to a volatile oil (*Oleum Juniperi*). It also contains resin, sugar, gum, wax, lignin, water, and saline matters.

Description.—

OF THE FRUIT.—The fruit are globular and more or less shrivelled, about as large as a pea, marked with three furrows at the summit, and at the base with tubercles, covered with a glaucous bloom, beneath which they are of a shining blackish-purple color. They contain a brownish-yellow pulp, and three ovate, long, bony, and angular seeds. They have an agreeable, somewhat aromatic odor, and a sweetish, warm, bitterish, and slightly terebinthinate taste.

OF THE VOLATILE OIL.—This oil is colorless, or of a light greenish-yellow color, and has a terebinthinate odor, and a hot, acrid taste.

Solubility.—The fruit yield their virtues to boiling water and to alcohol.

GENERAL ACTION.

Cardiac stimulant. Gastric stimulant. Diuretic. Emmenagogue. Aphrodisiac. Diaphoretic.

PHYSIOLOGICAL ACTION.**CIRCULATORY SYSTEM.**

It slightly increases the action of the heart.

DIGESTIVE SYSTEM.

This drug stimulates the gastric mucous membrane and increases the appetite and digestive power. In large doses it may disorder the stomach.

GENITO-URINARY SYSTEM :

Kidneys.—Juniper powerfully stimulates the renal functions, increasing to a marked degree the flow of urine, and imparting to it the odor of violets. The oil is eliminated chiefly by the kidneys. In very large doses it may cause strangury and bloody urine.

Uterus.—In large doses it may prove an emmenagogue.

Sexual Appetite.—Sexual desire is increased by its administration.

CUTANEOUS SYSTEM.

This drug increases the flow of perspiration.

THERAPEUTICAL ACTION.**GENITO-URINARY SYSTEM.**

The chief use of juniper is as a diuretic, especially in *œdema* from cardiac or renal disease. It is also indicated in *chronic pyelitis*, *chronic cystitis*, *gleet*, *prostorrhœa*, and *spermatorrhœa*. It should not be used in *acute renal diseases*, because it may prove too stimulating.

CUTANEOUS SYSTEM.

An empyreumatic oil obtained from this drug may prove very useful as a local application for *chronic eczema*, *impetigo*, *psoriasis*, and *acne rosacea*.

PREPARATIONS.

Spiritus Juniperi	3 ss.—3 j. (2.—4.).
Spiritus Juniperi Compositus	3 ij.— $\frac{7}{3}$ ss. (8.—16.).
Oleum Juniperi	gtt. v.—xv. (.30—.90).

KAMALA.

English Name.—Kamala.

Origin.—The glands and hairs from the capsules of *Mallotus philippinensis*.

Natural Order.—Euphorbiaceæ.

Synonyms.—Rottlera, Kameela, Spoonwood.

Constituents.—Its chief constituent is supposed to be a resin called rottlerin. It also contains resinous coloring matter, albumen, starch, gum, extractives, tannin, albumen, a trace of volatile oil, volatile coloring matters, and citric acid.

Description.—As brought to our market, this drug is a light, finely granular, and very mobile powder, of a brick-red color, having no odor, and little taste.

Solubility.—It is insoluble in cold water, very slightly soluble in boiling water, and soluble to a large degree in alcohol.

GENERAL ACTION.

Anthelmintic. Purgative.

PHYSIOLOGICAL ACTION.

This drug acts as a decided purgative, and causes the expulsion of *worms* from the intestines.

THERAPEUTICAL ACTION.**DIGESTIVE SYSTEM.**

Kamala is used almost entirely for the expulsion of *tænia solium*, and *lumbrici*. Being a purgative, it usually accomplishes its purpose without the administration of another cathartic.

CUTANEOUS SYSTEM.

This drug is recommended as a local application in the treatment of *scabies* and *herpes circinatus*.

LOCALLY.

As an enema it may prove efficient in *ascarides vermiculares*.

PREPARATION.

* Pulvis Kamalæ 3 j.—3 ij. (4.—8.).

KINO.

English Name.—Kino.

Origin.—The inspissated juice of *Pterocarpus Marsupium*.

Natural Order.—Leguminosæ, Papilionaceæ.

Habitat.—The officinal variety of Kino is a native of East India, being a lofty tree growing in Malabar. West Indian Kino, South American Kino, African Kino, and Australian Kino are other varieties of this drug.

Constituents.—This drug contains kino-tannic acid, which is a variety of tannic acid; a bright-red substance called kino red, a peculiar constituent named kinoïn, a trace of gallic acid, pectin, ulmic acid, and inorganic salts.

Description.—Kino as found in the shops is in the form of small, angular, brittle, shining pieces, easily pulverizable, of a ruby red, dark-brown red, or blackish color. It has no odor, and a very astringent, sweetish taste.

Solubility.—It imparts its virtues to water and to alcohol, and colors these solvents deep red.

GENERAL ACTION.

Astringent. Its chief action is due to the tannic acid it contains.

Synergists.—Astringents and tonics favor its action.

Antagonists and Incompatibles.—Alkalies and mineral acids, salts of iron, antimony, lead, and silver are incompatible. It forms insoluble precipitates with vegetable alkaloids and gelatine.

PHYSIOLOGICAL ACTION.**DIGESTIVE SYSTEM :**

Stomach.—Kino constricts the mucous membrane of the stomach, decreases the gastric secretion, and impairs digestion.

Intestines.—It diminishes the secretion of the intestinal mucous membrane and retards peristalsis, and thus decreases the number of evacuations.

THERAPEUTICAL ACTION.**DIGESTIVE SYSTEM.**

It may prove useful in *catarrhal gastritis, atonic dyspepsia,*

chronic diarrhœa, chronic dysentery, cholera infantum, hæmatemesis, and intestinal hemorrhage.

LOCALLY.

As a local application it may prove beneficial in *hemorrhages, indolent sores, ulcers*, and as an injection in *gonorrhœa* and *leucorrhœa*.

PREPARATION.

Tinctura Kino..... 3 j.—3 ij. (4.—8.).

KRAMERIA.

English Name.—Krameria.

Origin.—The root of *Krameria triandra*, and of *Krameria tomentosa*.

Natural Order.—Polygalaceæ, Kramerieæ.

Synonym.—Rhatany.

Habitat.—A native of Peru.

Constituents.—This drug contains tannic acid in the form of krameria-tannic acid, a peculiar red coloring matter called ratanhia red, gum, starch, saccharine matter, lignin, and a peculiar acid called krameric acid; an alkaloid called rhatanin has also been obtained from krameria.

Description.—The root of *Krameria triandra* is about 1 inch thick, knotty and several-headed above, and branched below; its bark is smooth or scaly, deep rust-brown, and about $\frac{1}{2}$ inch thick. The root of *Krameria tomentosa* is less knotty and more slender, and has a dark purplish-brown bark about $\frac{1}{8}$ inch thick. Neither variety has any odor, but both have a bitter, very astringent, slightly sweetish taste.

Solubility.—The virtues of the root are extracted by water and by alcohol.

GENERAL ACTION.

Tonic. Astringent. Its chief action is due to the tannic acid it contains.

Synergists.—Tonics and astringents hasten its action.

Antagonists and Incompatibles.—Mineral acids and most of the metallic salts are incompatible with krameria.

PHYSIOLOGICAL ACTION.**DIGESTIVE SYSTEM :**

Stomach.—It acts as a tonic and astringent on the gastric mucous membrane.

Intestines.—By decreasing intestinal secretion and peristalsis, it retards intestinal evacuation.

THERAPEUTICAL ACTION.**DIGESTIVE SYSTEM.**

Krameria is principally used to control *diarrhœa*, *dysentery*, and *intestinal hemorrhages*.

LOCALLY.

As a local application it often proves beneficial in *fissures of the anus*, *ulcers of the rectum*, *hemorrhoids*, and *fissures of the nipple*, and as an injection in *gonorrhœa*, *leucorrhœa*, and *vaginitis*.

PREPARATIONS.

Extractum Krameriaë Fluidum	℥ x. — 3 j. (.60–4.).
Extractum Krameriaë	gr. x. — xx. (.60–1.2).
Tinctura Krameriaë	3 j. — 3 ij. (4–8.).
Syrupus Krameriaë	3 j. — $\frac{3}{4}$ ss. (4–16.).
Trochisci Krameriaë	1 = gr. j. (.06).

LACTUCARIUM.

English Name.—Lactucarium.

Origin.—The concrete milk-juice of *Lactuca virosa*.

Natural Order.—Compositæ.

Synonym.—Lettuce-opium.

Habitat.—This plant is a native of Europe.

Constituents.—A principle called lactucin is supposed to be its active ingredient, but this is undetermined. It also contains wax, lignin, albumen, a soft resin, mannite, and other extractives.

Description.—It is obtained in the form of circular cakes or irregular angular pieces, externally gray brown or dull red-

dish-brown, internally whitish or yellowish. Its odor is heavy, somewhat aromatic, and its taste bitter.

Solubility.—Partly soluble in alcohol, but yields a turbid mixture when triturated with water.

GENERAL ACTION.

Anodyne. Hypnotic. Cardiac sedative.

Synergists.—Cerebral sedatives aid its action.

Antagonists and Incompatibles.—Cerebral excitants antagonize its action.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM.

This drug possesses in a feeble degree the hypnotic and anodyne properties of opium.

CIRCULATORY SYSTEM.

Lactucarium has a slight sedative action on the heart.

THERAPEUTICAL ACTION.

NERVOUS SYSTEM.

It may be used to some advantage in *insomnia*.

RESPIRATORY SYSTEM.

Some benefit may be obtained from its administration in *nervous cough*, and as an anodyne in *pulmonary phthisis*.

PREPARATIONS.

Extractum Lactucarii Fluidum..... ℥v.—3 ss. (.30–2.).

Syrupus Lactucarii..... 3 ij.—ijj. (8.–12.).

LAPPA.

English Name.—Lappa.

Origin.—The root of *Lappa officinalis*.

Natural Order.—Compositæ.

Synonym.—Burdock.

Habitat.—A native of Europe and the United States.

Constituents.—Among its constituents have been found inulin and sugar.

Description.—The root is about 12 inches or more long and

about 1 inch thick, gray-brown externally, paler internally, with a rather thick bark, a feeble and unpleasant odor, and a mucilaginous, sweetish, and somewhat bitter taste.

Solubility.—Yields its virtues to alcohol and to boiling water.

GENERAL ACTION.

Laxative. Diaphoretic. Diuretic. Local stimulant.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM.

This drug acts as a mild laxative.

GENITO-URINARY SYSTEM.

The flow of urine is increased by its administration, and it produces no renal irritation.

CUTANEOUS SYSTEM.

Its internal administration increases cutaneous transpiration, and its local application stimulates the skin.

THERAPEUTICAL ACTION.

GENITO-URINARY SYSTEM.

This drug may prove serviceable in the treatment of certain renal diseases.

GENERAL DISEASES.

Lappa is recommended as useful in the treatment of *rheumatism*, *gout*, *scorbutus*, and *scrofula*.

CUTANEOUS SYSTEM.

The chief use of this drug is as a local application in *herpes*, *psoriasis*, *acne*, and *prurigo*.

PREPARATION.

*Decoctum Lappæ..... ℥ j.—℥ ij. (30.—60.).

LAVANDULA.

English Name.—Lavender.

Origin.—The flowers of *Lavandula vera*.

Natural Order.—Labiatae.

Habitat.—It is a native of southern Europe, but is cultivated in the United States.

Constituents.—Its chief action is due to a volatile oil (*Oleum Lavandulæ Florum*) which it contains. Another volatile oil (*Oleum Lavandulæ*) is obtained from the flowering tops of the whole herb.

Description.—

OF THE FLOWERS.—The flowers are small, blue, and disposed in interrupted whorls around the young shoots, and have an agreeable, fragrant odor, and a pungent, bitter taste.

OF THE VOLATILE OIL OF THE FLOWERS.—The oil is very fluid, of a lemon-yellow color, with the fragrance of the flowers, and an aromatic, burning taste.

OF THE VOLATILE OIL OF THE FLOWERING TOPS.—A colorless, yellowish, or greenish-yellow liquid, having the characteristic odor, and a pungent, bitterish taste.

Solubility.—The flowers yield their virtues to alcohol.

GENERAL ACTION.

Aromatic stimulant. Tonic.

PHYSIOLOGICAL ACTION.

It stimulates the gastric mucous membrane, and increases the appetite.

THERAPEUTICAL ACTION.

NERVOUS SYSTEM.

It may be used with slight advantage in *nervous irritability*.

DIGESTIVE SYSTEM.

It is used chiefly as an adjuvant to other medicines.

PREPARATIONS.

Oleum Lavandulæ Florum.

Tinctura Lavandulæ Composita..... 3 ss.—3 j. (2.—4.).

Oleum Lavandulæ gtt. j.—v. (.06—.30).

Spiritus Lavandulæ 3 ss.—j. (2.—4.).

Vinum Aromaticum Local use.

Spiritus Odoratus.

LEPTANDRA.

English Name.—Leptandra.

Origin.—The rhizome and rootlets of *Leptandra virginica*.

Natural Order.—Scrophulariaceæ.

Synonyms.—Culver's Root, Culver's Physic.

Habitat.—A native of the United States.

Constituents.—This drug contains a glucoside called leptandrin, which is supposed to be its active principle, and also volatile oil, extractive, tannin, gum, and resin.

Description.—

OF RHIZOME AND ROOTLETS.—The rhizome is horizontal, from 4 to 6 inches long, about $\frac{1}{4}$ inch thick, somewhat flattened, bent, branched, and deep blackish-brown in color, with a thin, blackish bark; the rootlets are thin, wrinkled, and very fragile. Both parts of the plant are inodorous, and have a bitter, feebly acrid taste.

OF LEPTANDRIN.—This principle is obtained in the form of needle-shaped crystals, which have the bitter taste of the root.

GENERAL ACTION.

Cholagogue. Cathartic.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM :

Stomach.—It slightly stimulates the gastric mucous membrane, and in large doses may act as an emetic.

Liver.—This drug is a mild hepatic stimulant, slightly increasing the flow of bile.

Intestines.—It increases the secretion of the intestinal glands, and increases the number of intestinal evacuations.

THERAPEUTICAL ACTION.

It is used almost entirely in *constipation*, especially when this condition is associated with deficient biliary and intestinal secretions.

PREPARATIONS.

Extractum Leptandræ ℥xx.-xxx. (1.2-2.).

Extractum Leptandræ Fluidum. ℥xx.-3j. (1.2-4.).

*Leptandrin gr. ss.-iij. (.03-.18).

LIMONES.

English Name.—Lemon.

Origin.—The rind, *Limonis Cortex*, of the recent fruit of *Citrus Limonum*; and the freshly-expressed juice, *Limonis Succus*, of the ripe fruit of *Citrus Limonum*.

Natural Order.—*Aurantiaceæ*.

Synonym.—Lemon Peel, Lemon Juice.

Habitat.—A native of India, but is cultivated in Europe, United States, Australia, and other countries.

Constituents.—The rind contains an essential oil (*Oleum Limonis*), a bitter principle, and a glucoside called hesperidin. The juice consists chiefly of citric acid, gum, sugar, and inorganic salts.

Description—

OF THE RIND.—It is usually found in narrow, thin bands, with very little of the spongy, white inner layer adhering to it. It has a fragrant odor, and a warm, aromatic, bitter taste.

OF THE VOLATILE OIL.—A pale-yellow liquid, having the fragrant odor of lemon, and an aromatic, somewhat bitterish taste.

OF THE JUICE.—The juice is a slightly turbid, yellowish liquid, having little or no odor, and an acid taste.

OF CITRIC ACID.—It is obtained as colorless, right-rhombic prisms, not deliquescent except in moist air. Effervescent in warm water, odorless, having an agreeable, acid taste.

Solubility—

OF THE RIND.—The peel yields its virtues to water and to alcohol.

OF CITRIC ACID.—Freely soluble in water and in alcohol.

GENERAL ACTION.

OF THE RIND.—Aromatic. Bitter.

OF THE JUICE.—Gastro-intestinal stimulant. Refrigerant.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM.

The rind stimulates the stomach and increases the appetite to a slight degree. The juice, by virtue of the citric acid it contains, increases the intestinal secretion.

CUTANEOUS SYSTEM.

When applied to the skin the juice causes stimulation or irritation.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

The juice proves a very pleasant and refrigerating drink in fevers.

GENERAL DISEASES.

It may prove useful in *acute rheumatism* and *intermittent fever*. Its most important use is in the treatment of *scorbutus*.

CUTANEOUS SYSTEM.

As a local application it may prove serviceable for the cure of *warts* and *vegetations*, and for the benefit of *pityriasis*, *ring-worm*, and *pediculosis*.

PREPARATIONS.

Of the Peel—

Oleum Limonis.....	Flavoring Agent.
Spiritus Limonis.....	Flavoring Agent.
Spiritus Odoratus.....	

Of the Juice—

Syrupus Limonis	Vehicle.
Mistura Potassii Citratis.....	3 ij.— $\frac{2}{3}$ ss. (8.—16.).

LINUM.

English Name.—Flaxseed.

Origin.—The seed of *Linum usitatissimum*.

• *Natural Order.*—Linaceæ.

Habitat.—A native of Egypt and Central Asia, but is naturalized in Europe and cultivated in America and other countries.

Synonym.—Linseed.

Constituents.—It contains a fixed oil (*Oleum Lini*), wax, resin, extractive, tannin, gum, mucilage, starch, albumen, gluten, and various salts.

Description—

OF THE SEEDS.—They are about 1 line in length, oval, smooth, and glossy, of a brown color externally, and of a yellowish-white color internally, having an oily, mucilaginous taste, but no odor.

OF THE FIXED OIL.—This oil has a yellowish-brown color, a disagreeable odor, and a bland but nauseous taste.

Solubility.—They yield their virtues to water.

GENERAL ACTION.

Demulcent. Laxative.

THERAPEUTICAL ACTION.**DIGESTIVE SYSTEM.**

It may be given in *catarrhal gastritis*, *diarrhœa*, and *dysentery*. As an enema it may be used as a laxative.

GENITO-URINARY SYSTEM.

It may prove beneficial in *cystitis* and *urethritis*.

LOCALLY.

In the form of the meal it makes a most excellent poultice for *wounds* and *ulcers*. Combined with lime-water, forming carron oil, it proves a most efficacious application for *burns*.

PREPARATION.

Oleum Lini..... ʒ j. – ʒ ij. (30.–60.).

LOBELIA.

English Name.—Lobelia.

Origin.—The leaves and tops of *Lobelia Inflata*.

Natural Order.—Lobeliceæ.

Synonym.—Indian Tobacco.

Habitat.—Native of the United States.

Constituents.—Contains a peculiar alkaline principle named lobelin, a peculiar acid called lobelic acid, an acid substance named lobelacrin; also gum, resin, chlorophyll, fixed oil, volatile oil, lignin, and salts.

Description—

OF THE LEAVES AND TOPS.—The leaves are ovate or oblong, about 2 inches long, pale-green in color. Branches are hairy, terminating in small, pale-blue flowers. The odor of the drug is slight and irritating, and its taste mild, afterward burning and acrid.

OF LOBELIN.—A yellowish liquid, lighter than water, of a somewhat aromatic odor, and a very acrid, durable taste.

Solubility—

OF THE LEAVES AND TOPS.—Yield their virtues readily to water and to alcohol.

OF LOBELIN.—Soluble in water, but more so in alcohol.

GENERAL ACTION.

Narcotic. Motor depressant. Antispasmodic. Cardiac depressant. Sialagogue. Gastric irritant. Laxative. Respiratory depressant. Diuretic. Diaphoretic.

Synergists.—Motor depressants, such as tobacco, physostigma, jaborandi, gelsemium, conium, etc., are synergistic.

Antagonists and Incompatibles.—Caustic alkalies are incompatible. Excito-motors, such as nux vomica, digitalis, cimicifuga, belladonna, stramonium, hyoscyamus, etc., are antagonistic.

PHYSIOLOGICAL ACTION.**NERVOUS SYSTEM :**

Brain.—In full doses it causes headache and giddiness.

Spinal Cord.—It has a depressing influence on the spinal cord, affects the motor nerves, and causes muscular weakness.

CIRCULATORY SYSTEM.

It enfeebles the action of the heart.

DIGESTIVE SYSTEM :

Mouth.—It causes a decided increase in the flow of saliva.

Stomach.—In small doses it stimulates the stomach, and causes an increase in the secretion of gastric mucus, but in large, causes nausea and vomiting.

Intestines.—By relaxing the intestinal canal it tends to increase its evacuations.

RESPIRATORY SYSTEM.

Lobelia weakens the respiratory movements, chiefly by acting on the medulla oblongata.

GENITO-URINARY SYSTEM.

The flow of urine is increased to a certain degree by the administration of this drug.

CUTANEOUS SYSTEM.

In full doses it causes an increase in the flow of perspiration.

THERAPEUTICAL ACTION.

NERVOUS SYSTEM.

As an antispasmodic it sometimes proves advantageous in *pertussis* and *spasmodic asthma*.

DIGESTIVE SYSTEM.

Habitual constipation may be much benefited by its use.

LOCALLY.

As an enema it often proves serviceable in *obstructed hernia* and *intussusception*.

TOXICOLOGICAL ACTION.

Muscular weakness, trembling, feeble pulse, shallow respiration, and coldness of the surface occur when this drug is taken in lethal doses. Emesis occurs very frequently, and sometimes convulsions. Death occurs from paralysis of the respiratory muscles, the heart continuing to beat after respiration has ceased.

Antidotes and Treatment of Poisoning.—Wash out stomach with warm solution of tannic acid. Internally administer digitalis, belladonna, alcohol, or ammonia; externally apply friction and counter-irritants. Use artificial respiration.

PREPARATIONS.

Acetum Lobeliæ	3 ss.—3 ij. (2.—8.).
Extractum Lobeliæ Fluidum	℥j.—x. (.06—.60).
Tinctura Lobeliæ	3 ss.—3 j. (2.—4.).

LYCOPODIUM.

English Name.—Lycopodium.

Origin.—The sporules of *Lycopodium clavatum*.

Natural Order.—Lycopodiaceæ.

Synonym.—Club-moss, Vegetable Sulphur.

Habitat.—A native of Europe and America.

Constituents.—Contains a fixed oil, volatile bases, ash, sugar, bland oil, alumina, and phosphoric acid.

Description.—Lycopodium is a fine powder, pale-yellowish in color, very mobile, inodorous, and tasteless.

Tests.—It should be free from pollen, starch, sand, and other impurities.

Solubility.—It floats upon water, and is not wetted by it.

GENERAL ACTION.

Absorbent. Pharmaceutical agent.

THERAPEUTICAL ACTION.

It is used as an absorbent application to *excoriated surfaces*. In pharmacy it is used in making pills.

MACIS.

English Name.—Mace.

Origin.—The arillus of the fruit of *Myristica fragrans*.

Natural Order.—Myristicaceæ.

Habitat.—A native of the Moluccas and other neighboring islands, but is cultivated in numerous East India islands, West India islands, Isles of France and Bourbon, and Cayenne.

Constituents.—Mace contains a volatile oil, consisting principally of macene, two fixed oils, gummy matter, resin, and ligneous fibre.

Description.—It occurs in the shape of narrow bands one inch or more long, brownish-orange in color, which have a fragrant odor, and a warm, aromatic taste.

Solubility.—Yields its virtues most readily to alcohol.

GENERAL ACTION.

Aromatic. Carminative.

THERAPEUTICAL ACTION.

Is used chiefly as a condiment for food, and an adjuvant to medicines.

MAGNOLIA.

English Name.—Magnolia.

Origin.—The bark of *Magnolia glauca*, *Magnolia acuminata*, and *Magnolia tripetala*.

Natural Order.—Magnoliaceæ.

Habitat.—These three varieties are natives of the United States.

Synonyms.—*Magnolia glauca* is called White Bay, Sweet Bay, Swamp Sassafras, and Beaver Tree; *Magnolia acuminata* is called Cucumber Tree; and *Magnolia tripetala* is called Umbrella Tree.

Constituents.—The bark of these varieties contains volatile oil, tannin, resin, a crystallizable bitter principle, and a peculiar crystalline principle called magnolin.

Description.—The bark from young wood is quilled or curved, externally orange-brown and glossy, or light gray, with scattered warts and somewhat fissured, internally whitish or pale brownish, and smooth; inodorous; taste somewhat astringent, pungent, and bitter. The bark of the old wood is whitish or brownish, fibrous, and less pungent.

Solubility.—Yields its virtues to diluted alcohol, and less readily to water.

GENERAL ACTION.

Gastric stimulant. Aromatic tonic. Diaphoretic.

PHYSIOLOGICAL ACTION.**DIGESTIVE SYSTEM.**

When taken into the stomach it stimulates the gastric mucous membrane, increasing its secretion and promoting the appetite.

CUTANEOUS SYSTEM.

Perspiratory flow is promoted by its administration.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

Benefit may be obtained from its use in *feeble digestion* and *anorexia*.

GENERAL DISEASES.

As a stimulant and tonic it is useful in the latter stages of *typhoid*, *remittent*, and *intermittent fevers*. It is also recommended as useful in the treatment of *chronic rheumatism*.

PREPARATIONS.

Tinctura Magnoliæ..... 3 ss.—3 ij. (2.—8.).

* Pulvis Magnoliæ..... 3 ss.—3 j. (2.—4.).

MALTUM.

English Name.—Malt.

Origin.—The seed of *Hordeum distichum*, caused to enter the incipient stage of germination by artificial means, and dried.

Natural Order.—Graminaceæ.

Constituents.—Malt contains diastase, albuminates, starch, dextrine, sugar, fat, ash, lignin, and extractive matter.

Description.—Malt is of a color not darker than pale amber, and has an agreeable odor and a sweet taste.

Solubility.—Water and alcohol extract its virtues.

GENERAL ACTION.

Tonic. Stimulant. Nutrient.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM.

In moderate doses this drug acts as a mild stimulant to the nervous system.

CIRCULATORY SYSTEM.

It mildly stimulates the heart and increases its action.

DIGESTIVE SYSTEM.

When taken into the stomach malt increases the gastric secretion, and promotes the appetite and digestive power.

THERAPEUTICAL ACTION.**NERVOUS SYSTEM.**

The use of malt at night may prove beneficial in cases of *insomnia*, *melancholia*, and *maniacal delirium*.

DIGESTIVE SYSTEM.

As a tonic it often proves very efficacious in the treatment of *atonic dyspepsia* and *anorexia*.

GENERAL DISEASES.

As a tonic and nutrient, excellent results may be obtained by its administration in convalescence from *acute diseases* and *injuries*.

PREPARATION.

Extractum Malti..... 3 j.-iv. (4.-16.).

MANNA.

English Name.—Manna.

Origin.—The concrete, saccharine exudation of *Fraxinus Ornus*.

Natural Order.—Oleaceæ.

Synonym.—Flowering Ash.

Habitat.—Native of Sicily, Calabria, and Apulia.

Constituents.—It contains a peculiar sweet principle called mannite, a coloring matter called fraxin, sugar, resin, mucilage, and dextrine.

Description.—We have three varieties, called flake manna, common manna, and fat manna. Manna is obtained in flatish, three-edge pieces, occasionally 8 inches long and 2 inches broad, externally yellowish-white, internally white, porous, and crystalline; or in fragments of different sizes, brownish-white and somewhat glutinous on the surface, internally

white and crystalline. The drug has a slight, peculiar odor, and a sweet taste.

Solubility.—Dissolves in water and in alcohol.

GENERAL ACTION.

Nutrient. Laxative.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM :

Stomach.—When administered in small doses it enters the system through the stomach, and acts as a nutrient.

Intestines.—In larger doses it proves laxative in its effect.

THERAPEUTICAL ACTION.

It is used chiefly to counteract the *constipation* of children.

PREPARATIONS.

Manna 3 ij. — 3 ij. (8.—60.).

Infusum Sennæ Compositum 3 ij. — 3 iv. (60.—120.).

MARRUBIUM.

English Name.—Marrubium.

Origin.—The leaves and tops of *Marrubium vulgare*.

Natural Order.—Labiatae.

Synonym.—Horehound.

Habitat.—Native of Europe, but naturalized in this country.

Constituents.—Contains a bitter principle called marrubiin, a volatile oil, resin, tannin, and lignin.

Description.—The leaves are about 1 inch long, roundish-ovate, somewhat heart-shaped or rounded at the base, pale green, downy above, and white, hairy beneath; the flowers are in dense axillary whorls. The plant has a strong, peculiar odor, and an aromatic, persistent, bitter taste.

Solubility.—Yields its properties to water and to alcohol.

GENERAL ACTION.

Stimulant tonic. Expectorant. Laxative.

PHYSIOLOGICAL ACTION.**CIRCULATORY SYSTEM.**

Marrubium is a mild stimulant to the heart.

DIGESTIVE SYSTEM :

Stomach.—In moderate doses it acts as a tonic on the gastric mucous membrane.

Intestines.—In large doses it proves laxative.

RESPIRATORY SYSTEM.

The chief action of this drug is on the bronchial mucous membrane, which it stimulates to increased secretion.

THERAPEUTICAL ACTION.

About the only use made of marrubium is as an expectorant in the treatment of *coughs* accompanying *laryngitis* and *bronchitis*.

PREPARATION.

*Infusum Marrubii..... ʒ ij.—ʒ iv. (60.—120.).

MASTICHE.

English Name.—Mastic.

Origin.—A concrete resinous exudation from *Pistacia Lentiscus*.

Natural Order.—Terebinthaceæ, Anacardieæ.

Habitat.—Is obtained chiefly from the Island of Scio.

Constituents.—It contains a substance called alpha-resin or mastichic acid, another substance, beta-resin or masticin, and volatile oil.

Description.—Mastic is obtained in the form of globular or elongated tears, of about the size of a pea, usually covered with a whitish dust, pale yellow, transparent, having a glass-like lustre, and brittle. It has a weak, resinous odor, and a slight terebinthinate taste.

Solubility.—It yields its virtues partially to alcohol, wholly to chloroform, but is insoluble in water.

GENERAL ACTION.

Stomachic. Styptic.

PHYSIOLOGICAL ACTION.

This drug is supposed to exert a tonic effect upon the gastric mucous membrane.

THERAPEUTICAL ACTION.**DIGESTIVE SYSTEM.**

It may be used in *enfeebled digestion* and *anorexia*.

LOCALLY.

Locally it may be employed in an alcoholic solution, as a styptic for *hemorrhages* from ulcers, the gums, and the nose.

PREPARATION.

Pilulæ Aloes et Mastichis..... (1 = gr. $\frac{1}{2}$) 1 to 2.

MATICO.

English Name.—Matico.

Origin.—The leaves of *Artanthe elongata*.

Natural Order.—Piperaceæ.

Habitat.—The plant is a native of Peru.

Constituents.—It contains a peculiar bitter principle called maticin, a crystallizable acid named artanthic acid, chlorophyll, resin, coloring matter, volatile oil, gum, lignin, salts, and tannin.

Description.—Leaves are from 4 to 6 inches long, oblong-lanceolate, narrow at the apex to a blunt point, somewhat unequal at the base, the upper surface being nearly smooth, of a green color, and showing depressed veins. They have an aromatic odor, and a warm, spicy, bitterish taste.

Solubility.—Yield their virtues to alcohol and to water.

GENERAL ACTION.

Aromatic stimulant. Tonic. Blennorrhetic. Hæmostatic.

PHYSIOLOGICAL ACTION.**CIRCULATORY SYSTEM.**

This drug is absorbed into the blood, and tends to produce a constriction of the capillary blood-vessels.

DIGESTIVE SYSTEM.

When taken into the stomach it stimulates the mucous membrane of this organ and increases its secretion, thus promoting digestion and appetite.

GENITO-URINARY SYSTEM.

It stimulates the mucous membrane of the urinary passages, and thus increases its secretion.

THERAPEUTICAL ACTION.**CIRCULATORY SYSTEM.**

It is recommended as advantageous in the treatment of *hæmatemesis*, *hæmoptysis*, *intestinal hemorrhage*, *hæmaturia*, and other cases of hemorrhage.

DIGESTIVE SYSTEM.

Benefit may be derived from its employment in *atonic dyspepsia*, *anorexia*, *gastralgia*, *chronic diarrhœa*, and *chronic dysentery*.

GENITO-URINARY SYSTEM.

Its efficacy is often apparent when used in *catarrhal cystitis*, *incontinence of urine*, *gonorrhœa*, and *leucorrhœa*.

LOCALLY.

As a styptic it may be used to advantage in *epistaxis*, *bleeding from the gum*, other local hemorrhages, and in the treatment of *ulcers*.

PREPARATIONS.

Extractum Matico Fluidum.....	3 ss.—3 j. (2.—4.).
Tinctura Matico.....	3 ss.—3 j. (2.—4.).

MATRICARIA.

English Name.—Matricaria.

Origin.—The flower-heads of *Matricaria Chamomilla*.

Natural Order.—Compositæ.

Synonym.—German Chamomile.

Habitat.—A native of Europe, but is occasionally cultivated in America.

Constituents.—Its chief constituents are volatile oil, bitter extractive, malates, and tannates. The coloring matter of the oil is called azulain.

Description.—The flower-heads are $\frac{1}{2}$ inch to $\frac{3}{4}$ inch broad, marked with about 15 reflexed ray flowers and numerous yellow, tubular, perfect flowers. They have a peculiar aromatic odor, and a strongly aromatic, bitterish taste.

Solubility.—It yields its active constituents to water and to alcohol.

GENERAL ACTION.

Aromatic. Bitter tonic. Antispasmodic.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM.

It is claimed that this drug decreases nervous irritability to a certain degree.

DIGESTIVE SYSTEM.

As an aromatic, bitter tonic, it increases the appetite and the gastric secretions by stimulating the mucous membrane.

THERAPEUTICAL ACTION.

NERVOUS SYSTEM.

From its supposed antispasmodic properties, it is recommended in *neuralgia* and *nervous irritability*.

DIGESTIVE SYSTEM.

It may prove beneficial for *dyspepsia* and *gastric catarrh*.

LOCALLY.

Local inflammations and *indolent ulcers* may be helped by its application in the form of a fomentation.

PREPARATION.

*Infusum Matricariæ $\bar{3}$ j.-ij. (30.-60.).

MELISSA.

English Name.—Melissa.

Origin.—The leaves and tops of *Melissa officinalis*.

Natural Order.—Labiatae.

Synonym.—Balm.

Habitat.—A native of Europe, but is cultivated in America.

Constituents.—Contains an essential oil, bitter extractive, gum, and tannin.

Description.—The leaves are about 2 inches long, petiolate, ovate, with a rounded or somewhat heart-shaped base, obtusely pointed at the apex; the flowers have a tubular, bell-shaped calix, a white or purplish corolla and four stamens. The odor of the plant is mild, and the taste aromatic and bitterish.

Solubility.—Yields its virtues to alcohol and to hot water.

GENERAL ACTION.

Aromatic tonic. Feeble diuretic.

PHYSIOLOGICAL ACTION.**DIGESTIVE SYSTEM.**

It tends to stimulate the gastric mucous membrane and increase digestive power when taken internally.

GENITO-URINARY SYSTEM.

If given with diuretic medicines, it promotes their action.

PREPARATION.

*Infusum Melissæ..... $\frac{z}{3}$ ss. — $\frac{z}{3}$ ij. (16.—60.).

MENISPERMUM.

English Name.—Menispermum.

Origin.—The rhizome and rootlets of *Menispermum canadense*.

Natural Order.—Menispermaceæ.

Synonym.—Canadian Moonseed, Yellow Parilla.

Habitat.—Native of North America.

Constituents.—It contains berberin, starch, and a white alkaloid.

Description.—The rhizome is several feet long, about $\frac{1}{4}$ inch thick, yellowish-brown or brown, finely wrinkled longitudinally, and beset with numerous thin, rather brittle rootlets; internally yellowish, and having a large central pith. The drug is nearly inodorous, and has a bitter taste.

Solubility.—Yields its properties to alcohol, and sparingly to water.

GENERAL ACTION.

Tonic. Diuretic. Diaphoretic. Alterative.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM.

It is a gastric stimulant to a mild degree.

GENITO-URINARY SYSTEM.

The flow of urine is slightly increased by its administration.

CUTANEOUS SYSTEM.

This drug promotes cutaneous transpiration.

THERAPEUTICAL ACTION.

About the only use made of this remedy is as an alterative in the treatment of *scrofula*.

PREPARATION.

*Decoctum Menispermī..... $\mathfrak{z}$ ij. – $\mathfrak{z}$ iv. (60.–120.).

MENTHA PIPERITA.

English Name.—Peppermint.

Origin.—The leaves and tops of *Mentha piperita*.

Natural Order.—Labiatae.

Habitat.—A native of Great Britain, but is cultivated on the Continent and in America.

Constituents.—Its chief constituent is a volatile oil (*Oleum Menthae Piperitæ*), which deposits a crystalline substance on

being cooled, called menthol. It also contains a little tannic acid, and other unimportant extractives.

Description—

OF LEAVES AND TOPS.—The leaves are about 2 inches long, lanceolate or ovate-lanceolate in shape; they have a rounded base, an acute apex, and a serrated margin; the upper surface is dark green, and the lower surface paler. The tops consist of conical spikes, often of a purplish color. The odor of the drug is aromatic, and its taste pungent and cooling.

OF THE VOLATILE OIL.—It is of a greenish-yellow color, or nearly colorless, and has a strong, aromatic odor, and a warm, camphorous, very pungent taste.

OF MENTHOL.—It is a stearoptine, and is obtained in the form of small, colorless, fragrant, prismatic crystals, which have a penetrating odor of peppermint.

Solubility—

OF CRUDE DRUG.—Imparts its virtues to alcohol, and less readily to water.

OF THE VOLATILE OIL.—Soluble in an equal weight of alcohol.

OF MENTHOL.—Slightly soluble in water, but readily so in alcohol.

GENERAL ACTION.

Gastric stimulant. Carminative. Local anodyne.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM.

When taken into the stomach, it stimulates the mucous membrane, increases the appetite, and promotes digestion.

CUTANEOUS SYSTEM.

When applied to the skin, it tends to diminish nervous sensibility.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

For *enfeebled digestion, gastralgia, nausea*, and as a corrective to other medicines, it is very useful. *Colic* may also be benefited by it.

LOCALLY.

The volatile oil and menthol are extremely efficacious for the relief of *neuralgia*, *myalgia*, and *pleuritic pains*; the herb is recommended as a local application for the relief of *nausea*.

PREPARATIONS.

Aqua Menthæ Piperitæ	Vehicle.
Oleum Menthæ Piperitæ	℥j.-vj. (.06-.35).
Spiritus Menthæ Piperitæ.....	℥x.- 3 ss. (.6-2.).
Trochisci Menthæ Piperitæ.	
Vinum Aromaticum	External application.
*Menthol	External application.

MENTHA VIRIDIS.

English Name.—Spearmint.

Origin.—The leaves and tops of *Mentha viridis*.

Natural Order.—Labiatae.

Habitat.—A native of Europe, but is cultivated in this country.

Constituents.—Its chief constituent is a volatile oil (Oleum Menthæ Viridis). It also contains gum, resin, and other extractives.

Description—

OF LEAVES AND TOPS.—The leaves are 2 to 3 inches long, lanceolate or ovate-lanceolate, the tops being in the form of narrow, acute spikes, with distant whorls of about 15 to 20 flowers in each. The plant has an aromatic odor, and a warm, slightly bitter taste.

OF THE VOLATILE OIL.—This oil is pale yellow or greenish when recently prepared, but becomes red with age, and ultimately is of almost a mahogany color. It has a characteristic odor and taste.

Solubility—

OF CRUDE DRUG.—Yields its virtues to water and to alcohol.

OF THE VOLATILE OIL.—Soluble in its weight of alcohol.

GENERAL ACTION.

Aromatic stimulant. Stomachic. Carminative. Mild local anodyne.

PHYSIOLOGICAL ACTION.**DIGESTIVE SYSTEM.**

When administered by the mouth, it has a slight stimulant action on the mucous membrane of the stomach, the processes of digestion being promoted.

CUTANEOUS SYSTEM.

When applied to the skin, it tends to slightly diminish sensibility.

THERAPEUTICAL ACTION.**DIGESTIVE SYSTEM.**

It is used as a corrective to other medicines. In *enfeebled digestion, gastralgia*, and *nausea* it may have a beneficial effect.

LOCALLY.

The volatile oil is somewhat efficacious for the relief of *neuralgia, myalgia*, and *pleuritic pains*. The herb is sometimes recommended as a local application for the relief of *nausea*.

PREPARATIONS.

Aquæ Menthæ Viridis.....	Vehicle.
Oleum Menthæ Viridis.....	℥j.-vj. (.06-.35).
Spiritus Menthæ Viridis.....	℥x.-3 ss. (.6-2.).

MEZEREUM.

English Name.—Mezereum.

Origin.—The bark of *Daphne Mezereum*, and of other species of *Daphne*.

Natural Order.—Thymelacææ.

Synonym.—Mezereon.

Habitat.—Is a native of Europe, but is cultivated in America.

Constituents.—It contains a peculiar principle called daphnin; also wax, yellow coloring matter, reddish-brown extractive, and lignous fibre. Its virtues, however, depend chiefly on an acrid resin.

Description—

OF THE BARK.—It is usually obtained in narrow strips, from 2 to 4 feet long and an inch or less in breadth, sometimes rolled, and always folded in bundles or wrapped in the shape of balls. It is covered externally with a reddish-brown epidermis, beneath which is a soft, greenish tissue; the inner bark being striated and of a whitish color. When fresh it has a rather nauseous smell, but in the dry state is nearly inodorous. Its taste is at first sweetish, but afterward highly acrid, and even corrosive.

OF DAPHNIN.—It is obtained in the form of colorless, transparent, brilliant, prismatic crystals, which are inodorous, but have a bitter, somewhat austere taste.

Solubility—

OF CRUDE DRUG.—Yields its virtues to boiling water.

OF DAPHNIN.—Slightly soluble in cold water, but very soluble in boiling water and in alcohol.

GENERAL ACTION.

Gastro-intestinal stimulant. Diuretic. Diaphoretic. Local irritant.

PHYSIOLOGICAL ACTION.**DIGESTIVE SYSTEM :**

Stomach.—In small doses it stimulates, and in large doses irritates the gastric mucous membrane.

Intestines.—This drug sometimes proves laxative in its action.

GENITO-URINARY SYSTEM.

This drug increases the flow of urine.

CUTANEOUS SYSTEM.

Internally it promotes diaphoresis, and externally proves stimulating, irritating, or vesicating.

THERAPEUTICAL ACTION.**GENERAL DISEASES.**

This drug has been found useful in the treatment of *chronic rheumatism*, and is of doubtful efficacy in *syphilis*.

CUTANEOUS SYSTEM.

It has met with some favor as a remedy for *cutaneous diseases*, being used internally and externally.

LOCALLY.

It is used to maintain the discharge from issues and setons, to stimulate *indolent ulcers*, and as a counter-irritant.

PREPARATIONS.

Extractum Mezerei	External application.
Extractum Mezerei Fluidum	℥j.-v. (.06-.3).
Unguentum Mezerei	1.-4.
Decoctum Sarsaparillæ Compositum...	℥ ij.-℥ jv. (60.-120.).
Extractum Sarsaparillæ Compositum	
Fluidum	3 ss.-3 j. (2.-4.).
Linimentum Sinapis Compositum.	

MOSCHUS.

English Name.—Musk.

Origin.—The dried secretion from the preputial follicles of *Moschus moschiferus*.

Order.—Ruminantia.

Habitat.—It is a native of Central Asia.

Constituents.—It contains a volatile, odorous principle, a peculiar bitter resin, ammonia, fatty substances, waxy substances, gelatinous compounds, albuminous compounds, water, salts, and other extractives.

Description.—It is contained in oval or roundish sacs, about 1½ to 2 inches in diameter, on one side invested in a smoothish membrane, on the other side covered with stiff, appressed, grayish hairs. It occurs as irregular, crummy, somewhat unctuous grains, dark reddish-brown in color, and of a peculiar, penetrating, persistent odor, and a bitterish taste. Two varieties are known in commerce—the Chinese and the Russian; the former being the more highly valued.

Solubility.—About half of musk is soluble in water.

GENERAL ACTION.

Antispasmodic. Stimulant.

Antagonists and Incompatibles.—Camphor, oleum amygdalæ amaræ, and acids impair or destroy the odor of musk.

PHYSIOLOGICAL ACTION.**NERVOUS SYSTEM.**

This drug has a decided antispasmodic action, increasing the energy of the nerves and decreasing their irritability.

CIRCULATORY SYSTEM.

It increases the action of the heart.

THERAPEUTICAL ACTION.**NERVOUS SYSTEM.**

Musk may produce decided benefit in *hysteria*, *epilepsy*, *chorea*, *singultus*, *laryngismus stridulus*, and *nervous irritability*.

GENERAL DISEASES.

As a stimulant, it has proved useful in the treatment of *typhus fever* and *typhoid fever*.

PREPARATION.

Tinctura Moschi..... 3 ss.—3 ij. (2.—8.).

MYRISTICA.

English Name.—Nutmeg.

Origin.—The kernel of the seed of *Myristica fragrans*, deprived of its testa.

Natural Order.—Myristicaceæ.

Habitat.—A native of the Moluccas and other neighboring islands, but is cultivated in numerous East India Islands, West India Islands, Isles of France, Bourbon, and Cayenne.

Constituents.—It contains a pulverulent constituent called myristin; myristic acid, a volatile oil (*Oleum Myristicæ*), a white, insoluble oily substance, a colored soluble oil, fecula, gum, lignin, and other extractives.

Description—

OF THE KERNEL OF THE SEED.—Oval or roundish ovate in shape, about 1 inch long, light brown in color externally, pale brownish internally, with dark brown veins, and of a fatty lustre, strongly aromatic, and somewhat bitter.

OF THE VOLATILE OIL.—The oil is colorless, of a pale straw-color, of a pungent, spicy taste, and a strong, characteristic odor.

Solubility—

OF CRUDE DRUG.—Its virtues are extracted by alcohol.

OF THE VOLATILE OIL.—Soluble in alcohol.

GENERAL ACTION.

Narcotic. Aromatic stimulant. Carminative. Flavoring agent.

PHYSIOLOGICAL ACTION.**NERVOUS SYSTEM.**

It is a very feeble narcotic.

DIGESTIVE SYSTEM.

When taken into the stomach, it stimulates the gastric mucous membrane, and increases the appetite and digestive power.

THERAPEUTICAL ACTION.

The chief use of this drug is as an adjuvant to certain medicines, and to correct the griping of cathartics.

PREPARATIONS.

Oleum Myristicæ ℥ ij. - iij. (.12-.18).

Spiritus Myristicæ 3 j. (4.).

Pulvis Aromaticus gr. x. - xxx. (.6-2.).

Extractum Aromaticum Fluidum ℥ x. - xx. (.6-1.2).

MYRRHA.

English Name.—Myrrh.

Origin.—A gum-resin obtained from *Balsamodendron Myrrha*.

Natural Order.—Burseraceæ.

Habitat.—It is a native of Arabia Felix and Africa.

Constituents.—It contains a volatile oil called myrrhol, a resin called myrrhin or myrrhic acid, formic acid, gypsum, water, and salts.

Description.—Occurs in small, irregular fragments or tears, or in larger masses, brownish-yellow or reddish-brown in color, translucent; of a strong, peculiar, somewhat fragrant odor, and a bitter, aromatic taste.

Solubility.—Partially soluble in water and in alcohol.

GENERAL ACTION.

Stimulant tonic. Expectorant. Emmenagogue.

PHYSIOLOGICAL ACTION.

CIRCULATORY SYSTEM.

This drug slightly stimulates the heart.

DIGESTIVE SYSTEM.

It increases the tonicity of the stomach.

RESPIRATORY SYSTEM.

It stimulates the bronchial mucous membrane, and thus acts as an expectorant.

GENITO-URINARY SYSTEM.

It is claimed that it has a slight emmenagogue action.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

It may be employed as a tonic in *dyspepsia* and *anorexia*.

RESPIRATORY SYSTEM.

Chronic bronchitis and *phthisis pulmonalis* have been benefited by its administration.

GENITO-URINARY SYSTEM.

It is used with benefit in *chlorosis* and *amenorrhœa*.

LOCALLY.

Locally it is employed for the relief of *aphthæ*, *spongy gums*, and *ulcerative stomatitis*.

PREPARATIONS.

Tinctura Myrrhæ.....	℥x. - 3 ss. (.6-2.).
Tinctura Aloes et Myrrhæ.....	3 j.-ij. (4.-8.).
Pilulæ Aloes et Myrrhæ.....	(1 = gr. j.) 3-6.
Pilulæ Ferri Compositæ.....	(1 = gr. jss.) 2-6.
Pilulæ Galbanæ Compositæ.....	(1 = gr. jss.) 2-4.
Pilulæ Rhei Compositæ.....	(1 = gr. j.) 2-4.
Mistura Ferri Composita.....	3 j.-ij. (30.-60.).

NUX VOMICA.

English Name.—Nux vomica.

Origin.—The seed of *Strychnos Nux-vomica*.

Natural Order.—Loganiaceæ.

Habitat.—The tree is a native of the East Indies, growing in Bengal, Malabar, on the Coromandel Coast, in Ceylon, in many islands of the Indian Archipelago, in Cochin-China, and in other neighboring countries.

Constituents.—This drug contains three alkaloids, called strychnine, brucine, and igasurine; and a peculiar acid called igasuric acid: also yellow coloring matter, a concrete oil, wax, gum, starch, bassorin, and earthy phosphates.

Description—

OF THE SEEDS.—The seeds are circular, about 1 inch in diameter and 2 lines in thickness; flat or slightly convex on one side, concave on the other, with a slight ridge extending from the centre of one side to the edge. They are covered with soft hairs of a silky lustre, which are attached to a thin, fragile covering which invests the interior kernel. This kernel is very hard, horny, usually semi-transparent and whitish, sometimes dark-colored and opaque; it contains a fissure in the centre, in which lies the embryo. The seeds are inodorous, but have an acrid and very bitter taste.

OF STRYCHNINE.—It is obtained as colorless, octahedral, or prismatic crystals; or as a white, crystalline powder; permanent in the air, odorless, and having an intensely bitter taste.

OF STRYCHNINÆ SULPHAS.—Colorless or white, shining, prismatic crystals, effervescent in dry air, odorless, and having an intensely bitter taste.

OF BRUCINE.—Obtained as crystals, which are inodorous, but have a permanent, harsh, bitter taste.

OF IGASURINE.—It is obtained as crystals with a bitter taste.

Test.—As a test for nux vomica, treat a few grains of the suspected powder with proof spirit, evaporate the tincture to dryness at a heat not exceeding 96° F.; then add a drop or two of dilute sulphuric acid, and again raise to the heat mentioned. A beautiful carmine-red color is produced if nux vomica is present, which disappears in 10 or 15 minutes after cooling, and reappears, but less brightly, on reapplication of the heat.

Solubility—

OF CRUDE DRUG.—Yields its virtues to water, but more readily to alcohol.

OF STRYCHNINE.—Soluble in 6,700 parts of water and 110 parts of alcohol, at normal temperatures; and in 2,500 parts of boiling water and 12 parts of boiling alcohol.

OF STRYCHNINÆ SULPHAS.—Soluble in 10 parts of water and 60 parts of alcohol at normal temperatures, and in 2 parts of boiling water.

OF BRUCINE.—Soluble in 850 parts of cold and in 500 parts of boiling water, and very soluble in alcohol.

OF IGASURINE.—This alkaloid is quite soluble in 200 parts of boiling water.

GENERAL ACTION.

Excito-motor. Cardiac stimulant. Arterial contractant. Tonic. Laxative. Respiratory stimulant. Diuretic. Diaphoretic. Aphrodisiac. Local irritant.

Synergists.—Picrotoxin, ergot, digitalis, cimicifuga, belladonna, stramonium, hyoscyamus, and cold promote the action of nux vomica.

Antagonists and Incompatibles.—Conium, gelsemium, arnica, physostigma, tobacco, etc., antagonize its action.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM :

Brain.—It has but very little action upon the cerebrum, but stimulates the vaso-motor centres to some extent.

Spinal Cord.—It exalts the reflex functions of the spinal cord.

Nerves.—The afferent nerves preserve their irritability unaffected, or have it increased ; whereas, the irritability of the motor nerves is stimulated or exhausted by over stimulation. By this action it produces a feeling of formication, trembling, and muscular weakness or contraction.

CIRCULATORY SYSTEM :

Heart.—In medicinal doses nux vomica stimulates the heart.

Vessels.—It causes an increase in arterial pressure, probably by stimulating the vaso-motor nerves.

Blood.—It has been supposed by some observers that strychnine retards the oxidation of the blood, but this is very much doubted, although it is believed that the drug is chemically changed to a certain extent in the blood.

DIGESTIVE SYSTEM :

Stomach.—This drug acts as a tonic when taken into the stomach.

Intestines.—It tends to improve the tonicity of the intestinal muscular fibres, and thus aids peristalsis.

RESPIRATORY SYSTEM.

When administered in medicinal doses this drug stimulates the respiratory centre.

GENITO-URINARY SYSTEM :

Kidneys.—In small doses it may act as a diuretic.

Sexual Appetite.—Nux vomica probably promotes sexual appetite.

CUTANEOUS SYSTEM.

Cutaneous transpiration may be increased by its administration in small and repeated doses. When applied to the skin with friction it often proves irritating.

THERAPEUTICAL ACTION.**NERVOUS SYSTEM.**

Nux vomica often proves beneficial in *hemiplegia* accompanied with muscular relaxation, *tetanus*, *chorea*, *epilepsy*, *neuralgia*, *facial paralysis* from exposure to cold, and *torticollis*.

CIRCULATORY SYSTEM.

It often proves curative in *anæmia*, *chlorosis*, and *hemorrhagic diathesis*.

DIGESTIVE SYSTEM.

This drug is sometimes serviceable in *atonic dyspepsia*, *gastralgia*, *catarrhal gastritis*, *atonic diarrhœa*, *dysentery*, and *constipation*.

RESPIRATORY SYSTEM.

Strychnine has proved efficacious in *spasmodic asthma*.

GENITO-URINARY SYSTEM.

Amenorrhœa, *post-partem hemorrhage*, *neuralgic dysmenorrhœa*, *nocturnal incontinence of urine*, and *impotence* may be helped by its administration.

HYPODERMATICALLY.

Sulphate of strychnine may be used subcutaneously to obtain its therapeutical action in the quickest time possible. It may prove irritating when administered this way, and produce an area of redness around the point of puncture.

TOXICOLOGICAL ACTION.

When taken in large doses it produces muscular contractions, twitchings, clonic convulsions which afterward become tonic, stiffness of the joints and muscles, restlessness, soreness of the limbs, and *risus sardonicus*. The muscular contractions are very similar to those of tetanus, the patient often being in the condition of opisthotonos. The respiratory movements are retarded or arrested, oxidation of the blood thus being interfered with and the skin becoming cyanotic. The heart becomes rapid and irregular in its action. Priapism and involuntary evacuations of urine, fæces, and semen may occur. The symptoms usually increase, the spasms rapidly following each other, although complete relaxation occurs between them, and

death ensues from fixation of the respiratory muscles or exhaustion, the mind remaining comparatively clear.

Antidotes and Treatment of Poisoning.—Evacuate stomach by means of emetics, or the stomach-pump. Insist upon absolute quiet between the paroxysms; administer tannin to form insoluble tannate of strychnine, and chloral, tobacco, or bromide of potash as physiological antagonists. Give the patient ether or chloroform by inhalation, and practise artificial respiration if necessary.

PREPARATIONS.

Abstractum Nucis Vomicae.....	gr. j.-ij. (.06-.12).
Extractum Nucis Vomicae.....	gr. ss.-ij. (.03-.12).
Extractum Nucis Vomicae Fluidum..	℥ ij.-v. (.12-.30).
Tinctura Nucis Vomicae.....	℥ v.-xx. (.30-1.2).
Strychnina.....	gr. $\frac{1}{60}$ - $\frac{1}{20}$ (.003-.001).
Strychninae Sulphas.....	gr. $\frac{1}{60}$ - $\frac{1}{20}$ (.003-.001).
Ferri et Strychninae Citras.....	gr. iij.-v. (.18-.30).
Syrupus Ferri Quininae et Strychninae Phosphatum.....	3 ss.-3 j. (2.-4.)

OLEUM BERGAMII.

English Name.—Oil of Bergamot.

Origin.—A volatile oil extracted from the rind of the fresh fruit of Citrus Bergamia.

Natural Order.—Aurantiaceæ.

Habitat.—The tree is a native of Southern Italy.

Constituents.—The oil contains a greasy compound named bergaptene, and several hydrocarbons.

Description.—It has a pale, greenish-yellow color, a sweet, very agreeable odor, and a bitter, aromatic, pungent taste.

Solubility.—Soluble in alcohol.

GENERAL ACTION.

Stimulant. Perfume.

PREPARATION.

Spiritus Odoratus.

OLEUM CAJUPUTI.

English Name.—Oil of Cajuput.

Origin.—A volatile oil distilled from the leaves of *Melaleuca Cajuputi*.

Natural Order.—Myrtaceæ.

Habitat.—The tree is a native of the Moluccas and other neighboring islands.

Constituents.—It contains a substance called cajuputol and other hydrocarbons.

Description.—The oil is very fluid, transparent, bluish-green or colorless, having a peculiar, fragrant, somewhat camphoraceous odor, and an aromatic, bitterish taste.

Solubility.—Soluble in alcohol.

GENERAL ACTION.

Mild cardiac stimulant. Gastric stimulant. Local stimulant.

THERAPEUTICAL ACTION.**DIGESTIVE SYSTEM.**

This oil is recommended in *flatulency* and *atonic dyspepsia*.

CUTANEOUS SYSTEM.

As an application in the treatment of *pityriasis*, *psoriasis*, and *acne rosacea* it often produces much benefit.

GENERAL DISEASES.

Its administration may prove serviceable in the treatment of *chronic rheumatism* and *low fevers*.

PREPARATION.

Oleum Cajuputi..... ℥v.-xx. (.30-1.2).

OLEUM ERIGERONTIS.

English Name.—Oil of Erigeron.

Origin.—A volatile oil distilled from the fresh, flowering herb of *Erigeron canadense*.

Natural Order.—Compositæ.

Synonym.—Oil of Fleabane.

Habitat.—The herb is found in the United States.

Description.—Light straw-color, limpid, having a peculiar, aromatic, persistent odor, and a mild, characteristic taste.

Solubility.—Soluble in alcohol.

GENERAL ACTION.

Stimulant. Mild diuretic. Hæmostatic.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

It is recommended highly in the treatment of *diarrhœa*, *dysentery*, and *intestinal hemorrhages*.

GENITO-URINARY SYSTEM.

As a hæmostatic it is employed for the relief of *uterine hemorrhages*, and as a diuretic for *dropsical affections* of renal origin.

PREPARATION.

Oleum Erigerontis. ℥x. — 3 ss. (.60–2.).

OLEUM MORRHUÆ.

English Name.—Cod-Liver Oil.

Origin.—A fixed oil obtained from the fresh livers of *Gadus Morrhua*, or of other species of *Gadus*.

Order.—Teleostia.

Habitat.—The codfish from which this oil is obtained is found frequenting the seas of Northern Europe and America.

Constituents.—The oil contains a peculiar brown principle called gaduin, iodine, traces of bromine, fatty acids, biliary principles, and salts.

Description.—A pale-yellow or colorless, oily liquid, thin, of a peculiar, fishy odor, and a peculiar, bland, fishy taste. The above oil is obtained from the fresh livers of the fish, and is called white or pale-yellow oil; a dark-brown variety is also found in the market, which is prepared from the livers in a state of putrefaction, and a brownish-yellow variety, obtained from livers in a state between freshness and putrefaction.

Solubility.—Scarcely soluble in alcohol, but readily soluble in ether.

GENERAL ACTION.

Alterative. Nutrient.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM.

When administered in not too large a dose, it is readily assimilated, causes a decided increase in bodily weight, and an improvement in almost all the functions of the body.

CUTANEOUS SYSTEM.

When the stomach will not retain the oil, it may be introduced into the system by applying it to the skin with friction.

THERAPEUTICAL ACTION.

RESPIRATORY SYSTEM.

In *chronic tubercular phthisis*, *chronic catarrhal phthisis*, and *chronic bronchitis*, its administration often produces remarkable benefit by its ready assimilation and alterative action.

GENERAL DISEASES.

The use of this oil is indicated in all diseases marked by a wasting of tissues and loss of appetite, such as *scrofula*, *rachitis*, *anæmia*, *chlorosis*, and *tuberculosis*. In fact, all diseases marked by a want of assimilation of food and condition of debility may be treated with excellent success by cod-liver oil.

PREPARATION.

Oleum Morrhuæ..... 3 j.— $\frac{3}{4}$ ss. (4.—16.).

OLEUM MYRCIÆ.

English Name.—Oil of Myrcia.

Origin.—A volatile oil distilled from the leaves of *Myrcia acris*.

Natural Order.—Myrtaceæ.

Synonym.—Oil of Bay.

Habitat.—The tree is indigenous to the West Indies and Venezuela.

Description.—A brown or dark-brown liquid, having an aromatic odor, and a pungent, spicy taste.

Solubility.—Soluble in alcohol.

GENERAL ACTION.

Perfume.

PREPARATIONS.

Oleum Myrciæ..... External Use.

Spiritus Myrciæ..... External Use.

OLEUM OLIVÆ.

English Name.—Olive Oil.

Origin.—A fixed oil expressed from the ripe fruit of *Olea europæa*.

Natural Order.—Oleaceæ.

Synonym.—Sweet Oil.

Habitat.—The tree from which this oil is obtained is a native of all the countries bordering upon the Mediterranean.

Description.—A pale-yellow or light greenish-yellow, oily liquid, almost devoid of smell, and having an oleaginous taste.

Solubility.—Sparingly soluble in alcohol, but readily soluble in ether.

GENERAL ACTION.

Mild laxative. Nutriment.

THERAPEUTICAL ACTION.

It is used as a mild laxative by the mouth and as an enema, and as a vehicle.

PREPARATION.

Oleum Olivæ..... ℥ j-ij. (30.-60.).

OLEUM RICINI.

English Name.—Castor Oil.

Origin.—A fixed oil expressed from the seed of *Ricinus communis*.

Natural Order.—Euphorbiaceæ.

Synonym.—The plant is called Palma Christi.

Habitat.—The plant is a native of India, but is cultivated in the United States and other warm climates.

Constituents.—The oil contains a solid, fatty acid, probably identical with palmitic acid; a liquid, fatty acid called ricinic acid; and an acrid principle.

Description.—

OF THE OIL.—Almost colorless, transparent, viscid, liquid, of a faint, disagreeable odor, and a slightly acrid, offensive taste.

OF THE SEED.—About as large as a bean, oval, compressed, obtuse at the extremities, very smooth and shining, of a grayish or ash color, marbled with reddish-brown spots and veins.

GENERAL ACTION.

Laxative.

PHYSIOLOGICAL ACTION.

CIRCULATORY SYSTEM.

The purgative principles of this drug enter the blood, and may give the milk of the mother a laxative power.

DIGESTIVE SYSTEM.

Castor oil operates in from four to six hours, producing little if any pain. The stools are copious and natural. It does not increase biliary excretion.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

Its chief use is as a laxative for children in *diarrhœa* and *dysentery*, and for the relief of *constipation* in pregnant women.

LOCALLY.

The leaves are claimed to promote the secretion of milk when applied to the breasts in the form of a poultice.

PREPARATION.

Oleum Ricini 3 j.— $\frac{3}{4}$ j. (4.-30.).

OLEUM RUTÆ.

English Name.—Oil of Rue.

Origin.—A volatile oil distilled from *Ruta graveolens*.

Natural Order.—Rutaceæ, Ruteæ.

Habitat.—The plant is a native of Europe.

Constituents.—Its principal ingredient is methyl-nonyl-ketone.

Description.—The oil is yellowish or greenish, becoming brown on exposure, having a strong, unpleasant odor, and an acrid taste.

Solubility.—Soluble in alcohol.

GENERAL ACTION.

Stimulant. Emmenagogue.

THERAPEUTICAL ACTION.

It is used chiefly to relieve *amenorrhœa* and *hysteria*.

PREPARATION.

Oleum Rutæ..... ℥ij.—v. (.12—.30).

OLEUM SANTALI.

English Name.—Oil of Santal.

Origin.—A volatile oil distilled from the wood of *Santalum album*.

Natural Order.—Santalaceæ.

Synonym.—Oil of Sandal-Wood.

Habitat.—The tree from which this oil is derived is a native of tropical Asia.

Description.—A pale, yellowish, and thick liquid, of a peculiar, aromatic odor, and a spicy, pungent taste.

Solubility.—Soluble in alcohol.

GENERAL ACTION.

Blennorrhetic. Perfume.

THERAPEUTICAL ACTION.

The principal use of this drug is for the relief of *gonorrhœa*.

PREPARATION.

Oleum Santali..... ℥ xv.—xxx. (.90—2.).

OLEUM SESAMI.

English Name.—Oil of Sesamum.

Origin.—A fixed oil expressed from the seed of *Sesamum indicum*.

Natural Order.—Pedaliaceæ.

Synonym.—Benné Oil.

Habitat.—The plant from which the oil is obtained is a native of the East Indies, and is cultivated in the United States.

Description.—A yellowish, oily liquid, having little or no odor, and a bland, slightly sweetish taste.

Solubility.—Soluble to a certain degree in alcohol.

GENERAL ACTION.

Demulcent.

THERAPEUTICAL ACTION.

It is recommended as a demulcent in the treatment of *catarrhal diseases* of the intestinal tract.

PREPARATION.

Oleum Sesami..... Demulcent.

OLEUM SUCCINI.

English Name.—Oil of Amber.

Origin.—A volatile oil obtained by the destructive distillation of Amber, and purified by subsequent rectification.

Habitat.—Amber is obtained chiefly from the shores of the Baltic.

Constituents.—Besides yielding the volatile oil, Amber yields succinic acid.

Description.—

OF THE VOLATILE OIL.—A colorless or pale-yellow liquid, be-

coming darker and thicker by exposure, having a strong balsamic odor, and a warm, acrid taste.

OF AMBER.—Amber is a fossil resin derived from an extinct tree called *Pinitis succinifer*. It is of a pale golden-yellow color, usually translucent, hard, brittle, and inodorous except when heated.

Solubility.—The volatile oil is readily soluble in alcohol.

GENERAL ACTION.

Antispasmodic. Stimulant. Local irritant.

THERAPEUTICAL ACTION.

GENITO-URINARY SYSTEM.

It is used chiefly in *hysteria* and *amenorrhœa*.

LOCALLY.

As a rubefacient this oil is often serviceable in *pertussis*, *chronic rheumatism*, and *infantile convulsions*.

PREPARATION.

Oleum Succini..... ℥v.-xv. (.30-.90).

OLEUM THEOBROMÆ.

English Name.—Oil of Theobroma.

Origin.—A fixed oil expressed from the seed of *Theobroma Cacao*.

Natural Order.—Sterculiaceæ.

Synonym.—Butter of Cacao.

Habitat.—The tree from which the oil is obtained is found growing in Mexico, Central America, South America, and the West Indies.

Constituents.—The seed yield, besides the fixed oil, a principle called theobromin, starch, glucose, and other extractives.

Description.—The oil is a yellowish-white solid, having a faint, agreeable odor, and a bland, characteristic taste.

Solubility.—It is soluble in ether.

GENERAL ACTION.

Demulcent. Vehicle.

THERAPEUTICAL ACTION.

This oil is employed almost entirely in pharmacy for coating pills, preparing suppositories, and as an ingredient of ointments.

PREPARATION.

Oleum Theobromæ.

OLEUM THYMI.

English Name.—Oil of Thyme.

Origin.—Distilled from *Thymus vulgaris*.

Natural Order.—Labiatae.

Habitat.—The plant is indigenous to the south of France, and is cultivated in our gardens.

Constituents.—The oil of thyme contains thymol, cymene, and thymene.

Description—

OF THE OIL.—It is a volatile oil, colorless or pale yellow in color, becoming thicker and darker by age and exposure to air, having a strong odor of thyme, and a warm, pungent, and afterward cooling taste.

OF THYMOL.—Occurs as large, colorless, rhombohedral crystals, having an aromatic odor, and a hot, aromatic taste.

Solubility—

OF THE OIL.—Readily soluble in alcohol.

OF THYMOL.—Slightly soluble in water, but very soluble in alcohol.

GENERAL ACTION.

Antiseptic. Antiferment.

THERAPEUTICAL ACTION.

The oil of thyme and thymol are used chiefly to prevent sepsis and fermentation. Thymol is often used as a dressing for wounds, instead of carbolic acid.

PREPARATIONS.

Oleum Thymi.

Thymol.

OLEUM TIGLII.

English Name.—Croton Oil.

Origin.—A fixed oil expressed from the seed of Croton Tiglium.

Natural Order.—Euphorbiaceæ.

Habitat.—The tree from which the oil is obtained is a native of Hindostan, Ceylon, the Moluccas, and other parts of India.

Constituents.—It contains a peculiar acid called tiglinic acid, and other extractive matters.

Description.—A pale-yellow or brownish-yellow liquid, having a faint, peculiar odor, and a mild, oily, afterward acrid, burning taste.

Solubility.—Partially soluble in alcohol; readily soluble in ether.

GENERAL ACTION.

Strong hydrogogue cathartic. Local irritant.

PHYSIOLOGICAL ACTION.**DIGESTIVE SYSTEM.**

This oil is a very powerful cathartic, producing watery evacuations frequently in less than an hour's time. The action of the oil usually continues for some time, and is apt to produce severe griping pains.

CUTANEOUS SYSTEM.

When applied to the skin it produces inflammation, vesication, and often pustulation.

THERAPEUTICAL ACTION.

Its speedy action renders it extremely useful as a cathartic in *dropsy*, and in *coma* from *cerebral disease*. It is also employed as an ingredient of prescriptions for the expulsion of *tænia*.

CUTANEOUS SYSTEM.

In the treatment of *tinea tonsurans* it is often employed to produce kerion.

LOCALLY.

As a rubefacient it may prove serviceable in the treatment of various diseases.

PREPARATION.

Oleum Tiglii..... ℥j.-ij. (.06-.12).

OPIUM.

English Name.—Opium.

Origin.—The concrete, milky exudation, obtained by incising the unripe capsules of *Papaver somniferum*.

Natural Order.—Papaveraceæ.

Synonym.—Poppy.

Habitat.—Is a native of Asia, but grows wild in the south of Europe, and is cultivated in India, Persia, Egypt, Asiatic Turkey, Europe, and the United States.

Constituents.—Opium contains the following alkaloids: Morphine, narcotin, codeine, thebain, papaverin, narcein, hydrocotarnin, pseudornesphin, protopein, laudanin, codamin, rhœadin, meconidin, cryptopin, laudanosin, lanthopin, gnoscopin; two acids, meconic acid and lactic acid; two neutral principles, meconin and meconoiosin: also mucilage, pectic matter, and glucose. An alkaloid, apomorphine, is obtained by heating morphine in a closed tube with a great excess of hydrochloric acid.

Description—

OF CRUDE DRUG.—It is obtained in irregular or subglobular cakes, plastic, or of a harder consistence, chestnut-brown, or darker in color, and somewhat shining, internally showing some tears and fragments of vegetable tissue. It has a sharp, narcotic odor, and a bitter taste.

OF MORPHINE.—Colorless, or white, shining prismatic crystals, or crystalline powder, permanent in the air, odorless, and having a bitter taste.

OF MORPHINÆ ACETAS.—A white or yellowish-white crystalline or amorphous powder, slowly losing acetic acid when kept for

some time and exposed to the air, and having a faintly acetous odor and a bitter taste.

OF MORPHINÆ HYDROCHLORAS.—White, feathery, flexible, acicular crystals, of a silky lustre, permanent in the air, odorless, and having a bitter taste.

OF MORPHINÆ SULPHAS.—White, feathery, acicular crystals, of a silky lustre, permanent in the air, odorless, and having a bitter taste.

OF NARCOTIN.—White, flexible, silky needles, having no odor, and no taste.

OF CODEINE.—White or yellowish-white, more or less translucent, rhombic prisms, somewhat efflorescent in warm air, odorless, and having a slightly bitter taste.

OF APOMORPHINÆ HYDROCHLORAS.—Minute, colorless, or grayish-white shining crystals, turning greenish upon exposure to light and air, odorless, and having a bitter taste.

Tests.—Concentrated nitric acid gives a bright orange-red color, slowly fading to yellow ; when applied to morphine or one of its salts. The chloride or tersulphate of iron colors morphine and its salts a deep blue. Iodic acid is deoxidized by morphine, and if a solution of starch be added with heat, dark-blue starch-iodine is produced. Alkaline solutions of chlorine give a deep-red color with morphine.

Solubility—

OF CRUDE DRUG.—Yields its virtues to water and to alcohol.

OF MORPHINE.—Slightly soluble in cold water, and soluble in 100 parts of alcohol at normal temperatures—soluble in 500 parts of boiling water, and in 36 parts of boiling alcohol.

OF MORPHINÆ ACETAS.—Soluble in 12 parts of water and 68 parts of alcohol at normal temperatures, and in $1\frac{1}{2}$ parts of boiling water, and 14 parts of boiling alcohol.

OF MORPHINÆ HYDROCHLORAS.—Soluble in 24 parts of water and 63 parts of alcohol at normal temperatures, and in $\frac{1}{2}$ part of boiling water and 31 parts of boiling alcohol.

OF MORPHINÆ SULPHAS.—This salt is soluble in 24 parts of water and 702 parts of alcohol at normal temperatures, and in $\frac{3}{4}$ of a part of boiling water, and in 144 parts of boiling alcohol.

OF NARCOTIN.—Insoluble in cold water ; soluble in 100 parts of cold alcohol ; soluble in 400 parts of boiling water and in 24 parts of boiling alcohol.

OF CODEINE.—Soluble in 80 parts of water at normal temperatures, and 17 parts of boiling water ; very soluble in alcohol.

OF APOMORPHINÆ HYDROCHLORAS.—Soluble in 7 parts of water, in 50 parts of alcohol at normal temperatures, and slowly decomposed by boiling water or boiling alcohol.

GENERAL ACTION.

Narcotic. Hypnotic. Antispasmodic. Myositic. Cardiac sedative. Arterial contractant. Antiperistaltic. Respiratory depressant. Diaphoretic. Antipyretic.

Synergists.—Chloral, alcohol, and to a certain extent belladonna, stramonium, and hyoscyamus increase its cerebral effects. Aconite, veratrum viride, lobelia, hydrocyanic acid, physostigma, etc., increase its depressing influence on the heart.

Antagonists and Incompatibles.—Vegetable astringents ; salts of iron, lead, copper, zinc, mercury ; and liquor potassi arsenitis are chemically incompatible. Belladonna is its chief physiological antagonist, but caffein, camphor, asafetida, etc., also produce different systemic effects.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM :

Brain.—In small doses it stimulates the cerebrum, increases the flow of ideas, vivifies the imagination, and generally exhilarates the intellectual faculties. After a variable period of excitement drowsiness and sleep occur, the latter being often attended by visions or dreams, which may be of a disagreeable character, and in most cases followed by headache and some mental confusion. In full medicinal doses the stage of excitement is of much shorter duration, and the sedative and after-effects occur to a much more intense degree.

Spinal Cord.—The reflex action of the spinal cord is diminished in full doses, but the first effect is to stimulate this func-

tion, especially when administered in small doses. It also depresses the respiratory centre.

Nerves.—It causes contraction of the pupil by stimulating the oculo-motorius nerve at its central origin. The irritability and conductivity of the sensory nerves are much diminished, so that painful influences are less readily felt and the nerves of the sympathetic system are primarily excited and secondarily depressed.

CIRCULATORY SYSTEM :

Heart.—By acting on the cardiac branches of the sympathetic this drug causes first an increase in the frequency and force of the cardiac pulsations, and afterward a diminution in their force and frequency. The first stage or stage of excitement, is of shorter duration when large doses are given than when small are administered.

Vessels.—By stimulating the sympathetic nerves it contracts the arteries and increases the blood-pressure, but this effect is followed by diminution of arterial tension.

Blood.—By decreasing the circulation of the blood in the different organs it causes fewer red blood-corpuscles to be carried to them, and thus decreases their supply of oxygen.

DIGESTIVE SYSTEM :

Mouth.—Opium decreases the salivary secretion, and thus causes a dryness of the mouth. This action is supposed to be due to its paralyzing influence on the sympathetic nerves supplying the salivary glands.

Stomach.—By irritating the sensory nerves of the stomach it sometimes causes nausea and vomiting, but the irritation is usually soon followed by a paralyzing influence which causes these symptoms to subside and renders the stomach non-responsive to emetics.

Liver.—It is probable that this drug causes a slight decrease of the biliary secretion.

Intestines.—Constipation usually results from the use of opium, for it causes a decrease in intestinal secretion and the peristaltic movements.

RESPIRATORY SYSTEM :

Bronchial Tubes.—The secretion from the bronchial mucous membrane is lessened by its administration.

Respirations.—The respirations are rendered less frequent by reducing the irritability of the centres of respiration.

GENITO-URINARY SYSTEM :

Kidneys.—It causes a decrease in the renal secretion, but there is very little alteration in the quantity of urine excreted.

Bladder.—By paralyzing the muscular structure of the bladder it often causes inability to void urine, and consequent retention when given in full doses.

CUTANEOUS SYSTEM.

The only secretion of the body which is increased by the use of opium is that of the skin. Itching sensations may occur, and sometimes a miliary eruption.

TEMPERATURE.

The temperature is elevated by small doses, but decreased when large ones are administered. It seems probable that the changes of temperature depend upon the condition of the circulation.

Morphine.—This alkaloid is more decidedly hypnotic and narcotic than opium, but is less stimulating. It produces less constipation, less diaphoresis, but more pruritus and more paralysis of the bladder.

Narcotin.—Narcotin has but feeble narcotic properties, but is a convulsant.

Codeine.—Very similar in its action to morphine, but much more feeble.

Apomorphine.—This alkaloid is a decided systemic emetic, producing vomiting, which is preceded by very little nausea. It at first increases the respirations, but afterward diminishes their power, and may cause their arrest. It may be administered by mouth or hypodermatically.

THERAPEUTICAL ACTION.

NERVOUS SYSTEM.

This drug has proved useful in *mania, melancholia, epilepsy,*

chorea, tetanus, and neuralgia. Small doses are very beneficial in the treatment of *meningitis* and *cerebro-spinal meningitis*.

CIRCULATORY SYSTEM.

It is often beneficial in *dilated heart, angina pectoris*, and as an arterial contractant in inflammatory conditions.

DIGESTIVE SYSTEM.

The *pain of gastric ulcer or gastric carcinoma* is much relieved by opium, and it proves curative in *diarrhœa, dysentery, cholera morbus, cholera infantum, irritative dyspepsia, and hepatic colic*.

RESPIRATORY SYSTEM.

Its administration often proves useful in *asthma, emphysema, hay fever, pleuritis* and *pneumonitis*.

GENITO-URINARY SYSTEM.

This drug is recommended in *uræmia, dysmenorrhœa*, and *renal colic*.

GENERAL DISEASES.

Opium in large and frequent doses is very valuable in *peritonitis. Typhoid fever, typhus fever, scarlet fever, measles, insolation, intermittent fever, diabetes, rheumatism, and puerperal fever* may be very much benefited by the judicious administration of this remedy. It will often control the *colic* attending *lead poisoning*.

LOCALLY.

It may prove somewhat efficacious as a local application for the relief of *inflammatory swellings* and *neuralgia*. It affords much relief to pain when applied in the form of a fomentation, but it is very doubtful whether it has any anodyne effect if the cuticle is unbroken. Morphine is sometimes useful as an anodyne and astringent in *conjunctivitis* and *iritis*, and may also give relief to *toothache*.

HYPODERMATICALLY.

The effects of opium are most quickly obtained by the use of morphine subcutaneously. Its efficacy is best shown when administered in this form in *neuralgia, colic, asthma,*

laryngismus stridulus, false labor pains, after-pains, dysmenorrhœa, and to facilitate reduction in cases of *strangulated hernia*. Apomorphine often proves very useful as an emetic, when administered in this way.

TOXICOLOGICAL ACTION.

When administered in a poisonous dose we obtain the following symptoms: Insensibility, followed by profound coma; contracted pupils; slow, feeble, and irregular action of the heart; nausea and vomiting; slow, shallow, or stertorous respirations; inability to void urine; sometimes a cutaneous eruption; moist skin; reduced temperature. Death occurs probably by carbon dioxide poisoning, the heart and respirations growing weaker and weaker, and clonic or tonic convulsions preceding death. After death serum is usually found in the ventricles of the brain and the subarachnoid space, the cerebral and spinal vessels are engorged, and the lungs, liver, heart, and spleen often distended with dark fluid blood.

Antidotes and Treatment of Poisoning.—Emetics should be administered by the mouth if feasible, or subcutaneously if necessary. Tannin should be administered to form insoluble tannate of morphine, and atropine should be administered hypodermatically as a physiological antidote. Coffee, quinine, tartar emetic, and digitalis antagonize its action to a certain degree. The stomach-pump should be used; also a faradic current to the respiratory muscles. Artificial respiration may be practised, and cold douches to stimulate the breathing. All available means should be used to overcome the narcosis and keep the heart and respiratory muscles in action until the effects of the opium have disappeared.

PREPARATIONS.

Opii Pulvis	gr. $\frac{1}{4}$ – gr. j. (.015–.06).
Opium Denarcotisatum.....	gr. $\frac{1}{4}$ – gr. j. (.016–.06).
Acetum Opii.....	℥x.–xv. (.6–1.).
Extractum Opii	gr. ss –gr j. (.03–.06).
Tinctura Opii	(℥xj.=gr. j.) ℥v.–xj. (.3–.66).

Tinctura Opii Camphorata . .	($\frac{3}{4}$ ss.—gr. j.) 3 ss.—3 iv. (2.—16.).
Tinctura Opii Deodorata	(℥ xj. = gr. j.) ℥ v.—xj. (.3—.66).
Tinctura Ipecacuanhæ et Opii.	(℥ x. = gr. j.) ℥ x. (.60).
Vinum Opii	(℥ x. = gr. j.) ℥ v.—x. (.3—.6).
Emplastrum Opii.	
Pilulæ Opii	(1 = gr. j. (.06)) 1—2.
Pulvis Ipecacuanhæ et Opii . .	(grs. x. = gr. j.) grs. v.—x. (.3—.6).
Trochisci Glycyrrhizæ et Opii.	(1 = gr. $\frac{1}{10}$). 1—10.
Morphina	gr. $\frac{1}{8}$ — $\frac{1}{4}$ (.008—.015).
Morphinæ Acetas	gr. $\frac{1}{8}$ — $\frac{1}{4}$ (.008—.015).
Morphinæ Hydrochloras	gr. $\frac{1}{8}$ — $\frac{1}{4}$ (.008—.015).
Morphinæ Sulphas	gr. $\frac{1}{8}$ — $\frac{1}{4}$ (.008—.015).
Pulvis Morphinæ Compositus.	(gr. j. = gr. $\frac{1}{60}$) grs. v.—xv. (.3—1.).
Trochisci Morphinæ et Ipe-	
cacuanhæ	(1 = gr. $\frac{1}{40}$) 1.—5.
Codeina	gr. j.—ij. (.06—.18).
Mistura Glycyrrhizæ Com-	
posita	(3 iv. = gr. j.) 3 ss.—3 ij.

ORIGANUM.

English Name.—Origanum.

Origin.—Origanum vulgare.

Natural Order.—Labiatae.

Synonym.—Wild Marjoram.

Habitat.—A native of Europe and America.

Constituents.—It owes its properties to a volatile oil, but contains also a little tannin, and bitter extractive.

Description.—Consists of erect, purplish, downy, four-sided stems, about 18 inches high; the leaves are about an inch long, hairy, of a deep, yellowish-green color, and are ovate and punctate; the flowers are of a pinkish-purple or rose color, disposed in roundish, paniced spikes. It has a peculiar, agreeable, aromatic odor, and a warm, pungent taste.

Solubility.—It yields its virtues to alcohol and to water.

GENERAL ACTION.

Excitant. Aromatic tonic. Diaphoretic. Emmenagogue.
Local anodyne.

THERAPEUTICAL ACTION.**DIGESTIVE SYSTEM.**

It is sometimes used for the relief of *indigestion* and *colic*.

GENITO-URINARY SYSTEM.

Some benefit may be derived from its administration in *amenorrhœa* and *dysmenorrhœa*.

CUTANEOUS SYSTEM.

This drug is sometimes employed to promote the eruption in *exanthematous fevers*.

LOCALLY.

In the form of a fomentation or cataplasm it has been recommended for the relief of *local pains*.

PREPARATION.

Vinum Aromaticum..... External Application.

PAREIRA.

English Name.—Pareira.

Origin.—The root of *Chondodendron tomentosum*.

Natural Order.—Menispermaceæ.

Synonym.—Pareira Brava.

Habitat.—A native of Brazil and Peru.

Constituents.—It contains a bitter principle called cissampeline, which is supposed to be its active principle, and probably identical with berberin; also a soft resin, a brown substance, a nitrogenous substance, fecula, and various salts.

Description.—It occurs in subcylindrical, somewhat tortuous pieces, about 4 to 6 inches long and from $\frac{3}{4}$ inch to 4 inches thick, of a dark, brownish-gray color externally, with transverse ridges and fissures and longitudinal furrows, internally pale brown in color, being encased in a thin bark, and has a bitter taste, but no odor.

Solubility.—It imparts its virtues readily to water.

GENERAL ACTION.

Tonic. Blennorrhetic. Laxative. Diuretic.

Synergists.—Its action is usually aided by copaiba, cubeba, oil of santal, matico, buchu, uva ursi, benzoin, storax, etc.

PHYSIOLOGICAL ACTION.**DIGESTIVE SYSTEM :**

Stomach.—This drug is believed to have tonic properties, and it is certain that it stimulates the stomach, and thus increases its secretion.

Intestines.—By increasing the intestinal secretion it may act as a laxative.

GENITO-URINARY SYSTEM :

Kidneys.—It increases the amount of urine, chiefly increasing its watery constituents.

Bladder.—In being eliminated by the kidneys, it is brought into direct contact with the mucous membrane of the bladder, upon which it has a stimulating, yet soothing action.

THERAPEUTICAL ACTION.**DIGESTIVE SYSTEM.**

This drug may prove useful in *anorexia*, *enfeebled digestion*, and *habitual constipation*.

GENITO-URINARY SYSTEM.

Its most beneficial effects are seen in the treatment of *pyelitis*, *cystitis*, *irritable bladder*, and *gonorrhœa*.

PREPARATION.

Extractum Pareiræ Fluidum..... 3 j.—3 ij. (4.—8.).

PEPO.

English Name.—Pumpkin Seed.

Origin.—The seed of *Curcubita Pepo*.

Natural Order.—*Curcubitaceæ*.

Synonym.—Common Pumpkin.

Habitat.—It is indigenous to tropical Asia and America.

Constituents.—It contains a resin, which is probably its active principle ; a thick, red oil, and other extractives.

Description.—The seeds are oval, extended into a blunt point at one end, flattish, but somewhat swollen in the middle, with a distinct groove on both sides near the edge from one end to the other, and of a light, brownish-white color. The taste of the plant is slightly sweetish and its smell somewhat aromatic.

Solubility.—The seeds yield their virtues to hot water after their envelope has been removed ; also to alcohol and glycerine.

GENERAL ACTION.

Anthelmintic. Mild diuretic.

PHYSIOLOGICAL ACTION.

In some cases its administration causes diuresis.

THERAPEUTICAL ACTION.

This is probably one of the most efficacious remedies we have for the expulsion of *tape-worm*. After the patient has fasted for twenty-four hours, the seeds, deprived of their envelope and beaten to a paste, with finely powdered sugar, may be administered in water or diluted milk, and followed in two or three hours by a brisk cathartic.

PREPARATIONS.

Pepo $\frac{3}{4}$ ij. (60.).

*Extractum Peponis Fluidum..... $\frac{3}{4}$ ss.— $\frac{3}{4}$ j. (.16–30.).

PHYSOSTIGMA.

English Name.—Physostigma.

Origin.—The seed of *Physostigma venenosum*.

Natural Order.—Leguminosæ, Papilionaceæ.

Synonym.—Calabar Bean.

Habitat.—A native of Western Africa, and cultivated in India and Brazil.

Constituents.—The chief constituents of physostigma are the alkaloids called physostigmine and eserine ; but it also contains an alkaloid called calabarin, a neutral principle

named phytosterin, mucilage, fat, starch, nitrogenous matters, and salts.

Description—

OF THE SEEDS.—The seeds are of an irregular, kidney form, about 1 inch in length and $\frac{3}{4}$ inch in breadth, with a very firm, hard, brittle, shining integument of a brownish-red, pale chocolate, or ash-gray color. Within their shell is a kernel, consisting of two cotyledons, which are hard and white. They are inodorous, and have a bean-like taste.

OF PHYSOSTIGMINE.—This is amorphous, colorless, and tasteless.

OF PHYSOSTIGMINÆ SALICYLAS.—Is obtained as colorless, shining, acicular, or short columnar crystals, gradually turning reddish when long exposed to air, light, odorless, and having a bitter taste.

OF ESERINE.—Obtained as colorless, tubular crystals, of a bitter taste.

Tests.—To discover whether physostigmine, eserine, or one of their salts exist in a preparation, an aqueous solution of the suspected preparation should be exposed to the air in the presence of potassa, soda, or lime, when a red color will appear owing to the absorption of oxygen, which gradually changes to a yellow, green, or blue, if either of the alkaloids or its salts be present.

Solubility—

OF THE SEEDS.—They yield their virtues to alcohol, and imperfectly to water.

OF PHYSOSTIGMINE.—Soluble in alcohol, but less so in water.

OF PHYSOSTIGMINÆ SALICYLAS.—Soluble in 130 parts of water and 12 parts of alcohol, at normal temperatures, in 30 parts of boiling water, and very soluble in boiling alcohol.

OF ESERINE.—Readily soluble in alcohol; sparingly so in water.

GENERAL ACTION.

Myositic. Cardiac depressant. Gastric stimulant. Intestinal stimulant. Respiratory depressant. Antipyretic.

Synergists.—Conium, gelsemium, tobacco, hydrocyanic acid, aconite, veratrum viride, etc., all increase the effects of physostigma upon the system.

Antagonists and Incompatibles.—Vegetable astringents and caustic alkalies are chemically incompatible. Nux vomica, chloral, belladonna, etc., antagonize its action.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM :

Brain.—The centres of conscious impressions are not affected by this drug until interference with oxygenation of the blood occurs, and subsequent carbon-dioxide poisoning, with giddiness and vertigo.

Spinal Cord.—This drug has a direct paralyzing effect on the spinal cord, causing muscular weakness, fatigue, tremors, and complete paralysis, in large doses, and sometimes entirely abolishing reflex activity.

Nerves.—The irritability of the motor nerves is affected but very little, if any, by physostigma, while that of the sensory nerves is often increased. By stimulating the terminal filaments of the oculo-motorius, it produces a contraction of the iris and of the ciliary muscle, and a consequent diminution in the size of the pupil.

CIRCULATORY SYSTEM :

Heart.—Moderate doses of physostigma cause a decrease in the number of the heart-beats, the period of diastole being prolonged. It is supposed that this action is caused by stimulation of the cardiac ganglia. In lethal doses it arrests the heart in diastole by a paralyzing action on the cardiac muscle and ganglia.

Vessels.—Arterial tension is at first increased, but is afterward lessened.

Blood.—The oxygenating function of the blood is not interfered with. After death, however, the blood coagulates slowly and loosely, and the red blood-corpuscles present various irregularities in their outline.

DIGESTIVE SYSTEM :

Mouth.—An increase in saliva usually accompanies its administration.

Stomach.—Physostigma stimulates the gastric mucous membrane, and causes an increase in its secretion ; and, in sufficient doses, nausea.

Intestines.—The intestinal mucous membrane is stimulated, its secretion increased, and peristalsis promoted.

RESPIRATORY SYSTEM.

Physostigma causes the respiratory movements to become accelerated at first, but afterward to become slower, more shallow, and often irregular. In lethal doses death ensues from the arrest of respiration.

TEMPERATURE.

It causes a slight reduction of the temperature.

THERAPEUTICAL ACTION.

NERVOUS SYSTEM.

This drug has been recommended in the treatment of *chorea*, *epilepsy*, certain forms of *insanity*, and is highly recommended in *tetanus*.

DIGESTIVE SYSTEM.

To stimulate peristalsis of the intestines, it is often serviceable in *constipation* ; it also benefits this symptom when accompanied by a deficient secretion of the intestinal mucous membrane.

RESPIRATORY SYSTEM.

Physostigma has given some benefit in the treatment of *bronchitis* and *pneumonitis*, by causing the respiratory and cardiac action to become slower, and by depressing the temperature.

GENERAL DISEASES.

In the treatment of *keratitis*, *iritis*, *glaucoma*, *amblyopia*, and *paralysis of the third nerve*, it has given some satisfaction.

LOCALLY.

Its active principles are often dropped in the eye to cause

contraction of the pupil, and consequent benefit in diseases of this organ.

HYPODERMATICALLY.

Its therapeutic action may be obtained more quickly and effectively by the subcutaneous injection of its active principles.

TOXICOLOGICAL ACTION.

In toxic doses it causes giddiness, vertigo, sometimes paralysis, weak and irregular action of the heart, drowsiness, but not stupor, muscular relaxation, paleness and coolness of the skin, nausea, and vomiting. Death ensues from an arrest of respiratory movements, and consequent asphyxia.

Antidotes and Treatment of Poisoning.—Emetics and stimulants should be given, and atropine and chloral may be administered as physiological antidotes.

PREPARATIONS.

Tinctura Physostigmatis..... ℥xx.–℥xl. (1.2–2.4).

Extractum Physostigmatis.... gr. $\frac{1}{16}$ – $\frac{1}{6}$ (.004–.01).

Physostigminæ Salicylas..... gr. $\frac{1}{100}$ – $\frac{1}{80}$ (.0006–.0007).

*Eserinæ Sulphas..... gr. $\frac{1}{60}$ – $\frac{1}{10}$ (.001–.006).

PHYTOLACCA.

English Name.—Phytolacca.

Origin.—The fruit, Phytolaccae Bacca; and the root, Phytolaccae Radix; of Phytolacca decandra.

Natural Order.—Phytolaccaceæ.

Synonym.—Poke Berry, Poke Root.

Habitat.—Is a native of the United States, Southern Europe, and Northern Africa.

Constituents.—A crystalline neutral principle called phytolaccin, also resin, starch, tannin, gum, sugar, and coloring matter.

Description.—

OF THE FRUIT.—The berries are about $\frac{1}{3}$ inch in diameter, depressed-globular in form, dark purple in color; they are

compound in structure, and composed of 10 carpels, each containing one lenticular black seed. They are inodorous, and have a sweet, slightly acrid taste.

OF THE ROOT.—The root is large and conical, wrinkled, grayish, hard, inodorous, and sweetish-acrid in taste.

OF PHYTOLACCIN.—This principle is described as consisting of silky, lustrous crystals.

Solubility—

OF THE BERRIES.—Yield their virtues to boiling water and to alcohol.

OF THE ROOT.—Yields its virtues to boiling water and to alcohol.

OF PHYTOLACCIN.—Insoluble in water, and soluble in alcohol.

GENERAL ACTION.

Motor-depressant. Cardiac sedative. Gastro-intestinal irritant. Cholagogue. Respiratory depressant. Local irritant.

Synergists.—Aconite, veratrum viride, hydrocyanic acid, physostigma, gelsemium, conium, etc., promote its action.

Antagonists.—Digitalis, alcohol, strychnine, opium, belladonna, ergot, etc., antagonize its action.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM :

Brain.—This drug causes a decrease in the motor-power by its influence on the medulla oblongata.

Spinal Cord.—It acts directly on the motor-centres of the spinal cord, causing a loss of muscular power, the paralysis occurring at first in the lower extremities.

CIRCULATORY SYSTEM.

On account of its depressing action, this drug causes a decrease in the rate of cardiac pulsations, but does not alter their rhythm.

DIGESTIVE SYSTEM :

Stomach.—When taken into the stomach, it causes nausea, and often vomiting, by irritating the gastric mucous membrane.

Liver.—By stimulating the liver it causes an increase in the flow of bile.

Intestines.—By irritating the intestinal tract it often causes purging.

RESPIRATORY SYSTEM.

The rapidity of the respirations is decreased, but their rhythm is unchanged. Its influence on the medulla is supposed to be the cause of this action.

GENITO-URINARY SYSTEM.

The drug is chiefly eliminated by the kidneys.

CUTANEOUS SYSTEM.

When applied to an abraded or tender skin, it may cause a smarting or burning pain.

THERAPEUTICAL ACTION.

GENERAL DISEASES.

This drug is recommended as an alterative in the treatment of *rheumatism*, especially when it is of syphilitic origin. Internally it is used with benefit to prevent suppuration in cases of *inflamed breasts*, and in the treatment of *inflamed glands* prior to suppuration.

CUTANEOUS SYSTEM.

As a local application, it often proves curative in *eczema*, *scabies*, and *tinea capitis*.

LOCALLY.

As a local application, it may be used with good results in *inflamed breasts*, *burns*, and *ulcers*. It may give relief if injected into *hemorrhoids*.

TOXICOLOGICAL ACTION.

In over doses it causes dimness of vision, vertigo, sometimes convulsions, weak pulse, weak respirations, nausea and vomiting, purging, loss of muscular power, and possibly death from paralysis of the respiratory centre, the heart remaining in action for a time after the cessation of respiration.

Treatment of Poisoning.—Give emetics, or use the stomach-pump, if very much depression is present. Administer alcohol

to stimulate the heart, belladonna internally, and ammonia as an inhalation to stimulate the respiratory centre.

PREPARATIONS.

*Tinctura Phytolaccae 3 ss.—3 j. (2.—4.).

*Pulvis Phytolaccae gr. ij.—v. (.12—.30).

PICROTOXINUM.

English Name.—Picrotoxin.

Origin.—A neutral principle prepared from the seeds of *Anamirta paniculata*.

Natural Order.—Menispermaceæ.

Synonym.—Cocculus Indicus.

Habitat.—The shrub from which this drug is obtained is a native of India.

Constituents.—Picrotoxin is the active principle of *Anamirta paniculata*, but the latter also contains two bitter, non-poisonous principles called picrotin and anamirtin, and a fixed oil. In the shell of the seed are found principles named menispermin and paramenispermin, and an acid called hypopicrotoxic acid.

Description.—

OF PICROTOXIN.—It is obtained as colorless, flexible, shining, prismatic crystals, odorless, and having a bitter taste.

OF THE SEEDS.—The seeds are roundish, somewhat kidney-shaped, and about as large as a pea. They have a thin, dry, blackish, wrinkled, exterior coat, within which is a ligneous, bivalvular shell, enclosing a whitish, oily kernel. They are without smell, but have an intensely bitter taste.

Solubility.—

OF PICROTOXIN.—Partially soluble in water, wholly soluble in alcohol.

OF THE SEEDS —Yield their virtues chiefly to alcohol.

GENERAL ACTION.

Excito-motor. Gastro-intestinal irritant. Cardiac stimulant. Diaphoretic. Parasiticide.

Synergists.—Nux vomica, ergot, digitalis, belladonna, etc., are synergistic.

Antagonists.—Conium, gelsemium, physostigma, tobacco, and hydrocyanic acid are antagonistic.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM :

Brain.—This drug causes excitement of the centres located in the medulla oblongata, and produces dulness of mind, and sometimes delirium, stupor, or coma.

Spinal Cord.—It exalts the reflex action of the spinal cord, and causes muscular trembling, inco-ordination, or convulsions, partially clonic, but principally tonic.

CIRCULATORY SYSTEM :

Heart.—In moderate doses it increases the heart's action, and in large, causes it to become slower.

Blood-Vessels.—The blood-pressure is usually increased.

DIGESTIVE SYSTEM :

Stomach.—It irritates the gastric mucous membrane, and may cause nausea and vomiting.

Intestines.—The intestinal mucous membrane is irritated by its action.

RESPIRATORY SYSTEM.

Through its action on the medulla oblongata, it may cause acceleration of the respirations, and in full doses their arrest.

THERAPEUTICAL ACTION.

NERVOUS SYSTEM.

This drug has been proposed as a remedy for *epilepsy*, *chorea*, and *muscular paralysis*.

CUTANEOUS SYSTEM.

It has been used in the form of an ointment or solution to destroy *cutaneous parasites*.

TOXICOLOGICAL ACTION.

When taken in a poisonous dose, it causes delirium, coma, choreic convulsions, depression of the heart's action, gastro-

intestinal irritation, depression of respiratory movements, and sweating.

Treatment of Poisoning.—Emetics and motor-depressants.

PREPARATION.

Picrotoxinum..... gr. $\frac{1}{30}$ - $\frac{1}{15}$ (.004-.002).

PILOCARPUS.

English Name.—Pilocarpus.

Origin.—The leaflets of *Pilocarpus pennatifolius*.

Natural Order.—Rutaceæ, Xanthoxyleæ.

Synonym.—Jaborandi.

Habitat.—A native of Brazil.

Constituents.—Its chief active ingredient is an alkaloid called pilocarpine, but it also contains another alkaloid called jaborin, a volatile oil, a peculiar volatile acid, tannic acid, and salts.

Description—

OF THE LEAFLETS.—About 4 inches long, short stalked, oval or ovate-oblong, grayish-green in color, unequal at the base, slightly aromatic when bruised, somewhat bitter and pungent in taste.

OF PILOCARPINE.—It is obtained in the form of white, transparent crystals of a slightly bitter, astringent taste.

OF PILOCARPINÆ HYDROCHLORAS.—This salt is described as consisting of minute white crystals, deliquescent, odorless, and having a faintly bitter taste.

Solubility—

OF THE LEAVES.—Yield their virtues to water and to alcohol.

OF PILOCARPINE.—Soluble in water and in alcohol.

OF PILOCARPINÆ HYDROCHLORAS.—Very soluble in alcohol and in water.

GENERAL ACTION.

Cardiac stimulant. Sialagogue. Gastric stimulant. Intestinal stimulant. Diuretic. Diaphoretic. Antipyretic.

Synergists.—Aconite, veratrum viride, physostigma, gelsemium, conium, etc., increase the action of physostigma.

Antagonists and Incompatibles.—Caustic alkalies and metallic salts are usually incompatible. Belladonna is its chief physiological antagonist.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM :

Spinal Cord.—This drug acts as a motor-depressant, and principally affects the medulla oblongata.

Nerves.—It paralyzes the vaso-motor nerves when given in sufficient dose, and thus causes dilatation of the arterioles, a diminution of vascular tension, and an increased action of the heart. When dropped upon the eye it causes a marked contraction of the pupil.

CIRCULATORY SYSTEM :

Heart.—The action of the heart is rendered faster and more forcible. This is due to irritation of the cardiac terminations of the pneumogastric nerve, and also probably to its paralyzing influence on the sympathetic system.

Vessels.—By paralyzing the vaso-motor nerves it causes dilatation of the arterioles, and decreased vascular tension.

Blood.—The active principles of pilocarpus diffuse rapidly into the blood, and thus promote the action of the drug.

DIGESTIVE SYSTEM :

Mouth.—It causes an increase in the saliva, and this may be very marked.

Stomach.—When taken into the stomach it stimulates the gastric mucous membrane, increases its secretion, and often causes nausea or vomiting.

Intestines.—It usually stimulates the intestinal canal, and may produce watery evacuations. It is claimed by some that it hastens peristalsis.

RESPIRATORY SYSTEM.

The nasal and bronchial secretions are usually decidedly increased.

GENITO-URINARY SYSTEM.

In small doses it increases the discharge of urine, but in larger doses does not affect its secretion, but retards its excretion.

CUTANEOUS SYSTEM.

By dilating the arterioles it causes a flushing of the skin and a decided increase in cutaneous transpiration. The amount of urea found in the perspiration is much larger than normal.

TEMPERATURE.

The temperature is at first raised, but afterward becomes lower, from the increased flow of perspiration.

THERAPEUTICAL ACTION.**CIRCULATORY SYSTEM.**

This drug often proves of value in *cardiac œdema*, unless strongly contra-indicated by weakened heart's action.

RESPIRATORY SYSTEM.

In *subacute pleuritis*, *hydrothorax*, *bronchitis*, and *asthma*, it often proves serviceable.

GENITO-URINARY SYSTEM.

Renal œdema is often relieved by its administration, and *uræmia* may be benefited by the increase in excretion of urea by the skin. It is also recommended in *diabetes insipidus*.

GENERAL DISEASES.

Varying success has attended its use in *parotitis*. It may be used with benefit to increase the secretion of milk.

CUTANEOUS SYSTEM.

Skin diseases, of a squamous nature, have been reported as benefited by its use.

HYPODERMATICALLY.

The action of this drug may be readily obtained by subcutaneous injection of its alkaloid, pilocarpine.

TOXICOLOGICAL ACTION.

Sense of fulness in the head, muscular weakness, weak pulse, nausea, vomiting, increased salivary flow. Often watery

evacuations, profuse perspiration, and lowering of temperature occur.

Antidotes and Treatment of Poisoning.—Empty the stomach and treat symptoms, remembering that atropine is its physiological antagonist.

PREPARATIONS.

Extractum Pilocarpi Fluidum . . ℥xv.—3 ss. (1.-2.).

Pilocarpinae Hydrochloras gr. $\frac{1}{8}$ — $\frac{1}{2}$ (.008-.02).

PIMENTA.

English Name.—Pimenta.

Origin.—The nearly ripe fruit of *Eugenia Pimenta*.

Natural Order.—Myrtaceæ.

Synonym.—Allspice.

Habitat.—It is a native of the West Indies, especially Jamaica; also of Mexico and South America.

Constituents.—It contains a volatile oil (*Oleum Pimentæ*), a green fixed oil, a fatty substance, malic acid, gallic acid, tannin, gum, resin, sugar, coloring matter, salts, and lignin.

Description.—

OF THE FRUIT.—The berries are about as large as a pea, round, wrinkled, brownish or brownish-gray in color, with an external hard, brittle shell enclosing two dark-brown seeds. They have a warm, aromatic, pungent, slightly astringent taste, and an aromatic, agreeable smell.

OF THE VOLATILE OIL.—Brownish red in color, and has the odor and taste of allspice.

Solubility.—They impart their flavor to water, and all their virtues to alcohol.

GENERAL ACTION.

Aromatic stimulant. Stomachic. Carminative. Condiment.

THERAPEUTICAL ACTION.

It is used in *flatulency*, for the relief of *nausea*, as an adjunct or corrective of other medicines, and as a condiment.

PREPARATION.

Oleum Pimentæ gtt. iij.-vj. (.18-.36).

PIPER.

English Name.—Pepper.

Origin.—The unripe fruit of *Piper nigrum*.

Natural Order.—Piperaceæ.

Synonym.—Black Pepper.

Habitat.—The plant grows wild in Cochin-China and various parts of India, and is cultivated in Malabar, Malacca, Siam, Sumatra, Java, Borneo, the Philippines, and other places in the East.

Constituents.—Contains a peculiar alkaloid called piperine, an acrid concrete oil of soft resin or a green color, a balsamic volatile oil, a colored gummy substance, starch, bassorin, tartaric acid, malic acid, lignin, extractive matter, and various salts.

Description—

OF THE FRUIT.—The dried berries are about as large as a pea, externally blackish and wrinkled, internally whitish, hollow, and with an undeveloped embryo. They have a hot, pungent, almost fiery taste, and an aromatic smell.

OF PEPERINE.—It is obtained in colorless, transparent crystals without taste.

Solubility—

OF THE FRUIT.—They yield their virtues partially to water, and entirely to alcohol.

OF PIPERINE.—Insoluble in cold water, slightly soluble in boiling water, readily soluble in alcohol.

GENERAL ACTION.

Aromatic stimulant. Stomachic. Carminative. Condiment.

THERAPEUTICAL ACTION.

Useful in flatulency, nausea, as an adjuvant or corrective to other medicines, and as a condiment.

PREPARATIONS.

Oleoresina Piperis.....	gtt. j.-iiij. (.06-.18).
Piperina	gr. j.-viiij. (.06-.5).

PIX BURGUNDICA.

English Name.—Burgundy Pitch.

Origin.—The prepared, resinous exudation of *Abies excelsa*.

Natural Order.—Coniferæ.

Habitat.—The tree is a native of Europe and Northern Asia.

Constituents.—It contains resin, and a certain proportion of volatile oil.

Description.—It is hard, yet gradually takes the form of the vessel in which it is kept; brittle, opaque, or translucent, reddish-brown or grayish-brown, aromatic, and somewhat empyreumatic.

Solubility.—Partially soluble in alcohol, and almost entirely soluble in glacial acetic acid.

GENERAL ACTION.

Rubefacient.

PHYSIOLOGICAL ACTION.

When applied to the skin it usually produces a slight degree of inflammation and serous effusion, without separating the cuticle. Occasionally it produces a papillary or vesicular eruption, and sometimes, though rarely, causes painful vesication, and even ulceration.

THERAPEUTICAL ACTION.

In the form of a plaster it is beneficial as a counter-irritant in *bronchitis*, *pleuritis*, and *pneumonitis*, in *chronic articular affections*, and for the relief of *rheumatic pains*.

PREPARATIONS.

Emplastrum Picis Burgundicæ.

Emplastrum Picis cum Cantharide.

PIX CANADENSIS.

English Name.—Canada Pitch.

Origin.—The prepared, resinous exudation of *Abies canadensis*.

Natural Order.—Coniferæ.

Synonym.—Hemlock Pitch.

Habitat.—The tree is found in Canada, Nova Scotia, and in Northern New England ; also in certain regions of the Middle States.

Constituents.—Its constituents are resin, and a volatile oil called oil of spruce or oil of hemlock.

Description.—Canada pitch is hard, brittle, quite opaque, of a dark reddish-brown color, becoming still darker by exposure to the air, of a weak, peculiar odor, and slight taste.

Solubility.—It is partially soluble in alcohol, and almost entirely soluble in glacial acetic acid.

GENERAL ACTION.

Rubefacient.

PHYSIOLOGICAL ACTION.

It produces a slight degree of inflammation and serous effusion without separating the cuticle when applied to the skin. Sometimes it produces a papillary or vesicular eruption, and rarely causes painful vesication, or ulceration.

THERAPEUTICAL ACTION.

As a counter-irritant it is useful in the form of a plaster for *bronchitis*, *pleuritis*, *pneumonitis*, *chronic joint affections*, and for the relief of *rheumatic pains*. It is sometimes less convenient for application than Burgundy pitch, because it is more readily softened by heat.

PREPARATION.

Emplastrum Picis Canadensis.

PIX LIQUIDA.

English Name.—Tar.

Origin.—An empyreumatic oleoresin obtained by the de-

structive distillation of the wood of *Pinus palustris*, and of other species of *Pinus*.

Natural Order.—*Coniferæ*.

Habitat.—The tree is a native of the southern part of the United States.

Constituents.—It consists of resinous matter united with acetic acid, oil of turpentine, and various volatile empyreumatic products. By distillation it yields pyroligneous acid, oil of tar (*Oleum Picis Liquida*), and leaves pitch as a residue. The oil of tar contains a great variety of compounds, including toluol, and xylol, mesitylene, pseudocumol, phenol, cresol, guaiacol, creasol, phlorol, methylcreasol, paraffin, naphthalene, pyrene, chrysene, retene, and pyrocatechin.

Description.—

OF TAR.—Tar has an acid reaction, an almost black color, and a tenacious consistence; a bitterish, resinous, somewhat acrid taste, and a peculiar, empyreumatic odor.

OF THE VOLATILE OIL.—An almost colorless liquid when freshly distilled, but becoming reddish-brown on standing; having a strong tarry odor and taste.

Solubility.—It yields a small proportion of its constituents to water, and is dissolved by alcohol and by ether.

GENERAL ACTION.

Blennorrhetic. Local stimulant.

THERAPEUTICAL ACTION.

RESPIRATORY SYSTEM.

Its vapor has proved beneficial in *chronic bronchitis*.

CUTANEOUS SYSTEM.

It has proved very beneficial as an application to *tinea capitis*, *psoriasis*, and other *cutaneous diseases*.

PREPARATIONS.

Syrupus Picis Liquidæ..... 3 j.—3 ij. (4.—8.).

Unguentum Picis Liquidæ..... (1—2).

PODOPHYLLUM.

English Name.—Podophyllum.

Origin.—The rhizome and rootlets of Podophyllum peltatum.

Natural Order.—Berberidaceæ.

Synonym.—May Apple, Mandrake, Wild Lemon.

Habitat.—It is a native of the United States.

Constituents.—It contains two resins, one soluble in alcohol and in ether, and the other soluble in alcohol only; gallic acid, fixed oil, traces of volatile oil, albumen, gum, starch, lignin, extractive, and salts.

Description—

OF THE RHIZOME AND ROOTLETS.—The dried root is much wrinkled lengthwise, about $\frac{1}{2}$ of an inch thick, consisting of joints about 2 inches long, orange-brown externally, white and mealy internally; sweetish, somewhat bitter, and acrid taste; and inodorous. The fibres are of a somewhat paler color.

OF THE RESIN.—The officinal resin is a combination of the two resins found in the root. It is light-brown in color, has an acrid, bitter taste, and a slight odor.

Solubility.—Its virtues are extracted by boiling water and by alcohol.

GENERAL ACTION.

Hydragogue cathartic. Cholagogue.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM :

Stomach.—It stimulates the stomach to a certain degree.

Liver.—It stimulates the secretory apparatus of the liver, and thus causes an increase in the flow of bile.

Intestines.—The intestinal secretions are increased by its administration, the stools being copious and rather watery. It operates in from 6 to 10 hours.

THERAPEUTICAL ACTION.

It is a very useful cathartic for the relief of *habitual consti-*

pation, functional hepatic disturbances, and certain forms of hemorrhoids.

TOXICOLOGICAL ACTION.

When given in excessive doses it causes severe colic, vomiting, bloody evacuations, and extreme prostration.

PREPARATIONS.

Abstractum Podophylli.....	gr. v.-x. (.6-1.2).
Extractum Podophylli	gr. j.-iiij. (.06-.18).
Extractum Podophylli Fluidum	℥v.-xv. (.3-1.).
Resina Podophylli.....	gr. $\frac{1}{8}$ - $\frac{1}{2}$ (.008-.03).

PRINOS.

English Name.—Prinos.

Origin.—The bark of *Prinos verticillatus*.

Natural Order.—Rosaceæ amygdaleæ.

Natural Order.—Aquifoliaceæ.

Synonym.—Black Alder—Winterberry.

Habitat.—It is a native of the United States.

Description.—The bark is obtained in slender pieces, more or less rolled, brittle, greenish-white internally, and covered with a smooth epidermis of a whitish ash-color, alternating or mingled with brown. It has a bitter, slightly astringent taste, and no odor.

Solubility.—Boiling water extracts its virtues.

GENERAL ACTION.

Bitter tonic. Astringent. Local stimulant.

THERAPEUTICAL ACTION.

CUTANEOUS SYSTEM.

It is used both internally and externally for *chronic cutaneous diseases*.

GENERAL DISEASES.

It has been recommended in *intermittent fever*.

LOCALLY.

As a wash or poultice it is useful in the treatment of *ulcers*.

PREPARATION.

* Decoctum Prinos..... ʒ ij.—ʒ iij. (60.—90.).

PRUNUM.

English Name.—Prune.

Origin.—The fruit of *Prunus domestica*.

Natural Order.—Rosaceæ Amygdaleæ.

Habitat.—It is probably a native of Asia Minor and Syria, but is found growing wild in various parts of Europe.

Constituents.—It contains sugar, malic acid, and mucilaginous matter.

Description.—Oblong or subglobular in shape, blackish-blue in color, having a sweet, acidulous taste, and a faint odor.

Solubility.—Boiling water extracts its virtues.

GENERAL ACTION.

Nutriment. Laxative.

THERAPEUTICAL ACTION.

They are often useful in *slight constipation*.

PREPARATION.

Confectio Sennæ..... ʒ ij. (8.).

PRUNUS VIRGINIANA.

English Name.—Wild Cherry.

Origin.—The bark of *Prunus serotina*, collected in autumn.

Natural Order.—Rosaceæ, Amygdaleæ.

Habitat.—A native of the United States.

Constituents.—It contains amygdalin, and another principle which is probably identical with emulsin, which react with water to form a volatile oil and hydrocyanic acid. It also contains resin, starch, tannin, gallic acid, fatty matter, lignin, red coloring matter, iron, and salts.

Description.—The bark occurs in curved pieces or irregular fragments, $\frac{1}{2}$ of an inch or more thick, outer surface greenish-brown or yellowish-brown, smooth, and somewhat glossy, inner surface somewhat striate or fissured. Its taste is astringent, aromatic, and bitter.

Solubility.—Its virtues are most fully extracted by being macerated in water, when it develops a distinct bitter almond odor. Its medical virtues are injured by boiling, because it renders the principle similar to emulsin inoperative.

GENERAL ACTION.

Bitter tonic. Astringent.

PHYSIOLOGICAL ACTION.

When taken into the stomach it stimulates the mucous membrane, and thus increases the appetite and digestive power.

THERAPEUTICAL ACTION.

It may prove beneficial in *atonic dyspepsia* and *anorexia*.

RESPIRATORY SYSTEM.

As a sedative corroborant it often proves useful in *bronchitis* and *pneumonitis*.

PREPARATIONS.

Extractum Pruni Virginianæ Fluidum..	3 ss.—3 j. (2.—4.).
Infusum Pruni Virginianæ	3 ij.—3 iij. (60.—90.).
Syrupus Pruni Virginianæ	3 ij.—3 ss. (8.—16.).

PULSATILLA.

English Name.—Pulsatilla.

Origin.—The herb of *Anemone Pulsatilla*, and *Anemone pratensis*, and of *Anemone patens*, collected soon after flowering.

Natural Order.—Ranunculaceæ.

Synonym.—Pasque-flower.

Habitat.—The plants are found in Europe and most temperate countries.

Constituents.—Its chief constituent is a peculiar crystallizable principle called anemonin, which is readily convertible into anemonic acid by the action of alkalies.

Solubility.—It yields its virtues to water and to alcohol.

GENERAL ACTION.

Motor depressant. Cardiac depressant. Gastro-intestinal irritant. Local irritant.

Synergists.—Aconite, cimicifuga, veratrum viride, physostigma, etc.

Antagonists and Incompatibles.—Caustic alkalies, tannic acid, and most metallic salts are chemically incompatible. Alcohol, opium, and digitalis are physiological antagonists.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM.

It tends to paralyze motility and sensibility, but by what means is not known.

CIRCULATORY SYSTEM :

Heart.—It causes a decrease in the force of the heart's action.

Vessels.—Arterial tension is lowered by its administration.

Blood.—The active principles of the drug diffuse into the blood with facility.

DIGESTIVE SYSTEM :

Mouth.—It gives rise to tingling and burning, followed by numbness, when applied to the tongue.

Intestines.—It has decided irritating effects on the intestinal mucous membrane, and increases the number of stools.

CUTANEOUS SYSTEM.

After prolonged contact with the skin it produces irritation, inflammation, and possible gangrene.

TEMPERATURE.

It causes a decrease in the animal heat.

THERAPEUTICAL ACTION.

NERVOUS SYSTEM.

It is claimed that it proves useful in *acute cerebral meningitis* and in *acute spinal meningitis*.

DIGESTIVE SYSTEM.

Atonic dyspepsia, nausea, flatulence, and heart-burn have been relieved by its administration. It should never be given when gastro-intestinal irritation is present.

RESPIRATORY SYSTEM.

In *acute laryngitis* and *acute bronchitis* its administration is often followed by good results.

GENITO-URINARY SYSTEM.

It is said to be very efficacious when given in often repeated doses in *epididymitis*. In *suppressed menstruation, functional amenorrhœa, and functional dysmenorrhœa* it is also employed.

TOXICOLOGICAL ACTION.

When given in lethal doses it produces dilatation of the pupil, stupor, convulsions, paralysis, coma, weak pulse, vomiting, and purging.

Treatment of Poisoning.—Administer emetics; and alcohol, opium, and digitalis as physiological antagonists.

PREPARATIONS.

- *Pulvis Pulsatillæ..... gr. ij.—gr. iij. (.12–.18).
Tinctura Pulsatillæ..... 3 ss. (2.).

PYRETHRUM.

English Name.—Pyrethrum.

Origin.—The root of *Anacyclus Pyrethrum*.

Natural Order.—Compositæ.

Synonym.—Pellitory.

Habitat.—The plant is a native of the Levant, Barbary, and the Mediterranean coast of Europe.

Constituents.—It contains a resinous substance, a fixed oil, a yellow oil, tannin, gum, inulin, lignin, and salts.

Description.—The dried root is about the size of the little finger, cylindrical, straight, or but slightly curved, wrinkled longitudinally, of an ash-brown color externally, and whitish

within ; it has a disagreeable smell when fresh, but no odor when dry ; its taste is slight at first, but afterward acidulous, saline, and acrid, attended with burning and a tingling sensation.

Solubility.—Its virtues are extracted by alcohol and by water.

GENERAL ACTION.

Sialagogue. Local stimulant.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM.

When taken into the mouth it increases the flow of the saliva decidedly, and stimulates the mucous membrane of the mouth and throat.

CUTANEOUS SYSTEM.

It is a decided stimulant when applied to the skin.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

It is applied as a stimulant in cases of *glossal paralysis* and *uvular relaxation*.

LOCALLY.

Locally it is applied to the head and face for *headache*, *neuralgia*, and *toothache*.

PREPARATION.

Tincturæ Pyrethri..... External Use.

*QUEBRACHO.

English Name.—Quebracho.

Origin.—The bark of *Aspidosperma quebracho*.

Natural Order.—Apocynaceæ.

Habitat.—A native of Chili.

Constituents.—Its principal ingredient is an alkaloid called *aspidospermin*, but it also contains another called *quebrachin*.

Description.—

OF THE BARK.—The bark occurs in large pieces, $\frac{1}{2}$ to $\frac{3}{4}$ of an

inch thick, covered on the outside with a very thick, corky layer, which is of a grayish-brown color, and deeply furrowed and excavated; the inner side of the bark is grayish or yellowish, smooth, and often marked with black spots; the taste is extremely bitter.

OF ASPIDOSPERMIN.—Obtained in the form of small, white, prismatic crystals, which have an intensely bitter taste.

Solubility—

OF THE BARK.—Yields its virtues to alcohol.

OF ASPIDOSPERMIN.—Very slightly soluble in water, but easily soluble in alcohol.

GENERAL ACTION.

Antiperiodic. Antispasmodic. Respiratory stimulant.

PHYSIOLOGICAL ACTION.

Under the administration of this drug the respirations become slower and deeper.

THERAPEUTICAL ACTION.

RESPIRATORY SYSTEM.

This drug affords wonderful relief to the *dyspnœa* of *pulmonary diseases*, especially that of *asthma*, but is much less efficacious in *cardiac dyspnœa*.

GENERAL DISEASES.

As an antiperiodic in the treatment of *intermittent fever* it has met with some favor, and the salts of its alkaloid have been used to reduce abnormal temperatures with success.

PREPARATION.

Extractum Quebracho Fluidum..... 3 ss.—3 j. (2.—4.).

QUASSIA.

English Name.—Quassia.

Origin.—The wood of *Picræna excelsa*.

Natural Order.—Simarubaceæ.

Synonyms.—Bitter Wood, Bitter Ash.

Habitat.—It inhabits Jamaica and the Caribbean Islands.

Constituents.—Its virtues depend upon a peculiar, bitter, crystallizable principle called quassin.

Description.—

OF THE WOOD.—The wood comes in cylindrical billets of variable sizes, from an inch to a scant foot in diameter, and several feet in length. The billets are frequently invested with a light-colored, smoothish bark, brittle, and but slightly adherent. The wood is inodorous, and has a purely bitter taste.

OF QUASSIN.—It is white, opaque, unalterable in the air, inodorous, and of intense bitterness.

Solubility.—

OF THE WOOD.—The wood imparts its active properties to water and to alcohol.

OF QUASSIN.—Slightly soluble in water, and very soluble in alcohol.

GENERAL ACTION.

Bitter tonic.

PHYSIOLOGICAL ACTION.

When taken into the stomach, it causes a decided increase in the appetite on account of its bitter properties.

THERAPEUTICAL ACTION.

It proves of benefit in *anorexia*, *dyspepsia*, and as an injection for *ascarides*.

PREPARATIONS.

Extractum Quassiae.....	gr. j.-ij. (.06-.12).
Extractum Quassiae Fluidum.....	℥v.-x. (.30-.60).
Tinctura Quassiae	3 j. (4).

QUERCUS ALBA.

English Name.—White Oak.

Origin.—The bark of *Quercus alba*.

Natural Order.—Cupuliferae.

Habitat.—The white oak abounds in the Middle States, and is also found throughout the whole United States.

Constituents.—It contains a peculiar bitter principle called quercin, and also tannin, gallic acid, and extractives.

Description.—

OF THE BARK.—Obtained in nearly flat pieces, about $\frac{1}{4}$ of an inch thick, and pale brown in color; the inner surface is marked with short, sharp, longitudinal ridges. The bark is tough, has a strongly astringent taste, and a faint, tan-like odor.

OF QUERCIN.—It is obtained in small snow-white crystals, with a very bitter taste, and no odor.

Solubility.—

OF THE BARK.—Yields its active properties to water and to alcohol.

OF QUERCIN.—Readily soluble in water, but insoluble in absolute alcohol.

GENERAL ACTION.

Astringent. Tonic.

THERAPEUTICAL ACTION.

It is not used internally, but is used locally in the form of an injection, and constitutionally in the form of a bath. By the former method it is employed for *leucorrhœa*, *gonorrhœa*, and *hemorrhoids*; and by the latter method for *marasmus*, *intermittent fever*, *chronic diarrhœa*, and *cholera infantum*. As a gargle it may be used for *pharyngitis*, *tonsillitis*, and *relaxed uvula*.

PREPARATION.

*Decoctum Quercus Albæ..... External use.

QUILLAIA.

English Name.—Quillaia.

Origin.—The bark of Quillaia Saponaria.

Natural Order.—Rosaceæ, Roseæ.

Synonym.—Soap Bark.

Habitat.—The tree is found in South America.

Constituents.—It contains an active principle called saponin, which foams like soap in a watery infusion.

Description.—The bark is obtained in large, flat pieces, about $\frac{1}{2}$ inch thick, the outer surface brownish-white, inner surface whitish and smooth. It is inodorous, very acrid, and sternutatory.

Solubility.—Yields its virtues to water.

GENERAL ACTION.

Errhine. Blennorrhetic. Diuretic.

THERAPEUTICAL ACTION.

RESPIRATORY SYSTEM.

It may prove useful as an errhine in the dry stage of *chronic nasal catarrh*.

GENERAL DISEASES.

Some use may be made of it as a diuretic in *dropsy*.

PREPARATION.

*Infusum Quillaie $\frac{7}{3}$ ss.— $\frac{7}{3}$ j. (.16–.30).

RHEUM.

English Name.—Rhubarb.

Origin.—The root of *Rheum officinale* and of other undetermined species of *Rheum*.

Natural Order.—Polygonaceæ.

Habitat.—Rhubarb is produced abundantly in Tartary, Shen-see, Setchuen, Boutan, Thibet, and probably in the whole of Chinese Tartary.

Constituents.—This drug contains three coloring principles, holding an intermediate place between resin and extractive matter; two of these are uncrystallizable, and are called phæoretin and erythroretin, the third is crystallizable, and is identical with chrysophanic acid. It contains another resinous substance named aporetin, a peculiar substance called emodin,

a glucoside called chrysophan, rheo-tannic acid, and rheumic acid. Besides these, rhubarb contains gallic acid, sugar, pectin, lignin, extractive matter, oxide of calcium, and various inorganic salts.

Description.—The root is obtained in cylindrical, conical, or flattish segments, smoothish or somewhat wrinkled; externally bright yellowish-brown, internally white, compact, and hard in structure. It is of a bitter, somewhat astringent taste, and has a peculiar aromatic odor. Chinese rhubarb is the only kind used here, as the Russian and European varieties are no longer imported into this country.

Solubility.—The root yields its active properties to water and to alcohol.

GENERAL ACTION.

Tonic astringent. Mild acrid cathartic. Cholagogue.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM:

Stomach.—When taken in small doses it acts as a tonic and promotes the appetite and digestion.

Liver.—There is no doubt that it increases the flow of bile.

Intestines.—In sufficient dose, it increases the intestinal secretions, the stools being soft, and of a yellowish-brown color from being stained by the coloring matters of the rhubarb. After the cathartic action has ended, its astringent ingredients tend to produce constipation.

GENITO-URINARY SYSTEM.

It imparts a yellow color, a bitter taste, and purgative properties to the milk, and also to the urine.

THERAPEUTICAL ACTION.

It is employed in *atonic dyspepsia, duodenal catarrh, catarrhal jaundice, summer diarrhoea, and habitual constipation.*

PREPARATIONS.

Extractum Rhei.....	gr. v.-x. (.30-.60).
Extractum Rhei Fluidum.....	℥ x.-xxx. (.60-2.).
Pilulæ Rhei	(1=gr. iij.) 2-8.
Pilulæ Rhei Compositæ	(1=gr. ij.) 2-4.

Pulvis Rhei Compositus.....	gr. v.—3 j. (.30–4.).
Syrupus Rhei.....	(1 part to 4) 3 j. (4.).
Syrupus Rhei Aromaticus	3 j. (4.).
Tinctura Rhei.....	3 j.—ij. (4.—8.).
Tinctura Rhei Aromatica	3 ss.—3 j. (2.—4.).
Tinctura Rhei Dulcis	3 ij.—iiij. (8.—12.).
Vinum Rhei	3 j.—3 iv. (4.—16.).

RHUS GLABRA.

English Name.—Rhus Glabra.

Origin.—The fruit of Rhus glabra.

Natural Order.—Terebinthaceæ, Anacardiæ.

Synonyms.—Smooth Sumach, Pennsylvania Sumach, Upland Sumach.

Habitat.—Found in almost all parts of the United States.

Constituents.—It contains tannic and gallic acids, caoutchouc, resin, coloring matter, albumen, gum, starch, and evidences of volatile oil.

Description.—The fruit occurs in clusters of small, crimson berries, which are subglobular in shape, about $\frac{1}{8}$ inch in diameter, and densely hairy.

Solubility.—It yields its virtues readily to boiling water and to alcohol.

GENERAL ACTION.

Astringent. Mild refrigerant.

THERAPEUTICAL ACTION.

It is said to be effective and pleasant as a gargle in *tonsillitis* and *pharyngitis*.

PREPARATION.

Extractum Rhois Glabræ Fluidum..... Gargle.

RHUS TOXICODENDRON.

English Name.—Rhus Toxicodendron.

Origin.—The fresh leaves of Rhus Toxicodendron and Rhus radicans.

Natural Order.—Terebinthaceæ, Anacardiæ.

Synonym.—Poison Oak, Poison Ivy.

Habitat.—Grows throughout the United States.

Constituents.—The activity of the plant depends upon an acid called toxicodendric acid. The leaves also yield tannic acid, chlorophyll, wax, fixed oil, resin, sugar, albumen, gum, pectin, starch, oxalic acid, and a peculiar, neutral substance.

Description.—The leaves are long, petiolate, trifoliate; the leaflets are entire and glabrous, or variously notched, coarsely toothed or lobed, downy beneath; their taste is astringent and acid, and they have no odor.

Solubility.—Its virtues are extracted by alcohol.

GENERAL ACTION.

Narcotic. Stimulant. Local irritant.

THERAPEUTICAL ACTION.

It has been used in *palsy, nocturnal incontinence, and cutaneous diseases*, but is probably useless and dangerous.

TOXICOLOGICAL ACTION.

When brought in contact with the skin it produces itching, redness, burning, tumefaction, inflammation, vesication, and ultimate desquamation.

Treatment of Poisoning.—Alkaline applications, lead lotions, saline purgatives, light, cooling regimen.

ROSA CENTIFOLIA.

English Name.—Pale Rose.

Origin.—The petals of *Rosa centifolia*.

Natural Order.—Rosaceæ, Roseæ.

Habitat.—Its original country is not known, but it is cultivated in gardens all over the world.

Constituents.—Its action depends upon a volatile oil (*Oleum Rosæ*), and it also contains malic acid, tartaric acid, tannin, fat, resin, sugar, and coloring matter.

Description—

OF THE PETALS.—They are roundish, obovate, and retuse or obcordate, pink ; with a slightly bitter and slightly astringent taste, and fragrant, sweetish odor.

OF THE VOLATILE OIL.—It is nearly colorless, or presents some shade of green, yellow, or red ; its odor is very powerful and diffusive.

Solubility—

OF THE LEAVES.—They yield their virtue to water and to alcohol.

OF THE VOLATILE OIL.—Slightly soluble in alcohol.

GENERAL ACTION.

Mild laxative. Perfume.

THERAPEUTICAL ACTION.

It is sometimes used in combination with cathartic medicines. The oil is used as a perfume.

PREPARATIONS.

Aqua Rosæ.....	Vehicle.
Oleum Rosæ.....	Perfume.
Unguentum Aquæ Rosæ	(3-10).
Syrupus Sarsaparillæ Compositus...	3 ij.— $\frac{7}{8}$ ss. (8.-16.).

ROSA GALLICA.

English Name.—Red Rose.

Origin.—The petals of *Rosa gallica*, collected before expanding.

Natural Order.—Rosaceæ, Rosæ.

Habitat.—A native of Europe, but cultivated in the United States.

Constituents.—It contains a substance called quercitrin ; also tannin, gallic acid, coloring matter, a volatile oil, a fixed oil, albumen, and salts.

Description.—The drug occurs in small cones, consisting of numerous imbricated, roundish, retuse, deep purple-colored,

yellow-clawed petals, having a bitterish, slightly acidulous, distinctly astringent taste, and a roseate color.

Solubility.—Its medical virtues are extracted by boiling water.

GENERAL ACTION.

Mild astringent. Tonic.

THERAPEUTICAL ACTION.

This drug is useful chiefly as an elegant vehicle for tonic and astringent medicines.

PREPARATIONS.

Confectio Rosæ.....	Vehicle.
Extractum Rosæ Fluidum.....	3 j. - 3 ij. (4.-8.).
Mel Rosæ.....	Vehicle.
Syrupus Rosæ.....	3 j. (4.).

ROSMARINUS.

English Name.—Rosemary.

Origin.—The leaves of *Rosmarinus officinalis*.

Natural Order.—Labiatae.

Habitat.—Grows spontaneously in countries which border upon the Mediterranean, but is cultivated in the gardens of Europe and in this country.

Constituents.—Its properties depend upon a volatile oil (*Oleum Rosmarini*).

Description.—

OF THE LEAVES.—The leaves are numerous, more than an inch long, about $\frac{1}{6}$ inch broad, obtuse at the summit, folded backward at the edges, smooth and green on the upper surface, whitish, woolly, and glandular beneath. Their taste is bitter and camphorous, and their odor balsamic.

OF THE VOLATILE OIL.—The oil is colorless, and has the odor of the plant.

Solubility.—

OF THE LEAVES.—Yield their properties partially to water and completely to alcohol.

OF THE VOLATILE OIL.—Soluble in alcohol.

GENERAL ACTION.

Aromatic stimulant.

THERAPEUTICAL ACTION.

It is occasionally used as a corrective or adjuvant to other medicines, and as a condiment. It is also used as an ingredient of liniments.

PREPARATIONS.

Oleum Rosmarini..... gtt. iij.-vj. (.18-.36).

Linimentum Saponis.

Spiritus Odoratus..... Externally.

Vinum Aromaticum..... Externally.

RUBUS.

English Name.—Rubus.

Origin.—The bark of the root of *Rubus villosus*, *Rubus canadensis*, and *Rubus trivialis*.

Natural Order.—Rosaceæ, Dryadeæ.

Synonyms.—Blackberry, Dewberry.

Habitat.—These species are found in the United States.

Constituents.—The virtue of the drug depends chiefly upon tannin.

Description.—The bark is in tough, flexible bands, outer surface blackish or blackish-gray, inner surface pale brownish; it has a strongly astringent, somewhat bitter taste, and no odor.

Solubility.—Yields its properties to boiling water and to diluted alcohol.

GENERAL ACTION.

Tonic. Astringent.

THERAPEUTICAL ACTION.

This drug has proved useful in *atonic dyspepsia*, and *diarrhœa* from intestinal relaxation.

PREPARATIONS.

Extractum Rubi Fluidum 3 ss.—3 j. (2.-4.).

Syrupus Rubi 3 j.—3 ij. (4.-8.).

RUBUS IDÆUS.

English Name.—Raspberry.

Origin.—The fruit of *Rubus idæus*.

Natural Order.—Rosaceæ, Dryadeæ.

Habitat.—Native of the United States.

Constituents.—The fruit contains a certain proportion of tannin.

GENERAL ACTION.

Astringent.

THERAPEUTICAL ACTION.

It is useful, because of its astringent properties, as a vehicle for medicines employed in *intestinal diseases*.

PREPARATION.

Syrupus Rubi Idæi..... 3 j.—3 ij. (4.—8.).

RUMEX.

English Name.—Rumex.

Origin.—The root of *Rumex crispus*, and other species of *Rumex*.

Natural Order.—Polygonaceæ.

Synonym.—Yellow Dock.

Habitat.—A native of Europe.

Constituents.—A peculiar principle called rumicin was once supposed to exist in this drug, but has since been proved to be identical with chrysophanic acid. The root, however, contains resin, extractive matter, starch, mucilage, albumen, lignin, sulphur, and various salts.

Description.—The root is from 8 to 12 inches long, and about $\frac{1}{2}$ inch thick, somewhat fusiform in shape, externally rusty brown, internally whitish; and covered with a rather thick bark. Its taste is bitter and astringent, and its odor slight but peculiar.

Solubility.—Yields its virtues to water and to alcohol.

GENERAL ACTION.

Tonic. Laxative. Alterative.

THERAPEUTICAL ACTION.**DIGESTIVE SYSTEM.**

It may prove beneficial in *atonic dyspepsia* and in *diarrhoea*; also in *constipation*, acting somewhat like rhubarb.

CUTANEOUS SYSTEM.

Internally, and as an external application, it is recommended in the treatment of obstinate *ichthyosis*, *scabies*, and other cutaneous diseases.

GENERAL DISEASES.

As an alterative it is said to prove beneficial in *scorbutus* and *syphilis*.

LOCALLY.

Its application to *ulcers* often hastens their healing.

PREPARATION.

Extractum Rumicis Fluidum 3 ss.—3 j. (2.—4.).

***SABADILLA.**

English Name.—Cevadilla.

Origin.—The dried fruit of *Asagraea officinalis*.

Natural Order.—Melanthaceæ.

Habitat.—The plant is brought to us from Mexico.

Constituents.—Its chief constituent is an alkaloid called veratrine, which is official and is similar to veratralbin; also another called cevadin, and other less important extractives.

Description—

OF THE DRIED FRUIT.—The dried fruit consists of three coalescing capsules or follicles, which open above and appear like a single capsule with three cells. It is 3 or 4 lines long, and $1\frac{1}{2}$ in thickness, light-brown or yellowish in color, and in each capsule are found 1 or 2 seeds, which are black or dark-

brown, inodorous, and have a very acrid, burning, and durable taste.

OF VERATRINE.—A white or grayish-white, amorphous powder, without odor, but very irritant to the nostrils, and having a bitter, acrid taste.

Solubility—

OF THE DRIED FRUIT.—Yields its virtues to alcohol.

OF VERATRINE.—Very slightly soluble in cold or hot water, but readily soluble in alcohol.

GENERAL ACTION.

Similar to that of *veratrum viride*.

THERAPEUTICAL ACTION.

Its therapeutical uses correspond to those of *veratrum viride*; it is also used in the form of an ointment for the relief of *neuralgic* and *rheumatic pains*.

PREPARATIONS.

Oleatum Veratrinæ.....	1-50.
Unguentum Veratrinæ.....	1-25.

SABINA.

English Name.—Savine.

Origin.—The tops of *Juniperus Sabina*.

Natural Order.—Coniferæ.

Habitat.—A native of the south of Europe, and is also said to grow wild in the neighborhood of the lakes in the north-western part of the United States.

Constituents.—Its properties depend upon a volatile oil (*Oleum Sabinæ*), but it also contains tannic acid, gallic acid, resin, chlorophyll, gum, fixed oil, bitter extractive, and salts.

Description—

OF THE TOPS.—Short, thin, subquadrangular branchlets, leaves in four rows, opposite, scale-like, ovate-lanceolate,

more or less acute ; their taste is resinous, bitter, and nauseous, and their odor terebinthinate and peculiar.

OF THE VOLATILE OIL.—The oil is nearly colorless or yellow, limpid, strongly odorous, and of a bitter, extremely acrid taste.

Solubility—

OF THE TOPS.—They impart their virtues to alcohol and to water.

OF THE VOLATILE OIL.—Soluble in an equal weight of alcohol.

GENERAL ACTION.

Mild cardiac stimulant. Gastro-intestinal stimulant. Mild diuretic. Emmenagogue. Mild diaphoretic. Local irritant.

PHYSIOLOGICAL ACTION.

CIRCULATORY SYSTEM :

Heart.—It increases the action of the heart in a full medicinal dose.

Vessels.—Its administration causes a rise in arterial tension at first, which is followed by diminished tension.

Blood.—This medicine diffuses readily into the blood.

DIGESTIVE SYSTEM :

Stomach.—A full medicinal dose causes a sensation of heat and nausea.

Intestines.—In large doses it acts as a cathartic.

RESPIRATORY SYSTEM.

It stimulates the bronchial mucous membrane to increased secretion, and is partially eliminated in this way.

GENITO-URINARY SYSTEM :

Kidneys.—This drug increases the flow of urine, and is partially eliminated by this channel.

Uterus.—Its emmenagogue action is powerful and certain, few, if any, drugs equalling it.

CUTANEOUS SYSTEM.

This drug increases the cutaneous secretion, and is partially eliminated by the skin. When applied to the skin it produces inflammation or possibly vesication.

THERAPEUTICAL ACTION.**GENITO-URINARY SYSTEM.**

This drug has proved efficacious in *amenorrhœa*, *dysmenorrhœa*, and *menorrhagia*, when due to a relaxed uterine condition.

LOCALLY.

Locally it is used as a counter-irritant, and to stimulate *ulcers* or destroy *warts*.

TOXICOLOGICAL ACTION.

In very large doses it causes vomiting, purging, abdominal pain, suppression of urine, hæmaturia, unconsciousness, stertorous breathing, sometimes convulsions, and death from collapse.

Treatment of Poisoning.—Demulcent drinks, stimulants, and non-irritating emetics.

PREPARATIONS.

Ceratum Sabinæ.....	5-18.
Extractum Sabinæ Fluidum.....	℥ iij.-viij. (.18-.48).
Oleum Sabinæ.....	gtt. ij.-v. (.12-.30).

SALIX.

English Name.—Salix.

Origin.—The bark of *Salix alba*, and other species of *Salix*.

Natural Order.—Salicaceæ.

Synonym.—Willow.

Habitat.—This tree is found in Europe and America.

Constituents.—Its active and characteristic constituent is called salicin, and it also contains tannin, resin; a bitter, yellow, coloring matter; a green, fatty matter; wax, gum, and lignin.

Description.—

OF THE BARK.—It is obtained in fragments, or quills, from $\frac{1}{2}$ to $\frac{1}{6}$ of an inch thick, the outer surface brownish or yellow, and more or less finely warty, the inner surface brownish,

white and smooth, the taste being astringent and bitter ; no odor.

OF SALICIN.—Occurs in colorless or white, silky, shining crystals, odorless, and having a very bitter taste. By fusion with potassic hydrate, this principle produces salicylic acid.

OF SALICYLIC ACID.—Occurs as fine, white, light, prismatic, needle-shaped crystals, having a very faint odor, and a sweetish, slightly acrid taste.

Solubility—

OF THE BARK.—Yields its active principles to water.

OF SALICIN.—Soluble in cold water, more readily so in boiling water, and quite soluble in alcohol.

OF SALICYLIC ACID.—Sparingly soluble in cold water, but freely soluble in boiling water and in alcohol.

GENERAL ACTION.

The action of Salix is due to the presence of salicin, the action of which is so nearly similar to salicylic acid that the two drugs may be considered under the one heading. Cerebral stimulant. Cardiac depressant. Gastro-intestinal stimulant. Respiratory depressant. Diaphoretic. Antipyretic. Antiferment. Antiseptic.

Synergists.—Quinine and antipyretics generally are synergistic. Carbolic acid, boracic acid, and benzoic acid aid its antiseptic action.

Incompatibles.—Alkalies destroy the antiseptic properties of this drug.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM.

In full medicinal doses it produces some cerebral congestion, which is denoted by fulness in the head, headache, tinnitus aurium, and giddiness.

CIRCULATORY SYSTEM :

Heart.—The heart-beats are at first increased in frequency, but afterward become slower. In excessive doses the pulse becomes quite slow and labored.

Vessels.—The blood-pressure is at first elevated, and then lowered, from the action of the drug on the heart and the vaso-motor system.

Blood.—The action of this drug is to weaken the activity of the white blood-corpuscles, and thus retard their emigration.

RESPIRATORY SYSTEM.

By acting upon the pneumogastric nerves, and to some extent upon the respiratory centre, it causes the respirations to become at first quicker and deeper than normal, and afterward slower and more labored.

GENITO-URINARY SYSTEM.

Its effect on the kidneys varies, sometimes increasing the amount of urine and sometimes decreasing it, albumen often being present.

CUTANEOUS SYSTEM.

Full doses of the drug usually cause free diaphoresis.

TEMPERATURE.

It affects the temperature but little in health, but decidedly lowers it when fever is present.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

It is useful to prevent *gastric fermentation*, and as an enema for the removal of *ascarides*.

CUTANEOUS SYSTEM.

It has proved successful as an application to *eczema* and *bromidrosis*.

GENERAL DISEASES.

Great success has been achieved by the use of this drug in *acute rheumatism*; its administration relieves the pain, reduces the temperature, and probably decreases the frequency of cardiac complications. Its use is indicated also in *typhoid fever*, *pneumonitis*, *phthisis*, *erysipelas*, *diphtheria*, *pyæmia*, and *surgical fever*.

LOCALLY.

It has been used locally as a dressing to *cancers*, *gangrenous*

and *sloughing wounds*, and *abrasions*; and, with olive-oil, to *burns*. It has been employed as a substitute for carbolic acid in Listerian dressings, and some have reported much benefit from its local use in solution to *rheumatic joints*.

PREPARATIONS.

Salicinum..... gr. v.-xxx. (.30-2.).
 Acidum Salicylicum gr. x.- 3 j. (.60-4.).

SALVIA.

English Name.—Salvia.

Origin.—The leaves of *Salvia officinalis*.

Natural Order.—Labiatae.

Synonym.—Sage.

Habitat.—A native of Europe, but is cultivated in the United States.

Constituents.—This drug contains a volatile oil, a terpene, a principle called salviol, and camphor.

Description.—The leaves are about 2 inches long, thickish, wrinkled, green, soft, hairy, and granular beneath, with an aromatic, bitterish, somewhat astringent taste, and a strong, fragrant odor.

Solubility.—Yields its virtues to water and to alcohol.

GENERAL ACTION.

Aromatic stimulant. Astringent. Condiment.

THERAPEUTICAL ACTION.

Locally it has been employed in *phthisical sweating*, *sore throat*, and as an application to *ulcers* and *wounds*.

PREPARATION.

Vinum Aromaticum..... Externally.

SAMBUCUS.

English Name.—Sambucus.

Origin.—The flowers of *Sambucus canadensis*.

Natural Order.—Caprifoliaceæ.

Synonym.—Elder.

Habitat.—This plant grows in all parts of the United States.

Constituents.—The flowers contain as their principal ingredient a volatile oil, but also yield acrid resin, tannin, mucilage, and salts.

Description.—The flowers are small, white, and disposed in loose cymes, having about five divisions; the cream-colored corolla is wheel-shaped, with five stamens on the tube. Their taste is sweetish, aromatic, and slightly bitter, and their odor peculiar.

Solubility.—The flowers yield their virtues to water by infusion.

GENERAL ACTION.

Mild acrid cathartic. Diaphoretic. Sudorific.

THERAPEUTICAL ACTION.

It is used in *constipation*.

PREPARATION.

Decoctum Sambuci..... $\frac{3}{4}$ iv. (120.).

SANGUINARIA.

English Name.—Sanguinaria.

Origin.—The rhizome of *Sanguinaria canadensis*.

Natural Order.—Papaveraceæ.

Synonyms.—Bloodroot, Puccoon, Tetterswort, Indian Paint.

Habitat.—It is indigenous to the United States.

Constituents.—Its chief constituent is a peculiar principle called sanguinarin, but it also contains another principle

called porphyroxin, chilidonic acid, ficula, sugar, albumen, resin, fixed oil, gum, lignin, and extractive matter.

Description—

OF THE RHIZOME.—About 2 inches long and about $\frac{2}{5}$ of an inch thick, horizontal, cylindrical, much wrinkled and contorted, having a reddish-brown color, and thin bark. Its taste is persistently bitter and acrid, and its odor faintly narcotic.

OF SANGUINARIN.—White, needle-shaped crystals, having a bitter and persistently acrid taste.

Solubility—

OF THE RHIZOME —Yields its virtues to water and to alcohol.

OF SANGUINARIN.—Very sparingly soluble in water, and very readily soluble in alcohol.

GENERAL ACTION.

Sialagogue. Emetic. Cholagogue. Intestinal stimulant. Emmenagogue. Aphrodisiac. Local irritant.

Synergists.—Mineral and vegetable emetics, vegetable alteratives, colchicum, sarsaparilla, guaiacum, xanthoxylum, stillicia, and mineral salts promote its action.

Antagonists and Incompatibles.—Tannic acid, alkalies, and most metallic salts are chemically incompatible. Opium counteracts its local irritant effects.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM :

Mouth.—When taken into the mouth it increases the flow of the salivary glands.

Stomach.—In small doses it excites a feeling of warmth in the stomach, and increases the secretion of its mucous membrane, but in large doses produces much nausea and vomiting.

Liver.—It increases the flow of bile, but probably renders it more watery.

Intestines.—It stimulates the intestinal mucous membrane and the intestinal glands, thus causing an increase of the secretion from both.

RESPIRATORY SYSTEM.

When snuffed up the nose it produces violent sneezing and an increased secretion.

GENITO-URINARY SYSTEM.

Its emmenagogue action seems to be well proven.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

Its use has proved efficacious in *atonic dyspepsia*, *gastric catarrh*, *duodenal catarrh*, and *catarrhal jaundice*. As a gargle it may benefit *scarlatinal sore throat*.

RESPIRATORY SYSTEM.

Chronic rhinitis, *acute bronchitis*, and *spasmodic asthma* have been relieved by its administration.

GENITO-URINARY SYSTEM.

Amenorrhœa and *spermatorrhœa* have been benefited by its use.

GENERAL DISEASES.

Syphilis and *struma* are among the diseases for which it is administered.

LOCALLY.

Benefit is said to have been derived from its application to *indolent ulcers* and *exuberant granulations*.

TOXICOLOGICAL ACTION.

In very large doses it causes nausea, vomiting, slow and weak pulse, cold sweats, cold extremities, vertigo, dilated pupils, shallow and slow respirations, and sometimes death from paralysis of the respiratory centres.

Treatment of Poisoning.—Respiratory stimulants, cardiac stimulants, and demulcents.

PREPARATIONS.

Acetum Sanguinariæ	℥ xv.— 3 iij. (1.—12.).
Extractum Sanguinariæ Fluidum. . .	℥ iij.—℥ v. (.18.—30).
Tinctura Sanguinariæ	3 j.— 3 iij. (4.—12.).

SANTALUM RUBRUM.

English Name.—Red Saunders.

Origin.—The wood *Pterocarpus santalinus*.

Natural Order.—Leguminosæ, Papilionaceæ.

Synonym.—Red Sandal-Wood.

Habitat.—This tree is a native of India, and inhabits chiefly the mountains.

Constituents.—The coloring principle of this drug is called santalin.

Description.—

OF THE WOOD.—The wood comes in roundish or angular billets, internally of a blood-red color, externally brown from exposure, compact, heavy, and fibrous. It has but little taste or smell.

OF SANTALIN.—Obtained as microscopic needles of a blood-red color, having neither odor nor taste.

Solubility.—

OF THE WOOD.—It imparts its red color to alcohol, but not to water.

OF SANTALIN.—Scarcely soluble in cold water, more soluble in boiling water, readily soluble in alcohol.

GENERAL ACTION.

Coloring agent.

THERAPEUTICAL ACTION.

It has no medicinal action, and it is used entirely as a coloring agent.

PREPARATION.

Tinctura Lavandulæ Composita . . . 3 ss.—3 j. (2.—4.).

SANTONICA.

English Name.—Santonica.

Origin.—The unexpanded flower-heads of *Artemisia maritima*.

Natural Order.—Compositæ.

Synonym.—Levant Wormseed.

Habitat.—A native of Persia.

Constituents.—The peculiar active principle is called santonin, but it also contains a volatile oil, resin, and extractives.

Description—

OF THE FLOWERS.—About a line in length, oval, obtuse at both ends, of a greenish-brown color, an aromatic, bitter taste, and a peculiar, strong, somewhat camphoraceous odor.

OF SANTONIN.—Obtained as colorless, shining, flattened, prismatic crystals, not altered by exposure to air, but turning yellow on exposure to light. It is nearly tasteless at first, but is afterward bitter, and has no odor.

Solubility—

OF THE FLOWERS.—They yield their virtues to alcohol.

OF SANTONIN.—Nearly insoluble in cold water, moderately soluble in boiling water, and quite soluble in alcohol.

GENERAL ACTION.

Anthelmintic.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM.

Even in moderate doses it often produces yellow vision, which is probably due to its forming a solution in the alkaline serum, and consequently acting on the perceptive centres.

DIGESTIVE SYSTEM :

Stomach.—In moderate doses it has no especial action on the stomach, but in large, causes nausea and vomiting.

Intestines.—In large doses it may cause colic and diarrhoea.

GENITO-URINARY SYSTEM.

When allowed to remain in the system, it is partially eliminated by the kidneys in the form of a substance called xanthopsin, which produces a yellow discoloration of the urine.

THERAPEUTICAL ACTION.

This drug is used chiefly for the expulsion of *lumbrici*, and should be administered with a cathartic.

TOXICOLOGICAL ACTION.

In toxic doses it produces trembling, vertigo, convulsive movements, stupor, cold sweats, dilated pupils, yellow vision, tetanic convulsions, nausea, vomiting, purging, and yellow urine.

Treatment of Poisoning.—Evacuate stomach, and treat symptoms.

PREPARATIONS.

Santoninum..... gr. ss.-ij. (.03-.12).

Sodii Santoninas..... grs. j-ij. (.06-.12).

Trochisci Sodii Santoninatis..... (1=gr. j.) 1-2.

SARSAPARILLA.

English Name.—Sarsaparilla.

Origin.—The root of *Smilax officinalis*, *Smilax medica*, and of other undetermined species of *Smilax*.

Natural Order.—Smilacæ.

Habitat.—The medical species of *Smilax* grow in South America, Mexico, and Guatemala.

Constituents.—Its active principle is called smilacin, and it also contains a volatile oil, a coloring substance, resin, gum, starch, bassorin, extractive matter, and salts.

Description—

OF THE ROOT.—Very long, about $\frac{1}{2}$ of an inch thick, cylindrical, longitudinally wrinkled, grayish-brown or orange-brown externally, white and somewhat horny internally, with a mucilaginous, bitterish, and acrid taste, and a very faint odor.

OF SMILACIN.—A white, crystalline principle, inodorous, and almost tasteless.

Solubility—

OF THE ROOT.—Yields its virtues to water and to diluted alcohol.

OF SMILACIN.—Very slightly soluble in cold water, and very readily soluble in alcohol.

GENERAL ACTION.

Diaphoretic. Alterative.

PHYSIOLOGICAL ACTION.

The only action which can be accurately ascribed to it is that of a diaphoretic, and weak alterative.

THERAPEUTICAL ACTION.**CUTANEOUS SYSTEM.**

As a diaphoretic it benefits some *skin diseases*.

GENERAL DISEASES.

Its administration is recommended in the treatment of *sypilis, scrofula, and old ulcers*.

PREPARATIONS.

Decoctum Sarsaparillæ Compositum. $\frac{3}{4}$ iv.— $\frac{3}{4}$ vj. (120.—180.).

Extractum Sarsaparillæ Compositum

Fluidum..... 3 ss.—3 iv. (2.—16.).

Extractum Sarsaparillæ Fluidum.... 3 ij.—3 iv. (8.—16.).

Syrupus Sarsaparillæ Compositus.... $\frac{3}{4}$ ss. (16.).

SASSAFRAS.

English Name.—Sassafras.

Origin.—The bark of the root of *Sassafras officinalis*, and *Sassafras Medulla*, the pith of *Sassafras Officinalis*.

Natural Order.—Lauraceæ.

Habitat.—This tree is common throughout the United States, and is also found in Mexico.

Constituents—

OF THE BARK OF THE ROOT.—It contains a volatile oil (*Oleum Sassafras*), fatty matter, resin, wax, tannic acid, gum, albumen, lignin, a peculiar substance called *sassafrid*, and salts.

OF THE PITH.—Mucilage is the principal constituent of the pith.

Description—

OF THE BARK OF THE ROOT.—Obtained in irregular fragments, deprived of the gray, corky layer; bright rust-brown color, with a sweetish, aromatic, and somewhat astringent taste, and an odor which is strongly fragrant.

OF THE PITH.—Obtained in slender, cylindrical pieces, often rolled or curled, light, spongy white, having no odor, and an insipid taste.

OF THE VOLATILE OIL.—The oil is of a yellow color, or colorless, becoming reddish by age; it has the characteristic odor, and a warm, pungent, aromatic taste.

Solubility—

OF THE BARK OF THE ROOT.—Its properties are extracted by water and by alcohol.

OF THE PITH.—Water forms a mucilaginous mixture when macerated with it.

OF THE OIL.—Readily soluble in alcohol.

GENERAL ACTION.

Aromatic stimulant. Demulcent. Diaphoretic.

THERAPEUTICAL ACTION.**DIGESTIVE SYSTEM.**

As a demulcent and aromatic stimulant it may prove beneficial in various *gastric disorders*.

CUTANEOUS SYSTEM.

Benefit may be derived in some *cutaneous diseases* by its diaphoretic action.

PREPARATIONS.*Of the Bark of the Root—*

Oleum Sassafras gtt. ij.-x. (.12-.60).

Of the Pith—

Mucilago Sassafras Medullæ (ad libitum).

SCAMMONIUM.

English Name.—Scammony.

Origin.—A resinous exudation from the root of *Convolvulus Scammonia*.

Natural Order.—*Convolvulaceæ*.

Habitat.—A native of Syria, Anatolia, and certain islands of the Archipelago.

Constituents.—Its active ingredient is a resin (*Resina Scammonia*), also called scammonin, and it also contains gum, wax, albumen, lignin, extractives, and salts.

Description—

OF THE RESINOUS EXUDATION.—It is a gum resin, and is obtained in irregular, angular pieces or circular cakes; greenish-gray or blackish in color, of a resinous lustre, slightly acrid taste, and a peculiar, somewhat cheese-like odor.

OF THE RESIN.—The resin is of a dirty, greenish-brown color, with a taste similar to scammony, and a feeble odor.

Solubility—

OF THE RESINOUS EXUDATION.—Imparts its virtues to water.

OF THE RESIN.—Very soluble in alcohol.

GENERAL ACTION.

Hydragogue cathartic. Cholagogue.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM.

Intestines.—It usually produces an intestinal evacuation in from two to four hours after its administration, the stools being soft or watery, and accompanied by griping.

Liver.—It is probable that it increases the flow of bile by intestinal irritation.

THERAPEUTICAL ACTION.

Its administration will relieve *constipation*, and because of its hydragogue action is often indicated in *dropsy*.

PREPARATIONS.

Resina Scammonii.....	gr. iv.-gr. viij. (.24-.48).
Extractum Colocynthis Composi-	
tum	gr. v.-xxx. (.30-2.).
Pilulæ Catharticæ Compositæ	1-4.

SCILLA.

English Name.—Squill.

Origin.—The sliced bulb of *Urginea Scilla*.

Natural Order.—Liliaceæ.

Habitat.—It is found growing upon the coasts of the Mediterranean.

Constituents.—Three active principles are said to have been obtained from this drug, namely, scillin, scillitoxin, and scillipicrin; and it also contains gum, sugar, various extractives, and salts.

Description.—It is obtained in narrow segments about 2 inches long, slightly translucent, yellowish-white or reddish in color, having a mucilaginous, bitter, and acrid taste, and no odor.

Solubility.—Its virtues are extracted by water and by alcohol.

GENERAL ACTION.

Gastro-intestinal stimulant. Expectorant. Diuretic. Local stimulant.

PHYSIOLOGICAL ACTION.**CIRCULATORY SYSTEM.**

Its active constituents diffuse readily into the blood,

DIGESTIVE SYSTEM.

When taken into the stomach in small doses it stimulates the mucous membrane, but in large, causes irritation, followed by nausea and vomiting.

RESPIRATORY SYSTEM.

It stimulates the bronchial mucous membrane, increases

its secretion, and facilitates expectoration. It is probable that the drug is partially eliminated by this source.

GENITO-URINARY SYSTEM.

In medicinal doses it stimulates the kidneys, and increases the flow of urine, but in large doses may produce strangury and hæmaturia. The kidneys eliminate a certain proportion of the drug.

CUTANEOUS SYSTEM.

Its application to the skin causes stimulation, and by being absorbed may produce systemic effects.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

This drug may be used as an emetic for the relief of *croup*, but is rather dangerous, being too irritating.

RESPIRATORY SYSTEM.

Much benefit may be derived from its administration in *subacute bronchitis*.

GENITO-URINARY SYSTEM.

Its cautious use as a diuretic is often beneficial in *hepatic dropsy* or *cardiac dropsy*.

TOXICOLOGICAL ACTION.

In very large doses it produces violent vomiting and purging, abdominal pains, hæmaturia or suppressed urine, weak pulse, convulsions, paralysis, collapse, and sometimes death.

Treatment of Poisoning.—Evacuate the stomach, and administer opiates and demulcents; give alcoholic stimulants if collapse is present.

PREPARATIONS.

Acetum Scillæ.....	℥ xv.—3 j. (1.—4.).
Extractum Scillæ Fluidum	℥ ij.—℥ v. (.18.—30).
Syrupus Scillæ.....	3 ss.—3 j. (2.—4.).
Syrupus Scillæ Compositus.....	℥ xv.—3 ss. (1.—2.).
Tinctura Scillæ.....	℥ x.—℥ xx. (.6—1.2).

SCOPARIUS.

English Name.—Scoparius.

Origin.—The tops of *Sarothamnus Scoparius*.

Natural Order.—Leguminosæ, Papilionaceæ.

Synonym.—Broom.

Habitat.—A native of Europe, and cultivated in the United States.

Constituents.—It contains two principles, one called scoparin, and supposed to be diuretic, the other called spartein, and supposed to be narcotic; also a volatile oil, fatty matter, wax, chlorophyll, yellow coloring matter, tannin, mucilage, gum, and lignin.

Description—

OF THE TOPS.—Described as being in thin, flexible twigs, winged, nearly smooth, tough, usually free from leaves, of a peculiar odor when bruised, and disagreeably bitter taste.

OF SCOPARIN.—It is amorphous and brittle, or in small crystals, of a pale yellow color, having no odor nor taste.

OF SPARTEIN.—In the pure state it is a colorless, transparent, oily liquid, which becomes brown upon exposure, and possesses a very bitter taste.

Solubility—

OF THE TOPS.—Water and alcohol extract their active properties.

OF SCOPARIN.—Slightly soluble in water and in alcohol.

OF SPARTEIN.—Slightly soluble in water and in alcohol.

GENERAL ACTION.

Tonic. Astringent. Diuretic.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM :

Stomach.—It promotes appetite and digestion.

Intestines.—It tends to restrain intestinal movements.

GENITO-URINARY SYSTEM.

By being eliminated from the kidneys it is brought into di-

rect contact with these organs, and thus causes a decided increase in the flow of urine.

THERAPEUTICAL ACTION.

GENITO-URINARY SYSTEM.

It is much esteemed as a remedy for *cardiac dropsy* and the œdema of *chronic parenchymatous nephritis*, but is contraindicated in acute kidney diseases.

PREPARATIONS.

*Extractum Scoparii Fluidum. 3 ss. – 3 j. (2.–4.).

*Decoctum Scoparii. $\frac{3}{4}$ ij. – $\frac{3}{4}$ iv. (60.–120.).

SCUTELLARIA.

English Name.—Scutellaria.

Origin.—Scutellaria lateriflora.

Natural Order.—Labiatae.

Synonym.—Scullcap.

Habitat.—Native of the United States.

Constituents.—Contains a small amount of volatile oil, fat, tannin, a trace of bitter principle, sugar, and other extractives.

Description.—The dried tops are about 20 inches long, smooth; stem quadrangular, branched; leaves opposite, about 2 inches long, ovate-lanceolate or ovate-oblong, serrate; flowers in axillary, one-sided racemes, with a pale blue corolla and a two-lipped calix, closed in fruit, the upper helmet-shaped; odor slight, and taste bitterish.

Solubility.—Yields its virtues to water and to alcohol.

GENERAL ACTION.

Antispasmodic.

THERAPEUTICAL ACTION.

It has been used for *neuralgia*, *chorea*, *delirium tremens*, and *nervous exhaustion*, but it is doubtful whether it has any medicinal effect.

PREPARATION.

Extractum Scutellariæ Fluidum. 3 ss. – 3 j. (2.–4.).

SENEGA.

English Name.—Senega.

Origin.—The root of *Polygala Senega*.

Natural Order.—Polygalaceæ.

Synonym.—Senega Snakeroot.

Habitat.—A native of the United States.

Constituents.—Its chief constituent is senegin, or polygalic acid, and it also contains resin, fixed oil, sugar, and other extractives.

Description.—

OF THE ROOT.—About 4 inches long, with a very knotty crown and spreading, tortuous branches; external color yellowish-gray or brownish-yellow; bark thick, whitish within, and enclosing an irregular, porous, yellowish wood; odor slight and unpleasant; taste sweetish and afterward acrid.

OF SENEGIN.—A white powder having no odor, and a slight taste at first which soon becomes pungent and acrid.

Solubility.—

OF THE ROOT.—Its virtues are extracted by water and by alcohol.

OF SENEGIN.—Slowly soluble in cold water, but readily soluble in hot water and in boiling alcohol.

GENERAL ACTION.

Gastro-intestinal stimulant. Expectorant. Mild diuretic. Emmenagogue. Local irritant.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM:

Stomach.—In medicinal doses it stimulates the gastric mucous membrane, but in large doses produces emesis.

Intestines.—In small doses it usually acts as a laxative, and in large as a cathartic.

RESPIRATORY SYSTEM.

Its administration causes an increase in the bronchial secretion on account of its stimulating action.

GENITO-URINARY SYSTEM :

Kidneys.—It often acts as a mild diuretic.

Uterus.—It is thought that this drug possesses emmenagogue properties.

THERAPEUTICAL ACTION.

RESPIRATORY SYSTEM.

As a stimulating expectorant, it is often employed with benefit in *chronic bronchitis*.

GENITO-URINARY SYSTEM.

It sometimes proves efficacious in the treatment of *dropsy* and *amenorrhœa*.

PREPARATIONS.

Abstractum Senegæ..... gr. j.—gr. iij. (.06–.18).

Extractum Senegæ Fluidum ℥j.—℥v. (.06–.30).

Syrupus Senegæ 3 j.—3 iij. (4–12.).

Syrupus Scillæ Compositus..... ℥xv.—3 ss. (1–2.).

SENNÆ.

English Name.—Senna.

Origin.—The leaflets of *Cassia acutifolia*, and of *Cassia elongata*.

Natural Order.—Leguminosæ, Cæsalpinieæ.

Habitat.—*Cassia acutifolia* grows wild in great abundance in Upper Egypt, Nubia, Sennaar, and other parts of Africa ; while *Cassia elongata* is a native of the southern parts of Arabia. The former chiefly constitutes Alexandria Senna, and the latter India Senna.

Constituents.—The chief constituent obtained from this drug is a glucoside called cathartic acid ; and it also contains a non-fermentable saccharine principle called catharto-mannite ; two bitter principles, sennapicrin and sennacrol ; chrysophanic acid, and other extractives.

Description—

OF THE LEAFLETS. — Alexandria Senna consists of leaflets about 1 inch long, lanceolate or lance-oval, rather pointed, unequally

oblique at the base, entire grayish-green, nearly smooth, of a nauseous, bitter taste, and a peculiar odor. India Senna consists of leaflets nearly 2 inches long, acute, unequally oblique at the base, entire dull green, having a mucilaginous, bitter taste, and a peculiar odor.

OF CATHARTIC ACID.—It is obtained as a black amorphous substance.

Solubility—

OF THE LEAFLETS.—They impart their virtues to water and to alcohol.

OF CATHARTIC ACID.—Insoluble in water and in alcohol.

GENERAL ACTION.

Mild cholagogue. Mild acrid cathartic.

PHYSIOLOGICAL ACTION.

It is a very effective cathartic, producing large, liquid stools in about four hours. Its action is much improved by combination with other purgatives.

THERAPEUTICAL ACTION.

This drug is very valuable for the relief of *habitual constipation*, and as a laxative in various *febrile conditions*.

PREPARATIONS.

Confectio Sennæ	3 ij. (8.).
Extractum Sennæ Fluidum	3 j.— $\frac{3}{4}$ ss. (4.—16.).
Infusum Sennæ Compositum	$\frac{7}{8}$ iv. (120.).
Pulvis Glycyrrhizæ Compositus . . .	1–5 3 ss.—3 ij. (2.—8.)
Syrupus Sarsaparillæ Compositus..	$\frac{7}{8}$ ss. (16.)
Syrupus Sennæ	3 j.— $\frac{3}{4}$ ss. (4.—16.).

SERPENTARIA.

English Name.—Serpentaria.

Origin.—The rhizome and rootlets of *Aristolochia Serpentaria*, and of *Aristolochia reticulata*.

Natural Order.—Aristolochiaceæ.

Synonym.—Virginia Snakeroot.

Habitat.—A native of the United States.

Constituents.—Its active ingredients are probably a volatile oil and a yellowish green resin, but it also contains gum, lignin, and other extractive matter.

Description.—The rhizome is about 1 inch long, thin and bent, marked on the upper side by approximate stem-remnants, and on the lower side with numerous, thin, branching rootlets about 4 inches long; dull yellowish-brown externally, and whitish internally; with an aromatic, camphoraceous odor, and a bitterish, warm, camphoraceous taste.

Solubility.—Its virtues are extracted by water and by alcohol.

GENERAL ACTION.

Cerebral excitant. Cardiac stimulant. Aromatic tonic. Intestinal stimulant. Expectorant. Diuretic. Emmenagogue. Aphrodisiac. Thermafacient.

Synergists.—Camphora, asafetida, ammoniacum, valeriana, and alcoholic stimulants promote its action.

Antagonists and Incompatibles.—Aconite, veratrum viride, ergot, tobacco, physostigma, etc., antagonize its action. Salts of iron are incompatible, because of the tannin serpentaria contains.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM.

In small doses it is a mild cerebral stimulant, but in large, produces vertigo, fulness in the head, and decided exhilaration.

CIRCULATORY SYSTEM.

By its stimulant properties it causes an increase in the force and frequency of the heart's action.

DIGESTIVE SYSTEM :

Stomach.—In small doses it increases the appetite, but in large may cause nausea and vomiting.

Intestines.—In small doses it promotes the intestinal secretion and acts as a laxative, but in large is apt to cause diarrhoea.

RESPIRATORY SYSTEM.

It increases the secretion of the bronchial mucous membrane.

GENITO-URINARY SYSTEM:

Kidneys.—As a rule this drug increases the flow of urine.

Uterus.—In full doses it usually acts as an emmenagogue.

Sexual Appetite.—Large doses increase the sexual power.

TEMPERATURE.

By stimulating the heart and increasing cutaneous circulation it elevates the temperature.

THERAPEUTICAL ACTION.**RESPIRATORY SYSTEM.**

Chronic bronchitis, pneumonitis, and capillary bronchitis are often benefited by its action as a stimulating expectorant.

GENITO-URINARY SYSTEM.

Amenorrhœa and *atonic spermatorrhœa* are often benefited by its use.

GENERAL DISEASES.

Benefit may be derived from its employment in the treatment of *intermittent fever, remittent fever, and typhoid fever.*

PREPARATIONS.

Extractum Serpentariæ Fluidum.. ℥ xx.—℥ xxx. (1.2–2.).

Tinctura Serpentariæ..... 3 j.—3 iv. (4.–16.).

Tinctura Cinchonæ Composita.... 3 j.—3 iv. (4.–16.).

SINAPIS.

English Name.—Mustard.

Origin.—The seed of *Sinapis alba*, or White Mustard; and the seed of *Sinapis nigra*, or Black Mustard.

Natural Order.—Cruciferae, Siliquosae.

Habitat.—It is a native of Europe, and cultivated in the United States.

Constituents.—Both seeds yield upon pressure a fixed oil called oil of mustard, which contains an acid called erucic

acid, and also oleic and stearic acids; another acid called sinapoleic acid is obtained from the fixed oil of both varieties. The black mustard-seeds yield by distillation with water a volatile oil (*Oleum Sinapis Volatile*), and an acid called benenic acid. A principle named sinalbin has also been obtained from the white seed.

Description—

OF THE SEED.—The white seed are larger than the black, of a yellowish color externally, almost globular, having a strong, pungent, and acrid taste, and no odor. The black mustard-seed are almost globular, smaller than the white, of a deep brown color externally, having a strong, pungent smell and a pungent, acrid taste.

OF THE VOLATILE OIL.—A colorless or pale yellow liquid of an exceedingly pungent odor, and an acrid, burning taste.

Solubility—

OF THE SEED.—They yield their virtues wholly to water, and very slightly to alcohol.

OF THE VOLATILE OIL.—Freely soluble in alcohol.

GENERAL ACTION.

Gastro-intestinal stimulant. Emetic. Local irritant.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM :

Stomach.—In small doses it stimulates the stomach, and in large produces vomiting.

Intestines.—By stimulating the intestinal mucous membrane it often acts as a laxative.

CUTANEOUS SYSTEM.

Applied to the skin it produces redness, pain, vesication, and sometimes ulceration.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

In *atonic dyspepsia* and certain forms of *constipation* it may prove useful when given in small doses. As an emetic it is very serviceable in cases of *poisoning*.

CUTANEOUS SYSTEM.

Its chief use is as a counter-irritant for the relief of *pain* and various *inflammatory conditions*.

PREPARATIONS.

Charta Sinapis.

Linimentum Sinapis Compositum.

Oleum Sinapis Volatile.

SPIGELIA.

English Name.—Spigelia.

Origin.—The rhizome and rootlets of *Spigelia marilandica*.

Natural Order.—Loganiaceæ.

Synonym.—Pinkroot.

Habitat.—A native of the United States.

Constituents.—It contains a peculiar principle which is called spigelin, a small amount of volatile oil, resin, tannic acid, wax, lignin, extractive, and salts.

Description—

OF THE RHIZOME AND ROOTLETS.—They consist of numerous slender, wrinkled, branching, brownish fibres attached to a dark-brown cortex, and having a faint, peculiar smell and a sweetish, slightly bitter taste.

OF SPIGELIN.—Supposed to be an uncrystallizable substance, which is bitter and acrid.

Solubility—

OF THE RHIZOME AND ROOTLETS.—Boiling water extracts their virtues.

OF SPIGELIN.—Soluble in water and in alcohol.

GENERAL ACTION.

Mild narcotic. Gastro-intestinal stimulant. Anthelmintic.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM.

It possesses narcotic powers of a not fully determined character.

DIGESTIVE SYSTEM :

Stomach.—It stimulates the stomach, produces a sense of warmth in the epigastrium, and increases the gastric secretions.

Intestines.—It stimulates the peristaltic movements, and thus tends to act as a laxative.

THERAPEUTICAL ACTION.

This drug is undoubtedly one of the most reliable agents we have for the treatment of *lumbrici*. It should be given with or followed by a cathartic.

TOXICOLOGICAL ACTION.

When taken in very large doses it produces dilatation of the pupil, vertigo, flushing of face, heat and dryness of skin, delirium, convulsions, and insensibility. These symptoms are accompanied by nausea, vomiting, and purging.

Treatment of Poisoning.—Treat the symptoms as they arise.

PREPARATION.

Extractum Spigelia Fluidum ℥x.—3 ij. (.6–8.).

STAPHISAGRIA.

English Name.—Staphisagria.

Origin.—The seed of Delphinium Staphisagria.

Natural Order.—Ranunculaceæ.

Synonym.—Stavesacre, Licebane.

Habitat.—A native of the south of Europe.

Constituents.—It contains four alkaloids, namely, delphinin, staphisagrin, delphinoidin, and delphisin ; it also contains a brown bitter principle, a yellow bitter principle, a volatile oil, a fixed oil, mucilage, albumen, and other extractives.

Description—

OF THE SEED.—From $\frac{1}{2}$ to $\frac{1}{6}$ of an inch broad, one side convex, brown or brownish-gray, nearly inodorous, taste bitter and acrid.

OF DELPHININ.—Obtained in large, rhombic crystals.

OF STAPHISAGRIN.—Obtained as an amorphous substance.

Solubility—

OF THE SEED.—They yield their virtues to water and to alcohol.

OF DELPHININ.—Slightly soluble in water, more readily soluble in alcohol.

OF STAPHISAGRIN.—Slightly soluble in water.

GENERAL ACTION.

Cardiac sedative. Gastro-intestinal irritant. Respiratory depressant. Local irritant. Parasiticide.

PHYSIOLOGICAL ACTION.**CIRCULATORY SYSTEM.**

It renders the heart-beats slower by a direct action upon the cardiac muscle and nervous supply of the heart.

DIGESTIVE SYSTEM :

Stomach.—By irritating the stomach it usually causes vomiting.

Intestines.—It is partially eliminated by the bowels, and is apt to cause constipation.

RESPIRATORY SYSTEM.

Its administration renders the respiratory movements slower, and is apt to cause dyspnoea.

GENITO-URINARY SYSTEM.

It is partially eliminated by the kidneys, and may produce dysuria.

CUTANEOUS SYSTEM.

When applied to the skin it usually reddens it, and may prove quite irritating.

THERAPEUTICAL ACTION.**DIGESTIVE SYSTEM.**

In small doses this drug has been used with some success in the *vomiting of pregnancy* and *seasickness*.

CUTANEOUS SYSTEM.

As a local parasiticide in *phthiriasis* and *scabies* it proves very efficacious.

TOXICOLOGICAL ACTION.

When taken in large doses it causes convulsions, clonic spasms, slow, weak pulse, vomiting, dyspnoea, and finally death by asphyxia or cardiac paralysis.

Treatment of Poisoning.—Evacuate stomach if necessary, and administer cardiac stimulants.

PREPARATION.

Tinctura Staphisagriae Externally.

STILLINGIA.

English Name.—Stillingia.

Origin.—The root of *Stillingia sylvatica*.

Natural Order.—Euphorbiaceæ.

Synonyms.—Queen's Root, Queen's Delight, Silver Leaf, Taw Root.

Habitat.—A native of the United States.

Constituents.—Its active principle is not fully determined, but is supposed to be volatile.

Description.—The root is about 12 inches long, nearly 2 inches thick, slightly branched, grayish-brown in color; taste bitter, acrid, and pungent; odor peculiar and unpleasant.

Solubility.—Imparts its properties to water and to alcohol.

GENERAL ACTION.

Mild cardiac stimulant. Gastro-intestinal stimulant. Cholagogue. Mild Diuretic. Diaphoretic. Alterative.

PHYSIOLOGICAL ACTION.**CIRCULATORY SYSTEM.**

A slight increase in the heart's action follows its administration.

DIGESTIVE SYSTEM :

Stomach.—In small doses it stimulates the gastric mucous membrane, increases the gastric secretion, and produces a

feeling of warmth. In large doses it may produce nausea and vomiting.

Liver.—It increases the biliary secretion.

Intestines.—It increases the intestinal secretion, and thus acts as a laxative, the stools containing an increased amount of bile.

GENITO-URINARY SYSTEM.

The flow of urine is somewhat augmented by its action.

CUTANEOUS SYSTEM.

This drug increases cutaneous warmth and perspiration.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

It proves beneficial in the treatment of *chronic constipation*, *simple jaundice*, *hepatic torpor*, and *hepatic ascites*.

GENERAL DISEASES.

It is often employed in *syphilis* and *scrofulous diathesis*.

PREPARATION.

Extractum Stillingiæ Fluidum ℥x. — 3 ss. (.60–2.).

STRAMONIUM.

English Name.—Stramonium.

Origin.—The leaves, *Stramonii Folia*; and the seed, *Stramonii Semen*; of *Datura Stramonium*.

Natural Order.—Solanaceæ.

Synonyms.—Thorn Apple, Jamestown Weed, Stinkweed, Jimson Weed.

Habitat.—A native of the United States and of Europe.

Constituents.—The active principle of this drug is called daturin, and is quite similar in action to atropine; another peculiar principle called stramonin has been obtained. The drug also contains fixed oil, gum, resin, starch, bassorin, lignin, salts, and other extractives.

Description.—

OF THE LEAVES.—About 6 inches long, smooth, ovate, pointed, unequal at the base, with an unpleasant, bitter, nauseous

taste, and very faint odor after being dried. They are much weaker than the seed.

OF THE SEED.—About $\frac{1}{6}$ of an inch long, flattened and wrinkled, with a dark-brown, almost black color, and a bitter, nauseous taste, but inodorous unless bruised. The medical virtues of the seed are greater than those of the leaves.

OF DATURIN. Is obtained as crystals, very similar to atropine.

OF STRAMONIN.—A white, tasteless powder.

Solubility—

OF THE LEAVES.—Impart their medical properties to water and to alcohol.

OF THE SEED.—Their virtues are extracted by water and by alcohol.

OF DATURIN.—Slightly soluble in cold water, more so in boiling water, and very soluble in alcohol.

OF STRAMONIN.—Insoluble in water, and sparingly soluble in alcohol.

GENERAL ACTION.

Cerebral stimulant. Excito-motor. Antispasmodic. Mydriatic. Cardiac stimulant. Arterial contractant. Laxative. Respiratory stimulant. Diuretic. Local sedative.

Synergists.—Belladonna, hyoscyamus, nux vomica, picrotoxin, cimicifuga, etc., are synergistic.

Antagonists and Incompatibles.—Opium and physostigma are its chief physiological antagonists. Caustic alkalies are incompatible.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM :

Brain.—In full medicinal doses it causes headache, vertigo, and possibly delirium.

Spinal Cord.—In large doses it may cause inco-ordination or motor paralysis, but does not affect sensibility.

Nerves.—It causes dilatation of the pupil, by paralyzing the terminal filaments of the third nerve.

CIRCULATORY SYSTEM.

It increases the heart's action in force and frequency, by

stimulating the cardiac ganglia and paralyzing the terminal filaments of the pneumogastric.

Vessels.—In moderate doses it increases arterial tension, by stimulating the vaso-motor nerves, but in large doses may cause arterial dilatation.

DIGESTIVE SYSTEM.

Mouth.—It checks the secretion of saliva by paralyzing the filaments of the chorda tympani.

Stomach.—This drug first represses but afterward increases the gastric secretions.

Intestines.—By promoting the intestinal secretions and hastening the peristaltic movements it increases the stools in number and liquidity.

RESPIRATORY SYSTEM.

This drug increases the number and depth of the respirations.

GENITO-URINARY SYSTEM.

It promotes the flow of urine.

CUTANEOUS SYSTEM.

Cutaneous transpiration is decreased by its administration, and in large doses it may cause an eruption similar to that produced by belladonna.

TEMPERATURE.

A rise of temperature is very apt to follow a full dose, but this is succeeded by a fall when perspiration commences.

THERAPEUTICAL ACTION.

NERVOUS SYSTEM.

It may benefit *epilepsy* and *neuralgia*.

DIGESTIVE SYSTEM.

Pharyngitis, *gastritis*, and *constipation* may be treated with success by this drug.

RESPIRATORY SYSTEM.

Good results are obtained from its employment in *acute rhinitis*, *catarrhal croup*, *pertussis*, and especially *asthma*.

GENITO-URINARY SYSTEM.

Stramonium is often serviceable in the treatment of *incontinence of urine*, *ovarian dysmenorrhœa*, and *spermatorrhœa*.

GENERAL DISEASES.

Among other diseases treated by its administration are *erysipelas* and *typhoid fever*.

CUTANEOUS SYSTEM.

Herpes zoster, *eczema*, and *hyperidrosis* are sometimes relieved by its use.

LOCALLY.

Excellent results are often obtained from its action in *galactorrhœa*, *myalgia*, *pruritus vulvæ*, and *fissures of the anus*. Its active principle may be employed with benefit in *phlyctenular keratitis*. The smoke of the leaves, when inhaled, is of great benefit in *asthma*.

HYPODERMATICALLY.

Its active principle may be employed subcutaneously for the same diseases which are benefited by its internal use.

TOXICOLOGICAL ACTION.

Headache, giddiness, drowsiness, dryness of the mouth, marked dilatation of the pupils, vomiting, delirium, and a scarlet cutaneous eruption, with a desire but inability to urinate, are the symptoms following an overdose.

Antidotes and Treatment of Poisoning.—Empty stomach by emetics or by stomach-pump, give physostigma or opium subcutaneously, and apply stimulation externally.

PREPARATIONS.

Extractum Stramonii	gr. $\frac{1}{4}$ —gr. ss. (.015—.03).
Extractum Stramonii Fluidum .	℥j.—℥ij. (.06—.12).
Tinctura Stramonii	℥xx.—3 ss. (1.2—2.).
Unguentum Stramonii	(1—10).

STYRAX.

English Name.—Storax.

Origin.—A balsam prepared from the inner bark of *Liquidambar orientalis*.

Natural Order.—Hamamelaceæ, Balsamifluæ.

Synonym.—Oriental Sweetgum.

Habitat.—A native of Asia Minor.

Constituents.—It contains a constituent called storesin, one called styracin, a hydrocarbon called styrol, cinnamic acid, and a fragrant substance called ethylvanillin, and other extractives.

Description.—

OF THE BALSAM.—Semiliquid, gray, sticky, opaque, transparent in thin layers, of a balsamic taste, and an agreeable odor.

OF STYRACIN.—Crystallizes in tufts of long, rectangular prisms.

Solubility.—

OF THE BALSAM.—Soluble in an equal weight of warm alcohol.

OF STYRACIN.—Insoluble in water.

GENERAL ACTION.

Stimulating expectorant.

THERAPEUTICAL ACTION.

It is recommended in the treatment of *phthisis*, *asthma*, *chronic bronchitis*, *diphtheria*, and *catarrhal laryngitis*.

PREPARATION.

Tinctura Benzoini Composita 3 ss.- 3 j. (2.-4.).

SUMBUL.

English Name.—Sumbul.

Origin.—The root of *Ferula Sumbul*.

Habitat.—A native of Turkestan and Eastern Siberia.

Natural Order.—Umbelliferæ, Orthospermæ.

Constituents.—It contains an acid called sumbulic acid, a volatile oil, resin, wax, gum, starch, and a bitter substance.

Description.—It is obtained in transverse slices from 1 to 5 inches in diameter and $\frac{3}{4}$ to 2 inches thick. It is light and

spongy, with a thin, brownish back and a whitish interior. Its taste is bitter and balsamic, and its odor strong and musk-like.

Solubility.—Yields its virtues to alcohol.

GENERAL ACTION.

Cerebral sedative. Motor depressant. Antispasmodic.

THERAPEUTICAL ACTION.

NERVOUS SYSTEM.

It is recommended for the relief of *hysteria*, *chlorosis*, *amenorrhœa*, *dysmenorrhœa*, *epilepsy*, and other nervous disorders.

RESPIRATORY SYSTEM.

It is also recommended in the treatment of *chronic bronchitis*, *pneumonitis*, and *phthisis*.

PREPARATION.

Tinctura Sumbul..... ℥xx.—3 j. (1.2–4.).

TABACUM.

English Name.—Tobacco.

Origin.—The leaves of *Nicotiana Tabacum*.

Natural Order.—Solanaceæ.

Habitat.—Is a native of America.

Constituents.—It contains a peculiar alkaloid called nicotin, a concrete volatile oil termed nicotianin, an empyreumatic oil, gum, resin, albumen, bitter extractive, starch, lignin, and various salts.

Description.—

OF THE LEAVES.—Twenty inches long or shorter, oval or ovate-lanceolate, acute, brown, friable, of a nauseous, bitter, and acrid taste, and a heavy, peculiar odor.

OF NICOTIN.—This is a colorless or nearly colorless fluid, having an exceedingly acrid, burning taste even when largely diluted, and a little odor when cold.

Solubility—

OF THE LEAVES.—Their properties are imparted to water and to alcohol.

OF NICOTIN.—Very soluble in water and in alcohol.

GENERAL ACTION.

Motor depressant. Myositic. Cardiac sedative. Gastric stimulant. Emetic. Intestinal stimulant. Respiratory depressant. Local irritant.

Synergists.—Conium, arnica, gelsemium, physostigma, veratrum viride—in fact all motor depressants aid its action.

Antagonists and Incompatibles.—Strychnine is its most reliable physiological antagonist, but ergot, digitalis, belladonna, alcohol, and all cardiac stimulants, oppose its action. The iodides, tannin, and caustic alkalies are incompatible.

PHYSIOLOGICAL ACTION.**NERVOUS SYSTEM :**

Brain.—It has no direct effect on the brain, but may cause vertigo, delirium, and insensibility from the accumulation of carbonic acid in the blood.

Spinal Cord.—The spinal cord is directly affected by this drug, the end organs of the motor nerves lose their excitability and the trunks of the motor nerves and the spinal cord lose their conductivity ; but the voluntary muscles remain unaffected. Trembling, clonic spasms, and paralysis follow its administration in large doses, and the pupils become contracted.

CIRCULATORY SYSTEM :

Heart.—It usually renders the cardiac action slower, but this is probably due to its interference with the pulmonary functions.

Vessels.—By affecting the heart it causes a diminution in blood pressure.

Blood.—It renders the blood more venous in appearance, but does not affect the blood globules, as the color of the blood may be restored by agitating it with oxygen, thus indicating that its color is due to a want of sufficient oxygenation.

DIGESTIVE SYSTEM :

Stomach.—It stimulates the gastric mucous membrane in moderate doses, but produces nausea and vomiting in full doses.

Intestines.—In small doses it proves an intestinal stimulant, and in moderate doses a laxative.

RESPIRATORY SYSTEM.

It greatly depresses the respiratory system, and in full doses tends to paralyze the muscles of respiration.

GENITO-URINARY SYSTEM.

In full doses the quantity of urine is increased, and at least part of the nicotin is excreted by the kidneys.

CUTANEOUS SYSTEM.

It is readily absorbed when applied to the skin, and usually acts as a local irritant.

THERAPEUTICAL ACTION.**NERVOUS SYSTEM.**

Some authorities recommend its employment by the mouth or as an enema in *tetanus*.

DIGESTIVE SYSTEM.

This drug should seldom be used internally, but may occasionally be useful in *habitual constipation*, as an *emetic*, and as an enema for *intestinal obstruction*.

RESPIRATORY SYSTEM.

It is used in *spasmodic asthma*, *laryngismus stridulus*, and *singultus*.

GENITO-URINARY SYSTEM.

Its administration in nauseating doses will relieve *priapism* and *chordee*.

LOCALLY.

Its application often proves curative in *scabies*, *pityriasis*, and *tinea circinata*.

TOXICOLOGICAL ACTION.

Vertigo, contracted pupils, muscular trembling, tetanic convulsions, muscular relaxation, slow and weak pulse, nausea,

vomiting, purging, shallow and weak respirations, increased flow of urine, sweating, reduced temperature, and finally death by paralysis of the muscles of respiration, the heart-beats continuing even after the respirations have ceased.

Treatment of Poisoning.—Evacuate stomach by emetics or stomach-pump; use strychnia subcutaneously; cardiac stimulants, such as alcohol and ammonia, and artificial respiration.

PREPARATION.

*Vinum Tabaci ℥v. - 3 ss. (.30-2.).

TAMARINDUS.

English Name.—Tamarind.

Origin.—The preserved pulp of the fruit of *Tamarindus indica*.

Natural Order.—Leguminosæ, Cæsalpinieæ.

Habitat.—Native of the East Indies, West Indies, Egypt, and Arabia.

Constituents.—It contains citric acid, tartaric acid, malic acid, gum, jelly, salts, and other extractives.

Description.—A reddish brown, sweet pulpy mass, containing strong fibres and polished brown seeds.

Solubility.—It imparts its virtues to boiling water.

GENERAL ACTION.

Laxative. Refrigerant.

THERAPEUTICAL ACTION.

Useful as a laxative, especially in *febrile diseases*.

PREPARATION.

Confectio Sennæ 3 ij. (8.).

TANACETUM.

English Name.—Tansy.

Origin.—The leaves and tops of *Tanacetum vulgare*.

Natural Order.—Compositæ.

Habitat.—A native of Europe, but cultivated in the United States.

Constituents.—It contains a peculiar principle called tanacetin, tannic acid, gallic acid, volatile oil, wax-like substance, resin, sugar, and other extractives.

Description—

OF THE LEAVES AND TOPS.—Leaves are about 6 inches long, alternate, smooth, dark green, glandular; the flower heads consist of numerous yellow florets. Their taste is warm, bitter, aromatic, and somewhat acrid, and their odor strong, peculiar, and fragrant.

OF TANACETIN.—It forms a very hygroscopic, brownish, amorphous mass, with a taste at first bitter, and afterward cooling and caustic.

Solubility—

OF THE LEAVES AND TOPS.—Water and alcohol extract their virtues.

OF TANACETIN.—Readily soluble in water and in alcohol.

GENERAL ACTION.

Cerebral stimulant. Cardiac stimulant. Gastric stimulant. Anthelmintic. Diuretic. Emmenagogue. Local irritant.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM.

In full doses it produces giddiness and a feeling of fulness in the head.

CIRCULATORY SYSTEM.

The pulse grows more rapid and less full by its administration.

DIGESTIVE SYSTEM.

When taken into the stomach it increases the gastric secretion and produces a feeling of warmth.

GENITO-URINARY SYSTEM :

Kidneys.—The flow of urine is increased by its action, the urine smelling strongly of the drug.

Uterus.—In sufficient-sized dose this drug acts as an emmenagogue.

CUTANEOUS SYSTEM.

It has a certain irritating effect when applied to the skin.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

Tansy is said to be a very useful *anthelmintic*, being used especially for *lumbrici*.

GENITO-URINARY SYSTEM.

It is employed in *amenorrhœa* and *dropsy*.

LOCALLY.

As a local application it is used in the treatment of *bruises*, *sprains*, and *chronic ulcers*.

TOXICOLOGICAL ACTION.

In toxic doses it causes gastric heat, dizziness, numbness, clonic convulsions, flushing of the face, dilated pupils, stertor, emesis, moist and warm skin, rapid pulse, and death by coma and asphyxia.

Treatment of Poisoning.—Emetics and demulcents.

PREPARATION.

*Oleum Tanacetii..... gtt. j.—gtt. v. (.06–.30).

TARAXACUM.

English Name.—Taraxacum.

Origin.—The root of *Taraxacum Dens-leonis*.

Natural Order.—Compositæ.

Synonym.—Dandelion.

Habitat.—A native of Europe, America, and other countries.

Constituents.—Contains a peculiar principle called taraxacin, another called taraxacerin, resin, sugar, and other extractives.

Description.—

OF THE ROOT.—Slightly conical, about 12 inches long, about 1 inch thick above, branched, fleshy, dark-brown externally,

whitish internally, abounding in a milky juice, without smell, and having a bitter taste.

OF TARAXACIN.—Obtained as a crystalline principle, with an acrid and bitter taste.

Solubility—

OF THE ROOT.—Boiling water extracts its virtues.

OF TARAXACIN.—Soluble in water and in alcohol.

GENERAL ACTION.

Bitter tonic. Laxative. Diuretic.

PHYSIOLOGICAL ACTION.

DIGESTIVE SYSTEM :

Stomach.—From its bitter properties this drug acts as a tonic, increasing the appetite and digestive power.

Intestines.—It stimulates the intestinal tract and acts as a mild laxative.

GENITO-URINARY SYSTEM.

It stimulates the kidneys to a mild degree, and thus increases the flow of urine.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

In *indigestion* and *constipation* it may prove useful.

GENITO-URINARY SYSTEM.

The chief use of this drug is as a diuretic in *dropsy*.

PREPARATIONS.

Extractum Taraxaci..... ℥j.—3 j. (1.2–4.).

Extractum Taraxaci Fluidum..... 3 j.—3 iij. (4.–12.).

TEREBINTHINA.

English Name.—Turpentine.

Origin.—The common American turpentine is a concrete oleoresin obtained from *Pinus australis* and from other species of *Pinus*; the Canada turpentine, *Terebinthina Canadensis*, is a liquid oleoresin obtained from *Abies balsamea*.

Natural Order.—Coniferæ.

Synonyms.—The common American turpentine is known as White Turpentine, and the tree from which it is derived as Long-leaved Pine, Yellow Pine, and Pitch Pine. The Canada turpentine is known as Canada Balsam or Balsam of Fir, and the tree from which it is derived is called American Silver Fir and Balm of Gilead Tree.

Habitat.—The *Pinus australis* is found chiefly in the Southern States, and the *Abies balsamea* in the northern portions of North America.

Constituents.—The turpentines yield a volatile oil (*Oleum Terebinthinæ*), a resin, and other less important extractives.

Description—

OF THE CONCRETE OLEORESIN.—Obtained in yellowish, tough masses, crummy-crystalline in the interior, and having a terebinthinate odor and taste.

OF THE LIQUID OLEORESIN.—A yellowish or faintly greenish, transparent, viscid liquid, having a bitterish, slightly acrid taste, and a terebinthinate odor.

OF THE VOLATILE OIL.—Limpid and colorless oil, having a hot, pungent, bitterish taste, and a strong, penetrating, peculiar odor.

Solubility—

OF THE CONCRETE OLEORESIN.—Soluble in alcohol.

OF THE LIQUID OLEORESIN.—Nearly insoluble in water, but soluble in alcohol.

OF THE VOLATILE OIL.—Slightly soluble in water, sparingly soluble in alcohol.

GENERAL ACTION.

Cardiac stimulant. Arterial contractant. Gastric stimulant. Laxative. Anthelmintic. Diuretic. Blennorrhetic. Diaphoretic. Antiseptic. Local irritant.

PHYSIOLOGICAL ACTION.

CIRCULATORY SYSTEM :

Heart.—The heart's action is increased in force and frequency by its administration.

Vessels.—Its action causes an increase in arterial tension.

Blood.—It diffuses readily into the blood.

DIGESTIVE SYSTEM :

Stomach.—The gastric mucous membrane is stimulated by its use, and a sensation of heat is experienced at the epigastrium.

Intestines.—By stimulating the intestinal lining it tends to increase the evacuations.

RESPIRATORY SYSTEM.

A certain portion of the drug is excreted by the breath, and the bronchial mucous membrane is stimulated by coming in contact with the drug during its elimination.

GENITO-URINARY SYSTEM.

A large portion of this drug is excreted by the kidneys, and the flow of urine is increased by its direct stimulation of these organs.

CUTANEOUS SYSTEM.

Turpentine increases cutaneous transpiration, and is partially excreted by the skin. Its local application to the skin produces irritation or inflammation.

THERAPEUTICAL ACTION.

CIRCULATORY SYSTEM.

In *hæmatemesis*, *intestinal hemorrhage*, *bronchial hemorrhage*, and *hæmaturia* it is very useful when there is debility and relaxation of the vessels.

DIGESTIVE SYSTEM.

For the relief of *gastric catarrh*, *intestinal catarrh*, *tænia*, and as an *enema for constipation*, it is very beneficial.

RESPIRATORY SYSTEM.

In *chronic bronchitis*, *bronchorrhœa*, *pneumonitis*, and *asthma* its administration is often indicated.

GENITO-URINARY SYSTEM.

Not unfrequently marked benefit is derived from its use in *chronic cystitis*, *chronic gonorrhœa*, *spermatorrhœa*, and *prostorrhœa*.

LOCALLY.

As a counter irritant it gives great relief in *myalgia*, *neuralgia*, *lumbago*, *pleuritic pains*, and *intestinal pains*. It is also recommended as an application in *hospital gangrene*, after the dead parts have been removed. *Laryngitis* and *bronchitis* are very much benefited by its use as an inhalation.

TOXICOLOGICAL ACTION.

In very large doses it causes mental exhilaration, confused ideas, muscular relaxation, flushed face, labored or stertorous breathing, insensibility, weak pulse, moist skin, hæmaturia, strangury, vomiting, and purging.

Treatment of Poisoning.—Evacuate stomach, and treat symptoms with demulcents and anodynes.

PREPARATIONS.

Oleum Terebinthinæ gtt. v.-xxx. (.3-2.).

Linimentum Terebinthinæ.

Charta Cantharidis.

Collodium Flexile.

Emplastrum Galbani.

THUJA.

English Name.—Thuja.

Origin.—The fresh tops of *Thuja occidentalis*.

Natural Order.—Coniferæ.

Synonyms.—Arba Vitæ, American Sylva, White Cedar.

Habitat.—It is a native of America.

Constituents.—Contains a peculiar coloring principle called thujin, a yellow principle called thujetin, a volatile oil, sugar, resin, wax, and other extractives.

Description.—

OF THE FRESH TOPS.—They are flattish, two-edged, with scale-like leaves, oppressed, and closely imbricate in four rows, rhombic-ovate, obtusely pointed, having a strong, balsamic, camphoraceous, bitter taste, and an agreeable, balsamic odor.

OF THUJIN.—It is of a citron-yellow color, having an astringent taste.

Solubility—

OF THE FRESH TOPS.—Yield their virtues to alcohol and to boiling water.

OF THUJIN.—Soluble in alcohol.

GENERAL ACTION.

Aromatic tonic. Anthelmintic. Alterative.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

It is sometimes used for *tænia*.

GENERAL DISEASES.

This drug has been employed in *low fevers, scorbutus, rheumatism, and cancerous affections*.

LOCALLY.

As an application for the relief of *rheumatic complaints* and *venereal excrescences* it has proved beneficial.

PREPARATION.

*Extractum Thujæ Fluidum..... 3 ss.—3 j. (2.—4.).

TRAGACANTHA.

English Name.—Tragacanth.

Origin.—A gummy exudation from *Astragalus gummifer*, and from other species of *Astragalus*.

Natural Order.—Leguminosæ, Papilionaceæ.

Habitat.—This drug is derived from small shrubs growing in Persia, Asia Minor, and other countries bordering on the Levant.

Constituents.—Contains a peculiar principle called tragacanthin, which is probably identical with bassorin; another principle resembling arobin, starch, and other extractives.

Description.—The gummy exudation is obtained either in flaky, leaf-like pieces, which are irregular, oblong or roundish, or in filaments, rounded or flattened, rolled up or extended, having a whitish, yellowish-white, or slightly reddish

color, somewhat translucent, and horny in appearance. It is fragile to a certain degree, but is difficult to pulverize, and has no smell, and very little taste.

Solubility.—Tragacanth is wholly insoluble in alcohol, but partially soluble in water.

GENERAL ACTION.

Demulcent. Nutrient.

THERAPEUTICAL ACTION.

As a demulcent it may prove beneficial in *catarrhal inflammations*, though it is soluble with difficulty. Its nutritious properties may sometimes prove useful in some forms of illness.

PREPARATION.

Mucilago Tragacanthæ. Vehicle.

TRITICUM.

English Name.—Triticum.

Origin.—The rhizome of *Triticum repens*.

Natural Order.—Graminaceæ.

Synonym.—Couch-grass.

Habitat.—A native of Europe and North America.

Constituents.—It contains a principle called triticein, resembling inulin; also other extractives.

Description.—The rhizome is very long naturally, but in the shops is deprived of its rootlets and cut into sections about $\frac{2}{3}$ of an inch long and $\frac{1}{12}$ of an inch thick. It is of a straw-yellow color, inodorous, and of a sweet taste.

Solubility.—It yields its virtues to water.

GENERAL ACTION.

Mild diuretic.

THERAPEUTICAL ACTION.

It is administered with benefit for the relief of *cystitis*, *urethritis*, and *irritation of the bladder*.

PREPARATION.

Extractum Tritici Fluidum. 3 ss.—3 j. (2.—4.).

ULMUS.

English Name.—Elm.

Origin.—The inner bark of *Ulmus fulva*.

Natural Order.—Urticaceæ, Ulmeæ.

Synonyms.—Slippery Elm, Red Elm.

Habitat.—It is a native of the United States.

Constituents.—Its chief constituent is mucilaginous matter, and it also contains some tannic acid.

Description.—It is obtained in flat pieces about $\frac{1}{8}$ inch thick, varying in length and breadth, tough, pale brownish-white; slight, peculiar odor, and mucilaginous taste.

Solubility.—It readily imparts its mucilaginous matter to water.

GENERAL ACTION.

Demulcent. Nutrient.

THERAPEUTICAL ACTION.

It is often very valuable in the treatment of *catarrhal inflammations* of mucous membranes, and may be used as a nutrient. It is also employed in the form of tents for dilating the os uteri.

PREPARATION.

Mucilago Ulmi..... Vehicle.

USTILAGO.

English Name.—Ustilago.

Origin.—Ustilago Maydis, a fungoid growth upon *Zea Mays* or Indian Corn.

Natural Order.—Graminaceæ.

Synonyms.—Corn Smut, Corn Ergot.

Habitat.—It is abundant in the United States.

Constituents.—It probably contains alkaloids similar to those found in ergot, but this is undecided. It contains, however, a fixed oil, a resin, pectin, gluten, and a species of sugar.

Description.—It is obtained as irregular, globular masses, consisting of a blackish, gelatinous membrane enclosing numerous dark, globular, and nodular spores. Its odor and taste are disagreeable.

Solubility.—Yields its virtues to water and to alcohol.

GENERAL ACTION.

Its action is nearly identical with that of ergot.

THERAPEUTICAL ACTION.

It is employed for the relief of the same diseases which are treated with ergot.

UVA URSI.

English Name.—Uva Ursi.

Origin.—The leaves of *Arctostaphylos Uva-ursi*.

Natural Order.—Ericaceæ.

Synonym.—Bearberry.

Habitat.—This shrub inhabits America, Europe, and Asia.

Constituents.—It contains three crystalline principles, namely, arbutin, ericolin, and ursone; also resin, gum, a volatile oil, tannic acid, gallic acid, bitter extractive, and salts.

Description.—

OF THE LEAVES.—The leaves are evergreen, scattered, cuneate-obovate, $\frac{4}{5}$ of an inch long, variable in breadth, glossy on the upper surface, paler on the lower surface, of a bitter, strongly astringent taste, and a faint, hay-like odor.

OF ARBUTIN.—It is obtained in the form of long, acicular, colorless crystals, united in tufts, and having a bitter taste.

Solubility.—

OF THE LEAVES.—They yield their virtues to water and to alcohol.

OF ARBUTIN.—Soluble in water and in alcohol.

GENERAL ACTION.

Tonic. Astringent. Mild diuretic. Blennorrhetic.

PHYSIOLOGICAL ACTION.**DIGESTIVE SYSTEM :**

Stomach.—On account of its bitter properties it increases the appetite.

Intestines.—It acts as a mild astringent on the intestinal canal.

GENITO-URINARY SYSTEM.

Its diuretic action is mild in degree, and is due to its stimulating action while being excreted by the kidneys. The urine acquires a dark color and peculiar odor during its administration. It is supposed by some to have a selective action upon the urinary mucous membrane, tending to control discharges from it.

THERAPEUTICAL ACTION.

It is employed in *cystitis*, *urethritis*, *leucorrhœa*, *incontinence of urine*, and as a mild diuretic.

PREPARATION.

Extractum Uvæ Ursi Fluidum 3 ss.—3 j. (2.—4.).

VALERIANA.

English Name.—Valerian.

Origin.—The rhizome and rootlets of *Valeriana officinalis*.

Natural Order.—Valerianaceæ.

Synonym.—Wild Valerian.

Habitat.—A native of Europe.

Constituents.—It contains a volatile oil (*Oleum Valerianæ*), from which valerianic acid is obtained ; also gum, resin, and other extractives.

Description—

OF RHIZOME AND ROOTLETS.—The rhizome is from $\frac{1}{2}$ of an inch to $1\frac{1}{2}$ inch long, upright, subglobular or obconical, brown or yellowish-brown externally, whitish or pale brownish internally ; the rootlets are numerous, slender, brittle, brown, and have a thick bark ; the taste is camphoraceous and bitter ; the odor is peculiar, and increases with age.

OF THE VOLATILE OIL.—A greenish or yellowish, thin liquid, becoming darker by age and exposure, having a characteristic odor and an aromatic taste.

OF VALERIANIC ACID.—Occurs as an oily, colorless liquid, having a caustic taste and strong odor.

Solubility—

OF THE RHIZOME AND ROOTLETS.—They yield their virtues to water and to alcohol.

OF THE VOLATILE OIL.—Soluble in alcohol.

OF VALERIANIC ACID.—Moderately soluble in water, and more soluble in alcohol.

GENERAL ACTION.

Cerebral stimulant. Antispasmodic. Mild cardiac stimulant. Gastric stimulant. Thermafacient.

Synergists.—Its action is hastened by cannabis indica, camphor, asafetida, opium, etc.

Antagonists.—The bromides, quinine, ergot, and other drugs of this variety antagonize its action.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM.

This drug excites the brain, and produces activity of thought, headache, vertigo, or delusions, in accordance with the size of the dose.

CIRCULATORY SYSTEM.

In small doses the heart remains unaffected, but in large its action is increased.

DIGESTIVE SYSTEM.

In small doses it beneficially stimulates the stomach, but in large doses produces nausea and vomiting.

TEMPERATURE.

Its administration often causes an increase in bodily heat.

THERAPEUTICAL ACTION.

NERVOUS SYSTEM.

Hysteria, epilepsy, chorea, insomnia, and cephalalgia are among the diseases benefited by its administration.

RESPIRATORY SYSTEM.

Pertussis and *laryngismus stridulus* are sometimes benefited by its use.

PREPARATIONS.

Abstractum Valerianæ.....	gr. x.-xx. (.60-1.2).
Extractum Valerianæ Fluidum.....	3 j. (4-v.).
Oleum Valerianæ.....	℥ij.-v. (.12-.30).
Tinctura Valerianæ.....	3 j.-3 ij. (4.-8.).
Tinctura Valerianæ Ammoniata.....	3 ss.-3 j. (2.-4.).

VANILLA.

English Name.—Vanilla.

Origin.—The fruit of *Vanilla planifolia*.

Natural Order.—Orchidaceæ.

Habitat.—A native of Cuba, Mexico, and South America, and cultivated in North America, Java, and the isles of France.

Constituents.—It contains a peculiar principle termed vanillin, a fixed oil, a soft resin, sugar, gum, and other extractives.

Description.—

OF THE FRUIT.—From 6 to 8 inches long, dark brown, cylindrical, somewhat flattened, wrinkled, containing a soft, black pulp, and numerous black seeds, and having a characteristic fragrant odor, and a warm, aromatic, sweetish taste.

OF VANILLIN.—Obtained as colorless, long, four-sided needles, having a strong, characteristic odor and a hot, biting taste.

Solubility.—

OF THE FRUIT.—Yields its virtues to water and to alcohol.

OF VANILLIN.—Sparingly soluble in cold water, and readily soluble in hot water and alcohol.

GENERAL ACTION.

Aromatic tonic. Gastric stimulant. Adjuvant.

THERAPEUTICAL ACTION.

This drug is sometimes employed as a tonic in *low fevers*, but is chiefly used in perfumery and as a flavoring ingredient.

PREPARATION.

Tinctura Vanillæ Adjuvant.

VERATRUM VIRIDE.

English Name.—Veratrum Viride.

Origin.—The rhizome and rootlets of Veratrum viride.

Natural Order.—Melanthaceæ.

Synonyms.—American Hellebore, Indian Poke, Swamp Hellebore.

Habitat.—A native of America.

Constituents.—It contains jervin, rubijervin, pseudo-jervin, cevadin, traces of veratrin and veratralbin, resin, and other extractives.

Description—

OF RHIZOME AND ROOTLETS.—The rhizome is 1 inch or 2 inches in length, thick, and fleshy, externally blackish-gray, internally grayish-white, having yellowish-brown rootlets attached, about 4 to 6 inches long. Their taste is bitterish and very acrid, and they have no odor.

OF JERVIN.—It is obtained as a white powder, which is tasteless.

OF VERATRALBIN.—White, uncrystallizable, with a bitter, burning acrid taste, and violently stimulating action.

Solubility—

OF RHIZOME AND ROOTLETS.—Yield their virtues to alcohol.

OF JERVIN.—Insoluble in water; soluble in alcohol.

OF VERATRALBIN.—Soluble in alcohol.

GENERAL ACTION.

Motor depressant. Cardiac sedative. Gastric stimulant. Intestinal stimulant. Respiratory depressant. Local irritant. Antipyretic.

Synergists.—Physostigma, jaborandi, gelsemium, conium, aconite, phytolacca, blood-letting, and all motor depressants increase its action.

Antagonists.—Cardiac stimulants, such as alcohol, ammonia, and digitalis, counteract its action, as also does opium.

PHYSIOLOGICAL ACTION.

NERVOUS SYSTEM.

This drug depresses the reflex activity of the spinal cord, and causes extreme muscular prostration when administered in full doses.

CIRCULATORY SYSTEM :

Heart.—It causes a marked decrease in the number and force of the cardiac pulsations ; this effect being due to its direct action on the cardiac muscle and its stimulating effect on the cardiac inhibitory nerves. If exertion is attempted while under the influence of this drug, the heart becomes rapid, but remains feeble.

Vessels.—Arterial tension is lowered by a decrease of the tone of the vaso-motor nerves and the diminished force of the heart's action.

DIGESTIVE SYSTEM :

Stomach.—It first stimulates, and then irritates the gastric mucous membrane, producing nausea, marked retching, and vomiting.

Intestines.—Occasionally it produces large watery evacuations when administered in full doses.

RESPIRATORY SYSTEM.

It causes a great depression in respirations by its paralyzing influence upon the respiratory muscles, and in large doses tends to produce asphyxia.

CUTANEOUS SYSTEM.

When applied to the skin this drug produces redness and heat.

TEMPERATURE.

It causes a decrease of animal heat.

THERAPEUTICAL ACTION.**NERVOUS SYSTEM.**

In large doses this drug is employed with very decided benefit in *puerperal eclampsia*.

CIRCULATORY SYSTEM.

It is used with benefit in the treatment of *cardiac hypertrophy* and *aneurism*.

RESPIRATORY SYSTEM.

In *pneumonitis* of the sthenic variety, this drug will prove useful.

GENERAL DISEASES.

Some authorities recommend it in the treatment of *typhoid* and *typhus fevers*.

TOXICOLOGICAL ACTION.

In toxic doses we obtain giddiness, dimness of sight, dilatation of the pupil, coma, great muscular weakness, nausea, vomiting, sometimes purging, very weak pulse, diaphoresis, lowering of temperature, and death from asphyxia.

Antidotes and Treatment of Poisoning.—Evacuate stomach by emetics or stomach-pump, administer alcoholic stimulants, ammonia, opium, and digitalis.

PREPARATIONS.

Extractum Veratri Viridis Fluidum . . . ℥j.–℥ij. (.06–.12).

Tinctura Veratri Viridis ℥iij.–℥viij. (.18–.48).

VIBURNUM.

English Name.—Viburnum.

Origin.—The bark of *Viburnum prunifolium*.

Natural Order.—Caprifoliaceæ.

Synonym.—Black Haw.

Habitat.—A native of the United States.

Constituents.—Contains a peculiar principle called viburnin, a brown resinous body, tannic acid, valerianic acid, and other acids and salts.

Description—

OF THE BARK.—The bark is in thin pieces or quills, of a purplish-brown color, with minute black dots and scattered warts, grayish-brown if collected from the old wood; having a somewhat astringent and bitter taste, and no odor.

OF VIBURNIN.—A greenish-yellow resin or whitish powder, having a bitter taste.

Solubility—

OF THE BARK.—Yields its virtues to water and to alcohol.

OF VIBURNIN.—Slightly soluble in water; freely soluble in alcohol.

GENERAL ACTION.

Spinal sedative. Antispasmodic. Uterine sedative.

PHYSIOLOGICAL ACTION.**NERVOUS SYSTEM.**

The effect of this drug on the nervous system is not fully determined, but it probably acts as a sedative on the centres of the spinal cord.

GENITO-URINARY SYSTEM.

It is also supposed to have a sedative action upon the uterus, allaying pain, and preventing abortion.

THERAPEUTICAL ACTION.

The chief use of this drug is to *relieve labor pains, to prevent abortion*, and to aid in the treatment of *menorrhagia, metrorrhagia, and dysmenorrhœa*.

PREPARATION.

Extractum Viburni Fluidum..... 3 ss.—3 j. (2.—4.).

VIOLA TRICOLOR.

English Name.—Viola Tricolor.

Origin.—The herb of Viola tricolor.

Natural Order.—Violaceæ.

Synonyms.—Pansy, Heart's-ease, Johnny Jump-up.

Habitat.—Native of Europe, and naturalized in the United States.

Constituents.—It contains a bitter principle, resin, and other extractives.

Description.—The stem is nearly smooth, and grows to the height of $\frac{1}{2}$ to 1 foot, the leaves are alternate, ovate or oblong, and the flowers are on long peduncles and have a corolla partly yellowish, blue, and purplish in color. It has a bitter, somewhat acid taste, and no odor.

Solubility.—Yields its virtues to water and to alcohol.

GENERAL ACTION.

Mild laxative. Diuretic.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

It is sometimes used as a mild laxative for the relief of *constipation* in children.

CUTANEOUS SYSTEM.

It is highly recommended for the relief of *acute eczema*, *chronic eczema*, and *psoriasis*.

PREPARATION.

*Extractum Violæ Tricoloris Fluidum.... ℥v. - 3j. (.30-4.).

XANTHOXYLUM.

English Name.—Xanthoxylum.

Origin.—The bark of *Xanthoxylum fraxineum*, and of *Xanthoxylum carolinianum*.

Natural Order.—Rutaceæ, Xanthoxyleæ.

Synonyms.—Prickly Ash, Toothache Tree, Angelica Tree, Suterberry.

Habitat.—A native of the United States.

Constituents.—It contains a peculiar principle called xanthoxylum, probably identical with berberin; a volatile oil, a fixed oil, resin, gum, and other extractives.

Description.—The bark of *Xanthoxylum fraxineum* is in

small quills from a few lines to nearly 1 inch in diameter; it is thin, of a darkish-gray color externally, marked by whitish patches and minute black dots; it is very light, brittle, quite inodorous, and has a sweetish, slightly aromatic, afterward bitterish taste. The bark of *Xanthoxylum carolinianum* is similar to the preceding, but is about $\frac{1}{12}$ inch thick, and is marked by corky projections, conical in form and about $\frac{4}{5}$ inch high, and by stout brown spines.

Solubility.—Yields its virtues to alcohol and to boiling water.

GENERAL ACTION.

Cardiac stimulant. Sialagogue. Gastric stimulant. Cholagogue. Intestinal stimulant. Diuretic. Diaphoretic.

Synergists.—Its action is aided by sanguinaria, guaiacum, stillingia, colchicum, etc.

Antagonists.—Alkalies and the metallic salts are probably incompatible with it.

PHYSIOLOGICAL ACTION.

CIRCULATORY SYSTEM :

Heart.—It causes an increase in the force and frequency of the heart's action.

Vessels.—By stimulating the heart it causes a rise in arterial tension.

DIGESTIVE SYSTEM :

Mouth.—It stimulates the buccal mucous membrane, and increases the flow of saliva.

Stomach.—A sense of warmth is experienced in the stomach after its administration, and the gastric secretions are increased.

Liver.—It increases the flow of bile.

Intestines.—The intestinal secretions are augmented by its action.

GENITO-URINARY SYSTEM.

This drug acts as a mild stimulant to the kidneys, and thus increases the flow of urine.

CUTANEOUS SYSTEM.

The glandular system of the skin is stimulated, and diaphoresis results.

THERAPEUTICAL ACTION.

DIGESTIVE SYSTEM.

Toothache, glossal paralysis, pharyngitis, tonsillitis, tonic dyspepsia, catarrhal jaundice, and constipation have all been benefited by its administration.

GENERAL DISEASES.

It is used in the treatment of *rheumatism*.

PREPARATION.

Extractum Xanthoxyli Fluidum..... 3 ss.—3 j. (2.—4.).

ZINGIBER.

English Name.—Ginger.

Origin.—The rhizome of *Zingiber officinale*.

Natural Order.—Zingiberaceæ.

Synonyms.—Black Ginger is the root, having been properly cleansed, scalded in boiling water, and then rapidly dried. White Ginger is prepared by selecting the best roots, depriving them of their epidermis, and drying them separately and carefully in the sun ; it is more highly valued than the black variety. Jamaica Ginger is the same as White Ginger.

Habitat.—A native of Hindostan, but is cultivated in India and the West Indies.

Constituents.—Contains a volatile oil, a resinous matter, a subresin, gum, starch, and other extractives. Its peculiar flavor probably depends upon the volatile oil, and its pungency, to a certain degree, upon its resinous matter.

Description.—The rhizome is about $\frac{3}{5}$ inch broad, flattish, pale buff color, having a warm, pungent taste, and a strong, aromatic odor.

Solubility.—Its properties are extracted by water and alcohol.

GENERAL ACTION.

Sialagogue. Aromatic tonic. Gastric stimulant. Carminative. Local irritant.

THERAPEUTICAL ACTION.

It is often beneficial in *gastralgia*, *flatulency*, *atonic dyspepsia*, and *intestinal pain*.

PREPARATIONS.

Extractum Zingiberis Fluidum...	℥x.-xx. (.60-1.2).
Oleoresina Zingiberis.....	℥j. (.06).
Syrupus Zingiberis.....	3 j.- 3 ij. (4.-8.).
Tinctura Zingiberis.....	℥v.- 3 ss. (.30-2.).
Trochisci Zingiberis.....	Dose, 1-5.
Pulvis Aromaticus.....	gr. x.-gr. xxx. (.60-2.).
Extractum Aromaticum Fluidum.	℥x.-xx. (.60-1.2).

COMMON NAMES FOR PREPARATIONS.

- Adhesive Plaster = Emplastrum Resinæ.
*Anodyne Liniment = Linimentum Opii.
Balm of Gilead = Terebinthina Canadensis.
Basilicon Ointment = Ceratum Resinæ.
Bay Rum = Spiritus Myrciæ.
Black Draught = Infusum Sennæ Compositum.
*Black Drink = Decoctum Ilicis.
Black Drop = Acetum Opii.
Blistering Cerate = Ceratum Cantharidis.
Brandy = Spiritus Vini Gallici.
*British Gum = Dextrine.
Brown Mixture = Mistura Glycyrrhizæ Composita.
Butter of Cacao = Oleum Theobromæ.
Carron Oil = Linimentum Calcis.
Cold Cream = Unguentum Aquæ Rosæ.
Cologne Water = Spiritus Odoratus.
Court Plaster = Emplastrum Ichthyocollæ.
Dewees' Carminative = Mistura Magnesizæ et Asafoetidæ.
Dover's Powder = Pulvis Ipecacuanhæ et Opii.
Essence of Anise = Spiritus Anisi.
Essence of Lemon = Spiritus Limonis.
Essence of Nutmeg = Spiritus Myristicæ.
Essence of Peppermint = Spiritus Menthæ Piperitæ.
Essence of Spearmint = Spiritus Menthæ Viridis.
Essence of Wintergreen = Spiritus Gaultheriæ.
Friar's Balsam = Tinctura Benzoini Composita.
Gin = Spiritus Juniperi.
Glyconin = Glyceritum Vitelli.
Hive Syrup = Syrupus Scillæ Compositus.
Huxham's Tincture = Tinctura Cinchonæ Composita.
Lavender Drops = Tinctura Lavendulæ Composita.

Laudanum = Tinctura Opii.

Lady Webster Pills = Pilulæ Aloes et Mastiches.

Oil of Neroli = Oleum Aurantii Florum.

Paregoric = Tinctura Opii Camphorata.

Phenic Acid = Acidum Carbolicum.

*Rum = Spiritus Sacchari.

Rufus' Pill = Pilulæ Aloes et Myrrhæ.

Simple Elixir = Elixir Aurantii.

Syrup of Orgeat = Syrupus Amygdalæ.

Tully's Powder = Pulvis Morphine Compositus.

Whiskey = Spiritus Frumenti.

*Warner's Gout Cordial = Tinctura Rhei et Sennæ.

Warming Plaster = Emplastrum Picis cum Cantharide.

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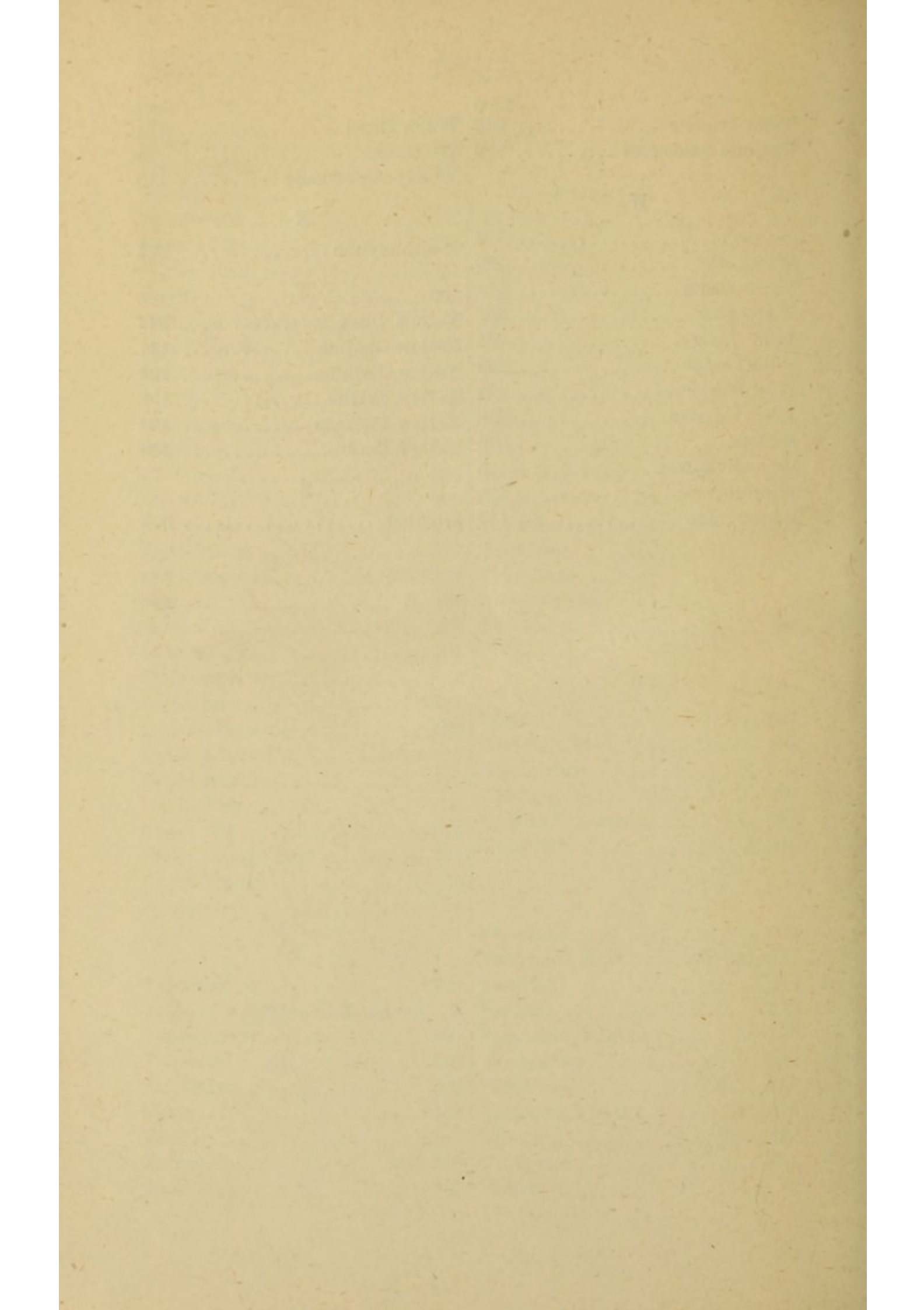
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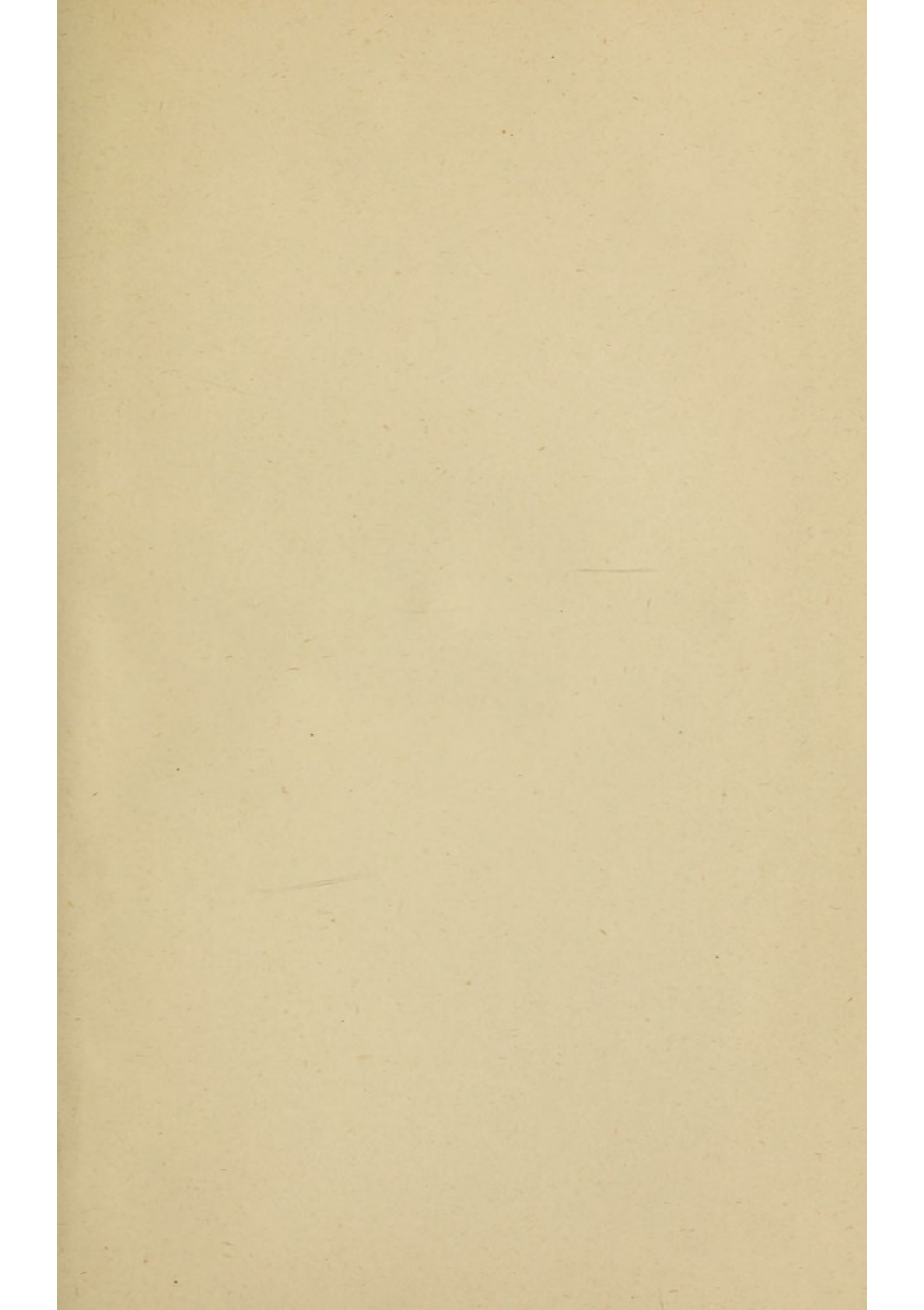
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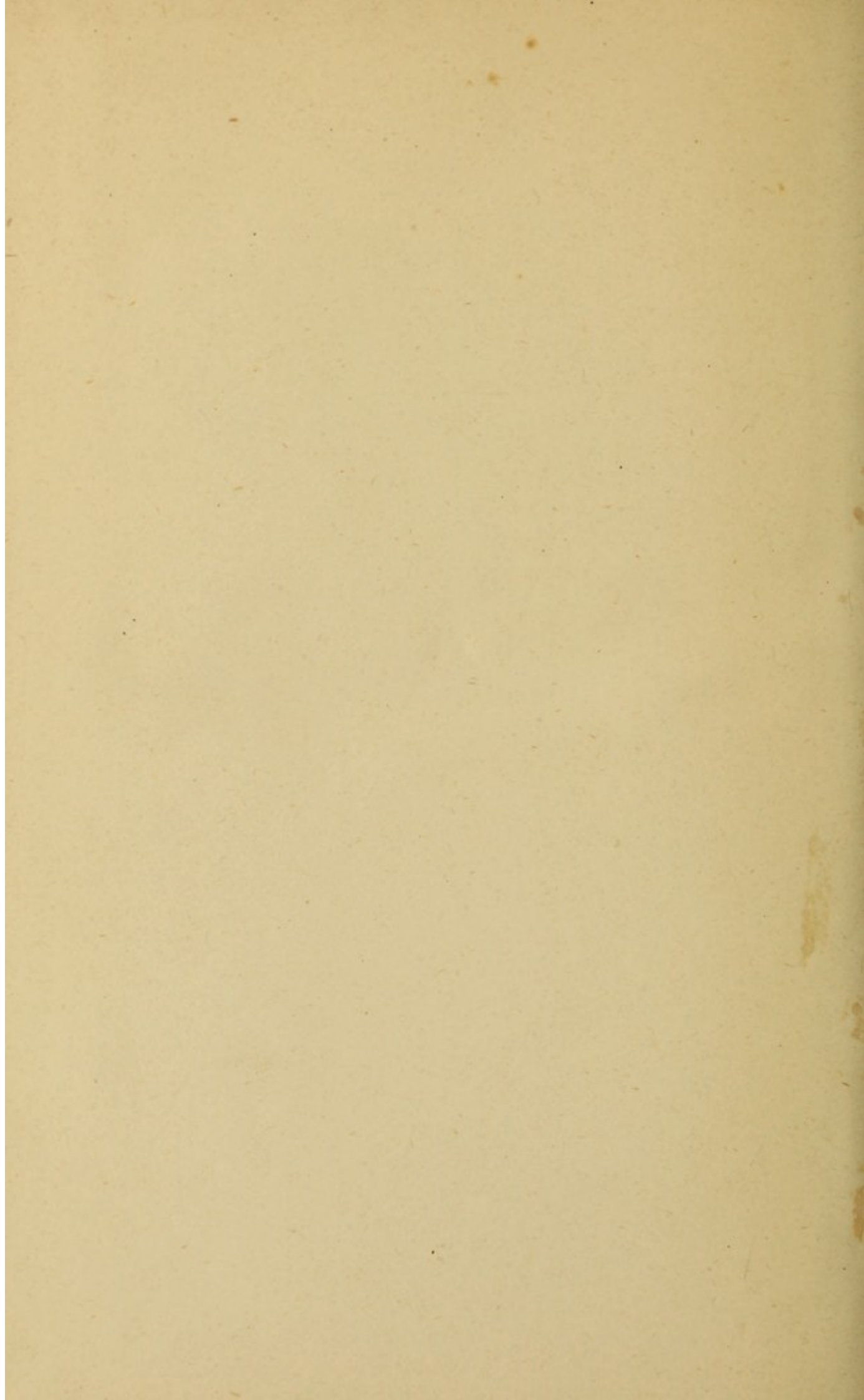
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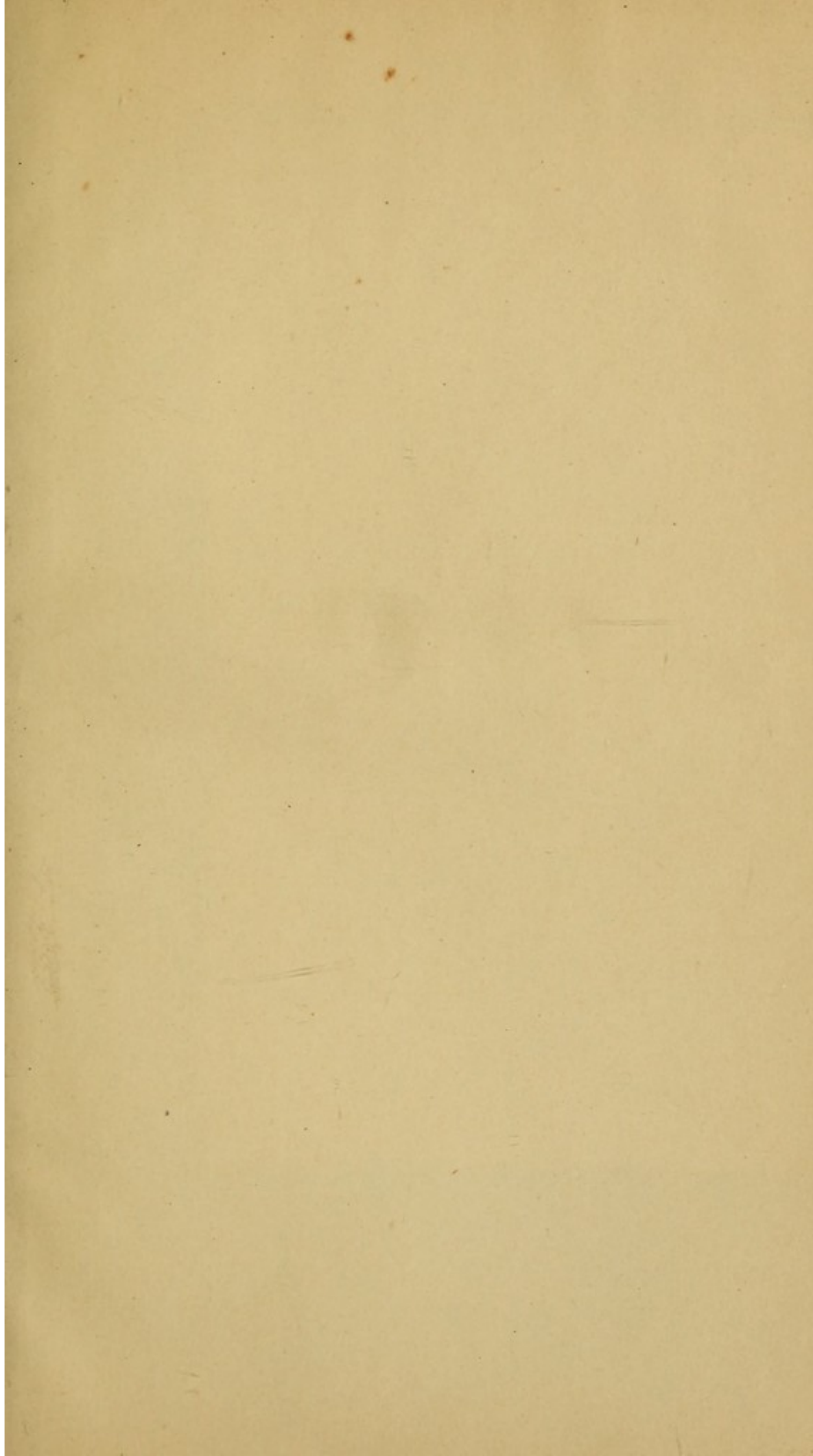
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