

The complete farrier, or, Gentleman's travelling companion : comprising a general description of the perfections and imperfections of that noble animal the horse : with a concise account of his diseases, their symptoms and remedies and advice with respect to purchase, age, action, condition ... / compiled from the best authorities, particularly adapted to this country, and interspersed with much original matter, the result of the observation of a gentleman of known experience in the United States.

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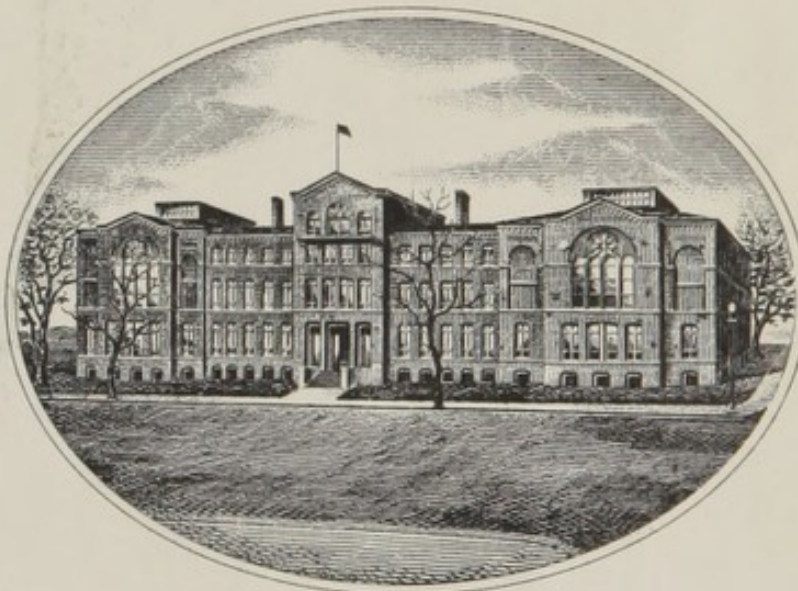
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THE
COMPLETE FARRIER,
OR,
GENTLEMAN'S TRAVELLING COMPANION.
COMPRISING
A GENERAL DESCRIPTION
OF THE
PERFECTIONS AND IMPERFECTIONS of that NOBLE ANIMAL
THE HORSE,
WITH A CONCISE
ACCOUNT OF HIS DISEASES,
THEIR SYMPTOMS AND REMEDIES; AND
ADVICE WITH RESPECT TO PURCHASE,
Age, action, condition, shoeing, feeding, exercise, docking, nicking,
pricking the tail, and the structure and management of the stable;
WITH DIRECTIONS
FOR THE TREATMENT OF A HORSE,
PREPARATORY TO, AND ON A JOURNEY,
Whereby a person will be at once prepared to treat any accident or
disease that may occur.

COMPILED from the best authorities, particularly adapted to this
country, and interspersed with much original matter, the result of
the observation of a GENTLEMAN of known experience in the
United States.

PHILADELPHIA :
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1809.

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PREFACE.

THE following treatise on farriery is mostly a compilation, from the best authorities, the choicest materials having been selected from various authors.* These are arranged in the most intelligible manner, with many valuable alterations and additions entirely original, partly the result of long experience, and, partly, suggested by persons of minute observation in the United States. Many of the prescriptions, however, as well as other interesting and important matter, are taken from the works of others, but more particularly, from those of James White, surgeon to his Britannic majesty's royal dragoons, who is held to be one of the most experimental, as well as scientific writers on the art of farriery. In this work is explained the nature and structure of that noble and useful animal, the horse; an accurate description of the bones, eyes, internal organs and their functions; anatomy of the feet;

* Blaine, Burk, White, Bracken, Saunier, Ryding, Coleman, Taplin, &c.

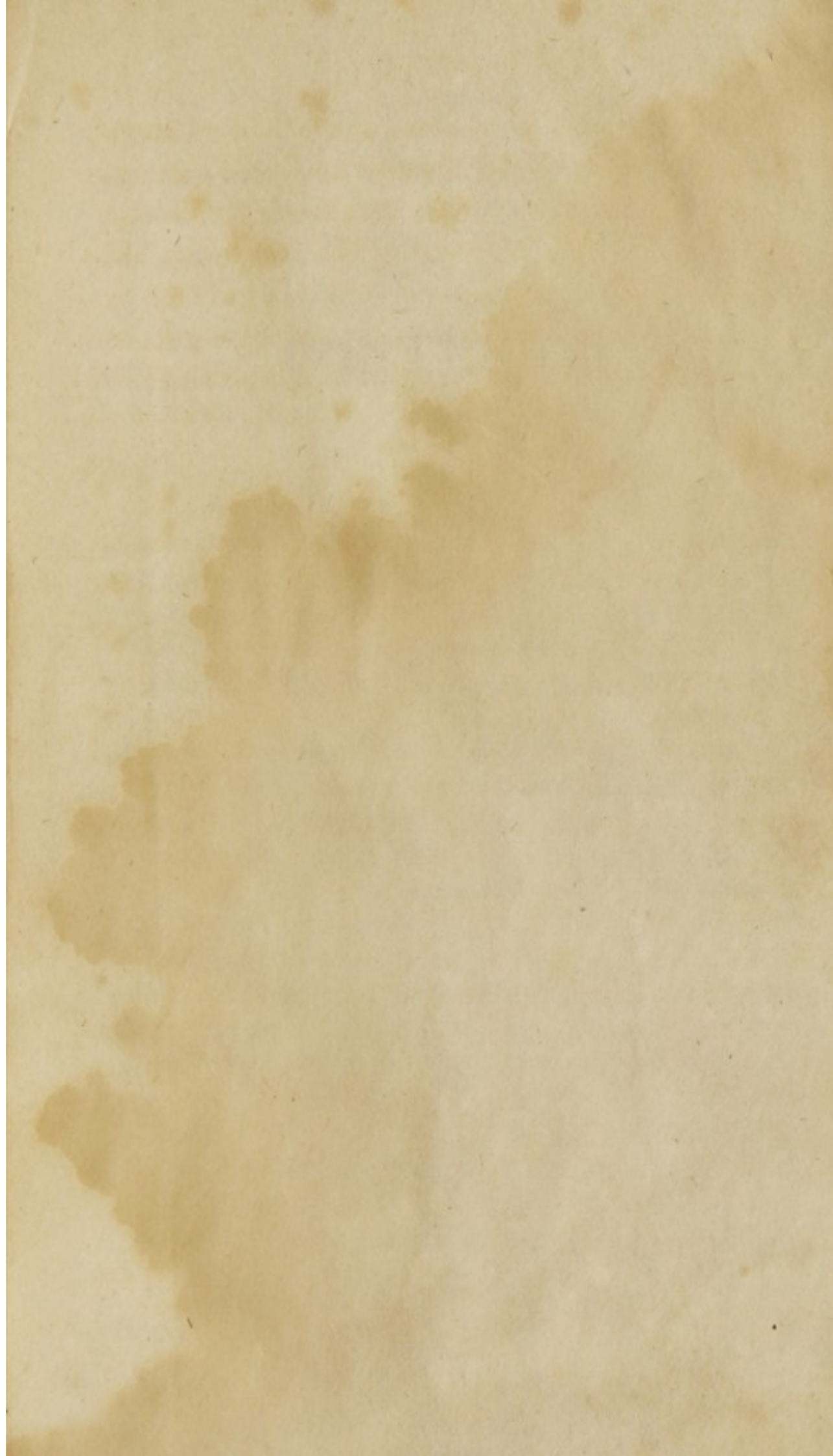
remarks on the principles and practice of shoeing ; a concise description of most of the diseases to which the horse is liable, with their symptoms and various remedies ; observations with respect to the structure and management of the stable ; on condition, feeding, watering and exercise ; treatment of a horse preparatory to, and on a journey ; advice to purchasers, how to avoid deception, and to judge of the age with a considerable degree of accuracy ; advice as to docking, nicking, and pricking the tail, &c. &c. Great pains has been taken to keep this work within the size of a moderate pocket volume, in order that persons travelling may avail themselves of the use of it with but little incumbrance. By a frequent reference to this work, their journey will, in all probability, be much accelerated ; as they will at once be prepared to treat with propriety, any accident or disease that may occur, and to which horses are particularly liable on a journey.

When we consider the immense regions over which the population of the United States is spread, and that the intercourse between the different sections of this extended country must necessarily be kept up, in a great degree, by means of those useful animals ; and, also, that the agriculture of the country is almost exclusively carried on by them ; it becomes a subject of

no small consideration, on the score of humanity, as well as interest, to devise the best means in our power to ameliorate the condition of those animals, which, as the writer trusts, will be materially subserved by this small treatise, and which, it is hoped, will be found to contain more practical and useful matter, than has been collected in the same number of pages in any work hitherto written on the subject.

The necessity, as well as utility, of such a work, is rendered more apparent, since it is ascertained, with some degree of certainty, that, in the year eighteen hundred and seven, the whole number of horses in the United States, exceeded twelve hundred thousand, and that their increase has hitherto kept, and, no doubt will continue to keep pace with the population, which we are informed from high authority doubles itself every twenty years. Another consideration seems to point out the necessity of such a work. This is, the unbounded number of quack farriers in the United States, by whose unskilful and merciless treatment, thousands of those useful animals are destroyed. It cannot have escaped the observation of those who have any thing to do with horses, that almost every stable-keeper, jockey, ostler, and horse shoeer, are professed farriers, most of whom take an active part in this work of destruction, which may, in a great measure,

if not effectually, be guarded against, by an attentive perusal and observance of the rules and prescriptions laid down in this little treatise, the cost of which is only one dollar. The loss of ten, or, perhaps, fifty times that sum may be prevented by a person possessing himself of it before he goes to purchase a horse, or sets out on a journey.





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OF THE
OSTEOLOGY
OR
BONES OF THE HORSE.

AS the bones are the foundation and support of the whole body, so the knowledge of them is the ground-work of anatomical research. They may be considered, collectively, as forming a surface of attachment for the various soft parts which they are the means of preserving in their true form and situation. Bones in their structure are hard, compact, and durable bodies, insensible but when inflamed, and of a whitish colour. We may consider them as principally made up of two parts, a membrane of the size and form of the bone, and an earthy matter filling up this membrane. To detect these two principles, we need only macerate or soak a piece of fresh bone in spirit of salt, which acts on the earthy matter alone, dissolves it without affecting the membrane, which still retains its form and size,

though it may be rolled up and put into a phial, when the addition of water will open and bring it to its original shape. This earthy matter appears deposited in layers, composed of fibres crossing each other and forming a net work. They are not placed exactly alike in all bones, nor in all parts of the same bone ; in some they are so close as to make it almost solid, as in the middle of the long bones, whereas the extremities or ends appear spongy throughout, composed of little cells extending through the centre only of the compact parts ; thus their ends are larger than their middle, to allow a greater space for muscles to attach themselves, and to extend the surface of the joints.

Bones are furnished with *arteries* of two kinds, one entering at their extremities to afford nourishment, the other piercing the middle to secrete the *marrow*, which is deposited in the cells we have noticed. This substance keeps them moist and from becoming brittle ; thus the bones of old animals, where it exists but in small quantities, break more frequently than those of the younger. It may become diseased from long fevers, it then corrodes and eats through the bone, producing a thin fœtid discharge ; this will happen (more particularly to blood colts near the

knee and hock) without previous fever, and then is called, as in the human, *spina ventosa*. The veins of the bones, though not very evident, yet are now and then detected; and the sensibility of inflamed bone, and of the fungus arising from a diseased one, plainly shews the existence of nerves. In common with other parts, they are likewise furnished with a set of vessels, named *absorbents* or *lymphatics*. As all the fluids of the body are continually changing, and fresh poured out in their room, it is necessary that there should be appropriate vessels to carry back what the arteries before deposited, which is performed by the absorbents. Both externally and internally the bones are covered by a membrane, from its situation termed *periosteum*; it serves to strengthen and prevent their overgrowth, and to give a rough surface for the attachment of muscles, &c. It is very sensible, and when stretched, as in splints, spavins, &c. becomes very painful. It may likewise itself become diseased, and is then apt to be mistaken for an affection of the bone. Bones are furnished with *ligaments*, which are common and proper: the common surround the ends of the bones, fastening them together, forming the connected parts, called joints, into complete cavities, within which is secreted, by glands, a fluid,

called *synovia* or joint oil, for the purpose of easing the motion of the joints, by rendering the ends of the bones smooth and slippery. In old animals it is formed only in small quantities, and this occasions that stiffness and cracking of their joints we so constantly observe. From a defect in the absorbents, or from an increased secretion of this fluid, is produced a dropsy of the joints, to be distinguished by attention from wind-galls. The cure consists in making a small opening into the cavity, and letting out the contents, carefully preventing the air from getting into the joint. The proper *ligaments* are such as are attached to particular parts, as those of the foot, that which connects the thigh bones with the pelvis, and several others. In their structure they are firm and inelastic, and from this cause arises the great difficulty of removing extensions or strains of the joints: from this likewise we are made sensible that the cure must consist in such applications as tend to brace the relaxed fibres. The progress of *ossification*, or the formation of bone, appears to begin in a few weeks after conception, or after the mare is in foal: at first little limes shoot out, which prove to be the membrane of the bone; by degrees this hardens into gristle; the earthy matter then begins to be deposited in the middle of

it, and gradually proceeds to the ends, where the *ossification* is not compleated 'till the fourth year ; consequently young horses should not be exercised violently 'till then ; the lessening of the joints being the last act of growth, may afford a rule to guide us in this respect. The complete formation of the bones may be hastened by exterior causes, as by pressure, whether arising from any foreign body, or from increased and violent action of the muscles. This pressure may act on the blood itself going to form bone, or it may produce its effect by accelerating and propelling it, and thus incorporate the long matter more speedily and minutely : however it may act, it appears evident that it has the effect attributed to it ; the spine becomes so ossified in horses long used to burden as sometimes to form one entire piece : it must likewise be the increased action of the blood-vessels, when we give spirits to puppies and bathe them in it, that prevents in a measure their future growth ; the same reason accounts for the appearance of splents and spavins in horses when too early worked. If a tinging substance, as madder, is given to animals, even after they have arrived at their full size, the bones partake of the colour ; should the madder be omitted, after some time they resume their

natural appearance : from this it would appear that the earthy matter of bone is taken up by the absorbent vessels, and a fresh supply is deposited by the arteries, and this change seems continued through life. Should not this teach us the necessity of feeding young horses well ; and that, if bones partake so much of whatever is taken into the stomach, how much firmer will be the bone produced from oats, beans, and hay, than from marsh grass or straw ? The ends of the bones are covered, or, as it were, tipped with a white, smooth substance, called *cartilage* or *gristle* ; by its elasticity it prevents the jar that would otherwise arise from any violent action, as leaping, trotting, &c. When this becomes diseased, it is not easily replaced, but bony matter is thrown out, and a stiff joint generally follows. To the ends of many of the bones are small processes or parts, of a bony nature, adhering, called *epiphyses* : most of them by age are so firmly joined as to appear one and the same bone ; they are then termed *apophyses* ; their use is considerable, in furnishing a broader surface for the attachment or fastening of muscles, and preventing the tendons or sinews from inserting themselves too near the centre of motion. Bones being irregular and various in their form, must necessarily

have many risings and depressions ; these receive names according to their shape and appearance : thus a rounded body jutting out, is called a *head*, as is the part that supports it, a *cervix* or *neve* ; if flattened on each side, a *condyle* ; when rough and irregular, a *tuberosity* ; a sharp rising is named a *spine*, but if slight a *crest* ; when the risings are more determined, they are called *processes*, and these are various, as *transverse*, *oblique*, *inferior*, *superior*, &c. The cavities are likewise named according to their appearances, as *sinus*, *fossæ*, *groove*, *nitch*, *channel*, *furrow*, &c. ; but as these are so expressive, we shall not particularize them ; neither shall we enter into a detail of the various names and classes that the junction of the bones with each other, called *articulation*, receive ; it is sufficient to say, they are more or less moveable according to their situation and the nature of their office.

OF THE EYES.

THE eyes form one of the principal organs, and are in most animals two in number, wisely and securely placed by nature within a long bony canal formed of the bones of the head. The principal part of the eye is the globe ; the others

are some external and some internal, as the lids, *caruncula lachrymales*, *puncta lachrymalia*, the *membrana mictitans*, fat, lachrymal gland, nerves, blood-vessels, &c. The cavity wherein the eye is lodged is called the *orbit*, it is lined throughout by a production from the *dura mater*, and is perforated at the bottom for the passage of the optic and other nerves, and blood-vessels.

The globe of the eye is made up of several proper coats, forming a shell containing fluids, termed the humours of the eye. The coats are some additional, while some properly invest the humours. The coats investing the globe of the eye are the *sclerotic*, the *cornea*, forming the anterior part, the *iris*, *choroides*, and *retina*. The additional coats are two, one called *tendinosa* or *albuginea*, this forms the white of the eye, the other is called *conjunctiva*.

STRUCTURE AND FUNCTIONS OF THE INTERNAL ORGANS.

THE hollow part of the body is divided into two cavities by a strong muscular partition termed *diaphragm* or midriff; the anterior part is named *thorax* or chest; and the posterior *abdomen* or

belly. The thorax contains the *lungs* and *heart*; the abdomen the *stomach*, *intestines*, *liver*, *spleen* or *melt*, *pancreas* or *sweet-bread*, *kidneys* and *bladder*.

OF THE LUNGS.

IN describing the lungs it is necessary to begin with the *trachea* or windpipe, which is a cylindrical cartilaginous tube, extending from the throat to the chest; the trachea is not made up of one entire cartilage, but of several cartilaginous rings, which are united by strong membranes, and such is the elasticity of these cartilages that the tube is enabled to preserve its cylindrical form, even when it receives considerable pressure, and thereby afford free ingress and egress to the air in respiration. The upper part of the trachea is composed of stronger cartilages than the other parts of the tube, and is termed *larynx*; to this is connected a curious kind of valve, called *epiglottis*, which is always open, except in the act of swallowing, it is then forced down upon the larynx so as to prevent food, or any thing which may be passing over the throat,

from falling into the windpipe: when the trachea arrives at the chest, it divides into numerous branches, which gradually becoming smaller, at length terminate in minute cells; the lungs indeed are made up of the ramifications of the trachea and blood-vessels; the interstices being filled with cellular membrane, which serves not only to unite them, but likewise to give a uniform and homogeneous appearance to the whole mass. The lungs are covered with a fine delicate membrane called the *pleura*, which also covers the internal surface of the ribs and diaphragm, and by stretching across the chest from the spine to the breast-bone, divides the thorax into two cavities; this part of the pleura is therefore named *mediastinum*. On every part of the pleura an aqueous fluid is secreted for the purpose of preventing a cohesion of the parts, and when this is produced too abundantly, it constitutes the disease termed hydrothorax or dropsy of the chest. The lungs are divided into two parts, one of which is situated in each cavity of the thorax; this division seems to have been provided in case of accidents, it having been proved that when one lung has been incapable of performing its function in consequence of injury or disease, the other has been found adequate to the support of life.

The lungs are the organs of respiration or breathing, but they do not appear to be *actively* concerned in the performance of this office; when the diaphragm and the muscles of the belly and ribs contract, the cavity of the thorax is considerably diminished, and the lungs so compressed, that all the air contained in them is forced out through the windpipe; when this has been effected, the muscles relax, and the thorax returns to its original size; there would now be a vacuum between the internal surface of the ribs, and the external surface of the lungs, did not the air rush in through the windpipe, and so distend its branches and cells as to make the lungs completely fill the cavity; thus are the lungs constantly employed in inspiration and expiration, and this process, which we call breathing, is carried on by the combined action of the diaphragm, and the muscles of the ribs and abdomen.

OF THE HEART.

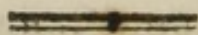
THE heart is placed nearly in the middle of the thorax, it is rather conical in its form; the apex inclining towards the left side. The heart

is divided into two cavities, termed *ventricles*, each of them having a small hollow appendage, which from a slight resemblance it bears to a dog's ear, has been named *auricle*. When the left ventricle is full of blood, it contracts so powerfully as to force its contents into the *aorta* or grand artery, by which the blood is distributed all over the body ; it is then taken up by the *veins*, and conveyed by them to the *right auricle*, whence it flows into the *right ventricle* ; this also, when it is sufficiently distended, contracts upon its contents and propels the blood into the *pulmonary artery*, by which it is conveyed to every part of the lungs. The *pulmonary veins* then receive it, and convey it to the *left auricle*, from whence it is propelled into the *left ventricle*, that it may again be distributed by the *aorta* to every part of the body.—The blood is thus continually circulating through the body, and this process may be considered as one of the most important actions that is performed in the animal machine ; if it be stopped for a few seconds, all motion is suspended, and if it be prevented a longer time from going on, vitality is destroyed. The function of the lungs is of equal importance in the animal economy, and cannot be stopped even for

a short time, without suspending or totally destroying animation. Ancient physiologists had a very imperfect idea of the manner in which those organs so essentially contributed to the support of life ; the moderns, however, have been more successful in their researches ; they have discovered that the blood derives from the air which is taken into the lungs, the most important properties, without which it would be an useless vapid mass, totally inadequate to the purposes for which it was designed. If we examine the blood in the *left ventricle* of the heart, and in the arteries, it will be found of a bright scarlet colour, and replete with those properties that render it capable of nourishing the body, and stimulating the whole system to action : in the *veins* it becomes of a much darker colour, and when it arrives at the *right ventricle* is nearly black, and destitute of those enlivening qualities which it possessed when in the *left ventricle* : had not the Deity then provided some means for its renovation, it would have been quite unfit for a second circulation, and the duration of life must have been short indeed ; but from the *right ventricle* it is conveyed by the pulmonary artery to the lungs, at the moment they are distended with air : here the blood undergoes a wonderful

alteration, it resumes its bright scarlet colour, and is returned by the pulmonary veins to the *left* side of the heart, with all its original and essential qualities restored to it.

Hence we may learn how important are the functions of respiration and circulation of blood, how essential to the life of animals, and how dependant they are on each other.



VISCERA OF THE ABDOMEN.

HAVING finished our description of the thoracic viscera, we shall proceed to notice those of the *abdomen* or belly ; the first and most important of which is the *stomach*. Whatever this organ receives, is conveyed to it by a long muscular tube, named *æso-phagus* or gullet ; the *æso-phagus* originates in the throat, where its size is considerable, but it suddenly diminishes into a small tube, and is continued of the same size to the stomach ; this upper part has been thought to resemble a funnel in its form, and is distinguished by the term *pharynx*.

The *æso-phagus* having passed along the throat and back part of the chest, penetrates through the diaphragm, and terminates in the stomach.

The æsophagus of a horse has on its internal surface an insensible membrane, which stretches into the stomach and lines nearly one half of it ; this peculiarity of structure enables us to account in some measure for the inactivity of many violent poisons when given to the horse. In the human æsophagus this membrane does not exist, the whole of its internal surface, as well as that of the stomach, being exquisitely sensible.

If two grains of emetic tartar are swallowed by a man it soon occasions violent vomiting, whereas two hundred times that quantity would produce no sensible effect upon the horse. At the cardaic orifice, or that part where the æsophagus enters the stomach, its internal coat is so loose as to be thrown into folds, appearing as if it were designed as a valve to prevent the regurgitation of the contents of the stomach ; from this cause, as well as from the insensibility of the membrane with which great part of the stomach is lined, a horse very rarely vomits, but the opinion that he is totally incapable of that action, is certainly not true, as the contrary is well ascertained.

When we examine the throat of a horse, another vulgar structure is observed, which is formed by the *epiglottis* or valve of the windpipe, and a

membranous substance that hangs from the back part of the roof of the mouth, and is peculiarly large in the horse, termed *velum pendulum palati*; these bodies form a very complete valve, which opens downwards only, thereby preventing the return of any thing through the *mouth*, either from the lungs or stomach: thus we find that a horse breathes only through his *nose*, except in coughing, by which the valve is so deranged as to allow the air, which is thrown out from the lungs, to pass through the mouth.

In case of vomiting the contents of the stomach are at first observed to pass through the *nose*, at length, by a violent cough, the valve is deranged, and a considerable quantity of fluid, mixed with masticated food is evacuated by the mouth.

That part of the stomach where the *æso-phagus* terminates, is called the *cardaic orifice*, and that where the intestines begin, is termed *Pylorus*.

The intestines or bowels consist of one very long tube, which terminates at the anus.

In the horse the intestines measure nearly thirty yards, but being convoluted in order to adapt them to the cavity in which they are placed, they have the appearance of several distinct parts.

The internal surface of a horse's intestines are not lined with that insensible membrane which is found in the æsophagus and upper part of the stomach, on the contrary it is endued with a high degree of sensibility, and appears to be more susceptible of irritation than that of most other animals ; from this irritability of the intestines, many horses have been destroyed by the administration of strong purgatives, and hence arises the necessity of using those medicines with skill and caution.

The intestinal tube is not throughout its whole extent of a uniform size ; that part next the stomach is rather small, and continues for about fifteen yards nearly of the same diameter, it then becomes very large, but again diminishes before it terminates the anus.

Anatomists in describing the intestinal canal, divide it into two parts, viz. the small and the large intestines ; these are subdivided, the former into *duodenum*, *jejunum*, and *ileum* ; the latter into *coecum*, *colon*, and *rectum*.

All the internal surface of the intestinal tube is covered with a mucæus substance, for the purpose of defending it from the action of acrimonious bodies. The various convolutions of the intestines are held together by a membrane

called *mesentery*, which not only serves this purpose, but affords also a bed for the *lacteals*, or those small vessels by which the nutritious parts of the food are conveyed to the heart to be converted into blood ; but before we give a particular description of those vessels, it will be necessary to describe the process of nutrition.

When food is taken into the mouth, it is broken down by the teeth, and so mixed with saliva, as to be in a proper state for entering the stomach : it is then by the united action of the tongue and muscles of the throat forced into the *æsophagus*, whence it passes into the stomach ; in this organ it undergoes a considerable alteration, for here nature has provided a curious liquid, called gastric juice, which has the property of dissolving every thing that is taken into the stomach, and of converting it into a soft pulpy mass, of an uniform and homogeneous appearance ; when the food has been thus altered, it is forced by a contraction of the stomach into the duodenum, or first part of the intestinal canal ; this mass, however, does not consist wholly of nutritive parts, or such as are fit for the formation of blood, and another operation is necessary in order to separate them from such as are

useless : this seems to be effected by the bile and pancreatic juice.*

The bile is formed by the *liver*, which is a large glandular body, divided into several lobes, and situated immediately behind the diaphragm, to which it is firmly attached ; the form of the liver is too well known to require a particular description, we have only to observe, therefore, that the bile which it secretes, is conveyed by the hepatic duct into the duodenum, within three or four inches of its origin. In man, and the greater part of the quadrupeds, all the bile does not flow immediately into the intestine, there being a small vessel connected with the hepatic duct, which conveys a certain portion into a sac that is attached to the liver, and called the gall bladder, whence it is occasionally expelled ; but this does not exist in the horse, although Mr. Taplin, in his *Stable Directory*, has attempted to give an accurate description of its situation and diseases.

The *pancreas* is also a glandular body, and secretes a fluid somewhat resembling saliva, which is conveyed by the pancreatic duct into the duo-

* This opinion appears to have been proved by the experiments of Mr. Ashley Cooper, Lecturer on Anatomy and Surgery, and Assistant Surgeon of St. Thomas's Hospital.

denum, at the same place where the hepatic duct enters. When these fluids (the bile and pancreatic juice) are poured into the intestine, they mingle with the mass of digested food, which has been expelled from the stomach, and separate from it all those essential parts which are fit to be converted into blood; this process is termed chylification. We have before observed, when describing the mesentery, or that membrane by which the intestines are held together, that an immense number of small delicate vessels are spread over its surface; these are named *lacteals*, from their containing a fluid, which in its appearance resembles milk; this fluid is in fact the essential parts of the food, proceeding to the heart in order to be converted into blood. All the lacteals open into the intestines, and cover the whole of their internal surface, where they are always disposed to absorb the nutritious parts of the food in its passage through the intestinal canal. Some physiologists suppose that the mouths of the lacteals have the power of *selecting* such parts of the food as are fit to be converted into blood, that no previous separation takes place, and that the bile serves only as a natural purgative, constantly stimulating the intestines, thereby keeping up a small degree of motion in

them, and promoting the expulsion of the feculent parts of the food.

It will probably be asked how it is that the mass of food passes through the intestines, since they are so convoluted that it cannot possibly be effected by the power of gravity ; but if we examine their structure, this phenomenon may be readily explained. The intestines are composed, in great measure, of muscular fibres, some of which run in a *circular*, and others in a *longitudinal* direction : when the *circular* fibres contract, the *diameter* of the canal is diminished, and when the *longitudinal* fibres are in action, it becomes *shorter* ; by the combined action of those fibres, the food is gradually propelled through the whole of the intestinal canal ; the motion thus excited may be distinctly seen in an animal recently killed, and in some it continues a considerable time after death. The intestine, however, is not entirely composed of muscular fibres, its internal surface is lined with a fine nervous and muscular membrane, which is endued with exquisite sensibility, and has the power of forming on its surface a mucous substance, which serves to protect it from the action of acrimonious bodies. Besides the muscular and nervous coat there is another which enters into the composition of the

intestine, and this is a thin membrane called *peritonoeum*. The peritonæum not only forms the third and external coat, it likewise envelopes the whole of the abdominal viscera, and is then so reflected, as to form a kind of sac, in which they are all enclosed. Thus are the intestines composed of three coats, which are closely in contact with each other; the peritonæal, the muscular, and the nervous coat. We have yet to describe the course of the lacteals, or those vessels which take up the chyle or nutritious parts of the food. We have before observed that they are spread upon the mesentery, from whence they pass on towards the spine, becoming larger and less numerous in their progress, at length they terminate in a large tube, which runs along the spine, and is named thoracic duct; this pours its contents into a large vein near the heart, to which part it is immediately after conveyed and converted into blood.

The *Kidneys* are two glandular bodies, situated within the loins; their office is to separate urine from the blood: the urine thus separated is conveyed by two tubes of considerable length, termed *ureters*, into the *bladder*, which is composed of three coats like those of the intestine, and when it has received a sufficient quantity of

urine to stimulate its muscular fibres into action it contracts upon the urine, and forces it out, through the urethra or urinary canal.

We have now furnished our sketch, which has been given merely with a view to render the description we are about to give of the diseases incident to the horse more intelligible to those readers who are totally unacquainted with anatomy, than it would otherwise have been.

INFLAMMATION.

IT was supposed by the celebrated Boerhave, and other physiologists of his time, that inflammation depended on a viscosity of the blood, which rendered it unfit for circulating in the finer vessels, and that hence arose obstructions and those appearances by which the disease is characterised: this opinion, however, has obtained very little credit with modern physiologists, and is now universally rejected, it having been proved that blood drawn from an animal labouring under inflammation, is *more fluid*, and *remains fluid longer*, than that which is taken from the same animal when in health.

The most prevailing opinion at present respecting inflammation is, that it consists in an increased action of the heart and arteries, when *general*; whereby the blood circulates with unusual velocity, throwing the whole system into derangement, and when *local* or existing in a particular part, the increased action is also confined to the vessels of that part.

When a part is inflamed, there arises in it unusual degree of heat, generally attended with considerable tension and swelling; the sensibility and irritability are always increased, and produced by it in parts where it did not before exist; in bones and tendons, for example, scarcely any *sensibility* can be perceived when they are in a state of health, but when *inflamed* it is roused to an alarming degree, and the most dangerous consequences may ensue from it. Inflammation has four modes of termination; the first is termed *resolution*, that is, when the disease, after going a certain length, gradually disappears again; the second, *suppuration*, that is when matter is formed, or an abscess produced; the third is named *effusion*, which implies an extravasation either of blood, coagulable lymph or serum; and the fourth, *gangrene* or mortification, by which is meant the death of the inflamed part. Inflam-

mation of the external parts is generally occasioned by some mechanical injury, such as wounds, bruises, &c. sometimes, however, it rises, in consequence of an *internal* inflammation, or symptomatic fever, and is then to be considered as an effort of nature to cure the internal disease: thus we sometimes find in fevers, abscesses taking place on the surface of the body, by which the fever is considerably diminished, and generally terminates favourably.

Inflammation is often produced by plethora, or a redundancy of blood in the body; in this case it is sometimes *general*, the whole arterial system having its action increased; this also may be considered as an effort of nature to get rid of the superfluous blood, and in such cases she must be assisted by copious bleeding: it more commonly happens, however, that the redundant blood is determined to some particular part, occasioning *local* inflammation; in horses it very frequently falls upon some of the internal organs, and the lungs are peculiarly liable to suffer in this case; from this source, indeed, their most dangerous fevers arise.

In the treatment of external inflammation, we should endeavour to bring it to the most favourable termination, that is resolution, except where

it arises from an effort of nature to cure some *internal* disease ; it is then desirable to bring it speedily to suppuration. The remedies to be employed for resolving inflammation, are, local or general bleeding (*vide* bleeding) purgatives, or fomentations, poultices, or the saturnine lotion made warm ; sometimes, indeed, we have seen cold applications used with success, such as sal ammoniac dissolved in vinegar, golard, &c. When inflammation takes place in tendinous parts or joints, the saturnine poultice has been found an useful remedy, and in the latter case we have often found blisters extremely efficacious ; as in those cases the inflammation generally proves more troublesome, and as the pain which it occasions is often so considerable as to produce symptomatic fever, it becomes necessary to employ without loss of time, the most prompt and efficacious means for its reduction ; with this view we excite *artificial* inflammation in the contiguous skin and cellular membrane, which are parts of far less importance in the animal economy, than joints or tendons, and capable of bearing a considerable degree of inflammation without much inconvenience to the animal ; this is done by means of rowels and blisters, and the inflammation thus excited, will tend in a considerable degree

to diminish that which is going on in the more important part. Should we fail in our endeavours to *resolve* inflammation, it will probably terminate in *suppuration*; and when it appears that the disease does not abate by the use of the remedies we have recommended, an assiduous application of fomentations and poultices, will expedite the suppurative process, and afford great relief to the animal. When the inflammation, or rather the swelling which it occasions, arrives at this state, it is termed an *abscess*, in which, when the suppuration is complete, and it contains *matter*, a fluctuation may be felt upon its being pressed by two fingers alternately; when this point has been ascertained, an opening is to be made with a lancet or knife, in such a way that the matter may be completely evacuated, and a future accumulation prevented; it is then to be dressed with digestive liniment or ointment. Should the wound appear indisposed to heal when this treatment has been pursued for a short time, discharging a thin offensive matter, and wanting that red appearance by which the healing process is indicated, the detergent lotion will soon remove those unfavourable appearances; the *discharge* will become whiter and thicker, and red granulations of new flesh will sprout up; should

these granulations however become luxuriant, constituting what is commonly termed *proud flesh*; they are to be kept down by means of the caustic powder. It sometimes happens that when a part is inflamed and swollen, instead of going on to suppuration, it degenerates into a hard and almost insensible tumour; this depends on the inflammation having terminated in *effusion* of coagulable lymph, and is to be removed by stimulating embrocations or blisters.

When inflammation runs very high, which is sometimes the case, in violent bruises, or deep and extensive wounds of the lacerated kind, it may terminate, in *gangrene* or mortification, which is generally attended with danger; in this case the matter discharged, instead of being white and thick, consists of a dark coloured fluid, of a peculiar offensive smell; the constitution is generally affected, the pulse becoming quick, weak, and sometimes irregular, the appetite goes off, and there is a great degree of debility: when inflammation terminates in this way, if it arises from a wound, let it be dressed with digestive liniment, oil of turpentine, or camphorated spirits of wine; the diseased parts should be scarified, and fomentations applied almost incessantly, until the mortified parts appear to separate, and

the matter loses in a great measure its offensive smell, appearing whiter and more thick. When the horse is weakened by the disease, and he loses his appetite, particularly if there is a copious discharge from the wound, one or two of the following cordial balls are to be given daily:

No. 1.

Yellow Peruvian bark,	1 oz.
Ginger, powdered,	2 drams.
Opium, - - -	1 dram.
Oil of carraways,	20 drops.

Syrup or honey enough to make the ball for one dose.

No. 2.

Yellow Peruvian bark,	$\frac{1}{2}$ oz.
Powdered snake root,	2 drams.
Powdered cassia,	$1\frac{1}{2}$ dram.
Oil of cloves, -	20 drops.

Syrup enough to form the ball for one dose.

Remark.—The opium in the ball, No. 1, is to be omitted when the horse is costive, or if it appears to take off his appetite; but when the dis-

ease is accompanied with a purging, it is extremely useful.

When any of the *internal parts* are inflamed, a *fever* is generally produced, the violence of which will depend upon the importance of the inflamed organ, as well as upon the extent of the inflammation ; some of the internal parts being more essential to life than others, and when inflamed occasioning of course greater derangement in the system. The only *favourable* terminations to which internal inflammation can be brought, are resolution and effusion, and as the first is by far the most desirable, the most vigorous measures ought to be adopted to effect it ; the most important remedy in those cases is *copious bleeding*, and the earlier it is employed the more effectual will it prove : the next remedy is *external inflammation*, artificially excited by means of rowels and blisters. The fever powder and occasional glysters, are of considerable service.

FEVER.

THE fevers of horses bear very little analogy to those of the human body, and require a differ-

ent treatment. Writers on farriery have described a great variety of fevers, but their observations appear to have been drawn from the works of medical authors, and their reasoning seems to be entirely analogical. We have been able to distinguish only two kinds of fever, the one, an idiopathic or original disease, and therefore properly termed *simple*; the other, dependant on internal inflammation, and very justly denominated *symptomatic* fever: for example, if the lungs, bowels, or stomach were inflamed, the whole system would be thrown into disorder, and a symptomatic fever produced; but if a collapse of the perspirable vessels happens to take place, the blood will accumulate in the interior parts of the body, and though inflammation is not produced by it, the unequal distribution of the blood alone will occasion that derangement in the system which constitutes the simple fever. The simple fever does not occur so frequently as the symptomatic, nor is it by any means so formidable in its appearance, yet it is necessary to give it the earliest attention, for unless nature receives timely assistance, she will be sometimes unable to get rid of the load which oppresses her; and the blood will accumulate in the interior part of the body, until inflammation in some of the viscera is pro-

duced, and a dangerous disease established. The following are the symptoms of simple fever:—Shivering, succeeded by loss of appetite, dejected appearance, quick pulse, hot mouth, and some degree of debility; the horse is generally costive and voids his urine with difficulty. Sometimes the disease is accompanied with quickness of breathing, and in a few cases with pain in the bowels, or symptoms of cholic.

As soon as a horse is attacked by this disease, let him be bled freely, and if costiveness is one of the symptoms, give a pint of castor oil, or the oil of olives, and let a glyster of warm water gruel or flax-seed tea be injected; the fever powder is to be given once in twelve hours, and continued until its diuretic effect becomes considerable.—Warm water and mashes are to be frequently offered in small quantities; warm cloathing, frequent hand-rubbing, and a liberal allowance of litter are also necessary, and when the fever runs high, it is advisable to insert rowels about the chest and belly, in order to prevent internal inflammation from taking place. When the disease appears to be going off, the horse looking more lively, and the appetite returning, let him be led out for a short time in some warm situation, and give now

and then a mash of cut straw, with a small quantity of oats and shorts mixed, for the purpose of recovering his strength.

FEVER POWDER.

No. 1.

Powdered nitre,	- - -	1 oz.
Camphor and tartarized antimony,	}	2 dr.
of each - - -		

Mix for one dose.

No. 2.

Powdered nitre,	- - -	1 oz.
Unwashed calx of antimony,	-	2 dr.

Mix for one dose.

No. 3.

Antimonial powder,	- - -	3 dr.
Camphor,	- - -	1 dr.

Mix for one dose.

SYMPTOMATIC FEVER.

THE symptomatic fever is generally occasioned by high feeding with dry food, close sta-

bles, and a want of proper exercise ; sometimes, however, a sudden transition from a cold to a hot temperature is evidently the cause of it ; in this respect it is different from the simple fever, which, as before observed, sometimes arises from exposing a horse suddenly to a cold air, when he has been accustomed to a warm stable. Horses that are taken from camp or grass, and put suddenly into warm stables, are extremely liable to those internal inflammations on which symptomatic fever depends, and many thousands have fallen victims to this kind of treatment.

When a fever is symptomatic, it is not preceded by shivering, nor is it so sudden in its attack as the simple fever ; but when it is not subdued by an early application of remedies, the symptoms gradually increase in violence until they present a very formidable appearance. When the disease however is occasioned by great and long continued exertion, it generally comes on suddenly, and the complaint has a very dangerous appearance in its earliest stage.

The symptomatic fever has many symptoms in common with the simple fever, which are, loss of appetite, quick pulse, dejected appearance, hot mouth, and debility ; and if to these are joined

difficulty of breathing, and quick working of the flanks, with coldness of the legs and ears, we may conclude that an inflammation of the lungs is the cause of the fever. If the horse hangs down his head in the manger, or leans back upon his collar with a strong appearance of being drowsy, the eyes appearing watery and inflamed, it is probable that the fever depends upon an accumulation of blood in the vessels of the brain, and that the staggers are approaching; in this case, however, the pulse is not always quickened, sometimes indeed we have found it unusually slow. When the symptoms of fever are joined with a yellowness of the eyes and mouth, an inflammation of the liver is indicated. Should an inflammation of the bowels be the cause, the horse is violently griped. An inflammation of the kidneys, will also produce fever, and is distinguished by a suppression of urine, and an inability to bear pressure upon the loins. When inflammation of the bladder is the cause, the horse is frequently staling, voiding only very small quantities of urine, and that with considerable pain. Extensive wounds, and particularly those of joints, will also produce symptomatic fever. Sometimes several of the internal parts are inflamed at the same instant, and indeed when in-

flammation has existed for a considerable length of time, it is seldom confined to the organ in which it originated ; the disease spreads to other viscera, and when more than one organ is inflamed, the symptoms will generally be complicated ; still, however, the essential remedies are the same, that is to say, copious and early bleeding, with rowels and blisters.

Having now given a general description of symptomatic fever, we shall proceed to treat of those cases separately to which above we have briefly alluded.

INFLAMMATION OF THE LUNGS.

This is a very dangerous disease, and one to which horses are extremely liable ; the frequency of its occurrence seems to be occasioned by improper management, and not by any natural defect in the constitution of the animal, it may therefore be prevented by proper attention in the groom. Medical writers make a distinction between inflammation of the lungs and of the pleura or the membrane, which covers those organs, calling the former *peripneumony*, and the latter

pleurisy; this distinction, however, is not necessary in veterinary nosology, since we never find those parts affected separately in the horse. The progress of this disease is often very rapid, and unless proper remedies are employed at an early period, it frequently terminates fatally. Its approach is indicated by the following symptoms: loss of appetite, an appearance of dullness, and disinclination to motion, unusual quickness in the motion of the flanks, hot mouth, and sometimes a cough. If the disease, by adopting an inert, or improper mode of treatment, is suffered to proceed, all these symptoms will increase, respiration will become extremely quick and laborious, the pulse more frequent, and at the same time weak. A striking appearance of uneasiness and anxiety may be observed in the animal's countenance, the nostrils are expanded, the eyes fixed, and the head inclining downward, the legs and ears become cold, and the debility is so considerable, that he is incapable of moving in the stall without great difficulty; he never lies down unless so much weakened as to be incapable of standing. The disease, however, is not always so rapid in its progress as we have here described it, and not unfrequently a considerable remission may be observed, which is occasioned probably

by an effusion of serum or water having taken place in the chest, and this remission is sometimes so conspicuous, that we are led to give a favourable prognosis, the horse beginning to feed again, and the pulse becoming less frequent ; but this flattering appearance often proves fallacious, the disease soon returns with accumulated force, and puts a period to the animal's life. I have seen cases where bleeding has not been performed with sufficient freedom, in which the inflammation being checked in some degree, at length terminated in a plentiful effusion of water in the chest ; when this happens the horse returns to his food, looks more lively, in short, the symptoms of fever in a great measure disappear ; still however, there is an unusual quickness in respiration, generally accompanied with a cough, the hind legs swell, and the horse very rarely lies down ; a rough unhealthy appearance may also be observed in the coat, the skin feeling as if stuck to the ribs, and the animal continues in a state of weakness ; after some time the inflammation generally returns, and then speedily ends in death. It sometimes happens that the inflammation terminates in suppuration, in this case also the fever is in some degree lessened, and the horse begins to feed a little, but he still remains

in a very feeble state, has a weak cough, and discharges fœtid matter from his nostrils, at length the disease again becomes violent, and soon puts a period to his sufferings.

The first thing to be done when this dangerous disease is observed, is *to bleed copiously*, say three or four quarts, even till the horse begins to faint from loss of blood. We have known six quarts drawn at one operation, and with the best effect; sometimes indeed the disease will be completely subdued by thus bleeding freely at its commencement.—Should the horse be costive, or even if the bowels are in a natural state, it will be advisable to give a pint of castor oil, and inject a glyster of flaxseed tea or warm water gruel; it will then be necessary, in order to divert the inflammation from this important organ, to insert rowels about the chest and belly, and to blister the sides extensively; let the legs be kept warm by almost constant hand-rubbing, and warm cloathing, if in cool weather, must never be omitted: nothing is more pernicious in this complaint than obliging the animal to breathe the impure air and stimulating vapours of a close and filthy stable; this is indeed so obvious a truth, that it would be unnecessary to mention it if it were not a constant practice with grooms on this occasion to

stop every crevice they can find, by which pure air might be admitted, and the noxious exhalations suffered to escape.

If the disease does not appear to abate in twelve hours after the bleeding, particularly if it has become more violent, let that operation be repeated and with the same freedom as at first ; we need not be apprehensive at this early period of the disease, of any dangerous debility ensuing from the loss of so much blood, on the contrary, it will tend to re-establish strength, by subduing the inflammation on which the fever depends. In some cases, indeed, it has been found necessary to bleed several times, and very plentifully ; it must be recollected, however, that when the fever has existed for sometime, and has nearly exhausted the horse's strength, bleeding seldom does good, and in some instances, has probably been the means of hastening death. When suppuration takes place in the lungs, though there is little probability of saving the animal, his life may be prolonged by giving frequently good water gruel and infusion of malt opium, salt of hartshorn, and other cordials, will also be of service. We have generally given the following ball on those occasions, and though we have never seen a horse recover after suppuration had taken place in the

lungs, yet these remedies have certainly afforded considerable relief.

Salt of hartshorn,	-	1 $\frac{1}{2}$ dr.
Opium,	-	1 dr.
Powdered aniseeds,	-	$\frac{1}{2}$ oz.

Syrup enough to form the ball for one dose.

When the mode of treatment we have recommended is adopted before the disease has gained much ground, it will generally succeed completely; considerable weakness will of course remain after the fever has been removed, but that also will gradually go off, if proper attention is paid to the horse's diet and exercise. When the appetite begins to return, it will be adviseable to give small quantities of oats that have been softened by steeping in boiling water; good water gruel will also be found serviceable in recruiting his strength; the sweetest parts should be selected from the hay, and given frequently in small quantities; malt is an excellent restorative on these occasions, but must not be given too freely. When the weather is favourable, let the horse be led out for a short time every day; or if a small enclosure can be procured, and the season of the year will admit of it, he may be turned out for a

few hours every day, while the sun shines, taking care that he is well cloathed during that time, by these means he will be gradually restored to his original strength.

INFLAMMATION OF THE BOWELS.

THIS disease is not so frequent as the preceding, though equally dangerous, and generally more rapid in its progress. Inflammation may attack either the peritorial coat of the intestine, or that delicate membrane which forms the internal or villous coat ; in the former case the disease will be attended with costiveness, but in the latter a violent purging is the most conspicuous symptom ; but which ever of these coats is first attacked, the inflammation, in a short time generally spreads to the other.

The peritonæal inflammation begins with an appearance of dullness and uneasiness in the horse ; the appetite is considerably diminished, or is entirely lost, and the pulse becomes more frequent ; the pain and febrile symptoms gradually increase ; he is continually pawing with his

fore feet, and frequently endeavours to kick his belly ; he lies down and suddenly rises again, and looks round to his flanks, strongly expressing by his countenance the violence of the pain he suffers ; his urine is commonly high coloured, and in small quantity, and sometimes voided with considerable pain ; he is generally costive, and the pulse is remarkably small and quick ; the legs and ears become cold, respiration is very much disturbed, and sometimes, from the violence of the pain and the animal's struggling, profuse perspiration breaks out ; at length mortification takes place, and is quickly succeeded by death. Sometimes the progress of this disease is remarkably rapid, in one instance a complete mortification has taken place in the course of twelve hours, and that very extensively.

When only the *internal* coat of the intestines is inflamed, there is generally a violent purging, accompanied with febrile symptoms, these, however, are seldom so considerable as in peritonæal inflammation, nor does the animal appear to be in so much pain. This disease is commonly produced by the improper use of physic, or by neglecting a horse during the operation of a purgative.

In the treatment of peritonæal inflammation, *early and copious bleeding is the most important*

remedy. The efficacy of artificial inflammation on the surface of the body is remarkably conspicuous in this disease, and we would recommend covering the back with fresh sheep skins, which would soon excite and keep up for a considerable time, a copious perspiration on the part; the whole of the abdomen or belly should have the mustard embrocation carefully rubbed upon it, the stimulating effects of which may be promoted by covering the part afterwards with sheep skins or warm cloathing; rowels also may be inserted about the chest and belly, putting into them blistering ointment instead of turpentine, or the common digestive, which is usually employed for the purpose. Should the horse be costive, which, as we have before observed, is almost always the case, give a pint or twenty ounces of castor oil, and let glysters of flaxseed tea or water gruel be injected. He should be allowed to drink plentifully of warm infusion of linseed, or warm water alone; and hand rubbing to the legs, with a liberal allowance of clean litter, should not be forgotten. If the disease does not abate in six hours after the bleeding, the operation must be repeated, and if the costiveness continues ten or twelve hours after the oil has been taken, give another dose, and repeat the glysters. If the

disease continues and increases in violence after all these remedies have been properly applied, there will be but little probability of recovery, particularly if the pulse has become so quick, weak, and fluttering, that it can scarcely be felt, and there appears to be a remission or cessation of pain, or if the horse becomes delirious; these are always fatal symptoms, denoting that mortification is taking place, which is the certain harbinger of death; but if the pain should continue after the above remedies have been fairly tried, the anodyne glyster may be injected.

With respect to the causes of peritonæal inflammation, the most common appears to be high feeding on dry provender and want of exercise; it is not unfrequently occasioned, however, by putting a horse suddenly into warm stables when taken from camp or grass, the fatal consequences of this management has often been experienced before the veterinary art had made sufficient progress to point out its impropriety and danger.

In some instances the disease appears to have been produced by the distension which the intestines have suffered in flatulent cholic or gripes, where that complaint has been neglected or improperly treated, or where the *spasm* has been

so violent as to resist the operation of every remedy.

An inflammation of the villous or internal coat of the intestine, we have before observed, is most commonly occasioned by giving too strong physic, or by inattention during its operation, and is generally accompanied with profuse purging; in this case a different treatment is required from that we have recommended for peritonæal inflammation, and bleeding must not be employed unless the pulse is much accelerated and the febrile symptoms considerable; the oil also must be omitted; here the mustard embrocation and sheep skins to the back and belly are eminently useful.

It is of consequence to make the horse drink freely of fine water gruel or linseed tea, which if he refuses to drink must be given by means of a long necked bottle, introduced into his mouth, his head to be held up until he swallows. If the disease continues, notwithstanding these remedies have been carefully employed, let the anodyne glyster be injected, and if that fails, give the anodyne or the restringent draft. It sometimes happens when a horse has taken physic, that gripes and violent sickness occur before the purging takes place, in this case by means of a

glyster, a plentiful exhibition of thin water gruel and exercise, will produce an evacuation and relieve the animal. Peritonæal inflammation has sometimes been mistaken for flatulent cholic or gripes, but their appearances are very different, and they may easily be distinguished by referring to the annexed table, in which their symptoms are contrasted.

Restraining draft.

Opium,	-	-	-	-	1 dr.
Prepared chalk,	-	-	-	-	$\frac{1}{2}$ oz.
Compound powder of tragacanth,					1 oz.
Mint water,	-	-	-	-	1 pint.

Anodyne draft.

Opium,	-	-	-	-	$1\frac{1}{2}$ dr.
Water gruel,	-	-	-	-	1 quart.

Mix for one dose.

Mustard embrocation.

Camphor,	-	-	-	-	1 oz.
Oil of turpentine and water of pure ammonia, each	-	-	-	-	} 2 oz.
Flour of mustard,	-	-	-	-	

To be made into a thin paste, and rubbed for a considerable time on the part.

Anodyne glyster.

Opium, - - - $\frac{1}{2}$ oz.
 Water gruel, or linseed tea - 3 pints.

Mix for one injection.

A table, shewing the difference between flatulent cholic or gripes, and inflammation of the bowels.

<i>Symptoms of inflammation of the bowels.</i>	<i>Symptoms of flatulent cholic.</i>
1. Pulse very quick and small.	1. Pulse natural tho' sometimes a little quickened.
2. Lies down and suddenly rises again, seldom rolling upon his back.	2. Lies down and rolls upon his back.
3. Legs and ears, generally cold	3. Legs and ears generally warm.
4. Generally attacks rather gradually, is commonly preceded and always accompanied by symptoms of fever.	4. Attacks suddenly, is never preceded, and seldom accompanied by any symptoms of fever.
5. No intermissions can be observed.	5. There are frequently short intermission.

INFLAMMATION OF THE STOMACH.

THE stomach, like the intestines, may be inflamed either on its *external* or *internal* surface ; when the former is the seat of disease, the symptoms are nearly the same as those by which peritonæal inflammation of the intestines is indicated, and the same treatment is required : the only difference observable in the symptoms is, that in this case the pain seems to be more acute and distressing than in the other, the same difference, indeed, may be observed, between the large and small intestines, the latter being possessed of more sensibility than the former.

When inflammation attacks the peritonæal coat of the stomach, it very soon diffuses itself to the small intestines and neighbouring viscera ; or if the small intestines be its original seat, it frequently spreads to the stomach, and sometimes to the large intestines also. In examining horses, therefore, that have died of these diseases, we seldom find the inflammation confined to one particular organ ; it more commonly happens, indeed, that the whole of the abdominal viscera will exhibit morbid appearances, but in different degrees ; those most contiguous to the part first diseased having suffered very considerably, while

such as are more remote from it, are perhaps scarcely altered, for we can generally distinguish the original seat of the inflammation.

An inflammation of the *internal or villous* coat of the stomach is not a very common disease, and is generally occasioned either by poisons or strong medicines that have been swallowed, or by that species of worms termed bots. When poisons or strong medicines, incautiously given, are the cause of this disease, it will of course come on suddenly, the pulse will be extremely quick and so weak that it can scarcely be felt, the extremities will become cold, and there will be a peculiar dejected appearance in the animal's countenance, respiration will be disturbed; sometimes there will be a cough, and always a high degree of debility. The treatment of this disease consists in giving oily or mucilaginous liquids freely, such as decoction of linseed, gum arabic dissolved in water, &c. and at the same time medicines that are capable of decomposing or destroying the poison; for this purpose the sulphurated rati is useful in doses of half an ounce, provided the poison be either mercurial or arsenical. Glysters are to be injected, and if the disease is accompanied with purging, they should be composed of strong linseed decoction

or water gruel. We once saw five cases of inflamed stomach, all of them occasioned by poison, in which the above treatment was pursued; four of them perfectly recovered, and one died. —The inflammation which bots produce in the stomach is indicated by symptoms somewhat different from those we have been just describing, indeed it may more properly be considered as ulceration of the stomach than inflammation, since, upon examining horses that have died of this complaint, ulcers of considerable size have always been found. This disease generally comes on very gradually, the horse becomes hide-bound, has a rough unhealthy coat, gradually loses flesh and strength, though he continues to feed well, and has a frequent and troublesome cough; the disease perhaps will continue in this state for some time, and no serious consequences are apprehended; its cause and seat are seldom suspected, medicines are given to remove the cough, with common alteratives for the purpose of improving his condition.

In some instances these insects are spontaneously detached, and expelled through the intestines: in such cases, if the stomach has not been much hurt by them, it will gradually recover, and the horse will be restored to his original

strength and condition. It sometimes happens, however, that these worms produce such considerable mischief in the stomach, as to throw the whole system into disorder. The lungs are particularly liable to sympathize with the stomach in this case, and frequently become inflamed in consequence. The inflammation thus produced in the lungs is extremely obstinate, and though it may be checked in some degree by bleeding, and the other remedies we have recommended for that disease, yet as the cause cannot often be removed, it generally terminates fatally. This symptomatic inflammation of the lungs may be distinguished from the idiopathic or original, by the following circumstance:—It is generally preceded by an unhealthy appearance in the coat and a troublesome cough; the animal seldom bears bleeding well, the loss of any considerable quantity causing a rapid diminution of strength, whereas in the idiopathic inflammation of the lungs, the strength of the pulse, as well as the whole system, is often increased by bleeding. With respect to the remedies for this disease, those recommended for inflammation of the lungs are the best, but when the stomach has been considerably injured, there is little prospect of success. Infusion of malt

has been recommended for the purpose of inducing bots to disengage themselves, (see Bots); It is doubtful, however, whether any thing will effectually remove them, though they frequently come off spontaneously, particularly about the Spring. We have had an opportunity of examining the bodies of several horses that had been destroyed in this way, in all of them there was mortification and suppuration of the lungs, which appeared to have been the *proximate* cause of death, but on opening the stomach an immense number of bots was found, many of them attached to the *sensible* part, and to the pylorus or beginning of the intestine; in every instance there were ulcers of considerable size found, in some the coats of the stomach had been nearly destroyed. It appeared very clearly, in all these cases, that the disease of the stomach was antecedent to that of the lungs.

It must not be supposed, from what has been said on this subject, that bots cannot exist in the stomach without producing all this mischief; on the contrary, they are often found in healthy horses that have been shot or otherwise destroyed, and it has been known that such horses have suffered no apparent inconvenience from them during life. In all these instances, however, they

have been attached to the upper or *insensible* coat of the stomach.—See BOTS.

INFLAMMATION OF THE KIDNEYS.

THIS disease does not occur very frequently, and is generally occasioned, it is believed, by an immoderate use of strong diuretic medicines. At the first attack of this complaint the horse constantly stands as if he wanted to stale, sometimes voiding a small quantity of high coloured or bloody urine; when the inflammation becomes more considerable, a suppression of urine and fever generally takes place; if the loins are pressed upon, the animal shrinks from it, and appears to feel great pain. In the first place bleed freely, then give a pint or twenty ounces of castor oil, throw up glysters of warm water, and cover the loins with sheep skins, having previously rubbed upon them the mustard embrocation; should these remedies fail of procuring relief, repeat the bleeding, and should the oil not have operated sufficiently, let another dose be given. All diuretic medicines are to be care-

fully avoided, or any thing capable of provoking urine.

INFLAMMATION OF THE BLADDER.

WHEN the bladder is much inflamed, its irritability is so increased, that it becomes incapable of containing any urine, contracting upon every drop almost that passes into it from the kidneys ; in this complaint, therefore, the horse is attempting almost constantly to stale, but voids only a few drops of urine, and that with considerable pain : it is generally attended with quick pulse and other symptoms of fever. Nothing is more beneficial in this disease than causing the horse to drink largely of linseed decoction, or any other mucilaginous liquid, and throwing up frequently glysters of the same, bleeding, and a dose of castor oil, are likewise highly necessary ; after the operation of the oil, let the following ball be given every sixth hour. Should no relief be obtained by these means, the horse continuing to void his urine frequently, in small quantities, and with pain, give one dram of opium

twice a day and omit the ball : costiveness tends very much to aggravate this complaint, whenever it occurs, therefore, let a glyster be injected, and a dose of oil given.

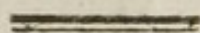
THE BALL.

Powdered nitre, - $\frac{1}{2}$ oz.

Camphor, - - 1 dr.

Liquorice powder, - 3 dr.

Honey sufficient to form the ball for one dose.



INFLAMMATION OF THE LIVER.

THIS disease is indicated by a yellowness of the eyes and mouth, red or dark coloured urine, great weakness, and fever, generally, though not always, accompanied with diarrhæa or purging ; the horse has a very languid appearance, and is almost constantly lying down : sometimes the progress of this complaint is very rapid, speedily terminating in death ; at others it proceeds more slowly, the animal lingering for a considerable time ; in this case it not unfrequently terminates in dropsy, or inflammation of the bowels.

Bleeding can only be employed at the com-

mencement of this disease with safety, afterwards it generally does harm, by inducing a dangerous degree of debility ; the sides should be blistered, and if there be no purging, the ball, No. 1, given once in twelve hours, until it occasions moderate purging ; but if the bowels are already in a lax state, the ball, No. 2 or 3, will be better adapted to the complaint, and is to be given in the same way.

THE BALL.

No. 1.

Calomel,	-	-	-	$\frac{1}{2}$ dr.
Aloes,	-	-	-	1 dr.
Castile soap,	-	-	-	2 dr.
Rhubarb,	-	-	-	$\frac{1}{2}$ oz.

Syrup enough to form the ball for one dose.

No. 2.

Opium	-	-	$\frac{1}{2}$ dr. to 1 dr.
Calomel,	-	-	1 dr.
Castile soap,	-	-	2 dr.

Syrup enough to form the ball for one dose.

No. 3.

Opium and calomel, of each,	1 dr.
Emetic tartar,	2 dr.
Liquorice powder,	3 dr.

Syrup enough to form the ball for one dose.

STRANGLES, OR THROAT DISTEMPER.

THIS disease generally attacks young horses between the 3d and 5th year of their age, and consists in an inflammation and swelling of the glands under the throat, accompanied with cough and a discharge of white thick matter from the nostrils ; sometimes there is likewise a soreness of the throat and difficulty in swallowing. The inflamed glands commonly suppurate in a short time and burst, discharging a large quantity of matter ; when this has taken place, the cough and other symptoms generally go off, the sore gradually heals, and the horse speedily recovers. In some cases the strangles assume a more formidable appearance, are attended with a considerable degree of fever, and the throat is sometimes so much inflamed, that the horse is incapable of swallowing either food or water : but however violent the attack may be, if a proper mode of treatment is adopted, every unpleasant symptom may be easily removed, and a speedy recovery effected. It is not a very uncommon circumstance for the strangles to attack young horses while at grass, and then they are frequently not perceived until *nature* has nearly effected a cure.

The approach of strangles may be known by a dulness of countenance, watery eyes, cough, and a slight degree of swelling in the glands under the jaw ; as soon as they are discovered, let the hair be carefully clipped off from the inflamed glands and contiguous parts of the throat ; let a large poultice be then applied to the throat, in doing which it is necessary to take care that it is so secured as to be constantly in contact with the throat, for unless this is attended to, the poultice will be but of little service. It will be found that by rubbing a small quantity of some stimulating ointment on the inflamed glands, previous to the application of each poultice, suppuration may be considerably promoted, for this purpose the following formula will be found useful :

Camphor,	-	-	-	2 dr.
Oil of origanum,	-			1 dr.
Spermaceti ointment,	.			2 oz. mix.

When matter is completely formed in the glands, which may be known by the tumor becoming larger, and by the skin feeling tense, and somewhat elastic, an opening should be made with a lancet, and its contents evacuated ; this plan is certainly preferable to that of waiting until it

bursts spontaneously, as the animal is instantly relieved by it, and the cure more speedily effected. To evacuate the matter perfectly, it is necessary to use moderate pressure with the fingers, and when this has been done, let a piece of lint, dipped in digestive liniment be inserted for the purpose of keeping the lips of the wound open, and allowing the matter to escape freely; the poultice is to be continued until the swelling is perfectly reduced. When strangles attack so violently as to render the horse incapable of swallowing, and particularly if the swelling in the throat is not considerable, it will be adviseable to blister the throat, and keep the bowels open with glysters of flax-seed tea or gruel. It is very necessary, in every case of strangles, to steam the head well, that is, to put hot bran mashes into the manger frequently, so that the horse may inhale the vapours.

It is of consequence to distinguish cases of incipient strangles from common colds; in the latter *bleeding* is an useful remedy, but in the former it does much harm, by interrupting a process of nature. We cannot, by any *argument*, shew why bleeding should be improper in the strangles, indeed, if our practice were guided by theory only, we should be led to consider it as a case of com-

mon inflammation, and consequently adopt that mode of treatment which would tend to remove it most expeditiously and prevent suppuration, and with this view we should have recourse to bleeding and purgatives; *experience*, however, certainly sanctions a different treatment, and has fully proved the propriety of using every means for encouraging suppuration. We have seen several hundred cases in which this plan has been pursued and not one of them terminated unfavourably. Should a cough or any unpleasant symptom remain after the strangles are healed, let the following alterative ball be given every morning, until moderate purging is produced, and if it is found necessary, let it be repeated after an interval of four or five days. It is almost superfluous to add that great attention must be paid by the groom; the head, neck, and chest, as well as the body, should be cloathed, warm water should be given frequently in small quantities, a large quantity of litter should be allowed, and hand-rubbing to the legs should never be omitted.

ALTERATIVE BALL.

Succotrine aloes, - - - 1 dr.

Emetic tartar and Castile soap, } 2 dr.
of each,

To be made into a ball for one dose.

CATARRH OR COLD.

IT would be superfluous to give a particular description of this complaint, since it is so well known, and its appearances so generally understood, that scarcely any one can be at a loss to distinguish it from other diseases. It consists in an inflammation of the mucous membrane, which lines the internal part of the nose, throat, &c. sometimes attended with a slight degree of fever; hence arise the cough and discharge from the nostrils, which are its principal symptoms. On the first attack of this complaint, bleeding will generally be found an effectual remedy, but if it is neglected until a considerable discharge has taken place from the nostrils, it seldom proves beneficial. A dose of fever powder is to be given every morning and evening until the symptoms abate, or a considerable diuretic effect is produced, and then every second or third day only.

Sometimes a swelling takes place in the parotid glands, which are situated immediately beneath the ear. Should no unusual heat or tenderness be observed in those swellings, apply the stimulating ointment recommended for strangles, but if they feel hot, are painful and appear

to be in a state of active inflammation, a poultice is the best remedy. If the eyes are inflamed and watery, a rowel should be inserted under the jaw, and if the inflammation in the throat is so considerable as to render the swallowing painful and difficult, a blister will afford great relief. Hot bran mashes should be given frequently, which will not only serve to keep the bowels open, but will act as a fomentation to the inflamed membranes, since the horse will be constantly inhaling the vapour which escapes from them. Should he be costive (which is not likely to happen while he is taking bran mashes) let glysters be injected occasionally. The head and chest, as well as the body, should be well cloathed, the legs frequently hand rubbed, and a large quantity of litter allowed ; by these means he will soon be restored to health. Should a cold be attended with a considerable degree of fever, or if the appetite goes off, and the flanks work quicker than usual, it is necessary to make some alteration in the treatment (vide fever and inflammation of the lungs). It is necessary to observe before we conclude this subject, that the strangles on their first attack are sometimes mistaken for a cold ; this may be productive of mischief, since bleeding is generally improper in

that complaint; if, therefore, a cold is accompanied with a swelling of the glands under the jaw, if they feel hot and are painful, and particularly if the horse is young, we may conclude that the strangles are approaching, and treat it accordingly.

Should the cough remain after the other symptoms are gone off, give the ball, No. 1, every morning, until moderate purging is produced, and if it continues after this, let the ball, No. 2, be given every morning for a week.

No. 1.

Succotrine aloes, - - 1 dr.

Castile soap and tartarised anti-
mony, of each, - } 2 dr.

To be made into a ball with syrup.

No. 2.

Powdered squills, - - 1 dr.

Gum ammoniac, - - 3 dr.

— opium, - - $\frac{1}{2}$ dr.

Syrup enough to form the ball.

INFLAMMATION OF THE EYE.

WHEN the eye is inflamed it loses in some measure its transparency, appearing sometimes as if covered with a film, the lids are partially closed, and the haws become more visible.— Should the inflammation have been brought on by some external injury, and particularly if it is not very considerable, washing frequently with salt and water or molasses and water cold, will be sufficient to remove it, but in more violent cases it will be necessary also to bleed moderately and give a laxative ball of succotrine aloes, 4 dr. castile soap, $\frac{1}{2}$ oz. by these means inflammation arising from external injury may generally be cured in a short time. The eyes often become inflamed in consequence of cold and fevers, in which cases the *cause* is to be chiefly attended: when that is removed the inflammation usually ceases. The most common cause, however, of this complaint, is high feeding, without sufficient exercise, or too violent exercise; a dark and badly ventilated stable, foul litter, &c.; these cases require great care and attention, for unless proper remedies are employed on the first attack, the disease (though it appears to go off) will be frequently returning, and in all probability eventually

produce blindness. The first remedy to be employed on this occasion, is bleeding, and the quantity of blood that is drawn should be proportionate to the violence of the inflammation, and the *condition* of the animal, say from two to three quarts.—Should the vessels on the white part of the eye and inner part of the eye-lids appear to be distended with blood, great advantage will be derived from scarifying the latter with a lancet.—A laxative ball, or half a pound of salts dissolved in three quarts of water is to be given, and the bowels afterwards kept in a lax state by means of bran mash. A seton placed immediately under the eye is a very useful remedy: but unless the operation is nicely performed, it frequently leaves an unpleasant mark behind, which would lead a person, experienced in horses, to suspect that the eye had been diseased, and might therefore diminish the value of the horse. This kind of inflammation generally comes on rather suddenly, sometimes attacking only one eye, at others, both are affected; as there is no apparent cause for this sudden attack of inflammation, the groom very commonly attributes it to seeds or dust having fallen from the rack into the eye, and very little attention is paid to it; notwithstanding this neglect, the dis-

ease frequently goes off, and in some cases its disappearance is nearly as sudden as its attack ; in a short time however, it again appears as unexpectedly as at first, and again perhaps goes off ; in this uncertain way it may continue a considerable time, the eyes sometimes appearing transparent, and free from inflammation, at others, watery, inflamed, and opaque on the surface ; at length the internal parts of the eye are affected, and a cataract produced. Whenever a horse's eye becomes inflamed, it is necessary to enquire into the *cause* of the inflammation ; if it arises from a mechanical injury or any of the aforesaid causes, and is not very considerable, there will be great probability of its being speedily removed, by means of the remedies pointed out, if employed sufficiently early, but if they are neglected at the commencement of the disease, though the inflammation, after some time appears to go off, and the eye, to a superficial observer, seems to have recovered, yet the disease frequently returns and ultimately occasions blindness. Should the disease have occurred before, and particularly if the former attack was violent, there is still less chance of its being removed, and all our remedies may prove ineffectual. It frequently happens that when both eyes are inflamed, and a complete cataract

forms in one of them, the other becomes perfectly sound and strong. It must be observed that when a horse has suffered more than once from this disease, and is in low condition, evacuations must not be made too freely ; there are few cases, however, where moderate bleeding and a laxative ball or a dose of salts are not required. With respect to topical applications, or those remedies which are applied immediately to the eye, much benefit is not generally derived from them, except when the inflammation has abated considerably, and there remains an opacity or film on the surface, in which case, put a scruple of roach alum and a scruple of white vitriol both finely powdered, into a gill of spring water and with a feather put a drop or two into the eye morning and evening.

(EYE-WATER, EXCELLENT FOR WEAK EYES.

Put half a drachm white vitriol, half a drachm sugar of lead into a $\frac{1}{2}$ pint of rose or spring water, apply a drop or two with a feather morning and evening.)

Do not use grease or oil about the eye, or blow powders of any kind into them ; always prefer liquids. Whenever the eyes are weak, or

in a state of inflammation, the vapours which arise from foul litter, should be carefully guarded against, indeed, it is by no means an improbable conjecture that when the eyes are weak, these irritating vapours may often prove the exciting cause of inflammation. There is a cartilaginous body connected with the eyes of horses, commonly termed the haw. Whenever the eye is drawn into the socket, (which the horse has the power of doing by means of a muscle that does not exist in the human subject) the haw is forced over the eye, so that when dust happens to adhere to the surface of the eye, he is enabled by means of this cartilage to wipe it off; and as light is painful to the animal when the eye is in a state of inflammation, we generally find that organ, on such occasions, drawn more than usual into the socket, and consequently the haw becomes conspicuous on its surface. Some Farriers in this case consider the haw as an unusual excrescence, and the cause of the disease, they frequently therefore cut it off. The celebrated Mr. Taplin considered the haw as a preternatural enlargement of the corners of the eye. The haws should never be cut off; as blindness is generally hastened by this cruel operation.

LOCKED JAW.

THIS disease, very fortunately occurs but seldom, and generally terminates fatally; it begins with a difficulty in mastication, at length the jaws become so completely and immovably closed, that neither medicines nor food can be got into the stomach; the muscles of the neck are generally in a state of rigid contraction, and the animal appears to suffer great pain: it is often brought on by trifling causes, such as wounds of the foot, inflammation in the tail, from docking or nicking, &c. and sometimes it attacks without any apparent cause. Various remedies have been tried in this complaint, but no effectual mode of treatment has yet been discovered; immersion in cold water, or even snow, is said to produce a temporary relaxation of those muscles by which the jaws are closed. Opium and camphor have been strongly recommended. We have lately been informed of a case in which a combination of those medicines completely succeeded. In America and the West India islands, where the disease is more frequent than it is in Europe, strong stimulants have in some instances been found effectual; it would be advisable therefore to try the same plan in horses

should opium and camphor fail. The best stimulants for this purpose are spirits of hartshorn; ether, opium, and brandy, given internally.

LAMPAS.

WHEN the bars or roof of the horse's mouth, near the front teeth, become level with, or higher than the teeth, he is said to have the *Lampas*, and this is supposed to prevent his feeding. Farriers burn down this swoln part with a red hot iron made for the purpose. We believe this operation is performed much more frequently than is necessary, but we have never seen any bad consequences arise from it.

ROARING.

THIS disease takes its name from a peculiar sound in respiration, particularly when the horse is put into a brisk trot or gallop; it seems to arise from lymph that has been effused in the windpipe or its branches, which becoming solid

obstructs, in a greater or less degree, the passage of air. As a remedy for this complaint blistering the whole length of the windpipe has been recommended; It is believed, however, that this disease is always incurable.

BROKEN WIND.

IT seems to be universally allowed that this complaint is incurable, though it will admit of considerable alleviation, and if its approach be perceived sufficiently early, may probably be prevented. Horses that appear to be most subject to it, are those with voracious appetites, that eat even their litter, and keep themselves in good condition upon a moderate allowance of corn; also such as are fed highly, and at the same time not properly exercised. The lungs of broken winded horses are generally unusually large, with numerous air bladders on the surface; this must have arisen from a rupture of some of the air cells, for in that case some part of the air which is inspired, will necessarily get into the *cellular membrane* of the lungs, and diffuse itself until it arrives at the surface, when it will raise

the pleura so as to form the air bladders we observe. This is the reason that the lungs of broken winded horses do not collapse when the chest is punctured, and this will serve to explain the peculiar motion of the flanks in broken winded horses, which does not consist, as Mr. L. asserts, in a quick expiration and very slow inspiration, but quite the reverse; air is received into the lungs *very readily*, which is manifested by a sudden falling of the flanks, but is expelled *slowly*, and *with great difficulty*, as may be perceived by the long continued exertion of the abdominal muscles.

When the membrane which lines the windpipe and all its branches, has been effected with inflammation, it becomes thickened in consequence, and the capacity of the lungs will of course be diminished: this will cause a *quickness* in respiration, but not that irregular or unequal kind of breathing, by which broken wind is characterized; the complaint, which is thus produced, is commonly termed thick wind, and the horse so affected, if made to move rapidly, wheezes almost like an asthmatic person, and is unfit for any violent exercise. It not unfrequently happens, we believe, that this complaint proves a cause of bro-

ken wind, for when the membrane is much thickened, many of the finer branches of the windpipe are probably obstructed in a greater or less degree, the violent coughing which usually accompanies this disease, will, under such circumstances, be very liable to rupture some of the air cells. The same effect may be produced by violent exercise when the stomach is distended with food or water; we believe, however, that a plethora or fulness of habit is most commonly the *remote* cause of broken wind; in that case there is generally an undue determination of blood to the lungs, whereby the secretion within the air vessels is increased, and perhaps rendered somewhat acrimonious and viscid, exciting a violent and troublesome cough.

Whenever a horse appears to be imperfect in his wind, if he coughs violently, particularly when exercised, with unusual working of the flanks, and if at the same time he appears to be in good health and spirits, feeding heartily and eager for water, let him be bled moderately, and take a laxative ball, by these means, assisted by a bran diet and regular exercise, the lungs will soon be relieved, and the cough, if not completely removed, will be considerably diminished;

then give the following ball every morning for a week, and take care that regular exercise is never omitted: it will be adviseable also to prevent the horse from filling himself too much with hay or water, the latter should be given five or six times a day, in small quantities; the common method of stinting a horse in water, when his wind is supposed to be bad, is certainly prejudicial; corn should be given sparingly, for high feeding tends very much to aggravate the complaint; bran is an useful diet, if mixed with corn, and cut hay or straw. The vapours which arise from foul litter and the air of a close stable are extremely pernicious. We have seen very good effects from turning the horse into a yard or lot during the day, when the weather is favourable. When the cough and other symptoms have been removed, these means must be still persevered in, or the disease will probably return: regular and long continued exercise tends more than any thing to keep it off, but violent exercise is extremely improper. Whenever costiveness occurs it should be removed by means of a glyster and bran mashes, and should the horse be disposed to eat his litter, it is to be prevented by means of a muzzle.

THE BALL.

Powdered squills, - - 1 dr.

Gum ammoniac, - - $\frac{1}{2}$ oz.

Powdered aniseeds, - 3 dr.

To be made into a ball with syrup, for one dose.

(How to be given, see p. 82.)

JAUNDICE.

THIS disease is indicated by a yellowness of the eyes and mouth, dulness and lassitude ; the appetite is generally diminished, the urine of a reddish or dark colour. Sometimes the complaint is attended with costiveness, but more commonly with a purging. This disease does not often arise from an obstruction in the biliary ducts, as in the human subject, but generally from increased action of the liver, whereby an unusual quantity of bile is secreted. Inflammation of the liver is sometimes mistaken for jaundice, but may be distinguished from it by the *fever* with which it is always accompanied.

When costiveness is one of the symptoms of jaundice, give the ball, No. 1, every morning, until moderate purging is produced, but if the bowels are already open, or in a state of purging,

give the ball, No. 2, every morning. The horse's strength should be supported by an infusion of malt or water gruel.

THE BALL.

No. 1.

Calomel,	-	-	-	$\frac{1}{2}$ dr.
Aloes,	-	-	-	1 dr.
Castile soap,	-	-	-	2 dr.
Rhubarb,	-	-	-	3 dr.

To be made into a ball with syrup, for one dose.

No. 2.

Calomel and opium, of each,	1 dr.
Columbo root, powdered,	3 dr.
Powdered ginger,	$\frac{1}{2}$ dr.

Syrup enough to form the ball for one dose.

FLATULENT CHOLIC, GRIPEs, OR FRET.

THIS disease generally attacks rather suddenly, and is brought on by various causes; sometimes it is occasioned by drinking a large quantity of cold water when the body has been heated, and the motion of the blood accelerated by vio-

lent exercise. In horses of delicate constitutions, that have been accustomed to hot stables and warm cloathing, it may be brought on merely by drinking water that is very cold, though they have not been previously exercised. Bad hay appears to be another cause of the complaint; but it frequently occurs without any apparent cause, and then probably *depends* upon a sudden loss of energy in the stomach or bowels, occasioning a spasmodic constriction of the intestine, and a confinement of air. The air which is thus confined, does not appear to be produced by fermentation of the contents of the intestine, it is more probably a secretion of the internal or vilous coat, in consequence of its atonic state; this opinion, however, is founded merely upon analogy, the air having never been examined.

The pain and uneasiness which this complaint occasions are so considerable as to alarm those who are not accustomed to see it, and lead them to be apprehensive of dangerous consequences; but if properly treated, it may be easily and expeditiously removed. It begins with an appearance of uneasiness in the horse, he is frequently pawing the litter, voids a small quantity of excrement, and makes fruitless attempts to stale; the pain soon becomes more violent, he endeavours

to kick his belly, and looks round to his flanks, expressing by groans the pain he labours under ; at length he lies down, rolls about the stall, and falls into a profuse perspiration ; after a short time he generally gets up, and appears for a minute or two to be getting better, but the pain soon returns and the succeeding paroxysm is generally more violent, than the former—the pulse is seldom much accelerated, nor are there any symptoms of fever. The disease will sometimes go off spontaneously ; it more commonly happens, however, when proper remedies are not employed, that the air continues to accumulate, and so distends the intestine, as to produce inflammation of its coats : the distension has sometimes been so considerable as to rupture the intestine, whereby the horse is speedily destroyed.

As soon as this disease is observed, let one of the following draughts be given, and a glyster injected, composed of six quarts of water gruel or warm water, and 8 oz. common salt. If the disease has existed for several hours, and the pain appears to be very considerable, particularly if the pulse has become quick, it will be adviseable to bleed to three quarts, with a view to prevent inflammation and remove the spasmodic

contraction of the intestine. If the disease, however, is perceived on its first attack, the draught and glister will generally be sufficient to cure it: but should no relief be obtained by these means in an hour or two, let the draught be repeated, and let the belly be rubbed for a considerable time with the mustard embrocation. Should the disease be so obstinate as to resist even these remedies, which will scarcely ever happen, give a pint of castor oil, with $1\frac{1}{2}$ oz. tincture of opium or laudanum, and if castor oil cannot be had, $1\frac{1}{4}$ pint of linseed oil may be substituted: as soon as the horse gets up, let him be rubbed perfectly dry by two persons, one on each side, and afterwards let him be well clothed. It is necessary in this complaint to provide a large quantity of litter for the purpose of preventing the horse from injuring himself during the violence of the paroxysm.

THE DRAUGHT.

No. 1.

Balsam of capivi,	-	-	1 oz.
Oil of juniper,	-	-	1 dr.
Spirit of nitrous ether,	-	-	$\frac{1}{2}$ oz.
Simple mint water,	-	-	1 pint.

Mix for one dose.

(How to be given, see p. 82.)

No. 2.

Venice turpentine, - 1 oz.
 Mix with the yolk of an egg, and add gradually
 Peppermint water, - 1 pint.
 Spirit of nitrous ether, - $\frac{1}{2}$ oz.
 Mix for one dose.

No. 3.

Camphor, - - - 2 dr.
 Oil of turpentine, - - $\frac{1}{2}$ oz.
 Mint water, - - - 1 pint.
 Mix for one dose.

Or in case neither of the foregoing prescriptions can be had (but not otherwise) use

No. 4.

Gin or other ardent spirits, - 3 gills,
 diluted with an equal quantity of warm water,
 which may be repeated in half an hour if the
 pain does not subside.

As this complaint is liable to occur during a journey, in situations where the above remedies cannot be readily procured, I have annexed a formula for a ball, for the convenience of those who are in the habit of travelling. If this ball is wrapped up closely in bladder, it may be kept a considerable time without losing its virtues.

THE BALL.

Castile soap,	-	-	3 dr.
Camphor,	-	-	2 dr.
Ginger,	-	-	1½ dr.
Venice turpentine,	-	-	6 dr.
To be made into a ball for one dose.			

DRENCH OR DRAUGHT.

The best method of administering a drench or any liquid medicine, is by means of a claret, or any other bottle with a long neck ; the liquid being first put into the bottle, the neck is to be introduced as far into the mouth of the horse as possible and the contents discharged, his head is at the same time to be held so high with a bridle as to prevent his throwing out any of the liquid ; the under jaw and tongue must be left at liberty or he cannot conveniently swallow.—When a ball is given the same method must be observed as to holding up his head.

GLYSTER.

The method of administering a glister is by means of a large bladder (to be softened by putting it into warm water before it is used) and a pewter pipe or common reed, or indeed any other tube nine or ten inches in length which is

not more than about one inch in diameter. The neck of the bladder should be cut off and after the glister is put into it through a funnel, it must be securely tied round one end of the tube, the other end after being made smooth, is to be well oiled and then introduced several inches into the anus; the liquid in the bladder is to be forced through the tube by pressure with the hand.

When the glister is given the horse should be placed with his hind parts much the highest, and if he will not stand a twitch should be put upon his nose.

APOPLEXY OR STAGGERS.

THIS disease generally begins with an appearance of drowsiness, the eyes being inflamed and full of tears, and the appetite diminished; the disposition to sleep gradually increases, and in a short time the horse is constantly resting his head in the manger and sleeping, the pulse is seldom much altered; costiveness and a deficient secretion of urine commonly attend this complaint. Sometimes the disease will continue in this state

for several days, at others it assumes a formidable appearance very early, or even at its commencement, the horse falling down and lying in a state of insensibility, or violent convulsions coming on. Sometimes a furious delirium takes place, the horse plunging and throwing himself about the stable, so as to render it dangerous for any one to come near him. From this variety in the symptoms, writers on farriery have divided the disease into the *sleeping* and the *mad* staggers. It has been supposed that the staggers are frequently occasioned by a diseased condition of the stomach. When the complaint originates in the stomach, the horse is generally in a state of debility previous to the attack, the pulse is quick and weak, there is a yellowness in the eyes and mouth, and should the stomach be considerably distended with air and food, the belly will be swollen and feel very tense, and respiration will be much disturbed : it will also occasion very acute pain, which will be strongly expressed by the animal. In cases of this kind it must be obvious that bleeding is a doubtful remedy, and should not be employed unless there are evident marks of congestion in the brain, *bleeding*, however has proved a sovereign remedy, if employed with *sufficient freedom*, before an effusion of water,

travasation, or inflammation have taken place; for it appears evident that the first stage of the complaint arises from an accumulation of blood in the vessels of the brain, which impedes, in some degree, the functions of that important organ; and if these vessels are not relieved by copious bleeding, there will be either an effusion of water in its ventricles, an inflammation of the membranes, or a rupture of some blood vessel, and consequently an extravasation of blood.—These are the causes which give rise to those violent symptoms denominated mad staggers, and which frequently prove fatal.

There is sometimes so *sudden* a determination of blood to the brain, that those dangerous symptoms make their appearance before any effectual remedies can be applied.

From the view we have given of the staggers, it will appear, that the terms which farriers have adopted to distinguish its different appearances, are very inadequate; and that it would be better to consider the disease under the two following heads, viz. the *idiopathic* and the *symptomatic* staggers. In the former, bleeding is the grand remedy, and seldom fails of affording relief if employed with freedom at the commencement of the disease. It will be adviseable also

to give the following purgative draft, and inject a stimulating glyster, composed of a gallon of water and 8 oz. common salt. (How to be given, see p. 82.) Should the symptoms not abate in eight or ten hours after the bleeding, there will be great probability of obtaining relief by opening the temporal arteries, and suffering them to bleed freely. When the disposition to sleep is not removed by the first bleeding, the head should be blistered, and a rowel inserted under the jaw. With respect to the symptomatic staggers, which originate in a diseased condition of the stomach, a different treatment must be pursued. In this case medicines of a stimulating and antispasmodic quality have been strongly recommended, of this kind are salt of hartshorn, assafætida, ether, fætid spirit of ammonia, camphor, &c. &c. It appears, however, that an opening medicine is preferable, and for this purpose the following formula is recommended:

Aloes,	- - -	6 dr.
Myrrh and ginger, of each,		2 dr.
Castile soap,	- -	3 dr.
Simple mint water,	-	1 pint.

Mix for one dose.

(How to be given, see p. 82.)

Its operation may be assisted by a glyster.—

Should this not succeed in relieving the animal, it will be adviseable to have recourse to one of the three following formulæ :

No. 1.

Fætid spirit of ammonia,	-	1 oz.
Camphor,	- - -	1 dr.
Mint water,	- - -	1 pint.

Mix for one dose.

No. 2.

Spirit of hartshorn,	-	1 oz.
Powdered valerian,	-	6 dr.
Mint water,	- -	1 pint.

Mix for one dose.

No. 3.

Assafætida,	- - -	$\frac{1}{2}$ oz.
Camphor and salt of hartshorn,	} 1 dr.	
of each,		

To be made into a ball with syrup for one dose.

PURGATIVE DRAFT.

Succotrine aloes,	-	1 oz.
Castile soap,	- - -	2 dr.
Common salt,	- -	4 oz.
Water,	- - -	1 pint.

Mix for one dose.

Bleeding, it has been before observed, is seldom proper in symptomatic staggers ; but whenever the pulse is tolerably strong, and the disposition to sleep considerable, it should by no means be omitted.

DIARRHÆA OR PURGING.

THIS is not a very common disease in the horse, and seldom difficult of cure ; it may be occasioned by a suppression of perspiration, or by an increased secretion of bile ; from whatever cause it may proceed, give in the first place the following laxative ball, and if the disease does not cease in two or three days, let the astringent ball be given. Warm clothing is particularly required in this complaint, and exercise should not be neglected ; his water should be moderately warm, and given frequently in small quantities. When a purging is accompanied with griping pains and fever, it is to be considered as a case of inflammation in the bowels, and treated accordingly.

LAXATIVE BALL.

Succotrine aloes,	-	-	4 dr.
Powdered Rhubarb,	-		3 dr.
Castile soap,	-	-	2 dr.

To be made into a ball with syrup for one dose.

ASTRINGENT BALL.

Opium,	-	-	-	1 dr.
Tartarized antimony,	-			3 dr.
Powdered ginger,	-	-		2 dr.

Syrup enough to form the ball for one dose.

DIABETES OR EXCESSIVE STALING.

THIS disease often proves extremely obstinate, and not unfrequently incurable ; it is believed however, that if attended to at its commencement, a cure may sometimes be effected without much difficulty. The complaint at first consists merely in an increased secretion of urine, the horse staling frequently, and in considerable quantity ; the urine is generally transparent and colourless like water ; at length he becomes feverish, the mouth feels dry, and he seems to suffer much from thirst, the appetite is diminished,

and the pulse becomes quick ; the horse is generally hide-bound, and gradually loses flesh and strength. Lime water has been much recommended as a remedy for this disease ; it is sometimes given, however, without any good effect. Some recommend diaphoretic medicines, from a supposition that it depends in a great measure upon a suppression of perspiration. Bark and other tonics have also been considered as useful remedies. A number of cases have speedily been cured by means of the following ball :

BALL FOR DIABETES.

Opium,	-	-	-	1 dr.
Powdered ginger,	-			2 dr.
Yellow Peruvian bark,	-			$\frac{1}{2}$ oz.

Syrup enough to form the ball for one dose.

But these were all cases, not attended with fever, nor had the horses lost much strength or become hide-bound in any considerable degree, yet the disease was well marked, and would, no doubt have produced all those symptoms, had it not been attacked as soon almost as it made its appearance. In all these cases the quantity of urine discharged was very considerable, the mouth was dry, and there appeared to be a constant

thirst. It seems, therefore, highly necessary to attend to this disease at its commencement, since, if neglected at this period, it becomes extremely obstinate, and sometimes incurable.—Should the above remedy fail, try one of the following formulæ:

BALLS FOR DIABETES.

No. 1.

Emetic tartar,	-	-	3 dr.
Opium,	-	-	1 dr.

To be made into a ball for one dose.

No. 2.

Salt of hartshorn,	-	-	2 dr.
Opium,	-	-	$\frac{1}{2}$ dr.
Powdered ginger,	-		1 dr.
Liquorice powder,	-		3 dr.

To be made into a ball for one dose.

No. 3.

Salt of steel,	-	-	$\frac{1}{2}$ oz.
Myrrh,	-	-	2 dr.
Ginger,	-	-	1 dr.

To be made into a ball for one dose.

SUPPRESSION OF URINE.

HORSES are often attacked with a difficulty in staling or making water, sometimes amounting to a total suppression of that excretion; this most commonly arises from spasms in the neck of the bladder, or from hardened excrement in the rectum or latter part of the intestines.—When this happens let glysters of warm water be injected until all the hard excrement is discharged, then give the following ball.

Nitre, - - - 1 oz.

Camphor, - - - 2 dr.

Linseed or other meal, and syrup enough
to form the ball for one dose.

Should there be any appearance of fever, or should the horse appear to feel pain when the loins are pressed upon, it is probable that the kidneys are inflamed, in such cases the ball would be improper (vide INFLAMMATION OF THE KIDNEYS.)

WORMS.

THERE are three kinds of worms found in horses. The most common and mischievous re-

side in the stomach, and are named bots. They are of a reddish colour, and seldom *exceed* three fourths of an inch in length: at one extremity they have two small hooks, by which they attach themselves, and the belly seems to be covered with very small feet; they are most frequently found adhering to the *insensible* coat of the stomach, and then they do not appear to cause any considerable uneasiness or inconvenience; sometimes, however, they attach themselves to the *sensible* part, and do great injury to this important organ, keeping up a constant irritation, and thereby occasioning emaciation, a rough staring coat, hide-bound; and a cough. Frequent instances happen of their destroying the horse by ulcerating the stomach in a considerable degree, and cases are recorded where they have penetrated quite through the stomach. It is astonishing with what force these worms adhere, and how tenacious they are of life; they have been found to resist the strongest poisons, nor is any medicine yet discovered fully capable of destroying them, or of detaching them from their situation. It seems probable that this worm, like the caterpillar, undergoes several changes; it is said to be originally a fly, which depositing its eggs in the horse's coat, causes an itching which in-

duces him to bite the part, in this way he is supposed to swallow some of the eggs, which by the heat of the stomach, are brought to maturity and produce bots. When the bots are fit to assume the chrysalis state, they are spontaneously detached, and gradually pass off with the fæces. This is the most rational account given of their production. It has been asserted that the fly from which bots are produced, crawls into the anus of horses, and deposits its eggs there, that the worms when hatched soon find their way *farther up the intestines*, and often penetrate into the stomach. This account is literally copied by a late writer on Veterinary Pathology ;* but it appears rather strange that any one who has considered the structure of the horse's intestines should for a moment give credit to it. It seems *impossible* indeed for this worm to crawl from the anus to the stomach, and as far as the best observation go they are never found residing in the intestines ; sometimes, indeed two or three are found, but they are evidently proceeding towards the anus to be expelled. It has been observed that no medicine has yet been found capable of detaching or destroying these worms, though the strongest mercurial preparations, and

* Ryding's Veterinary Pathology.

many powerful medicines have been tried; we are informed, however, by Mr. Ryding, in the book just noticed, that the following medicine will be found "*most effectual*:"

" Take yellow emetic mercury, - 1 dr.

" Liquorice and linseed powder, of each, $\frac{1}{2}$ oz.

" Syrup or honey sufficient to form the mass ;
" and divide into two balls.

" The horse should be put upon a diet of
" bran before this medicine is given, after which
" let him take one of these balls, and the other
" about forty hours afterwards, and when you
" have waited about the same time for the ope-
" ration of the medicine, let the following brisk
" purge be given :

" Take Barbadoes aloes, from 6 to 8 dr.

" Calomel, - - - 1 dr.

" Venice turpentine sufficient to form the ball.

" By paying proper attention to the operation
" of this medicine, we may be able to judge if it
" has the desired effect ; but if, after it is over,
" we suspect there are still some worms re-

“maining, a second course may be repeated in
“about a fortnight afterwards.”

The next worm we have to describe is very slender, of a blackish colour, and seldom exceeds two inches in length ; they are never found in the stomach, and very rarely in the small intestines, the largest part of the canal being generally the place of their residence : here they prove a constant source of irritation, occasioning loss of condition, a rough unhealthy looking coat, and frequently a troublesome cough. A variety of alterative medicines have been proposed for the destruction of these worms, and some of them are supposed to be infallible ; it is believed, however, that none of them are possessed of much efficacy, and ought not therefore to be depended upon.

The following are the alteratives to which we allude :—Savin, rue, box, æthiops mineral, antimony, sulphur, emetic tartar, calomel, and vitriolated quicksilver ; the two last, if given with aloes, so as to purge briskly, and particularly the calomel, are excellent remedies ; but given merely as alteratives, they do no good. The following ball has been found very effectual, giving the preceding night from half a dram to a dram of calomel. The calomel mixed with the

ball will be found equally efficacious ; the former method, however, is generally preferred.

Succotrine aloes,	-	6 dr.
Powdered ginger,	-	1½ dr.
Oil of wormwood,	-	20 drops.
Prepared natron,	- -	2 dr.

Syrup enough to form the ball for one dose.

(How to be given, see p. 82.)

It is often necessary to repeat this medicine, but there should always be an interval of ten days between each dose.

The third kind of worm is of a whitish colour, frequently seven or eight inches in length, and generally found in the lower part of the small intestines. These worms are not so common as the other, but appear to consume a considerable quantity of chyle, or the nutritious part of the food ; they may be got rid of by the same means that we have recommended for the small blackish worm.

We may always be satisfied of the existence of worms in the intestines, when a whitish or light straw coloured powder is observed immediately beneath the anus. Giving one dram and

a half of aloes every morning until purging is produced, will sometimes destroy them.

HIDE-BOUND.

THIS term implies a tightness of the skin, which feels as if it were glued to the ribs, the coat having at the same time a rough unhealthy appearance. This complaint is generally occasioned by worms, or want of attention in the groom ; it occurs sometimes, however, without any manifest cause ; in such cases give the alterative No. 1, every morning, until moderate purging is produced, and if this does not succeed, try the alterative No. 2, which is to be given every morning for eight or ten days, taking care to assist its operation by warm cloathing, good grooming, and regular exercise.

ALTERATIVE BALLS.

No. 1.

Succotrine aloes,	-	1 oz.
Castile soap,	- -	9 dr.
Powdered ginger,	-	6 dr.

Syrup enough to form the mass, to be divided into six doses.

No. 2.

Tartarized antimony, - $2\frac{1}{2}$ oz.

Powdered ginger, - $1\frac{1}{2}$ oz.

Opium, - - - $\frac{1}{2}$ oz.

Syrup enough to form the mass, to be divided
into eight balls.

SURFEIT.

THIS absurd term is given by farriers to a disease of the skin, consisting in small tumours or knobs which appear suddenly in various parts of the body, sometimes in consequence of drinking largely of cold water, when the body is unusually warm: it appears frequently without any manifest cause. It may be easily cured by bleeding moderately, or giving a laxative ball; sometimes, indeed, it goes off without any medical assistance. There is another disease of the skin of the same name, which is generally more obstinate, and attacks horses that are hide-bound and out of condition; in this a great number of very small scabs are felt in various parts of the body; the horse is frequently rubbing himself, and sometimes the hair falls off from those parts.

which he rubs. This complaint approaches to the nature of mange, and requires the same treatment, assisted by a generous diet, good grooming, and regular exercise.

MANGE.

THIS disease is seldom met with, except in stables where scarcely any attention is paid to the horses, and where their food is of the worst quality ; it is thought by some to be contagious, and may in that way attack horses that are in good condition. It is known to exist by the horse being constantly rubbing or biting himself, so as to remove the hair, and sometimes produce ulceration ; the hair of the mane and tail frequently falls off, and small scabs may generally be observed about the roots of that which remains. The mange is, we believe, a *local* disease and requires only the following ointment or lotion for its removal ; in obstinate cases, however, it may be adviseable to try the effect of the following alterative :

MANGE OINTMENT.

No. 1.

Sulphur vivum, finely powdered,	4 oz.
Oil of turpentine, - - -	3 oz.
Hog's lard, - - -	6 oz.

Mix.

No. 2.

Oil of turpentine, - - -	4 oz.
Strong vitriolic acid, - - -	$\frac{1}{2}$ oz.

Mix cautiously, and add

Train oil, - - -	6 oz.
Sulphur vivum, - - -	4 oz.

Mix.

MANGE LOTION.

White helebore, powdered, - 4 oz.

Boil in 3 pints of water to 1 quart, then add muriate of quicksilver, - - 2 dr.

That has been previously dissolved in 3 drams of muriatic acid.

ALTERATIVE FOR MANGE.

Muriate of quicksilver,	-	$\frac{1}{2}$ oz.
Tartarized antimony,	-	3 oz.
Powdered aniseeds,	- -	6 oz.
Powdered ginger,	- -	2 oz.

Syrup enough to form the mass, to be divided into sixteen balls, one of which is to be given every morning.

Should they appear to diminish or take off the appetite, or create a purging, they must be discontinued two or three days.

 GREASE, OR SCRATCHES.

THIS disease consists in an inflammation, swelling, and consequent discharge from the heels, the matter having a peculiar, offensive smell, and the heels being sometimes in a state of ulceration; the swelling frequently extends above the fetlock joint, sometimes as high as the knee or hock. When the inflammation and swelling are considerable, apply a large poultice to the heels (vide Poultice), taking care to keep it constantly moist, by adding to it occasionally a

little warm water ; at the same time let a dose of physic be given. After three or four days the inflammation and swelling will have abated considerably, the poultice may then be discontinued, and the astringent lotion applied five or six times a day. Should the heels be ulcerated, apply the astringent ointment to the ulcers, and if they are deep and do not heal readily, wash them with the detergent lotion previous to each dressing. Regular exercise is of the highest importance, but it is necessary to choose a clean and dry situation for the purpose.

In slight cases of grease the astringent lotion and a few diuretic balls will generally be found sufficient to effect a cure ; but when the disease is of long standing, and particularly if the horse has suffered from it before, there will be more difficulty in its removal ; in such cases the following alterative powder may be given in the corn every day until it produces a considerable diuretic effect ; in very obstinate cases rowels in the thigh have been found useful.

Though the grease is most commonly occasioned either by high feeding and want of exercise, or by neglect in the groom, there are cases which seem to depend on general debility. A horse is rendered more susceptible of it by be-

ing in a state of weakness, and the complaint sometimes owes its continuance to this cause. When a horse has suffered much from this disease, and particularly if he appears to be weak and out of condition, a liberal allowance of corn will tend to recover him, if assisted by the astringent lotion and careful grooming; in cases of this kind exercise is essentially necessary. It must be obvious that when this disease depends upon debility, a dose of physic would not be an eligible remedy, yet considerable benefit has sometimes been obtained by giving the following alterative every morning until the bowels are moderately opened.

ALTERATIVE BALL.

Succotrine aloes,	-	-	1 oz.
Castile soap,	-	-	$1\frac{1}{2}$ oz.
Powdered ginger and myrrh, of each,			$\frac{1}{2}$ oz.

Syrup enough to form the mass, to be divided into six balls.

This medicine, though of an opening quality, will improve the horse's strength, and at the same time promote absorption.

ALTERATIVE POWDER.

Powdered rosin and nitre, of each, 4 oz.
 Mix, and divide into eight doses. Give one
 daily.

Nothing tends so much to prevent grease and swelling of the legs, as frequent hand-rubbing, and washing the heels carefully with soap suds, as soon as a horse comes in from exercise. In inveterate cases of grease, where the disease appears to have become habitual in some degree, a run at grass is the only remedy ; if a dry pasture be procured where a horse can be sheltered in bad weather, and fed with hay and oats, it will be found extremely convenient, as in such circumstances he may perform his usual labour, and at the same time be kept free from the complaint. In obstinate cases the mercurial alterative will be of service, giving one ball every morning until the bowels are opened.

ASTRINGENT LOTION, OR WASH.

No. 1.

Alum powdered,	-	1 oz.
Vitriolic acid,	- -	.1 dr.
Water,	- - -	1 pint.
Mix.	✓	

No. 2.

Alum powdered,	-	4 oz.
Vitriolated copper,	-	$\frac{1}{2}$ oz.
Water,	- -	$1\frac{1}{2}$ pint.

Mix.

The strength of these lotions often requires to be altered; where the inflammation and irritability of the part are considerable, they must be diluted with an equal quantity of water; but if the inflammation is subdued, and a swelling and ulceration remain, the alum solution cannot be made too strong.

ASTRINGENT OINTMENT.

No. 1.

Gun powder,	- -	1 oz.
Butter,	- -	2 oz.

Mixed and made fine and smooth by the point of a knife or spoon.

Apply the ointment twice a day, the heels to be washed perfectly clean with strong soap suds, at least twice every day; this is a most efficacious remedy, and may even be used upon a journey with almost certain success.

No. 2.

Venice turpentine,	-	1 oz.
Hog's lard,	-	4 oz.
Alum, finely powdered,		1 oz.

MERCURIAL ALTERATIVE.

Calomel,	-	$\frac{1}{2}$ dr.
Aloes,	-	1 dr.
Castile soap,	-	2 dr.
Oil of juniper,	-	30 drops.

To be made into a ball with syrup for one dose.

MALLENDERS AND SALLENDERS.

WHEN a scurfy eruption appears on the posterior part of the knee joint, it is termed *mallenders*, and when the same kind of disease happens on the anterior of the hock joint it is named *sallenders*. Should these complaints occasion lameness, it will be proper to give in the first place a dose of physic; let the hair be carefully clipped off from the diseased part, and let all the scurf be washed off with soap and warm water; a cure may then be soon effected by applying the following ointment twice a day:

THE OINTMENT.

No. 1.

Ointment of wax or spermaceti,	2 oz.
Olive oil, - - -	1 oz.
Camphor and oil of rosemary, of each,	1 dr.
Acetated water of litharge, -	2 dr.

Mix.

No. 2.

Ointment of nitrated quicksilver,	} 1 oz.
olive oil, of each, -	

Mix.

No. 3.

Oil of turpentine, - -	$\frac{1}{2}$ oz.
Vitriolic acid, - -	1 dr.

Mix cautiously, and add of

Oil of bay, - -	3 oz.
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Mix.

 GLANDERS.

THIS is believed to be a contagious disease, and has hitherto proved incurable. The most

essential thing to be known with respect to the glanders, is the method of preventing its being communicated to sound horses ; and the appearances by which it may be with *certainly* distinguished from other diseases. The symptoms are, a discharge from one or both nostrils, and a swelling of the glands under the throat : if one nostril only is affected, it generally happens that the swollen gland is on the same side of the throat : sometimes the disease remains in this state for a considerable time, at others the discharge increases, becomes of a greenish colour, and very fœtid ; ulceration takes place within the nose, and the swollen gland becomes harder, and feels as if closely attached to the jaw bone. A cold has sometimes been mistaken for the glanders, but may very easily be distinguished from it. In colds, there is generally a certain degree of fever, the eyes appear dull or watery, the appetite is diminished, and there is almost always a cough. If the glands of the throat should swell, they are not so closely attached to the jaw bone, as in the glanders, but feel loose and moveable under the skin ; they are also generally in a state of active inflammation, feeling hot, and softer than in the glanders : in colds, both nostrils are almost always affected ; in the glanders,

it frequently happens that the discharge is from one only. In colds the nostrils are never ulcerated—in glanders it always happens, though at different periods of the disease ; sometimes ulceration takes place at its commencement, at others a month or two may elapse before it can be perceived. The strangles has been sometimes mistaken for the glanders or sore throat, but in this disease the inflamed glands very soon suppurate and burst, whereby all the other symptoms are generally removed, whilst in the glanders the glands seldom or never suppurate : in order, however, to avoid all danger, it is advisable, the moment a horse is perceived to have a discharge from his nose, to put him into a stable where he can have no communication with other horses : if the glands of the throat are enlarged and inflamed, apply a large poultice to them, steam the head three or four times a day, let him be well clothed, particularly about the head, and give the fever powder, No. 2, every day, or once in twelve hours. Should the discharge arise from a cold, it will soon be removed by these means. When considerable ulceration is perceived in the nose, with the other concomitant symptoms of the glanders, the horse should be destroyed instantly.

The most effectual mode of purifying stables in which glandered horses have been kept, is to remove or carefully wash, every thing on which the horse may have deposited any matter, and afterwards to cover every part of the stable with a thick coat of lime and size.

FARCY.

THE farcy generally appears in the form of small tumors or buds (as they are commonly termed) frequently in the course of the veins, from which they are erroneously supposed to consist in a swelling of those vessels. These tumors generally burst, discharging a thin watery matter, and degenerating into foul spreading ulcers. The contiguous glands are usually inflamed and swollen from an absorption of the poison. This disease sometimes makes its appearance in diffused swellings of the hind legs, sheath, or other parts of the body. The most common cause of farcy appears to be contagion, either from a glandered or farcied horse, for there can be no doubt that those diseases *will reciprocally produce each other*; whence we may

conclude that they *both* originate from the operation of the *same poison*, which produces different effects according to the parts on which its noxious influence is exerted.

There being certain parts only of the body which are obnoxious to this poison, its effects are always partial in some degree ; thus we find the internal parts of the nose particularly liable to be affected by it ; the skin likewise is very susceptible of its action, more particularly along the under part of the neck upon the veins, and on the inside of the fore and hind legs ; and when the horse is suffered to live a sufficient time for the poison to acquire its highest degree of virulence, or to produce its full effect, the lungs do not escape the contagion. The farcy may be either constitutional or local : if glanderous matter, or the matter taken from a farcy ulcer is applied to the skin where the cuticle has been torn or abraded, a chancre or foul ulcer is produced, which may easily be distinguished from all others by its peculiarly foul appearance, the edges becoming thick, and the discharge consisting of a thin and rather glutinous matter, it generally spreads rapidly, and never looks red or healthy : the absorbents or lymphatics about the ulcer become inflamed and swollen from an

absorption of its poisonous matter, the swellings produced in this way are commonly mistaken for veins, and hence has arisen the opinion of the blood vessels being the seat of the disease : the glands likewise, to which those lymphatics lead, become inflamed and enlarged ; at length small tumors or *buds* appear in the course of these absorbents, which are small abscesses arising from the inflammation of those vessels.

Thus far the disease is certainly *local*, and the constitution untainted ; the poison being arrested by the glands, and for a time prevented from mixing with the blood ; at length however it insinuates itself into the circulation, and poisons the whole mass. At length the bones of the nose become carious or rotten, and finally the poison falls upon the lungs, and very soon puts a period to the sufferings of the unfortunate animal. Sometimes the progress of the disease is extremely rapid, and destroys the horse in a very short time ; at others it is remarkably slow, and continues in the same state for a considerable time, without affecting either the appetite or strength.

In the first stage of the Farcy, while it is perfectly local, a cure may be easily accomplished, and should the disease be discovered quite at its

commencement, the application of the farcy ointment aided by half an ounce of nitre given in his feed or water morning and evening will generally remove it; which however, must be continued for some time. But should the disease have been neglected, or not perceived at its commencement, should the lymphatics be enlarged or *corded*, (as it is termed by farriers) and the neighbouring glands swollen, the cure is by no means so certain, in that case some of the poison may have got into the circulation, though its effects have not been visible. Whenever therefore the farcy has been neglected at its first appearance, it will be adviseable to give the following ball, once, twice, or even three times a day, if the horse's strength will admit of it; taking care to restrain its inordinate effect upon the bowels or kidneys by means of opium; at the same time it is necessary to keep up the horse's strength by a liberal allowance of grain mixed with mashes, malt has been found useful also on those occasions. During the time the horse is taking this strong medicine, great attention must be paid to him, he must be warmly cloathed if the weather is cold, have regular exercise, and never be suffered to drink cold water.

The following balls indeed have proved so ef-

ficacious, there is seldom occasion to try other internal remedies ; unless however they are given for two or three weeks after every symptom has been removed, the cure will seldom be permanent.

With respect to that kind of farcy which appears in the form of diffused swellings of the limbs or other parts, it seldom originates from infection, and does not often depend perhaps on the action of the glanderous poison, being merely common œdematous swellings, such as accompany the grease ; from this we may account for the efficacy that has sometimes been attributed to purgatives and diuretics as remedies for the farcy.

When large abscesses form in consequence of farcy, they do not require any peculiar treatment, but it is particularly necessary to support the horse's strength in those cases by means of corn and malt. It has been supposed that the farcy depends altogether upon debility, and medicines of the tonics or strengthening kind have been recommended for its removal.

BALL FOR FARCY.

Muriate of quicksilver, - 1 sc.

Powdered aniseeds, - $\frac{1}{2}$ oz.

Syrup enough to form the ball.

(How to be given, see p. 82.)

The quantity of muriate of quicksilver may be gradually increased, as far as the horse's strength will allow. When violent sickness, purging, or excessive staling is produced by it, it will be adviseable either to discontinue it for two or three days, or to diminish the dose considerably. One dram of opium will sometimes prevent such violent effects.

FARCY OINTMENT.

Oil of vitriol, - - - 1 oz.

Oil of turpentine, - - - 2 oz.

Mix carefully in an earthen, stone, or iron vessel, as it will boil furiously for a few minutes.— Add a little train oil, then apply this ointment to the buds or tumors twice or three times a day, well rubbed in by a sponge or rag tied on the end of a small stick.

WOUNDS.

THE first necessary operation in wounds is to remove carefully all dirt or other extraneous matter, and if the wound be made with a clean cutting instrument, and not complicated with

bruising or laceration, the divided parts are to be neatly sewed together ; and, where it can be done, a roller kept constantly moist with the saturnine lotion, diluted with an equal quantity of water, is to be applied, in order to assist in retaining the parts in their situation ; this roller is not to be removed for several days, that the divided parts may have time to unite, and that the wound may heal by the first intention, as surgeons term it, unless considerable swelling and inflammation come on, it then becomes necessary to remove the roller, and apply fomentations. This kind of union, however, can seldom be accomplished in horses, from the difficulty of keeping the wounded parts sufficiently at rest, and from their wounds being generally accompanied with contusion or laceration ; yet it should always be attempted where it appears at all practicable. Fomentations and warm digestives then become necessary, in order to promote the formation of matter in the wound : should considerable swelling and inflammation arise, moderate bleeding as near the affected part as possible, and laxative medicines, or even a dose of physic are strongly to be recommended, and a poultice, if the situation of the part be such as to admit of its application, will be found of great use. As soon as the swel-

ling and inflammation shall have been removed, the fomentations and poultice are no longer necessary, and the digestive ointment only is to be applied ; should the wound appear not disposed to heal, discharging a thin offensive matter, apply the detergent lotion previous to the digestive ointment. When the granulations become too luxuriant, that is, when what is commonly termed proud flesh, makes its appearance, the caustic powder is to be sprinkled on the wound—slight wounds generally heal with very little trouble, and sometimes without the interference of art ; and it is from this circumstance that many nostrums have acquired unmerited reputation : in wounds of this kind, tincture of myrrh, or compound tincture of benzoin may be used.

Whenever a considerable blood vessel is wounded, and the hemorrhage is likely to prove troublesome, the first object is to stop the bleeding, which, if the wound be in a situation that will admit of the application of a roller or bandage, may be easily effected, for pressure properly applied is generally the best remedy on those occasions, and far more effectual than the most celebrated styptics : in some cases it becomes necessary to tie up the bleeding vessels ; this is rather a difficult operation, and not often necessary.

Punctured wounds, or such as are made with pointed instruments, are generally productive of more inflammation than those that have at first a more formidable appearance; and if such wounds happen to penetrate into a joint, or the cavity of the chest or belly, the worst consequences are to be apprehended, unless it be skilfully treated.

When a joint has been wounded, the synovia or joint-oil may be observed to flow from the wound; the first thing to be done in those cases, is to close the opening that has been made into the joint, for as long as it remains open the inflammation will go on, increasing, and the pain will be so violent as to produce a symptomatic fever which has often proved fatal: the most effectual method of closing the wound is by applying the actual cautery or red hot iron; this will appear probably a very strange remedy to those who have not seen its effect, yet it is certainly the most efficacious that can be employed, but is only applicable where the wound is of the punctured kind, and small; for when a large wound is made into the cavity of a joint, and particularly if it is of the lacerated kind, it is impossible to close it effectually, and death is frequently the consequence. As soon as the opening has been closed, it is of consequence to

guard against the inflammation that may be expected to arise, or to remove it if already present—for this, bleeding and purging are the most effectual remedies—a rowel in any convenient part near the affected joint, will be found useful also. Should the joint be swollen much, the blister, No. 2, will prove very efficacious, and far superior to fomentations or poultices.

Wounds about the foot, from stubs, overreaching, &c. often prove troublesome when neglected; as soon as they are perceived, care should be taken that no dirt gets into them—the detergent lotion and digestive ointment, or oil of turpentine alone, are the most useful applications on those occasions. When the foot is wounded in shoeing, the nails being driven into the sensible parts, the compound tincture of benzoin or oil of turpentine is to be applied. When the tendons or their membranes are wounded, considerable inflammation is likely to take place, which is to be removed by fomentation and the saturnine poultice; purging is also of great use in those cases, and when the wound is extensive, and the inflammation runs high, bleeding likewise may be necessary.

In extensive, lacerated, or contused wounds, the inflammation sometimes terminates in mor-

tification (vide Inflammation), in such cases fomentations are to be frequently applied, and the horse's strength supported by means of rich mashes and the cordial ball for mortification.

BRUISES.

IN recent bruises, fomentations are the most essential remedies—when they are violent a considerable degree of inflammation may be expected to supervene, it will then be proper to give a laxative ball, and to bleed moderately, as near the affected part as possible.

If abscesses form in consequence of a bruise, discharging large quantities of matter, particularly if the matter is of a bad colour and an offensive smell, the wound also appearing dark-coloured and rotten, indicating approaching mortification; the horse's strength must be supported by allowing him a large quantity of grain, and if he can be made to eat malt, it will be found still more effectual. If the appetite goes off he must be drenched with good water-gruel, and strong infusion of malt: it will be necessary also to give the cordial ball for mortification, once

or twice a day. Stimulating applications to the part, such as camphorated spirit and oil of turpentine, equal parts, are of great use.

Should a hard callous swelling remain in consequence of a bruise, the following embrocation is to be well rubbed into the part twice a day, and if it does not succeed in removing it, recourse must be had to a blister.

EMBROCATION FOR BRUISES.

No. 1.

Camphor,	-	-	-	$\frac{1}{2}$ oz.
Oil of turpentine,	-	-	-	1 oz.
Soap liniment,	-	-	-	$1\frac{1}{2}$ oz.

Mix.

No. 2.

Tincture of cantharides,	-	-	1 oz.
Oil of origanum,	-	-	2 dr.
Camphorated spirit,	-	-	6 dr.

Mix.

FISTULA IN THE WITHERS.

THIS disease generally originates in a bruise from the saddle, and is at first simply an abscess,

which by early attention and proper treatment may be easily cured ; but when neglected it degenerates into a fistulous sore, proves extremely difficult of cure, and cannot be removed without very severe treatment.

As soon as the injury is discovered, fomentations should be applied in order to promote supuration, and when matter is formed let the tumor be opened, so that its contents may be completely evacuated, and a future accumulation prevented ; the sore may then be healed by dressing it daily with digestive liniment or ointment, but should they prove ineffectual, apply the detergent lotion until the sore assumes a red healthy appearance, and the matter becomes whiter and of a thicker consistence. When the disease has been neglected in its first stage, and the matter has been suffered to penetrate among the muscles, affecting the ligaments or bones of the withers, it becomes *necessary* to adopt a more severe treatment. The sinusses or pipes are to be laid open with a knife, and if it is practicable, a depending opening is to be made, that the matter may run off freely ; the sore is then to be dressed with the following ointment, which is to be melted and poured into the cavity while very hot.

The sore is not to be dressed, until the sloughs which this ointment occasions, have separated from the living parts ; which generally happens two or three days after the operation. If the surface of the sore looks red and healthy, and if the matter appears to be whiter and of a better consistence, a repetition of this painful operation will not be required ; the digestive liniment or ointment being sufficient to complete the cure ; but if the sore still retains an unhealthy appearance, and the matter continues thin and of a bad colour, the hot dressing must again be applied.

THE OINTMENT.

No. 1.

Ointment of nitrated quicksilver,	4 oz.
Oil of turpentine, - - -	1 oz.
Mix.	

No. 2.

Verdigris, - - - -	$\frac{1}{2}$ oz.
Oil of turpentine, - -	1 oz.
Ointment of yellow resin, -	4 oz.
Mix.	

POLL EVIL.

THIS disease like the preceding one, generally originates in a bruise, and if neglected, requires the same severe treatment: it consists at first in an abscess in the poll, which by early attention might be easily cured; but if the matter is suffered to penetrate to the ligaments and bones, it frequently proves more difficult of cure than the fistula in the withers.

Mr. Taplin, in his *Stable Directory*, very pompously declaims against this method of treating inveterate cases of fistula and poll evil; it is certainly, however, the only effectual one that is known; and had this verbose author but seen the effect of this remedy, as well as of that which he recommends himself, before his book was written, it is probable he never would have favoured the public with the declamation above alluded to. It is surely more consistent with humanity to rescue an animal from a painful and gradually increasing disease, by means of a severe operation, than to suffer him to linger out a life of pain and misery, by adopting a mild, but inert mode of treatment.

SADDLE GALLS OR WARBLER.

THESE consist of inflamed tumors, and are produced by the unequal pressure of the saddle: if neglected they become troublesome sores, and are often a considerable time in healing. As soon as a swelling of this kind is observed, let several folds of linen be moistened with one of the following embrocations, and kept constantly applied to the tumor until it is reduced; but if matter has been allowed to form, let it be opened with a lancet, and afterwards dressed with digestive liniment or ointment. Should it appear not to heal readily under this treatment, apply the detergent lotion made hot. When swellings of this kind are large and much inflamed, it will be adviseable to bring them to suppuration as expeditiously as possible, by means of fomentations or poultices. Should a hard swelling remain after the inflammation is in great measure removed, try the embrocation for strains, and if that does not succeed, recourse must be had to a blister.

THE EMBROCATION.

No. 1.

Water of acetated litharge, 2 dr.—

Distilled vinegar, - 3 oz.
 Spirit of wine, - - 4 oz.
 Mix.

No. 2.

Muriate of ammonia, - $\frac{1}{2}$ oz.
 Muriatic acid, - - 2 dr.
 Water, - from 8 to 12 oz.
 Mix.

No. 3.

Soap liniment and water of acetated ammonia, of each, } 2 oz.
 Mix.

SITFASTS

ARE occasioned by repeated bruises from the saddle, which instead of inflaming the skin, as most commonly happens, causes it to become callous, and gives it somewhat the appearance of leather. The following ointment is to be applied until the callous part appears disposed to separate, it is then to be removed, which generally requires some force, and the sore which re-

mains may be healed with digestive liniment or ointment.

OINTMENT FOR SITFASTS.

Ointment of althea,	-	4 oz.
Camphor,	- - -	2 dr.
Oil of origanum,	-	1 dr.
Mix.		

STRAINS.

THIS is a subject with which ever sportsman ought to be well acquainted, since his horses are particularly liable to such accidents. Strains may affect either the muscles, ligaments, or tendons. Muscular strains consist in an inflammation of the muscles or flesh, occasioned by violent and sudden exertion. When ligaments are the seat of this disease, there is generally some part of them ruptured, whereby very obstinate and sometimes permanent lameness is produced; in this case also inflammation is the symptom which first requires our attention: but tendons are the parts most frequently affected, particularly the flexors of the fore leg or back sinews as

they are commonly termed.—Tendinous strains are commonly supposed to consist in a relaxation or preternatural extension of the tendon, and the remedies that have been recommended, are supposed to brace them up again; however plausible this opinion may be, it is certainly very erroneous; indeed it has been proved by experiment that tendons are *neither elastic nor capable of extension*, and from investigating their structure and economy, we learn, that were they possessed of these qualities, they would not answer the purpose for which they were designed. From an idea that a strain in the back sinews depends on a relaxation of the tendons, many practitioners have been apprehensive of danger from the use of emollient or relaxing applications, than which nothing can be more useful at the beginning of the disease.

Tendinous strains consist in an inflammation of the membranes in which tendons are enveloped, and the swelling which takes place in those cases depends on an effusion of coagulable lymph, by the vessels of the inflamed part. Inflammation being the essence of a strain, we are to employ such remedies as are best calculated to subdue it, and should any swelling remain, it

is to be removed by stimulating the absorbent vessels to increased action.

STRAIN OF THE SHOULDER.

THIS disease is by no means so frequent as it is supposed to be, lameness in the feet being often mistaken for it; the difference, however, is so well marked that a judicious observer will never be at a loss to distinguish one from the other.

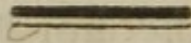
A shoulder strain is an inflammation of some of the muscles of the shoulder, most commonly, we believe, those by which the limb is connected with the body. The lameness which this accident occasions comes on rather suddenly, and is generally very considerable. When the horse attempts to walk, the toe of the affected side is generally drawn along the ground, from the pain which an extension of the limb occasions; in violent cases he appears to be incapable of extending it.

When lameness arises from a disease of the foot, it is generally very gradual in its attack, unless occasioned by an accidental wound, and does

not at all hinder the extension of the limb ; an unusual heat and tenderness may also be perceived in the foot, and as the horse stands in the stable, the affected foot will be put forward, that it may bear as little as possible of the weight of the body.

The first remedy to be employed on those occasions is bleeding in the shoulder or plate vein, then give a laxative ball, and if the injury is considerable, let a rowel be put in the chest ; by means of these remedies and rest, the disease will generally be removed in a short time ; a cooling opening diet, with perfect rest, will also be necessary. When the inflammation and lameness begin to abate, the horse should be turned into a loose stall, and after a week or two he may be suffered to walk out for a short time every day, but should this appear to increase the lameness, it must be discontinued. The intention of moderate exercise, after the inflammation is in great measure subdued, is to effect an absorption of any lymph that may have been effused, and to bring the injured muscles gradually into action. After an accident of this kind, particularly when it has been violent, the horse should not be rode, or worked in any way for a considerable time, as the lameness is very apt to recur

unless the injured parts have had sufficient rest to recover their strength ; if he can be allowed two or three months grass, it will be found extremely useful, provided he is prevented from galloping or exerting himself too much when first turned out ; it is necessary also to choose a situation where there are no ditches in which he may get bogged. With respect to embrocations and other external applications, they are certainly useless, unless the *external* parts are affected, and then fomentations may be employed with advantage.



STRAIN OF THE STIFLE.

IN this case the stifle joint will be found unusually hot, tender, and sometimes swollen. The remedies are fomentations, a rowel in the thigh, and a dose of physic. When by these means the inflammation of the joint has abated considerably, and at the same time the swelling and lameness continue, the embrocation for strains, or a blister, should be applied. Strains in the hock joint require the same treatment.

STRAIN OF THE HIP JOINT, (COMMONLY TERMED WHIRL BONE OR ROUND BONE.)

WHEN lameness occurs in the hind leg, the cause of which is too obscure for the farrier's comprehension, he generally pronounces it to be a strain in the round or whirl bone, which, however, on an attentive examination is often found to be an incipient spavin. It is adviseable therefore in all such cases, that the hock joint be carefully examined, and if any unusual heat or tenderness be observed on the seat of the spavin, it is probable that the lameness arises from that cause, and that it may be removed by the application of a blister.

STRAIN OF THE FLEXOR TENDONS OR BACK SINEWS.

A STRAIN of the back sinews depends, as we have before observed, on an inflammation of the membranes in which they are enveloped, and is sometimes complicated with a rupture of the ligaments which are situated immediately under

the sinews. When the lameness and swelling are considerable, bleed in the shoulder vein, and give a dose of physic; then let the saturnine poultice be applied so as to extend from the hoof to the knee, and let it be frequently moistened with the saturnine lotion.—When the inflammation and lameness have abated considerably, and a swelling still remains, apply the embrocations for strains, rubbing it well on the part twice or three times a day; if this does not succeed, recourse must be had to a blister; it will be adviseable also to turn the horse loose into a large stable or barn, and to give him this kind of rest for a considerable time: should he be worked too soon after the accident, the part is very liable to be injured again, particularly when it has been violent.

These swellings sometimes prove so obstinate, that even repeated blistering proves ineffectual; as soon, however, as the inflammation which caused them is completely removed, they seldom occasion lameness, yet they will not admit of any violent exertion in the part, and are therefore always an impediment to speed.

SATURNINE LOTION.

Acetated lead,	- -	4 oz.
Vinegar and water, of each,		1 pint.
Mix.		

No. 1.

SATURNINE POULTICE.

Fine bran, - - - $\frac{1}{4}$ peck.

To be made into a thin paste with hot saturnine lotion; to this add as much linseed meal or boiled flax-seed as will give it a proper consistence.

EMBROCATION FOR STRAINS.

No. 1.

Oil of rosemary and camphor, } 2 dr.
of each, - - -

Soft soap, - - - 1 oz.

Spirit of wine, - - - 2 oz.

Mix.

No. 2.

Soft soap, spirit of wine, oil of }
turpentine, and ointment of } 4 oz.
elder, of each, - - -

Mix.

RING BONES

ARE bony excrescences about the small pastern bone near the coronet, or in an ossification

of the cartilages of the foot (vide anatomy of the foot;) if it be observed in its incipient state, a blister will probably be of service; but when of long standing and large, and it has proceeded so far as to cause a stiff joint, there is no chance of recovery.

THOROUGH PIN.

BY this term is meant a swelling both on the inside and outside of the hock joint. When one of the tumors is pressed with the fingers, the fluid which it contains is forced into that on the opposite side—from this communication between the two swellings the disease has probably obtained its name.

It is generally a consequence of hard work, and therefore difficult to cure; the only remedies are blisters and rest.

WINDGALLS

CONSIST in an enlargement of the mucous sacs, which are placed behind the flexor tendons

for the purpose of facilitating their motion. The swelling appears on each side the back sinew, immediately above the fetlock joint ; if punctured they discharge a fluid resembling joint oil, indeed they frequently communicate with the cavity of the joint, and therefore cannot be opened without danger of producing an incurable lameness. Blisters are the only applications likely to be of service, and these seldom effect a cure unless assisted by rest. This complaint does not often occasion lameness, and is therefore seldom much attended to ; but as it is almost always a consequence of hard work, and sometimes renders a horse unfit for active labour ; it diminishes his value considerably.

Sometimes rollers or bandages applied to the legs will have a good effect, keeping them constantly moist with the following embrocation :

Muriate of ammonia,	-	1 oz.
Muriatic acid,	- -	$\frac{1}{2}$ oz.
Water,	- - -	1 quart.

Or, a strong solution of sal. ammonia and vinegar.

SPLENTS

ARE bony excrescences about the shank-bone, *i. e.* between the knee and fetlock joint; they never occasion lameness, unless situated so near the knee or back sinews as to interfere with their motion.

Many cases of lameness are attributed to splents, when the cause evidently existed in the foot.

These excrescences may sometimes be removed by strong blisters; but the old method of bruising and puncturing the part before the blister is applied, ought not to be attempted as it often does harm.

SPAVIN.

A SPAVIN is a swelling on the inside of the hock, and is of two kinds; the first is termed a *bone* spavin, consisting of a bony excrescence; the other a *bog* or *blood* spavin. The former often occasions lameness just before it makes its appearance, and then can be discovered only by feeling the part, which will be found unusually

hot and tender ; if a blister is applied and repeated at this period of the disease, it will generally prove successful ; but when the disease has existed for some time, the cure is much more difficult ; in such cases the skin should be irritated by caustic and the following day a strong blister applied ; after this two or three months rest (at grass) are absolutely necessary ; this disease is, however, generally incurable.

The *bog* spavin does not so often occasion lameness as the other, except when a horse is worked hard, which generally causes a temporary lameness removable by rest ; but it does not often admit of a *radical* cure, for though it is frequently removed by two or three blisters, it generally returns when the horse is made to perform any considerable exertion.

CURB.

THIS term implies a swelling on the back part of the hock, which sometimes occasions lameness. Blistering and rest are the only remedies ; it is frequently necessary, however, to ap-

ply two or three blisters before a cure will be effected.

ANATOMY AND PHYSIOLOGY OF THE FOOT.

OF all the diseases to which horses are liable, there are none more difficult of cure, or that occur so frequently, as these which attack the foot; and however improbable it may appear to those who have not paid much attention to this subject, it is an incontrovertible fact, that almost all of them are the consequence of bad shoeing and improper management of the foot.

No one can be aware of the importance of this branch of the Veterinary Art, but he who has had frequent opportunities of seeing those diseases, and has taken the trouble to enquire into their causes; and such a man will be convinced that nearly half of the horses that become unserviceable, are rendered so by some defect in the feet; and he will find that such defects are most commonly occasioned by a bad method of shoeing; therefore it must surely be of importance to every man who values his horse, to acquire

such a knowledge of this subject, as may enable him to preserve so useful an animal from a multitude of diseases.

The bad effects which arise from the common practice of shoeing are so gradual, that we can easily account for their having been so generally overlooked: the gradations between soundness and absolute lameness are so numerous, that it has been found rather difficult to trace the disease back to its source ; and this cannot be done readily without having some knowledge of the structure of the foot, and the particular uses of the various parts which compose it. It is necessary also to be well acquainted with the natural form of the foot, in order to determine how far it has been altered or destroyed by any plan of shoeing ; for example, take a horse that has had a sound well-formed foot, let it be improperly pared, and let bad shoes be applied, in all probability lameness will not be the immediate consequence ; by a repetition, however, of this practice, it will be found that the original shape of the foot is gradually altered, and that eventually it will be so far deformed as to produce perhaps incurable lameness ; therefore we ought not to be satisfied with a plan of shoeing, merely because a horse is not immediately made lame by

it, but should examine also the effect produced by it upon the shape and structure of the foot; and this rule may invariably be depended on, that any mode of shoeing and treating the foot, which has a tendency to alter the form given to it by nature, is highly absurd and destructive; while that practice which tends to preserve its original form, is founded upon sound and rational principles.

It has been very justly observed, that if we wish to examine a perfect foot, such as nature made it, it is generally necessary to find one that has never been shod; for the common mode of shoeing is so frequently destructive, that we seldom meet with a horse whose feet have not lost, in some degree, their original form; and this deviation from their natural shape, is generally proportioned to the length of time he has worn shoes. From this circumstance writers on farriery have been led to form various opinions respecting the most desirable form for a horse's foot; but had they consulted NATURE, this variety of opinion would not have existed—they would have been convinced, that the feet of all horses that have not been taken from a state of nature, or improperly shod, are nearly of the same shape; and surely no one will dispute that this form

which the Creator has given it, is the most perfect, and far better adapted to all the purposes for which the animal was designed, than any that can be given by the most ingenious farrier.

A person unacquainted with the anatomy of the horse's foot, would naturally suppose that the internal parts are simply inclosed by the hoof, and that by its hardness it served to protect them from the blows and pressure to which they would otherwise be constantly exposed; but very little reflection would convince him how incomplete and inadequate such a protection would be; let him consider that those internal parts are replete with blood-vessels and nerves, and possessed of a high degree of sensibility: let him consider also, what an immense weight is thrown upon them at every step, and what painful concussion must be occasioned to the animal, were this the only safeguard against it; but nature, ever provident, has so constructed this part as to obviate all those inconveniences; if we examine any part of the animal economy, we are astonished at the infinite wisdom that is displayed in it; it is not however too much to assert, that the structure of the horse's foot is strikingly beautiful and curious; here we find a variety of wonderful contrivances to prevent any

painful concussion, from the most violent exertions, or from carrying heavy burthens; but such is the folly and obstinacy of farriers, that they frequently destroy or pervert the whole of this beautiful mechanism, and the poor animal is doomed to painful labour, or perpetual lameness.

It would not be consistent with the objects of this book, to give an elaborate description of the anatomical structure of the horse's foot; but it will be essentially useful to give such an explanation of it, as will enable the reader fully to comprehend the principles of shoeing, and the method of preserving the feet, from many troublesome and incurable diseases.

The horse's foot is made up of a great variety of parts, some of them possessing blood-vessels and nerves, like other parts of the body, and highly sensible; others are composed of dead horney substance that is perfectly destitute of feeling. All the *external* parts of the foot, which, when taken together, are termed the *coffin* or *hoof*, are composed of this horney substance, which is not only very hard, but is possessed also of a considerable degree of toughness and elasticity, which render it extremely durable,

and well calculated to protect the sensible parts which it encloses.

The hoof consists of the *wall* or *crust*, the *sole*, the *frog*, and the *bars*; the upper part of the *crust*, where it is connected with the skin, is termed the *coronet*, the lower part in front; the *toe*, the sides of the crust are named the *quarters*, the quarters terminate in the *heels*, and the heels are connected with the *frog*. The crust grows from the coronet, and instead of taking a perpendicular direction becomes oblique in its descent, whereby it acquires a conical figure, being considerably wider at the basis than at the coronet; but this description of the hoof applies only to the healthy foot, that has not been improperly treated, for when the bars have been cut away, and the frog mutilated and prevented from receiving pressure, the heels will contract, or approach each other, and the shape of the foot will be considerably altered.

When we examine a hoof that has been recently separated from the foot, an immense number of small orifices or pores may be observed in that groove, which is found on the inside of the coronet; into the orifices the extremities of those vessels are inserted, which secrete the horney matter, the whole of which

appears to be pervaded by a fine fluid, serving to prevent brittleness, and to preserve in the hoof a proper degree of elasticity.

All the internal surface of the crust, except the groove we have just mentioned, is covered by a beautiful membranous or laminated substance, which very much resembles the under surface of a mushroom; these are united, or rather interwoven, with similar laminæ or membranes, which cover all the anterior and lateral surfaces of the sensible foot, forming a very secure union between the crust and the internal parts, nor are those membranes possessed merely of great strength; they possess likewise a considerable degree of elasticity, constituting one of those curious springs which nature has provided to prevent concussion when the animal is in motion; that these laminæ form an union between the crust and sensible foot, of sufficient strength to support the animal's weight, has been proved beyond a doubt, by removing from a living horse the bottom of the hoof, that is, the sole and frog: in this case, had the laminæ been unable to support the horse's weight, the internal foot must have slipped through the hoof so as to come down upon the ground, but this did not

happen, and the sole, as it was re-produced, assumed its proper concave form.

As these laminæ form so secure an union between the crust and the internal foot, it is evident that the weight of the horse is in a great measure supported by the crust, which therefore ought to possess considerable strength, for if it were too weak and inflexible, it would not be adequate to the burthen which it has to sustain, and must consequently bend to it; in this case the hoof would lose that oblique form which it had originally, and would approach the horizontal line, at the same time, the sole would lose its concave form, from receiving an unusual degree of pressure, becoming flat, and at length convex or projecting, but when the crust is sufficiently strong, the internal foot, and consequently the whole animal is suspended by those elastic membranes, as a carriage is by its springs; and though the bottom of the internal foot is in contact with the sole, it nevertheless does not press upon it considerably, except when the horse is in motion, and then the back part of the sole descends a little (being somewhat elastic), and suffers the laminæ to elongate in a small degree, so as to prevent any painful concussion.

The bottom of the hoof is formed by the sole, the frog, and the bars.

The sole is rather concave or hollow on its external surface, and consists of a different kind of horn from that which forms the crust, being of a scaly texture, and sometimes soft and pulverable on its exterior surface; its use is to defend the sensible sole that lies immediately under it: from its concave form the horse is enabled to tread more firmly on the ground, and the sensible parts are less exposed to blows or pressure than they would be, had it been made either flat or convex; and being somewhat flexible and elastic towards the heels, it assists in the action of those curious springs we have just described.

The frog is a very important part, and requires to be particularly considered; it is intimately united with the sole, but is composed of a tougher and more elastic kind of horn; it resembles a wedge in its form; but towards the heel, where it becomes wide and expanded, there is a separation in the middle which is continued to the heel: when the frog receives the pressure of the horse's weight, this separation is increased, and consequently the frog becomes wider, and as it is connected with the heels of

the crust, the same effect must be produced upon them.

As great part of the frog is placed behind the coffin bone, all the intervening space between it and the back sinew being filled with a fatty elastic substance, it forms another of those curious springs which nature has provided to prevent concussion.

When the frog is in contact with the ground, it is evident, from its construction with the heels of the crust, as we have before observed, and with two cartilages or elastic bodies, which are covered in a great measure by the heels and quarters of the crust, and belong to the internal foot, that it must tend to widen or expand the heels, and however they may be disposed to contract, by the foot being kept hot and dry, such contraction cannot possibly take place while the frog bears on the ground, because it is then opposed by a very considerable part of the animal's weight.

It has been supposed by some, that the principal use of the frog is to serve as a cushion and point of support to the back sinew. When we consider, however, the structure and relative situation of those parts, this opinion does not appear to be very probable. From what has

been said of the frog, the reader may judge of its importance, and how necessary it is to attend to its preservation; but such is the mutilated practice of farriers, so determined do they seem on most occasions to act in opposition to nature, that this essential part is generally the *first* that is destroyed or rendered useless.

The *bars* form two ridges, one on each side the frog, extending from the head of the crust towards the toe of the frog; they appear to be a continuation of the crust, being like it, composed of strong longitudinal fibres; at the part where it joins the crust a very firm bearing is afforded for the heel of the shoe. The use of the bars is to *oppose* any disposition there may be in the hoof to contract, by acting as props to the heels; but in the common practice of shoeing they are generally destroyed, for farriers have supposed that they bind the heels together and prevent their expansion; they have therefore named them *binders*, and cut them away in order to open the heels, as they term it; this practice, however, is not now so frequent as it used to be.

Having finished our description of the hoof, we shall proceed to describe the *internal* or *sensible foot*.

All the parts, of which the internal foot is

composed, are, as we have before observed, endowed with great sensibility; and so nicely is it adapted to the cavity of the hoof, that it completely fills it, without suffering the least inconvenience from pressure; but when the foot has been improperly treated, when the frog has been deprived of its hard surface, for the purpose of giving it what farriers conceive, a neat and fashionable appearance, (as if nature had been so clumsy in this part of her work, as to require a polish from the hands of those ingenious gentlemen) when the frog has been thus mutilated, the bars destroyed, and shoes applied that are either turned up or made very thick at the heels, and when this shoe, for the purpose of saving trouble, has been applied to the foot almost *red* hot; in such circumstances the hoof must necessarily contract, whereby its cavity will be diminished, so that the nerves and blood-vessels will be compressed, the circulation of the blood impeded, and inflammation and lameness will most probably be the consequence.

All the anterior and lateral surfaces of the sensible foot are covered with that membranous or laminated substance which we have before described; but it differs from those laminæ which

are found on the internal surface of the crust, in possessing numerous blood-vessels, which can be easily demonstrated by injecting coloured wax into the trunk of the arteries; but the laminæ of the *crust* cannot be made to appear vascular even by the finest injection, and are therefore supposed to be insensible. At the upper part of the sensible foot, where the laminæ terminate, a roundish projecting body may be observed, extending all round the coronet to the back part of the frog, this is termed the coronary ring, its surface is covered with the extremities of vessels, which are very conspicuous when the arteries have been injected with coloured wax or size, it is from this part that the hoof is formed.

The bottom of the internal foot is formed by the sensible frog and sole, the former perfectly resembles in shape the horney frog, to the concavities of which its convexities are, nicely adapted. In describing the horney frog, we had occasion to mention its connection with two elastic bodies or cartilages, that are in a great measure covered by the heels and quarters of the hoof; but this connection is, through the medium of the *sensible frog*, which is more immediately united to those cartilages. When the former come in contact with the ground, and receives

the pressure of the horse's weight, the latter is forced upward and rendered wider, and at the same time the cartilages are forced upward and outward, tending thereby to expand the heels and quarters, and assist in taking off concussion. From the sensible frog and sole the horn which composes the external frog and sole is secreted; for this purpose they are supplied with numerous blood-vessels, the extremities of which may be seen upon their surface, and become very conspicuous when the arteries have been injected with coloured size. Hence we are enabled to account for thrushes, and that rottenness of the frog which generally accompanies that disease: for when the sensible frog is compressed and inflamed by a contraction of the heels, it becomes incapable of performing its principal function, that is, the secretion of horn; and the blood which should have been applied to this purpose, is chiefly expended in forming that offensive matter discharged in thrushes; from this we may learn also the cause of that unnatural thinness in the soles of horses that have pummice or flat feet. When the crust gives way to the pressure of the horse's weight, allowing the internal foot to bear so upon the sole as to render it either flat or convex, the extraordinary pressure which the

sensible sole receives, inflames it and impedes in a greater or less degree the secretion of horn.

The sensible sole lies immediately under the horney sole, by which it is defended from blows or pressure. When the horney sole loses its concave form, and becomes thin and incapable of performing its function, if flat shoes were applied, or if the sole were suffered to bear upon the ground, lameness would be the consequence; and it is for the purpose of preserving the sole from pressure, that the concave or hollow shoe is employed in these cases. When these parts which we have described are removed from the sensible foot, the tendons, ligaments, and bones come into view.

It will be unnecessary to give a particular description of these. It may be useful, however, to point out the sesamoid bones, and the navicula or nut bone: the former is connected posteriorly with the lower extremity of the cannon or shank bone; they consist of two small bones, firmly united by means of very strong ligaments; they compose part of the fetlock joint, having a moveable articulation with the cannon bone; their external part affords a smooth polished surface for the back sinews to slide upon, and the same ligament which composes this surface,

comes round the back sinews, so as to form a sheath for them, and keep them in their situation. In this sheath a fluid similar to synovia, or joint oil, is formed for the purpose of rendering it smooth and slippery, and enabling the tendon to move easily upon it. As these bones project a little, they serve as a pulley for the tendons to slide upon, and afford a considerable mechanical advantage to the flexor muscles of the limb. The nut bone serves as another pulley for the tendon or back sinew to move upon: it is connected posteriorly with the coffin bone and the small pastern, and affords the same kind of polished surface and sheath for the tendon as we have before described.

ON THE PRACTICE OF SHOEING.

HAVING given a concise description of the horse's foot, and pointed out the uses of the various parts which compose it, we shall now describe the method of shoeing; but first, it will be necessary to observe, that as the mode of shoeing most commonly practised has so destructive a tendency, and produces such a variety

of diseases, that we seldom meet with a foot that has not lost in a greater or less degree its original shape; it must be obvious therefore, that one kind of shoe cannot with propriety be recommended for general application, and that it is necessary on all occasions to adapt it carefully to the state of the foot. This constitutes the most difficult part of the art of shoeing, and from neglecting this precaution, shoes of the best form have often occasioned lameness.

If we examine the foot of a hundred colts, it will be found that more than ninety of them are of the same form; it is true that some may have grown more luxuriantly than others, whereby the crust will be deeper, and the bottom part may have been partially broken, so as to give the foot a ragged and uneven appearance, still the essential shape is the same, and when this superfluous horn has been removed, it will be found that the bottom of the foot will be nearly circular, the sole concave, the bars distinct, the frog and heels open and expanded.

In preparing a horse's foot for the shoe, the lower part is to be reduced, when luxuriant, which is generally the case, more particularly at the toe, and this is to be done by means of a

buttress or rasp: the loose scaly parts of the sole are likewise to be removed, so as to preserve its concavity, and the small cavity is to be made with a drawing knife, between the bar and crust, to prevent the shoe from pressing on that part, and occasioning corns: it is however necessary in doing this, to take particular care that the connection between the bar and crust is not destroyed or weakened, which would of course render the bar useless.

The junction of the bar and crust affords a firm bearing for the heel of the shoe, and is to be rasped perfectly flat, and so low as to be exactly on a level with the frog, that they may bear equally on a plane surface, before the shoe is applied; indeed, the whole of the bottom of the crust is to be made perfectly flat and even at the same time with the rasp, that the shoe may bear equally on every part of it: farriers should never be allowed to do this by means of a hot shoe, which is too frequently the case. If any ragged parts are observed in the frog, they are to be carefully removed with a knife, for, if suffered to remain, they might afford a lodgement for dirt and gravel. Thus do we prepare a foot for the shoe, and to a foot of this description, meaning one that is sound and perfect, or that

has not suffered any material alteration in its form from improper shoeing, a shoe of the following description is to be applied.

The toe of the shoe for a middle sized horse intended for active service is about an inch in width, and a quarter of an inch in depth or thickness; the heels about half an inch in width, and barely three eighths in depth; the wearing part of the toe is best to be made of steel, and the nails ought to be brought very near to the toe, but not quite round it; for when that is done, there must also be a groove made, which considerably weakens that part, and almost all horses wear principally at the toe, no nails must be put near the heels. Both surfaces of the shoe must be perfectly flat, and the heel of the shoe rests upon the junction of the bar and crust, beyond which it should never extend.

It will be supposed, perhaps, that a shoe which is flat on that surface next the foot, will be apt to produce lameness by pressing on the sole; but let it be recollected, that this shoe is recommended only for a sound foot, in which the sole is always a little concave, so that it cannot possibly receive any pressure from a flat shoe; it may be said also, that when the nails are placed far from the heels the shoe will not be

sufficiently secure, and will be frequently loosened; but as the shoe bears equally on every part of the crust, this objection cannot have any weight; it must be granted, however, that when a foot is pared in the common way, that is, when the heels have been opened, and the shoe so applied, that nearly an inch of the heel has no bearing upon the crust; that if the nails were placed so far from the heels, as before recommended, the shoe would be very insecure, for as much of it as has no bearing upon the crust, would operate occasionally as a lever in raising the nails, and consequently the shoe would frequently be loosened. Farriers therefore find it necessary, when the foot has been thus pared, and the shoe applied in this way, to place the nails in the quarters, by which the shoe is certainly rendered more secure than it would be had it been placed nearer the toe.

Many disadvantages, however, attend this method. In the first place, by placing the nails in the quarters, they prove a considerable obstacle to the expansion of the heels, and as the crust is generally much thinner at the quarters than at the toe, the sensible parts are more liable to be wounded; but this does not apply to the hind feet, in which the crust of the quarters is gene-

rally thicker than that of the toe. When a horse over-reaches, if any part of the shoe has no bearing upon the crust, it is very liable to be struck by the toe of the hind foot, and shoes are often forced off in this way; to this may be added, the insecurity of such a shoe when a horse is rode on deep or heavy ground.

It will probably be observed of the shoe here recommended, that it is inconsistent with the principle which has been laid down respecting the necessity of the frog's receiving pressure. It is an incontrovertible fact, that unless the frog receives a certain degree of pressure, it will become soft and incapable of affording sufficient protection to the sensible frog which it covers; that the heels will gradually contract, and the natural form of the foot will be destroyed, for it has been proved by experiment, that the bars alone are not sufficient to *prevent* contraction, though they certainly oppose it with considerable force; but it does not follow from this, that it is necessary for the pressure to be *constant*, nor is it believed that a shoe which allows the frog to bear upon the ground, when he stands upon a plane hard surface, can be always applied, even to *sound* feet, without inconvenience; there is no doubt that a horse in a state of nature has

his frog almost always in contact with the ground, and then of course he feels no inconvenience from it; but when burthens are placed upon his back, and he is driven about upon hard roads, he is certainly in very different circumstances, and if the frog in such cases were constantly exposed to this severe pressure, it would no doubt occasion lameness.

When a shoe is applied agreeable to the foregoing directions, the frog would be raised three-eighths of an inch from the ground; that when the horse is going upon a hard surface, where he would be most liable to feel inconvenience from the pressure on the frog, it receives none; but upon soft yielding ground the frog certainly receives pressure, and without giving the animal any pain. To a horse that travels or works regularly, and is occasionally taken upon soft ground, the pressure therefore that the frog receives in this way, is quite sufficient to preserve the foot in a state of health; but when a horse is kept almost constantly in the stable, standing upon hot litter, particularly in hot and dry weather, his feet will certainly be undergoing an alteration in their form, and will be in a progressive state towards disease.

In those cases, however, contraction of the

hoof may be effectually prevented by means of the patent artificial frog, invented by Mr. Coleman.* By this ingenious contrivance a horse's frog may receive sufficient pressure, in whatever circumstances he may be placed to prevent contraction, and keep the foot sound and healthy, without the inconvenience of wearing thin heeled shoes; but it must be remembered that whenever the frog is much exposed to pressure, whether it be by applying the patent frog, or by the thin heeled shoe, and reducing the crust at the heels, it is necessary that the quarters and heels should possess a proper degree of pliancy; if they are rigid and inflexible, it is evident that the sensible frog and cartilages would be placed between two fixed points, and they would consequently be bruised and enflamed. Indeed many cases of lameness are produced in this way; whenever the hoof appears to be too dry and strong, or to have lost its natural elasticity, it is necessary to rasp the quarters and to keep the whole hoof moist, either by applying several folds of flannel round the coronet, constantly wetted, or by making the horse stand in water or soft clay four or five hours during the day; by

* Professor of the Veterinary College.

these means the natural flexibility of the horn would be restored, and the heels and quarters would yield in a small degree, whenever the horse's weight was thrown upon the frog.

Having said as much as appears to be requisite of the method of shoeing a sound foot, we shall proceed to describe those diseases of the foot which render a different kind of shoe necessary. In the first place it will be proper to observe that when a horse, even with a sound foot, has worn shoes that are very thick, or turned up at the heels, particularly if at the same time the crust at the heels has been suffered to grow so high that the frog is kept at a considerable distance from the ground, it would be very improper to reduce the heels suddenly, so as to allow the frog to receive pressure; the back sinews would in that case be injured, and lameness might ensue. In feet of this description it is necessary to remove from the toe all that can be done without exposing the part too much, and to lower the heels gradually; the toe of the shoe should be made rather thin, and of the best steel.

The shoes for draught horses should be made flat on both surfaces, provided the sole is of a proper form and thickness, but if flat or convex,

and consequently too thin, which is often the case in horses of this description, the internal surface of the shoe must be concave; still the external surface should be flat, for the convex shoe, which is commonly used for draught horses, prevents them from treading securely, and renders them incapable of exerting the whole of their strength.

Shoes for draught horses that seldom go out of a walk should be much stronger than those for horses employed in active service, and may be turned up or raised at the toe and heels with advantage, when the ground is frozen.

DISEASES OF THE FOOT.

THE most frequent cause of lameness in the foot is a contraction of the horny matter that composes the hoof which is generally accompanied with an increased concavity and thickness of the sole. The cavity of the hoof being thus diminished, the sensible foot suffers a greater or less degree of compression, which occasions in it inflammation and lameness. When we examine the bottom of a contracted foot, instead of

being circular, it will be found of an oblong form, the heels and frog will appear as if they had been squeezed together in a vice. Sometimes the frog has become rotten, and discharges an offensive matter.

The sensible foot may also be compressed and inflamed by an increased thickness, and a consequent loss of elasticity in the hoof and sole, and in this case there is seldom any considerable alteration observed in the external form of the foot.

We sometimes meet with horses that go perfectly sound, though their hoofs are much contracted; on the other hand we often see severe lameness produced by a slight degree of contraction. In attempting to cure this disease, the first step to be taken is to remove carefully with a knife all the rotten parts of the frog, and apply tar to those which are sound: and oil of turpentine should be poured into the cleft of the frog; this will promote the secretion of horney matter, and if assisted by pressure, will increase the solidity of that which is already formed. The quarters and heels are then to be rasped, particularly at the coronet, and the superfluous parts of the sole removed with a butteris and drawing knife. The toe is to be shortened as much as

can be conveniently done, and if the heels are too high, that is, if the crust at the heels is too deep, it will be necessary to reduce it with the butteris and rasp. It frequently happens, however, in feet of this description, that the heels are too low, in such cases they must be carefully preserved, and when a shoe is applied, it should be made thicker at the heel than at the toe, and somewhat longer than that recommended for a sound foot.

When the contracted hoof has been thus treated, the next thing to be done is to keep the foot as moist as possible, and expose the frog constantly to pressure, either by means of the artificial frog, or by reducing the crust at the heels. When these remedies have been persevered in for a short time, the frog will have acquired a certain degree of hardness and solidity; it will then be proper to turn the horse out into some soft meadow ground, without shoes, taking care that the bottom of the foot is occasionally reduced, so that the frog may constantly receive pressure. If the foot is examined after a short time, it will be found that all the new formed hoof at the quarters and heels, that is all the horn that has been produced at those parts since the remedies were first employed, instead of growing down

nearly in a perpendicular direction, or obliquely inward, is forced outward in its descent, so that the cavity of the hoof will be considerably enlarged, and the compression of the internal parts removed. When the horse has been at grass a sufficient time for the new hoof to grow completely down, the shape of the foot will be found much altered; the heels instead of being narrow, will be open and expanded, the frog will be considerably widened, and not squeezed together as before, and the oblong form will be changed to one that is more circular, in short, when the frog during this time has been properly exposed to pressure, and the quarters so rasped as to be rendered sufficiently flexible, the hoof will be found very similar in its form to that of a colt.

In cases where a contraction of the hoof has already produced inflammation and lameness, particularly if the lameness is not recent, it will be adviseable to blister the pasterns previous to turning the horse out, and when the inflammation is very considerable, a laxative ball, with a cooling diet, will be serviceable. The cruel operation of drawing or tearing off the sole has been recommended as a remedy for contracted feet, but very little reflection will convince any

one of its inefficacy; whenever it has been supposed to do good, the benefit has probably arisen from the long run at grass that becomes necessary after it, and then the advantage might have been equal, perhaps greater, had the operation been omitted. It has been observed before, that in contracted hoofs there is generally an increased concavity in the sole, whence we may reasonably conclude that it opposes the contracting powers, though in the end it is not capable of preventing the contraction from taking place. Upon a horse that has been lame from this disease a considerable time, it is difficult, if not impossible, to perform a radical cure. When the lameness is not so considerable as to render the horse totally unfit for work, it will be adviseable to apply a shoe that is thicker, wider, and longer at the heels than that recommended for a sound foot, and if the frog is tender and rotten, the bar-shoe will be found serviceable. It will be useful also to keep the hoof as moist as possible, by making the horse stand in water or wet clay four or five hours during the day, or in a bran poultice.

In examining the feet of horses after death, that have been thus diseased, we find generally that the laminæ have been destroyed, the coffin-

bone injured, the lateral cartilages ossified; in some cases, however, no appearance of disease can be perceived on the internal parts of the foot. When the disease has gone so far as to injure the laminae, cartilages, or coffin-bone, there is not a possibility of removing it, which shews how necessary it is to attend to the feet of horses more than is commonly done; and that whenever any alteration is perceived to be going on in the shape of the foot, when the heels appear to be getting narrower, the frog squeezed together and discharging matter, in consequence of the compression which the sensible frog suffers; it surely must be of importance to adopt such measures as will not only prevent the disease from going any further, but will also restore the foot to its natural healthy state; for when it has gone so far as to produce absolute lameness, the cure is by no means certain. How frequently do we meet with horses that are said to be tender in the feet, and how subject are they to fall in consequence of this tenderness, which generally arises from contraction of the crust; in this case the sensible frog is extremely irritable and inflamed, and the horny frog which nature designed for its protection being soft and rotten, and inadequate to its function, every blow that

it receives must of course give the animal very considerable pain. Whenever therefore any of those symptoms make their appearance, and whenever the foot seems to be undergoing an alteration in form, immediate recourse should be had to the mode of prevention we have pointed out.

The next disease to be noticed is the flat or convex sole, or, as it is most commonly termed, the pummice foot. This disease most commonly occurs in heavy draft horses, and seems to arise from a weakness of the crust; for when the sole becomes flat or convex, the crust also loses its proper form, and becomes flatter, appearing as if it had been incapable of supporting the animal's weight, and had therefore given way, allowing the internal foot to press so upon the sole as to give it the appearance we observe. This explanation of the disease will perhaps appear the more probable, if we consider that when a horse is drawing a heavy load, not only his own weight, but great part of that which he is drawing also, is thrown ultimately upon his feet, and as the fore feet support by far the greatest share, it is not at all astonishing that the crust should sometimes give way; for though it possesses sufficient strength for the purpose of the animal

in a state of nature—yet that strength is limited, and not always adequate to the burthens which the crust has to sustain. When the sole becomes flat or convex, it is rendered also thinner than it is naturally, and sometimes so much so as to yield easily to the pressure of the finger; the sole in this state is of course incapable of affording sufficient protection to the sensible sole, which is then closely in contact with it; and if it be exposed to pressure, lameness must be the consequence. It is almost superfluous to observe, that the flat shoe would be ill adapted to a foot of this description; it becomes necessary in this case to apply one that is concave on its external surface, that the sole may not receive any pressure from it, and of sufficient width to protect the sole as much as can be done from the pressure of the ground. In attempting to cure this disease, it is first necessary to take off the horse's shoes, and to make him stand on a flat hard surface; this kind of pressure will harden the soles, and in the end render them thicker, particularly if tar be frequently applied to them, and although a radical cure may not be affected by this treatment, considerable advantage may be derived from it.

We sometimes meet with horses, particularly

among those that are well bred, whose pasterns are remarkably long and oblique in their position, while the heels are very low, and the toe of considerable length ; if thin heeled shoes were applied to feet of this description, or if the toes were not kept short, the horse would be very liable to lameness, from the extraordinary pressure to which the ligaments and back sinews would be exposed ; the heels therefore of such horses are to be carefully preserved, and the toes kept as short as possible. The shoes which are applied should be made sufficiently thick and long at the heel to make up for the deficiency of horn in that part, in order to relieve the ligaments and back sinews, and with the same view the toe should be made rather thin, and of the best steel. There is another kind of deformity sometimes observed in the foot, that is, the hoof loses its oblique form, and approaches towards the perpendicular, at the same time the heels becomes very high ; in this case it is necessary to reduce the crust at the heels, and apply the thin heeled shoe.

SAND CRACKS.

ARE longitudinal fissures in the hoof, generally next the heels, beginning at the coronet. Horses, whose hoofs have become dry and brittle are most subject to them, and they generally occur in the hot and dry months of summer, and seem to be occasioned by a strong disposition in the hoof to contract, at a time when it is dry and inflexible; they do not always cause lameness, and are sometimes very easily cured; but when the fissure or works is so deep as to reach the sensible parts, it often produces very severe lameness, and requires a considerable time to be completely removed. Having rasped the quarter, let the crack be opened with a drawing knife, so that the actual cautery, or red hot iron may be applied to it; this will cause a matter somewhat resembling glue to exude, which will tend to fill up the fissure, and protect the sensible parts that would otherwise be exposed. Oil of turpentine will however, generally effect a cure without burning. Our next object is to remove the contractile disposition of the hoof, without doing which every other remedy would avail little; this is to be effected by keeping the hoof con-

stantly moist, either by means of clay, poultices, or by turning the horse out to grass in soft moist ground, but previous to this it is necessary to rasp the bottom of that quarter which is cracked, so that no part of it may appear upon the shoe.

CORNS.

CORNS are generally the consequence of bad shoeing, or improper management of the foot, and may therefore be avoided by following the directions we have given under that head; but when they do occur, it is necessary to remove the red part or Corn, with a drawing knife, and to apply the shoe so that the tender part may not receive any pressure: when it has been neglected, we sometimes find matter formed in this part which often breaks out at the coronet, in this case it is necessary to make an opening for the matter in the angle between the bar and crust.

The sore is to be dressed with compound tincture of benzoin, and the cavity to be loosely filled with lint or tow, which is to be kept in by means

of a bar shoe, and spirits of turpentine poured into the wound frequently.

QUITTOR.

THIS disease generally arises from a wound or bruise in the coronet, and if neglected, penetrates under the hoof, forming sinuses in various directions. The most effectual method of treating those complaints is to ascertain, in the first place, the direction and extent of the sinuses, and then to force into them with a strong probe some chrystalized verdigris, rolled up in thin blotting or silver paper. This, though apparently a severe remedy, will be found very effectual. Sublimate and arsenic have been strongly recommended as remedies for the quittor, indeed it is probable that any caustic application would effect a cure. When a corn has been neglected and suffered to break out at the coronet, or when the foot has been wounded or pricked, as it is termed, by the farrier in shoeing, and this is not discovered until matter appears at the coronet; though these may be considered as cases of quittor, a different treatment is required from

that we have just described ; in those cases the cure greatly depends on making an opening for the matter in the bottom of the foot, where the nail which inflicted the injury entered ; or if produced by a corn, the opening must be made in the angle between the bar and crust. The best dressing on those occasions is the compound tincture of benzoin and digestive ointment, or oil of turpentine alone ; a poultice is sometimes required to soften the horney matter, and subdue any inflammation that may exist in the foot.

THRUSH.

THIS disease consists in a discharge of fœtid matter from the cleft of the frog, which part is generally rotten, and so soft as to be incapable of affording sufficient protection to the sensible frog which it covers ; hence arises that tenderness of the foot which is so often observed. When this complaint attacks the fore feet, it is seldom, if ever, an *original* disease, but merely a *symptom* or *effect*. The cause is generally a contraction of the horney matter at the quarters and heels, by which the sensible frog is compressed and in-

flamed ; the discharge which takes place is a consequence of this inflammation, and may be considered as an ineffectual effort of nature to cure it ; the discharge, however, certainly diminishes the inflammation, and prevents it from coming so considerable as it otherwise would, for it often happens when it has been stopped by the injudicious application of astringents, or when it ceases spontaneously, that the inflammation becomes violent, extends to the other parts of the foot, and occasions severe lameness, which generally is relieved or removed by a return of the discharge ; but we are not to infer from this that an attempt to cure thrushes is improper, it only shews that it is necessary in the first place to remove the *cause* of the disease ; with this view the quarters are to be rasped, and the hoofs kept constantly moist by making the horse stand in clay for some part of the day, or bran poultice, taking care to keep the frog dry by means of tar if possible. When by these means we have succeeded in removing in some measure the compression and consequent inflammation of the sensible frog, it will be adviseable to apply oil of turpentine or some other astringent to the frog, which, if assisted by pressure and tar, will ren-

der that part firm and solid, and the discharge will of course cease when the inflammation leaves the sensible frog.

The best astringents for this purpose are a solution of white or blue vitriol, alum, &c. There are some cases, however, of thrushes which though occasioned by impression of the sensible frog, it is difficult, if not impossible, to eradicate.

With respect to those thrushes which attack the hind feet, and which sometimes, though rarely, happen also in the fore feet, independently of the above cause, a different treatment is required. When the discharge has existed for a considerable time, by stopping it hastily we frequently produce inflammation and swelling of the legs; still it is necessary to check the disease, since, if neglected, it sometimes degenerates into that dangerous disease termed canker. It is adviseable, therefore, in such cases, to keep the bowels open by the following laxative ball, given every morning until the desired effect is produced, and repeated occasionally.—The best application for the frog is tar, and one of the above astringents. This treatment will be greatly assisted by two or three hours exer-

cise every day, and frequent hand-rubbing to the legs.

LAXATIVE BALL.

Take aloes, - - - 3 dr.

Castile soap, - - 3 dr.

To be made into a ball for one dose.

CANKER.

THIS disease frequently originates in a thrush, and most commonly attacks the hind feet; it generally proves difficult to cure, and not unfrequently incurable. The frog is the part first attacked, which becomes soft and rotten, discharging matter of a peculiar offensive smell; the horney frog is at length totally destroyed, and the sensible frog, instead of secreting horn, forms a substance somewhat resembling shreds of leather. The disease soon extends to the sole and other parts of the foot, even to the coffin-bone, and is then considered incurable. The first thing to be done is to cut away freely all the diseased parts, and when the bleeding is stopped, let the following liniment be applied, and re-

peated every morning; the dressings may be kept on by means of a bar shoe. Pressure on the diseased part will very materially assist in effecting a cure, if a cure is practicable; whenever the foot is dressed, such diseased parts as may again make their appearance are to be carefully removed, and to such as do not appear to be sufficiently affected by the liniment, let a little sulphuric or nitrous acid be applied. When the parts which were diseased begin to look red and healthy, and the discharge loses that peculiar smell before noticed, becoming whiter and of a thicker consistence, there is great probability of a perfect cure being effected, and when these favourable appearances take place, some mild application will be proper, except to such parts as do not appear to have entirely lost their foul appearance.

STRONG LINIMENT.

No. 1.

Oil of turpentine, - - 1 oz.

Sulphuric acid, - - $\frac{1}{2}$ oz.

Mix very cautiously.

Tar, - - - 4 oz.

Mix.

No. 2.

Red nitrated quicksilver, 1 oz.

Nitrous acid, - - - 2 oz.

The former being dissolved in the latter, mix them cautiously with 4 oz. tar.

MILD LINIMENT.

Chrystalized verdigris, finely powdered, 1 oz.

Honey, - - - 2 oz.

Powdered bole and alum, of each, $\frac{1}{2}$ oz.

Vinegar enough to give it the consistence of a liniment, to be mixed over a gentle fire.

 CUTTING.

A HORSE is said to *cut* when he wounds the inside of the fetlock joint with his foot in traveling. This may arise from various causes, the most common of which seems to be an improper position of the foot; the toe, instead of being in a line with the point of the shoulder, inclining either inward or outward; in the latter case we generally find that the inner quarter of the hoof is lower than the other, and that the faulty posi-

tion of the foot depends upon this inequality of the quarters; it must be obvious, therefore, that the remedy in this case consists in lowering the outer quarter, and making the inner branch of the shoe thicker than the other. When the toe inclines inward, it renders a horse liable to cut on the inside of the knee, at the lower part of the joint; this is termed the speedy cut, from its happening upon the trot or gallop, and this is considered as a dangerous failing in a horse, the violence of the pain which the blow occasions sometimes causing him to fall very suddenly. The remedy for this is to keep the toe as short as possible, that being the part which generally inflicts the wound and to alter the improper position of the foot. Cutting frequently depends upon weakness or fatigue, and is therefore very liable to happen to young horses when rode hard over deep heavy ground. The only remedy in this case is to avoid the cause until the legs acquire more strength, or to protect the wounded part with leather, or a boot, as it is termed. Whenever a horse cuts, it is adviseable to ascertain what part it is that inflicts the wound, and this may often be done by applying tar to the wounded part; this will of course adhere to that part of the hoof or shoe which comes into contact

with the wound. Should it be the edge of the shoe, which is seldom the case, the cause may be easily removed by the farrier; whatever part of the hoof it may be, it should be rasped away as much as can be done with safety, and particular attention paid to the position of the other foot, which if improper, should be improved as much as it can be by shoeing.

BLEEDING.

THIS operation is frequently necessary in the diseases of horses, and is performed either with a lancet or fleme, in the neck vein.

The blood should always be preserved that the *quantity* drawn may be accurately known, and that its *quality* may be ascertained. If, after it has coagulated, a white, or rather a light buff coloured jelly, is found on the surface, an inflammatory state of the body is indicated; but in order to render this criterion useful, the blood must not be taken from too small an orifice, nor should it be suffered to run down the sides of the vessel which receives it.

Blood drawn from a healthy horse very soon coagulates, and appears like an uniformly red jelly with a small quantity of fluid, resembling water, floating on its surface; this red jelly may by washing be rendered of a light buff colour, and exactly resembles the buff or size, as it is termed, of inflamed blood. The most healthy blood, therefore, contains this size, and the cause of its not being conspicuous in such blood, is that coagulation takes place before the red colouring matter can have time to separate from it; but as blood that is drawn from an animal labouring under general *inflammation* or fever always preserves its fluidity much longer than healthy blood, and as the red colouring particles are specifically heavier than the fluid with which they are mixed, they will of course be gradually subsiding as long as the mass continues fluid, leaving a coat of buff coloured jelly on the surface.

It has been observed before that healthy blood, when suffered to coagulate, appears to consist of two parts, the red jelly, termed *crassamentum*, and the water, or *serum*; and that the former may afterwards be separated by washing into two parts, viz. the red colouring particles, or *red globules*, as they are termed by anatomists, and buff coloured jelly, or *coagulable lymph*. The

proportion which these component parts of the blood bear to each other, seems to depend upon the state of the system at the time it is drawn. When the body is healthy and vigorous, we find but little serum; when it is preternaturally excited, or in a state of inflammation, there is still less, and when the animal is weak and debilitated, there is generally an abundance of serum. Another circumstance to be attended to in examining blood is the firmness or tenacity of the coagulum.—In health the blood when drawn and suffered to coagulate, is of a moderately firm consistence, and easily broken, but when the system is highly excited, as in general inflammation, so great is the tenacity of the mass, that the finger can scarcely penetrate it; on the other hand, when the powers of life are weak, as in the latter stage of symptomatic fever, the blood almost loses its power of coagulating. The necessity of examining blood that is drawn from the diseased horse must be obvious, as it assists in forming a judgment of the nature of the disease, and points out the proper remedies. When blood exhibits buff on its surface, particularly if at the same time the coagulum is firm and solid, we may be certain that the complaint is inflammatory, and that bleeding may be repeat-

ed with advantage. If on the other hand the mass of blood is wanting in tenacity, and has more serum than usual, we may safely conclude that the system is in a state of debility, and consequently that bleeding is highly improper.

In cases of symptomatic fever it will generally be necessary to take away four or five quarts of blood at the first bleeding; even six quarts have been taken with manifest advantage. It is at this period of the disease (its commencement) that copious bleeding is particularly useful, and it is from an absurd prejudice that obtains against this practice, that so many horses are destroyed by such fevers. It is truly laughable to hear a groom or quack farrier pronouncing, with an affectation of unerring sagacity upon the qualities of blood, frequently observing that it is too hot, and that consequently the horse must have a fever; or that it is too dark coloured, and therefore foul, or that it is too thick, and consequently unfit for circulation; it is said to be full of humours. With respect to the *heat* of the blood it will be sufficient to observe that it preserves nearly the same temperature while circulating in the body, whether the animal be an inhabitant of the most sultry or the cold-

est country, whether in health or in the highest fever.

As to the colour of the blood while flowing from the body, it may be either red or of a dark colour, as the operator pleases, for pressing on the vein for a short time before the orifice is made, it may always be made to appear of a dark colour. The opinion that blood sometimes becomes thick or viscid in the body, was supported by many respectable philosophers, but is now universally abandoned, because it has been *proved* to be erroneous.

It is a bad practice to bleed horses frequently when there is no urgent occasion, as they thereby acquire a plethoric habit, and unless the operation be regularly performed and gradually increased in frequency, troublesome diseases might ensue. Horses of a full habit, that are consequently liable to inflammatory complaints, will receive most benefit from moderate, but long continued exercise, and good grooming. When bleeding is performed for the cure of important inflammatory diseases, a large orifice should be made in the vein, and the blood drawn in a large stream, as we thereby diminish the action of the heart and arteries much more readily than if it were drawn slowly from a small

orifice. In cases of external and circumscribed inflammation, topical bleeding is eminently useful, which is done by opening some veins contiguous to the affected part, or by scarifying the inflamed surface.

PHYSIC.

IN purging horses great care and attention are necessary, their bowels being particularly irritable, and liable to inflammation. The physic commonly given is certainly too strong, and many horses have been destroyed by the immoderate doses that have been recommended by writers on farriery; when this happens, the mischief is generally attributed to the coarseness or impurity of the medicine, and the druggist is undeservedly censured.

When time and circumstances will allow, it is adviseable to prepare a horse for physic by giving him bran mashes for a day or two; this will gently relax the bowels, and remove any indurated fœces that may be lodged in them, it will also tend to facilitate the operation of the medicine.

When a horse is purged for the first time, it is prudent to give a very moderate dose ; were the common quantity given to one of weak, irritable bowels, there would be danger, not only of producing great debility, and thereby of counteracting the intention of the medicine, but likewise of destroying the animal, by bringing on an inflammation of the bowels ; and this is by no means an unfrequent occurrence.—Should the first ball not operate sufficiently, a stronger may be given after an interval of a few days.

The morning is the best time for giving a purgative, the horse having previously fasted two or three hours. If he is disposed to drink after taking the ball, give a moderate quantity of warm water, which will promote its solution in the stomach, and consequently expedite the operation : during this day the horse is to be kept in the stable, and fed with bran mashes and a moderate quantity of hay ; he may be allowed also to drink plentifully of warm water, and if he refuses it in this state, let it be offered nearly, but not entirely cold. The following morning he is to be moderately exercised until gentle perspiration is produced, and at this time the medicine will generally begin to operate. Should the purging appear to be sufficient, he need not be taken out

a second time, but when the desired effect does not readily take place, trotting exercise will tend to promote it; during this day also he is to be carefully supplied with bran mashes and warm water; warm clothing, (if the weather is cold) more particularly when out of the stable, must not be omitted; the next day the purging will generally have ceased, and then a small quantity of oats may be added to his mash. When physic does not operate at the usual time, the horse appearing sick and griped, relief may generally be obtained by giving a glyster of water gruel, and making him drink freely of warm water. When the purging continues longer than usual, and the horse appears to be considerably weakened by the evacuation, let the astringent ball be given.

It will be observed, perhaps, that some ingredients, commonly thought necessary in physic, have been omitted in the following formulæ. —These medicines have been proved, however, to be perfectly useless. Jalap, though given to the amount of four ounces, will produce very little purgative effect upon a horse, nor will cream of tartar; rhubarb, however large the dose, will not operate as a purgative, though it may be useful in moderate doses as a stomachic.

PHYSIC.

No. 1.

Succotrine aloes,	-	5 dr.
Prepared natron,	- -	2 dr.
Aromatic powder,	-	1 dr.
Oil of caraways,	- -	10 drops.

Syrup or molasses enough to form the ball,
one dose.

(How to be given, see p. 82.)

No. 2.

Succotrine aloes,	-	7 dr.
Castile soap,	- - -	$\frac{1}{2}$ oz.
Powdered ginger,	-	1 dr.
Oil of caraways,	- -	10 drops.

Syrup enough to form the ball, one dose.

No. 3.

Succotrine Aloes,	- -	1 oz.
Prepared natron,	-	2 dr.
Aromatic powder,	-	1 dr.
Oil of anise-seeds,	- -	10 drops.

Syrup enough to form the ball for one dose.

The ball, No. 2, is generally found sufficient

for strong horses, and there is scarcely ever occasion to go farther than No. 3. Should any one, however, be desirous of stronger medicine, it may readily be procured by adding one or two drams of aloes, or one dram of calomel to the ball No. 3; but it is proper to observe, that there may be some danger in making the addition.

No. 4.

One pint or 20 oz. of castor oil is also a safe and excellent purge, or $1\frac{1}{4}$ pint of linseed oil.

DIURETICS.

THESE are medicines which by stimulating the kidneys, increase the secretion of urine. The following formulæ I have found both convenient and efficacious.

No. 1.

Castile soap,	-	-	-	4 oz.
Powdered rosin and nitre, of each,				2 oz.
Oil of juniper,	-	-	-	$\frac{1}{2}$ oz.

Linseed powder or any flour and syrup enough to give it a proper consistence, to be divided into

six balls for strong, or eight for weak delicate horses.

No. 2.

Castile soap, - - - 4 oz.

Venice turpentine, - - - 2 oz.

Powdered anise-seeds enough to give it a proper consistence, to be divided into six balls.

Cold water must never be given after purgative medicine, nor until it has entirely worked off.

Moderate exercise until a gentle perspiration is produced, the next morning, or twenty-four hours after the purge is given, will assist the operation much.

FOMENTATIONS.

FOMENTATIONS are commonly made by boiling wormwood, southernwood, camomile, and bay leaves in water, so as to make a strong decoction, which being strained off, is to be applied as hot as it can be, without giving pain to the animal, by means of large flannel cloths.—The efficacy of fomentations depends in a great

measure on their use being continued for a considerable time together, and being frequently repeated.

POULTICE.

THE following mixture will be found useful as a common poultice; fine bran one quart; pour on it a sufficient quantity of boiling water, to make a thin paste, to this add of linseed powder or boiled linseed, enough to give it proper consistence.

ROWELS.

WHEN these are used with a view of relieving internal inflammation or fever, it will be found useful to apply blistering ointment instead of turpentine, or the digestive commonly made use of, for this will produce a considerable degree of inflammation in a short time.

PULSE.

IN the management of sick horses great advantage may be derived from attending to the state of the pulse, as we are thereby enabled to judge of the degree or violence of the disease, and the probability there may be of recovery: we are in some measure assisted also by it, in ascertaining the nature of the complaint, and in the application of remedies.

In a healthy horse the pulsations are about 36 or 40 in a minute, and may be felt very distinctly either on the left side, or in an artery which passes over the lower jaw bone; in short a pulsation may be felt in every superficial artery. When the brain is oppressed, the pulse generally becomes unusually slow: in a case of water in the brain, the pulse has been known to fall to twenty-three in a minute; in the progress of the disease, however, it became unusually quick.

When a horse appears rather dull, and does not feed properly, it is adviseable to examine the pulse, and if it is found to exceed the standard of health, immediate recourse should be had to

bleeding: by this timely interference many dangerous complaints may be prevented. When the pulse rises to 80 or 90 in a minute, there is reason to be apprehensive of danger, and when it exceeds 100, the disease frequently terminates in death.

GLYSTERS.

A variety of compositions have been recommended for glysters by those who have written on the subject, there being scarcely an article in the *Materia Medica* that has not been occasionally employed in this way. It is ascertained, however, from considerable experience, that for a common glyster, water-gruel is as efficacious as the most elaborate composition; when that cannot be readily procured, warm water has been used without perceiving any difference in the effect. Where a purgative glyster is required, from four to eight ounces of common salt may be added; and if an anodyne be wanted, or an astringent, let half an ounce of opium be dissolved in a quart of water-gruel. If a glyster is employed for the purpose of emptying the large

intestines, or of purging, the quantity of liquid should not be less than a gallon or six quarts; but when it is used as an anodyne or astringent, from a quart to three pints of the liquid will be sufficient.

(How to be given see p. 82.)

ADVICE,

ON THE MANAGEMENT OF A HORSE PREPARATORY TO, AND DURING A JOURNEY.

PREVIOUS to setting out on a journey, your horse should be exercised one hour every morning and evening in the gait in which he is intended to be used, for eight or ten days at least, and every precaution should be employed to bring him into as perfect a state of health as possible, as you may thereby avoid much trouble and inconvenience; should he be at all subject to grease or swelling of the legs, a dose of physic is to be recommended, taking care to preserve the heels clean, and to keep up a brisk circulation in the legs by frequent hand rubbing; should the feet of the horse be tender, it is necessary to enquire into the cause of the tender-

ness; if it arises from corns, let the directions be followed that are given under that head; if it proceeds from flat and thin soles, apply tar to them, and let the horse stand upon a flat surface, without shoes, by which means they will be rendered thicker and more firm: and when he is rode let the concave shoe be made use of. When thrushes or rottenness of the frog are the cause of the tenderness, cut away the diseased parts, apply tar with a pledget of tow, first pouring in oil of turpentine, and upon this place an *artificial* frog—the *natural* frog will in consequence soon become firm and solid, and the tenderness will be in a great measure removed: if the thrushes are occasioned by a contraction of the heels, which is frequently the case, it will then be necessary to rasp the quarters moderately, and should they appear to be too strong, wanting a proper degree of elasticity, keep the hoof constantly moist. Horses that travel during the winter are very liable to have their heels inflamed and cracked, as it is termed, unless great attention is paid to them in the stable. In cases where the heels are already thus affected, they should be washed with moderately warm soap suds as soon as the horse gets in, and afterwards carefully wiped dry with a cloth; if much inflamed the

astringent lotion may be applied, or strong soap suds will answer: and if there be any ulcers or cracks, use the gunpowder ointment twice a day at least, (see grease or scratches) and if the horse can be permitted to stand for a couple of days, give him half a pound of salts in about two quarts of water.

Particular attention should be paid to your saddle, (if the horse is to be rode), taking care that it is well fitted to his back, with a good soft woollen pad, sufficiently stuffed to prevent any bearing upon the chine or back bone. When you are mounted, there must be sufficient room to introduce your finger between the saddle and the chine or back bone of the horse, before and behind; the pad ought to be beat with a stick every two or three days to prevent it becoming hard.

A soft blanket folded and placed under the saddle in cool weather has a tendency to preserve the horse's back, but it is too heating in warm.

Your first day's journey, (if you have a long one to perform) ought not to exceed twenty miles, which may be increased daily from five to ten miles, but should never exceed, except in cases of real necessity, forty miles in one day, nor should you ever travel at a gait exceeding

five miles an hour, and even less when the roads are not good.

A traveller that has industry enough to start early in the morning, and patience enough to jog on at this moderate gait, will in all probability get over 75 to 100 miles more in the course of a fortnight than he would do if more speed were attempted; besides the advantage of preserving his horse in a condition capable of continuing his journey to almost any extent; while on the contrary an attempt at more speed would most probably be productive of lameness, sore back, founder or some other casualty still more fatal.

It is adviseable, except in very cold or stormy weather, to start very early in the morning and travel eight or ten miles before you feed or breakfast; this will enable you to give your horse several hours rest at different periods through the day, which will be of essential benefit to him, and yet afford you sufficient time to make your day's journey good. At your first stage in the morning after your horse is well washed down and cool, feed with four quarts of oats; again in the middle of the day with about six, and at night with six, eight, or ten, or as much as he will eat, given at different times in the course of the evening, always

sprinkled with water. If oats can be had, never feed with Indian corn, or any other grain; but if you are necessitated to do so, the quantity must be reduced one half, or one third at least, and given but in small portions at a time.

A horse ought to eat at least from sixteen to twenty quarts of oats per day, otherwise he will not, nor cannot, perform a long journey. Clean fresh hay, and a little water, should be given as often as you stop.

Never trust to ostlers when you are on a journey. It is essentially necessary that you personally see to the cleaning, watering, feeding, and littering of your horse, otherwise you will in all probability soon be necessitated to hire, or purchase another, or abandon your journey.

Should your horse lose his appetite, give him half an ounce of nitre in a bran mash once or twice. This, with a little rest, will soon recover him.

Should you be so unfortunate as to have your horse foundered, by injudicious feeding, or watering, before he is sufficiently cool, which is always to be apprehended when you feed on Indian corn, or any other grain except oats; it is adviseable on the first appearance of founder, to take two quarts of blood from the neck, and also

bleed in two places (in each foot) in the coronet or upper edge of the hoof, about one inch each way from the centre, and if it is possible to get him out of the stable, force him to take exercise ; which is, of all others, the most efficacious remedy, and if persevered in, however cruel and painful it may appear to be, seldom or never fails to carry off the complaint in a short time, especially if the founder or stiffness is not very severe. But should it be found impracticable to move the horse out of the stable, which is sometimes the case, he must be bled as before directed, and bran poultices applied to his legs and feet, kept constantly wet with cold water ; and one of the following purges must be given.

No. 1.

Mix.

Soft soap,	.	.	$\frac{1}{2}$ pint
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Beer or porter,	.	.	$1\frac{1}{2}$ pint.
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Add a handful of fine salt.

If beer or porter cannot be had, substitute a pint of molasses.

If this dose does not operate in ten or twelve hours, especially if the horse can be exercised, it may be repeated.

(How to be given, see p. 82.)

No. 2.

Castor oil,	-	-	-	1 pint, or
Linseed oil,	-	-	-	1 $\frac{1}{4}$ pint

The latter will not operate so quick as the former ; probably in not less than double the time, say in about twenty four hours ; either of which, however, ought to be assisted by exercise if possible ; glysters of three quarts of warm water, flaxseed tea, or water gruel, ought also to be given, and repeated, if necessary, with a handful of fine salt in either. While the stiffness continues, the horse should be fed upon bran mashes, with a small quantity of oats added, and be allowed but little water, and that not entirely cold. Exercise must on no account be omitted.

When a horse's wind appears to be imperfect he should not be allowed to fill himself with hay or water, and must be prevented from eating his litter, which horses of this description are generally inclined to do, particularly when stinted in hay ; in this case costiveness sometimes occurs, which always increases the complaint ; to remedy this, let a glyster and a few bran mashes be given ; too high feeding is also very prejudicial in those complaints, as any thing which tends to create a plethora, and determine too much blood to the lungs, is sure to aggravate

the disease. To a horse that purges or scours in travelling, and appears faint, sweating much with moderate exercise, give the cordial ball, the efficacy of which is sometimes increased by being mixed with a pint of ale or strong beer; if the complaint does not give way to this treatment, let the astringent ball be given. As soon as a horse comes into the stable, let his legs and feet be well cleaned by washing, as it cannot be effectually done otherwise. It is a very common practice with ostlers, even in winter, to tie the horse up in the yard, that he may undergo the ceremony of having his heels washed with cold water; this is very proper in warm weather, but should never be permitted when cool, as many bad consequences may arise from it, but washing with warm water is highly commendable. During hot weather, when the roads are dry and dusty, allow a horse to rest a few minutes every six or eight miles and to drink a small quantity of water; this not only refreshes him considerably but has the useful effect of cooling and moistening his hoofs, if he is permitted to stand in the water while drinking, (if not they should be wet by the ostler) nor is there the least danger to be apprehended from it, unless he is rode very hard immediately before or after drinking.

In winter he should never be taken into the water if it can be avoided conveniently. Some horses are particularly subject to the flatulent cholic or gripes ; this is often the case with *crib-biters* ; on such occasions it is adviseable to be always provided with a remedy, and as a ball is the most convenient form, I have given a recipe for the purpose (see flatulent cholic or gripes). For want of the ball or some of the prescriptions for that complaint, (but not otherwise) give three gills of gin or any other ardent spirits diluted with an equal quantity of warm water. Should the pain not subside in half an hour repeat the dose and give copious glysters of water-gruel or warm water, and bleed from two to three quarts. A suppression of urine or great difficulty and pain in staling, is an accident that sometimes occurs in travelling ; and in such cases a diuretic ball is commonly given, which though sometimes successful, has often done mischief. The most effectual way of relieving the horse, in this case also, is by throwing up a glyster, (how to be given, see p. 82) and bleeding moderately : should there be no appearance of inflammation in the kidneys, a dose of nitre may also be given. The common practice of loading a horse with clothes, and keeping him in a close warm stable,

if he happens to take cold during a journey, is certainly improper, since he is liable to be frequently exposed to wet and cold in travelling; it is a well-known fact, that animals are not hurt by being kept in any uniform temperature, whether it be hot or cold; and that their diseases more commonly arise from sudden changes, or frequent variation of temperature.

When a horse becomes suddenly lame in travelling, let the feet be carefully examined. Should the lameness be occasioned by a wound from a nail or flint, apply oil of turpentine, tincture of Myrrh or Fryar's balsam, having previously removed all dirt or gravel from it; and if the wound has been inflicted with a nail, let it be carefully opened to the bottom with a small drawing knife, and proper means used to prevent dirt from getting to it.

Should the back of your horse get sore by saddle galls, or other inflamed tumors, wash the part affected with crude sal. ammoniac dissolved in vinegar or water; or with any ardent spirits alone, which must be done very frequently to prevent matter forming; in which case, the sore will be more troublesome and difficult to heal. You must also take special care to prevent any friction or bearing of the pad of the sad-

dle upon the tumor, which may be effectually done by cutting a small slit or hole in that part of the pad which bears immediately upon the tumor, and pull out so much of the stuffing as will prevent any bearing; this may be done without any essential injury to the pad, and even in various places if necessary.

CORDIAL BALLS.

No. 1.

Cummin-seeds,	
Anise-seeds,	
Caraway-seeds, of each,	4 oz.
Ginger, - - - -	2 oz.

Treacle or molasses enough to make it of a proper consistence for balls. The dose about 2 ounces.

(How to be given see p. 82.)

No. 2.

Anise-seeds,	
Caraway-seeds,	
Sweet Fennel-seeds, and	
Liquorice Powder, of each,	4 oz.
Ginger and Cassia, of each,	1½ oz.
Honey enough to form them into a mass.	

The dose about 2 oz.

No. 3.

Cummin-seeds,
 Coriander-seeds,
 Caraway-seeds, of each, - 4 oz.
 Grains of Paradise, - 1 oz.
 Cassia, - - - ½ oz.

Cardamon-seeds and Saffron, of
 each - - - 2 dr.

Liquorice, dissolved in white
 wine, - - - 4 oz.

Syrup of Saffron enough to form the mass.

The dose about 2 oz.

No. 4.

Powdered ginger, - - 4 oz.
 Oil of caraways, - - 1 oz.
 Liquorice powder, - - 8 oz.

Treacle enough to form the mass.

 ALTERATIVES.

THESE are medicines which produce their effects almost insensibly; the following formulæ will be found efficacious:

ALTERATIVE POWDERS.

No. 1.

Levigated antimony, - - - 6 oz.

Flower of sulphur, - - - 8 oz.

Mix for eight doses.

No. 2.

Powdered Rosin, - 4 oz.

Nitre, - 3 oz.

Tartarized Antimony, - 1 oz.

Mix for eight doses.

No. 3.

Unwashed Calx of Antimony 2 oz.

Calomel - 2 dr.

Powdered Anise-seeds, - 4 oz.

Mix for eight doses.

Should a ball be thought more convenient than a powder, the change may be easily made by the addition of syrup and linseed powder, or any kind of flour or meal.

CHRONIC COUGH.

WE have already noticed this complaint as one of the symptoms of a cold, but did not at that time give any particular directions for its treatment, because it generally ceases as soon as its *cause* (the cold) is removed. It sometimes happens, however, that the cough continues, although every other symptom is gone off. This complaint, which from its long continuance, is distinguished by the term *chronic*, may be readily accounted for, when it is recollected that what is called a cold, consists in an inflammation of the membrane which lines the nose and throat; that this membrane also forms the internal surface of the windpipe and its branches. When the cold, therefore, has been violent and improperly treated, the inflammation is liable to extend to the windpipe, or even to its branches, causing an effusion of coagulable lymph from the membrane, which proves a constant source of irritation. It is probable also that the inflammation may sometimes render the membrane so very irritable, or so alter its secretion, as to keep up a constant irritation and cough, without any effusion having taken place. When a considera-

ble quantity of coagulable lymph has been effused, it obstructs the passage of the air in respiration in some degree, causing that sonorous kind of breathing which is termed *thickness of wind* or *roaring*. Take from two to three quarts of blood from the neck, then give one of the following alterative balls every morning, until purging is produced, and this if assisted by proper attention to exercise, diet, and grooming, has often effected a cure. Bran mashes with a little oats added, is a proper diet.

The chronic cough is frequently occasioned by worms in the bowels or stomach, and is then to be treated accordingly (see worms.)

ALTERATIVE BALLS.

No. 1.

Succotrine aloes	-	1 dr. to 2 dr.
Castile soap,	-	2 dr.
Tartarized antimony,	-	2 dr.

Syrup enough to form the ball for one dose.

(How to be given, see p. 82.)

Should the disease not submit to this remedy,
try the following :

Gum ammoniacum, - 3 dr.

Powdered squills and opium, of each 1 dr.

Camphor, - - - 2 dr.

Syrup enough to form the ball for one dose.

This is to be given every morning, and continued five or six days. A stable properly ventilated, should be chosen, and the vapours of foul litter carefully avoided.

Tar water has also been found beneficial in this disease.

If this is given, the horse should be permitted to drink plentifully of it for a fortnight or more, during which time no other drink should be allowed.

The proper way to prepare it is, to put three or four quarts of tar into a wide vessel, open at one end and capable of containing eight or ten gallons, keep a sufficient quantity of soft water always standing on the tar for use.

LAXATIVES.

THIS term is applied to opening medicines, that operate very mildly, and produce so gentle a stimulus upon the intestine, as merely to hasten the expulsion of their present contents, without increasing their secretions. Castor oil seems to be the best medicine of this kind, though oil of olives and linseed will produce nearly the same effect; the dose of the former is about a pint, but the latter may be given to a pint and a half. When a laxative ball is required, the following will be found useful :

Succotrine aloes, - - $\frac{1}{2}$ oz.

Castile soap, - - 3 dr.

Syrup enough to form the ball for one dose.

BLISTERS.

PREVIOUS to the application of a blister, the hair should be cut from the part as closely as possible, the blistering ointment is to be well

rubbed on it, and afterwards a small quantity is to be spread over the part with a warm knife. When the blister begins to operate, horses are very apt to bite the part, which, if suffered, might produce a permanent blemish; it is necessary therefore to guard against this accident by putting what is termed a cradle about his neck, or by tying him up to the rack. When the legs are blistered, the litter is to be entirely swept away, as the straw might irritate the blistered parts.

BLISTERING OINTMENT.

No. 1.

Spanish flies, powdered,	$\frac{1}{2}$ oz.
Oil of turpentine, -	1 oz.
Hog's lard, - - -	4 oz.

Mix.

No. 2.

Oil of turpentine, - -	1 oz.
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To which add gradually,

Vitriolic acid, - -	2 dr.
Hog's lard, - -	4 oz.
Spanish flies, powdered,	1 oz.

Mix.

No. 3.

Common tar,	-	-	4 oz.
Vitriolic acid,	-	-	2 dr.
Oil of origanum,	-	-	$\frac{1}{2}$ oz.
Hog's lard,	-	-	2 oz.
Spanish flies, powdered,			$1\frac{1}{2}$ or 2 oz.

Mix.

Remark.—The blister, No. 3, is remarkably used in removing enlargements of the back sinews or wind galls. Sublimate is often recommended as an ingredient in blisters, but it is very apt to *ulcerate* the skin, and leave a permanent mark or blemish; it is therefore omitted in the above formulæ; but in cases of bone spavin, in which severe blistering is necessary, it may be employed with advantage.

CONDITION.

BY the term *condition* is to be understood not only a fat and sleek appearance in a horse, it implies also a proper degree of vigour, by which he is enabled to perform extraordinary labour, without being too much fatigued. Every defect

with respect to condition must originate either in *disease* or in bad *grooming*. Under the latter head must be comprehended feeding, exercise, and the general management of the stable; the former will include various disorders, which will be concisely described, and the most effectual means pointed out for their removal.

In treating of the anatomy and physiology of the internal organs, an explanation has been given of that curious process by which the body is nourished, and enabled to perform its various functions with regularity: from thence it will appear that the following circumstances are necessary to produce that degree of vigour and general healthiness of appearance which constitute good condition.

1st. That there is no impediment to mastication.—It sometimes happens that the molar teeth or grinders wear so irregularly as to have sharp edges, by which the inside of the cheek is wounded: the pain which the act of chewing occasions in this case, induces the horse to swallow some part of the food unbroken, which being difficult of digestion, frequently passes through the body unchanged. This complaint may be removed by rasping down the sharp edges of the teeth.

The lampas is said to be another impediment to feeding (see lampas), and are therefore removed with a red hot iron. This operation is certainly performed much oftener than is necessary.

2d. That the saliva which is formed in the mouth passes into the stomach: this juice being designed by nature to assist the stomach in its office of digestion. Horses that have acquired the vicious habit termed *crib-biting*, suffer great inconvenience from the waste of saliva which it occasions, the stomach being in a great measure deprived of this liquid, performs its functions imperfectly; hence arise flatulent cholic or gripes, general emaciation and debility. The remedy commonly employed is a leather strap, buckled tight round the neck immediately beneath the jaw; this, however, is seldom effectual; a better method is to cover the edge of the manger, and every other part he can lay hold of, with sheep skins, (the wool side outward) until the habit is destroyed. There are other causes by which the energy of the stomach may be impaired; among these are excessive fatigue, bad food, defect in respiration or breathing foul air, taking too much food or water at once, or at an improper time, bots, fever, in short, the stomach is so impor-

tant an organ in the animal system, that scarcely any part can be materially injured without affecting it in some degree ; and whenever the stomach is hurt, the whole system seems to sympathize and partake the injury.

Weakness of the stomach is sometimes very easily cured, the powers of nature indeed are often capable of restoring its tone ; at others we find the disease extremely obstinate, resisting the most powerful medicines. This difference depends upon the variety in the *causes* by which the weakness is induced. When it arises from loading the stomach with improper food, that contains scarcely any nutriment, such as straw, and where the horse has been fed in this way for a considerable time, the diet should be gradually changed to one more nutritious. During the time we are making this alteration it is generally necessary to give one or two doses of laxative medicine, joined with aromatics (see laxatives), to prevent any inflammatory affection of the eyes, lungs, or heels, or according to the more fashionable language of grooms, to prevent *humours* from breaking out. Should the appetite appear deficient, the cordial ball will be found of great service, given occasionally. When excessive fatigue is the cause of the weakness,

which we often find after a hard day's run with the hounds, nothing is so effectual as the cordial ball, particularly in old horses; it soon gives them an appetite, and renders them fit for work again much sooner than they would otherwise be. Where a speedy effect is required, the ball may be mixed with a pint of good beer or ale.

If a horse, after sweating from exercise or any other cause, is allowed to drink freely of cold water, the stomach is suddenly debilitated, and the whole system is frequently affected in consequence; hence arise flatulent cholic, suppression of urine, shivering, quick pulse, and other symptoms of fever, (for the remedies in this case see flatulent cholic, suppression of urine, and fever.)

The stomach sometimes becomes weak, gradually, and without any apparent cause; this is first indicated by the appetite failing, which is soon followed by general debility, emaciation, and unhealthy looking coat. The most effectual remedies in this case are the tonic balls and a nutritious diet; the corn should be given more frequently than usual, but in small quantities: a little malt on those occasions is extremely useful. The stable should be well ventilated, but not cold; regular exercise will also be very benefi-

cial, and should never be omitted. It should be understood, however, that although exercise tends to promote *strength*, if carried beyond the animal's power, it becomes a cause of debility: it is highly necessary, therefore, when a horse is in a state of weakness, to take care that his exercise is but moderate.

Worms in the stomach and bowels are a frequent cause of leanness and debility in horses, and while they exist, every exertion to promote condition will be ineffectual (see worms.)

3. That there is no defect in the organs of respiration. If the blood is not duly supplied with that vivifying principle, which is derived from the air by breathing, a greater or less degree of debility must be the consequence; hence a want of tone is always observable in the stomach and bowels of broken-winded horses, as well as a deficiency in the muscular power in general. The same evils will result from keeping a horse in too close a stable, where the air does not contain the usual proportion of this principle.

4th. That the liver and pancreas are healthy, and that there is no obstruction in the tubes by which their respective juices are conveyed to the intestines. The liver is very subject to dis-

ease, particularly inflammation (see inflammation of the liver); it may also have an unusual quantity of blood determined to it, whereby its action or secretion will be increased. This generally causes a purging and a yellowness of the eyes and mouth (see jaundice.)

It is very probable that the internal surface of the intestines may sometimes be so loaded with mucus, that the mouths of the *lacteals* are in some measure plugged up, and rendered incapable of absorbing a sufficient quantity of nutriment or *chyle*. A dose of physic in this case is the best remedy.

Having described those diseases which most commonly prevent horses from acquiring *condition*, I shall endeavour to point out the best method of promoting it in such as are in other respects healthy. A good stable being essentially necessary to this purpose, I shall beg leave to offer a few observations on that head.

ON THE STABLE.

IN building a stable there is no circumstance more deserving attention, or that is more generally neglected than ventilation; the most convenient method of doing this is to have one aperture or window in each stall a little above the manger so contrived that it may be occasionally shut; this will prevent the air from becoming impure, and enable you in some measure to regulate the temperature of the stable.

The stalls should be of sufficient width to allow the horse to turn freely say at least five feet; narrow stalls are not only very inconvenient, but have some times occasioned dangerous diseases of the spine.

The floor should be made of plank and nearly level, very little declivity being sufficient to drain off the urine.

The common method of making the back part considerably lower than the front, is certainly very improper. When a horse stands in this way the muscles and ligaments of the hind legs are kept constantly on the stretch in some

degree, frequently producing a swelling of the legs.

Dark stables are very injurious to the eyes, the windows therefore should be larger than they are commonly made.

There is a neatness and advantage in having the manger made so as to slide into the wall, like a drawer, and an iron rack is preferable to one of wood; by this contrivance they may be more easily kept clean, and the horse will not be so liable to acquire the vice of *crib-biting*.—Horses should not be suffered to stand on their litter during the day, unless they have undergone considerable labour, nor should it be placed under the manger as is usually the case; the stimulating vapours, which constantly exhale from it, being injurious to the eyes and lungs; it tends also to produce in the hoof a disposition to contract: it is adviseable, therefore to remove the litter every morning, and expose it during the day to the air; the moisture and stimulating vapours would be completely dissipated by the evening, and it would be nearly as useful as fresh straw. Another advantage arising from this plan is, that a horse would have but little opportunity to eat his litter, which they are frequently inclined to do when stinted in hay. The

quantity of litter which some horses eat during the day is productive of much mischief; it certainly oppresses the stomach, and weakens its digestive power; it tends also to injure the wind, without affording the smallest quantity of nutriment. Though ventilation is of the utmost importance in a stable. Heat, in a moderate degree, is certainly congenial to the constitution of the horse, and contributes to the promotion of condition; warm cloathing therefore during the winter is strongly to be recommended.

When a horse is brought in from exercise he should not only have his feet cleaned out with a picker, but it is necessary also to wash them well with a brush and water; this will effectually remove all dirt and gravel, and serve likewise to cool and moisten the hoofs. Horses should if possible be watered at a pond or brook in hot and dry weather, the moisture which the hoofs receive in this way, will frequently prevent those sand-cracks and lameness which are so apt to occur in the hot months of summer. In winter, cold water is injurious to the heels, and tends to bring on swelling and grease; in cold weather therefore horses should be always watered in the stable.

FEEDING AND EXERCISE.

This is a subject of considerable importance, and requires more attention than is commonly paid to it; since by a judicious management in this respect, many troublesome diseases may be prevented.

When a horse is in a state of nature, and using only voluntary exercise, there cannot be a doubt that the food which nature provides for him is perfectly sufficient for his support, and better calculated than any other to keep him in health; but when he is employed in the various labours in which he is found so essentially useful, it becomes necessary to adapt the quantity and quality of his food to the exercise he has to perform; for example, if a horse, whose work consisted merely in being walked out for an hour every day, were to be fed daily with twelve quarts of oats, and an unlimited quantity of hay, he would in all probability become full of humours, according to the language of grooms, and some troublesome disease, either of the lungs, eyes or heels, would be the consequence; but if one that performs the hard labour of a post horse were to be kept on such allowance, he would soon lose flesh,

and become inadequate to his work. When we undertake, therefore, to get a horse into condition, it is necessary to enquire what kind of work he is designed for, as it is by this circumstance that his feeding and exercise are to be regulated. It is a fact, not sufficiently known perhaps, that the strength of an animal, or any particular part of an animal, may be increased to a considerable degree by means of exercise properly conducted. Thus we find that the arms of a waterman are particularly large and strong from frequent exertion of its muscles; and the same may be observed of the legs of a porter, who is almost constantly employed in carrying heavy burthens. In like manner, a horse, by means of exercise gradually increased, and proper feeding, may have his strength brought to the highest degree of perfection of which it is capable.

It is a very common practice, and thought by many to be indispensibly necessary, to give a horse three doses of physic, in order to train him for the field, or to bring him into high condition. We believe, however, that this practice frequently does mischief, and it has been proved that a horse's wind and strength may be made as perfect as possible, merely by proper management in feeding and exercise.

With respect to the food most proper for horses, oats and clean hay free from dust are certainly the best. Indian corn appears to dispose the body to inflammatory complaints, unless this effect is counteracted by a considerable degree of exercise ; it should be given only to such horses as work very hard, and then it will be found a very invigorating and nutritious diet.

To a horse that works moderately, ten or twelve quarts of oats and fourteen pounds of hay are a sufficient allowance for twenty four hours. If at any time he is required to perform more work than usual, there should be a proportionate increase in the quantity of oats, but the above quantity of hay will on all occasions be sufficient.

But straw or hay well wet and mixed with shorts, chopped rye or corn, is a most healthy and desirable diet for a horse, particularly in warm weather ; and, indeed, occasionally at other times, when he is not employed in much active service.

Those who have paid most attention to the effects of different kinds of water upon horses, are of opinion that pond water is to be preferred, where the bottom is composed of clay, and the water generally turbid. It has been asserted also by persons of considerable experience, that

without *good* water it is difficult, and often impossible to bring a horse into high condition.

A horse should not be stinted too much in water, but should be served three times a day, particularly in summer; many horses are injured in this way, but they should not be allowed to drink too much at one time, nor should it be very cold.

The hours of feeding should be regularly observed, and never deviated from if it can be avoided.

To a horse that does no work, two or three hours exercise every day is necessary to his health and condition. When a horse is to be prepared for the road, and is intended for moderate riding, his exercise may be confined to walking; but if he is designed for fast riding or for hunting, he must be gradually accustomed to that velocity of motion for which he is wanted; it is in this way only that his wind can be brought to perfection.

Horses are very liable to be injured by too sudden a change of temperature; this has been often avoided by bringing them too hastily from grass into warm stables, many fatal diseases having been produced by it; on those occasions, therefore the most open stables should be chosen at first, and the diet should consist of hay, bran,

cut-straw, &c. After a few days a small quantity of oats may be given, and the stable made a little warmer. He may thus be brought gradually to usual diet and temperature. If, during this time, any symptoms of inflammation make their appearance, such as cough, inflamed eyes, quickness of breathing, swelling of the legs, &c. he should be immediately bled, and next morning take a laxative ball. Were these precautions more attended to than they are, many fatal diseases might be prevented.

DOCKING.

THIS operation is to be performed as follows: a twitch is to be put upon the upper lip of the horse but not so high as to effect his breathing, a cord is to be made fast to the fetlock of one of his hind legs, thence carried forward and made fast to his near fore leg, below the knee and from thence to the fetlock of the other hind leg; which will effectually prevent his striking or kicking during the operation. The horse being thus bound, a block of wood is to be placed under his tail and a sharp instrument is to be

drove through it (at a joint if possible) with one stroke. The bleeding is to be stopped by searing the dock with a hot iron of a circular form prepared for the purpose; some powdered rosin is first to be applied to the dock. After the first day, let a little train oil and spirits of turpentine mixed, be applied daily, which will lessen the inflammation and soon heal the sore. The best method of docking however, is by an instrument prepared for the purpose which operates as a pair of shears.

NICKING.

AFTER the horse is securely bound as directed in case of docking and the twitch applied to his nose; the tail is to be held up and three deep incisions are to be cut (though not so deep as to touch the bone) with the point of a sharp pen-knife, so as to effectually divide the lower sinews, the ends of which sinews however, need not be cut off or shortened as usual; as they never can unite if the tail is kept in the pulleys until the incisions heal up, which ought to

be particularly attended to, otherwise the operation will in a great degree be useless.

The first incision should be about two inches from the root of the tail; another at about the same distance from the end, provided the dock is already reduced to the proper length, and the other at a medium distance between the two.

A pulley should be placed over each side of the stall, precisely opposite to the tail when the horse stands in a position to feed; a cord is then to be passed through each pulley and the ends brought together and securely fastened by means of strong twine, to the hair of the tail; a moderate weight must be attached to the other end of each cord, sufficient to keep the tail perpendicular; thus situated the horse will generally stand in the middle of the stall, which will effectually prevent the tail from inclining to one side or the other, which is too often the case when but one pulley is used. The tail should be kept in the pullies at least one month, in order to give the new flesh that generates in those deep incisions time to become firm, otherwise the horse will not carry so well. He ought to have an hour or two of moderate exercise daily after the first two or three days and a little train oil applied to the sores once a day, with a feather.

If proud flesh appears, apply powdered allum or red precipitate, and if the tail should become much inflamed, wash frequently about the root with salt and vinegar, and apply a poultice of flaxseed and bran, moistened with hogs lard, and give half a pound of salts in about two quarts of water every other day until the inflammation subsides.

A horse may even be nicked in warm weather (though this we would not recommend) provided salts are given a few days before and after, and the root of the tail well washed daily with salt and vinegar, which will also prevent the hair from coming out.

PRICKING.

WE shall give no directions or advice with respect to what is called pricking the tail; as in our opinion the practice ought to be entirely abolished; it being well ascertained that it seldom answers the intended purpose, and is attended with much more danger than nicking, as a number of fatal cases of the lock-jaw have been occasioned by it.

ADVICE AND DIRECTIONS

WITH RESPECT TO THE PURCHASE OF A HORSE.

THE chicanery and artifice too generally practised by dealers in horses, renders it necessary that unwary as well as unskilful purchasers should have some rules laid down by which they may, in a degree, avoid or guard against such fraudulent and dishonourable practices. Indeed it is to be lamented that some men who evince a proper regard for moral rectitude in their ordinary transactions, will, when selling a horse, deviate from their true character, by extolling the animal beyond his real merit, or by concealing material faults or latent defects, in direct violation of truth and candor.

We shall now describe the horse in as brief a manner as possible, noticing some of the most material imperfections ; and shall also lay down some rules by which the age may be judged of with a tolerable degree of certainty, at least, until he arrives at an advanced age.

The purchaser ought first to examine the horse as he stands in the stall, when no person is near him, and observe whether he stands firm and steady on all his legs ; if he shifts their position

frequently and appears restless, it indicates hard usage or something worse ; and, although, it may not be a sufficient reason alone, to decline a purchase, the cause ought first to be well inquired into.

BREAST AND FORE LEGS.

HAVING examined the horse in the stall, let him be brought out of the stable and placed upon level ground, (not with his fore feet several inches higher than the hind ones, which is an universal practice among dealers) then minutely examine his limbs, beginning at his breast which should be reasonably broad and a little projecting, as a hollow, small and contracted breast indicates weakness and an aptness to stumble.—Thence examine from his elbows to his knees, which is by some called the fore thighs and by others the arms ; these ought to be fleshy and a little bulging on the outside, but nearly straight within. If, on the contrary, they are lean and slender, it is a sign of weakness. See that he does not tremble or totter, but stand firm upon his knees, which should bear an exact proportion

to each other and be stout, lean and sinewy ; if they be scared it will at least afford reason to suspect that he is a stumbler if nothing worse.—

The legs from the knees to the pasterns or fetlock joints, should be lean and flat. If, on the inside, hard excrescences or knots are found, they are splents ; but if they do not approach too near the knee joint they seldom or ever occasion lameness and generally go away of themselves as the horse grows in years.

The horse should also stand firm on the pastern joints, which must be of equal size, clean, and well knit, and the pasterns be strong, stout and almost upright ; if, on the contrary, they are long, slender, and bending, or tottering and leaning forward, it indicates weakness as well as hard usage. After examining thus far, stand a few paces before the horse and see that he is not bow-legged, that is, the knees turning outward and the toe sinward ; for, this is a defect not only disagreeable to the sight, but a horse thus formed never can be sure footed.

HOOF.

THIS is a proper time also to examine the hoofs, on which much depends ; they should be large, black, smooth, tough and nearly round, not too flat, neither too upright, and the bottom concave. White hoofs are apt to be tender and do not so well bear, or retain the shoe: a hoof that is flat and pummiced on the under side is generally tender and indicates founder or some other defect. If the hair lye smooth at the edge of the hoof and the flesh even, all is well there, but if the hair is rough and the flesh raised and uneven, a ring, or quittor bone may be apprehended.

THIGHS AND HIND LEGS.

THE hinder thighs should be thick, full within and bulging on the outside, at what is called the stifle or middle joint ; lean and slender thighs are not so agreeable to the sight, nor do they promise much service. From the thigh bones to the hock or what is by some called the gam-

brel joints, should be pretty long, but from thence to the pasterns or fetlock joints short, and the leg lean, flat and sinewy.

The hock joint should be particularly examined, and to be perfect must not be fleshy, but consist of skin, bone, veins, and sinews only; bending a little, rather than too straight. If any knots or swellings (either hard or soft) are found in the hollow part, or inside of the legs, just below the joint; beware of spavin, for although the horse may not yet be lame, a little labour will probably make him so. The remarks before made with respect to the pastern, or fetlock joints of the fore legs, also apply to those of the hind. If scabs are found on the inside of the pasterns of the fore or hind legs, it is evident that he cuts or interferes, which is a great objection, particularly if the horse is intended for the saddle. Windgalls are little swellings which are often found just above the fetlock joints, they proceed from hard usage, but seldom occasion lameness unless when they become very large and firm.

HEAD.

THE head should be of a medium size, the forehead bulging, and the face from the root of the ears to the nose a little bending outward. A hollow faced horse, with his nose projecting, never can please the eye, though he may not be the worse for service.

The countenance should be chearful, the ears sharp, well pricked, set high and moving, which indicates life and activity ; while on the contrary, thick, leering, wide set and unmoving ears, are signs of dulness, and bad temper. The cheeks should be wide and thin, and the space between the jaws also wide, and without knots or kernels, and the windpipe very large ; which are all signs of good wind as well as courage. But if the jaws are fat and thick and the space between them fleshy and nearly closed up, the horse must necessarily breath with difficulty. The head should be of a gradual taper, rather small just above the mouth, which should be large, as a horse with a small mouth never carries or bears the bit well. The nostrils should be wide, and when the horse is in motion, a redness should appear within, which indicates free breathing.

EYES.

THESE organs ought to be most minutely examined, and in a situation where the glare of light is not too strong; the middle sized eyes are to be preferred, it is better, however, that they should be rather large than small; they should be round, lively, dark coloured (but not entirely black) and so clear and shining that you can see far into them, and when the horse is moving, but little of the white should appear.— Eyes that are very black or cloudy, ought to be avoided, as they are generally prone to disease. Most dealers in horses are prepared to account (and sometimes with great adroitness) for every defect that an observing purchaser may happen to discover or point out, and particularly as respects the eyes, which they studiously endeavour to make appear as trivial, or of no consequence at all. The purchaser however should be aware of such sophistry, and not rely too implicitly upon it; but rather trust to his own judgment, or that of some disinterested friend.

NECK AND SHOULDERS.

THE neck should be long, and small at the setting on of the head, growing deeper from thence to the shoulders. The upper edge should be thin and rising a little semi-circular from the shoulders to the head ; the mane thin and strong, as a heavy thick mane, bull neck, or a very lean and slender neck, are never pleasing to the sight. The shoulders should be thin, and lay well back ; but to judge correctly of them, the horse should stand upon level ground. If the shoulders are thick and upright, he will not answer well for the saddle, as too much weight will necessarily be thrown upon his fore legs, which will make it unpleasant, as well as unsafe for the rider. For a draught horse however, thick and upright shoulders are rather a recommendation than otherwise. Beware of swellings on the top of the head, or on the withers, as the former may result in the poll-evil and the latter in the fistula.

BODY.

THE back should be short, and the chine broad or thick, and moderately curved, but if too much bending, or what is called saddle backed, it is never strong. A horse with a high or roach back is very objectionable as he never can be used under the saddle with satisfaction to the rider. If the chine be thin the saddle will not sit well. A horse with a high back, or thin chine, is however, not the worse for harness.

The ribs should not be flat, but bend well outward, the last rib should approach the hip or huckle bones within about four or five inches and the belly be moderately let down, but not to swag.

A flat ribbed horse with a quant or clung up belly, can never perform much labour. The buttocks should be round, full, and the rump nearly on a level with the back, and the tail set high. Thin, contracted, or steep buttocks, are always offensive to the eye, though probably do not injure the animal for actual service

It is a good sign when a horse is deep in the girthing place; but if, on the contrary, he is there slender, it indicates weakness.

MOVING.

AFTER having attentively examined the horse standing, let him be rode in your presence, on hard level ground, fifteen or twenty rods backward and forward frequently, first in a walk, then alternately in his other gaits. Observe his mouth that he bears steady and fair on the bit, his head well up, but his nose not much projecting, as this is a great fault, especially for a riding horse. Stand occasionally before as well as behind him, and see that his toes neither turn inward or outward, and that he goes rather narrower before than behind, as no horse can move well on his legs unless he does. If he goes too close there is reason to believe he will cut; his action should be lively and when in a trot his fore legs well thrown forward, though even and regular, and not clambering; observe that he treads firm on the hardest ground, otherwise you may be assured he is tender footed, which is a great fault and diminishes his value much. His hind legs when in a trot should move even, bending a little outward at the hock, and be thrown well under him, though never to strike the fore shoes, which is called forging and

is very objectionable. If he takes up his feet slovenly, throws them outward, steps irregular, or clammers, have nothing to do with him for any active service; as he is only fit for the heavy draught.

RIDE YOURSELF.

AFTER a minute examination, such as before recommended, should you be of opinion that the horse is likely to answer your purpose, mount yourself and ride him a few miles *alone*, otherwise you cannot judge correctly of his gaits or spirits, as most horses go much freer and better in company than they do alone. This is a proper time also to observe his wind. Such trial is the more necessary as it is not uncommon to meet with horses whose gaits and actions are pleasing to the eye; yet, when mounted, are intolerably rough and unpleasant to the rider, and often addicted to start and stumble.

Do not permit yourself to be hurried into the purchase of a horse because he is a beautiful figure, or otherwise fascinating in his external appearance, but always examine *more than once* before you purchase; otherwise, it is highly probable

that some material defects will escape your notice; especially, if you are not a critical judge. This caution is the more necessary because your morals as well as pecuniary interest may both suffer. For, should it so happen that by making a hasty purchase, you get a horse defective in some essential points, that will by no means answer the intended purpose, you may possibly be induced to commence the jocky, to get him off your hands; and, in order to do this with the least loss to yourself, you may not consider it indispensibly necessary to acquaint the purchaser (perhaps as unwary as yourself) with the whole truth respecting the defective animal; in which case your morals will most certainly be implicated.

It is also necessary to have particular regard to the kind of service for which the horse is intended. If for the saddle or any active service, the middle size, say about fifteen hands high, well formed as before described, is to be preferred; but, if for a slow and heavy draught, the larger and stronger the better.

Small horses answer equally well for the purposes of agriculture, as well as for many other employments to which their strength are adequate.

All the extraordinary qualities and exact symmetry, before described will seldom or ever be met with in any one horse ; the purchaser however, will, no doubt, give a preference to those that approach them the nearest.

AGE.

A horse that has arrived at an age fit for service ought to have forty teeth ; twenty-four grinders, twelve fore teeth, and four tusks. Mares however, have but thirty-six, except when they happen to have tusks, which is by no means common.

It is by the fore teeth and tusks that the age of a horse is to be judged of, and as they are not generally put to service until they come *three years old*, (and indeed that is one year too soon) we shall commence our description of the teeth at that age.

At *three* therefore, he will have four horse and eight colt teeth, which are easily distinguished, by the horse teeth being much larger and flatter than the colt's. These four horse teeth, which are called pincers, have a deep

black hole in the middle ; while those of the colt, are round solid and white.

A short time before the horse comes *four years old*, he loses four middle teeth, two above and two below, which are followed by four more horse teeth, with black holes in the middle, the same as the pincers.

A few months before he comes *five*, he sheds the four corner teeth, two above and two below, which is his last colt's teeth, and at *five* they are replaced with horse teeth, hollow as before described and grooved on the inside. At this age he also gets his four tusks, the two lower ones generally three or four months before the upper.

Some horses however, never have any upper tusks, but this is not common. The appearance of the two lower tusks is the most certain proof that the horse is coming *five years old*; even if some of his colt's teeth still remain.

When he is nearly *six*, all his fore teeth are full grown, pointed and a little concave on the inside. At *six* the grooves on the inside begin to fill up, and soon after disappears, the black hole in the middle of the teeth also begin to fill up, but are still very apparent.

At *seven* all the fore teeth except the corner ones are generally filled up smooth, though a

black spot in the centre may yet appear. Between *seven* and *eight* the corner teeth also fill and become smooth; after eight it is difficult, and indeed by some held to be impossible to judge correctly of the age of a horse; all the striking marks of his mouth having disappeared.

After which period, recourse must be had to the general aspect of the mouth. If the tusks be flat and pointed, and has two small grooves on the inside, which you can readily feel with your finger, be assured he is not old, probably not yet ten, but if you find only one groove within the tusk, you may conclude that he is approaching twelve.

After *twelve* the grooves generally disappear and the tusks become blunt, and as round within as without. The length of the teeth is by no means a certain criterion to judge of the age, though long teeth, projecting forward, certainly indicates an advanced age, as the teeth of young horses are not so long and generally meet almost perpendicular.

The lips of a young horse are very firm and elastic, while those of an old one is soft, flabby, and hanging, and the tongue often so large, that the cavity of the mouth is scarcely capable of containing it.

The holes in the centre of the teeth, sometimes continue to an advanced age, but when the tusks become round and blunt, the fore teeth long and projecting forward, the tongue large and lips flabby; the horse is most certainly old; say from *twelve* to *twenty*, or upwards, notwithstanding any apparent marks to the contrary.

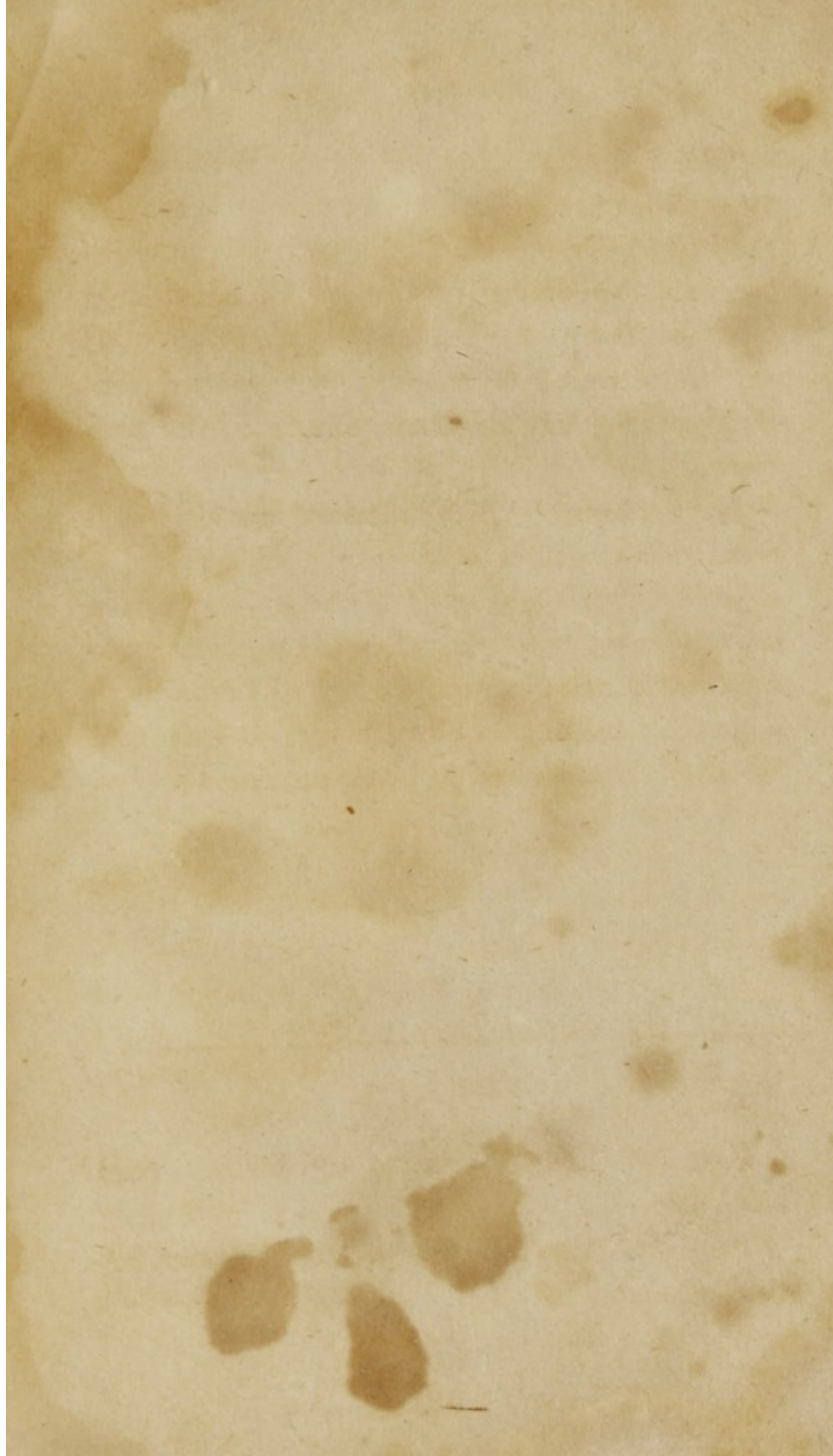
Having noticed all the material marks which serve to instruct us as to the age of a horse, it is believed that a person of the most common capacity may, by paying attention to the foregoing description, ascertain the age of a horse with a considerable degree of certainty; at least until he is too far advanced to be of much value.

THE END.

ERRATA.

Page 227, line 16 from the top, for *But*, read *Cut*.

Page 228, line 23 from the top, for *avoided*, read *evinced*.





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