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Contributors

F. & M. Lautenschläger (Firm)
National Anti-Vivisection Society (Great Britain)
Royal College of Surgeons of England

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The National Anti-Vivisection Society.

Hon. Sec. :—The Hon. STEPHEN COLERIDGE.

92, VICTORIA STREET,

LONDON, S.W.,

January, 1902.

DEAR SIR,

This Catalogue, which I respectfully ask you to look at, has been translated from the German. In reproducing it thus I have followed the immortal injunction :

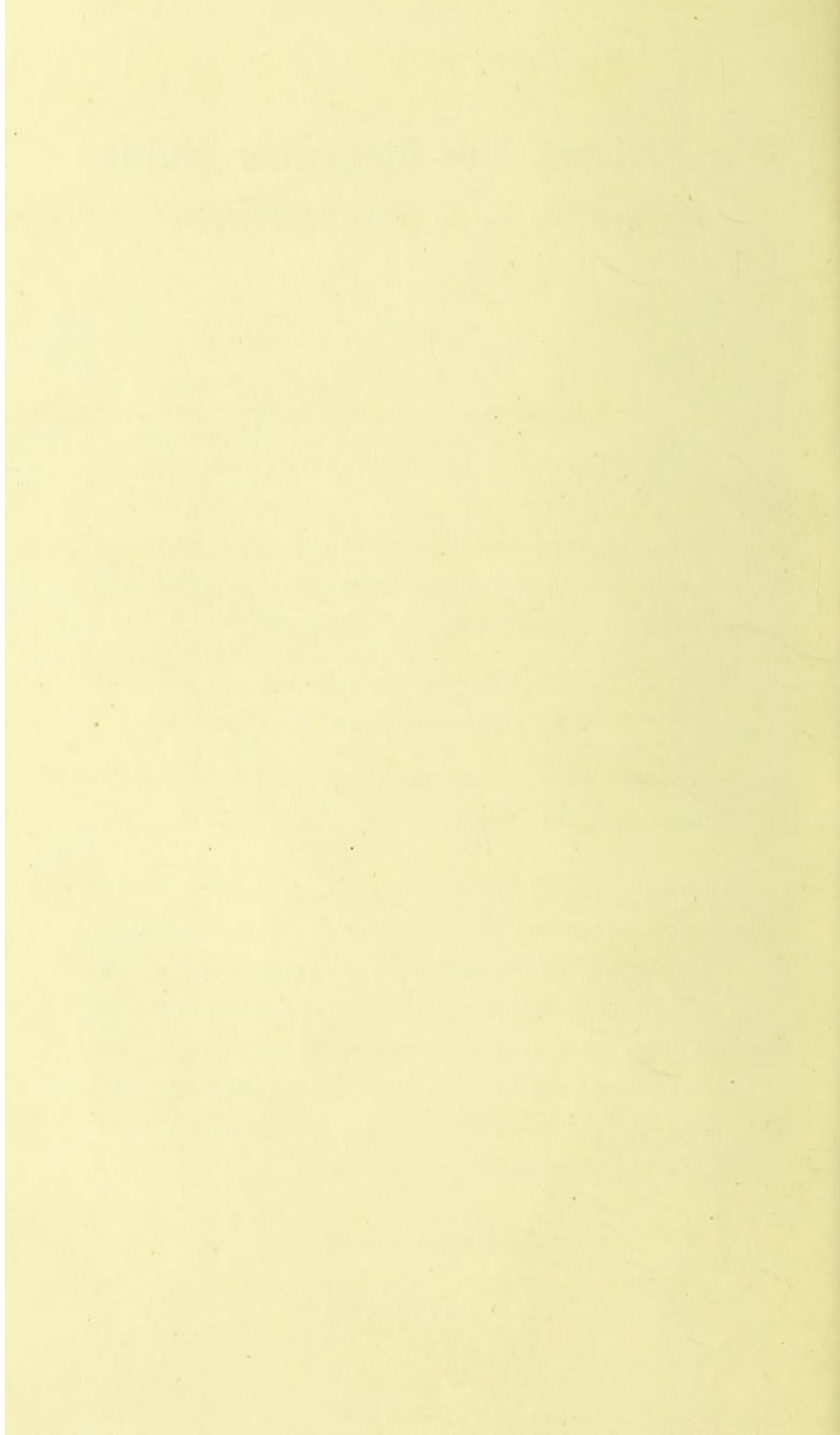
. . . “*nothing extenuate,
Nor set down aught in malice.*”

I place it, therefore, in your hands, and leave it to exercise its influence upon your heart.

If it lead you to feel that anything is better than that such things should be: if it lead you to know, beyond the reach of gainsay, that pitifulness is a higher thing in the sight of God than knowledge thus obtained, you will send me your help, great or little according to your means, that I may do what I can as effectively as you make me able, to put an end to these unspeakable deeds, and I shall continue to be your and the poor animals’

Ever faithful servant,

STEPHEN COLERIDGE.

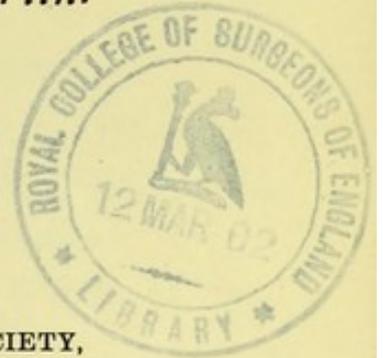


CATALOGUE OF APPARATUS AND APPLIANCES
FOR EXPERIMENTS WITH ANIMALS,

9.

Issued by F. & M. LAUTENSCHLAGER, Berlin.

Translated into English by **PAUL GRÜNFELD**,
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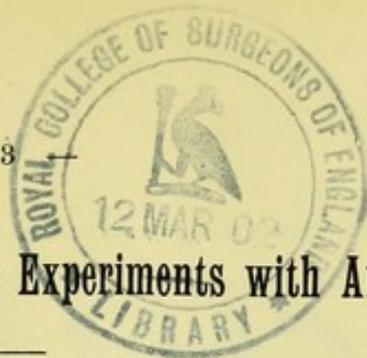
CATALOGUE OF APARATUS AND APPLIANCES
FOR EXPERIMENTS WITH ANIMALS

Issued by F. & M. LAITENBERGER, BERLIN



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Apparatus and Appliances for Experiments with Animals.*

462 **Universal Operation Board.**—Dr. Cowl's universal "holder" for small and medium sized animals. (From the model of the Physiological Institute of Berlin, described in "Dubois-Reymond's Archiv," 1896, 1st fascicle.)

Price of the complete apparatus, fig. 462—462t. The smaller parts are kept in a metal case. All parts are numbered so that the "stretching" of the animal may be carried out exactly in the order illustrated in this catalogue. . . . Mk. 120.—

Covered with zinc, additional . . . Mk. 22.50.

Operation Board, without the parts required for more delicate operations (bacteriological, etc.), but sufficient for operations on rabbits, guinea-pigs, and rats, as illustrated in Fig 462 b, c, m, n, o. Mk. 58.50.

Dr. W. Cowl's "holder" is best suited for stretching hematotherma and hematocrya (cold and warm-blooded animals: quadrupeds, birds, snakes, amphibia, fishes and other animals) in physiological, pathological, surgical, pharmacological, and bacteriological experiments and demonstrations.

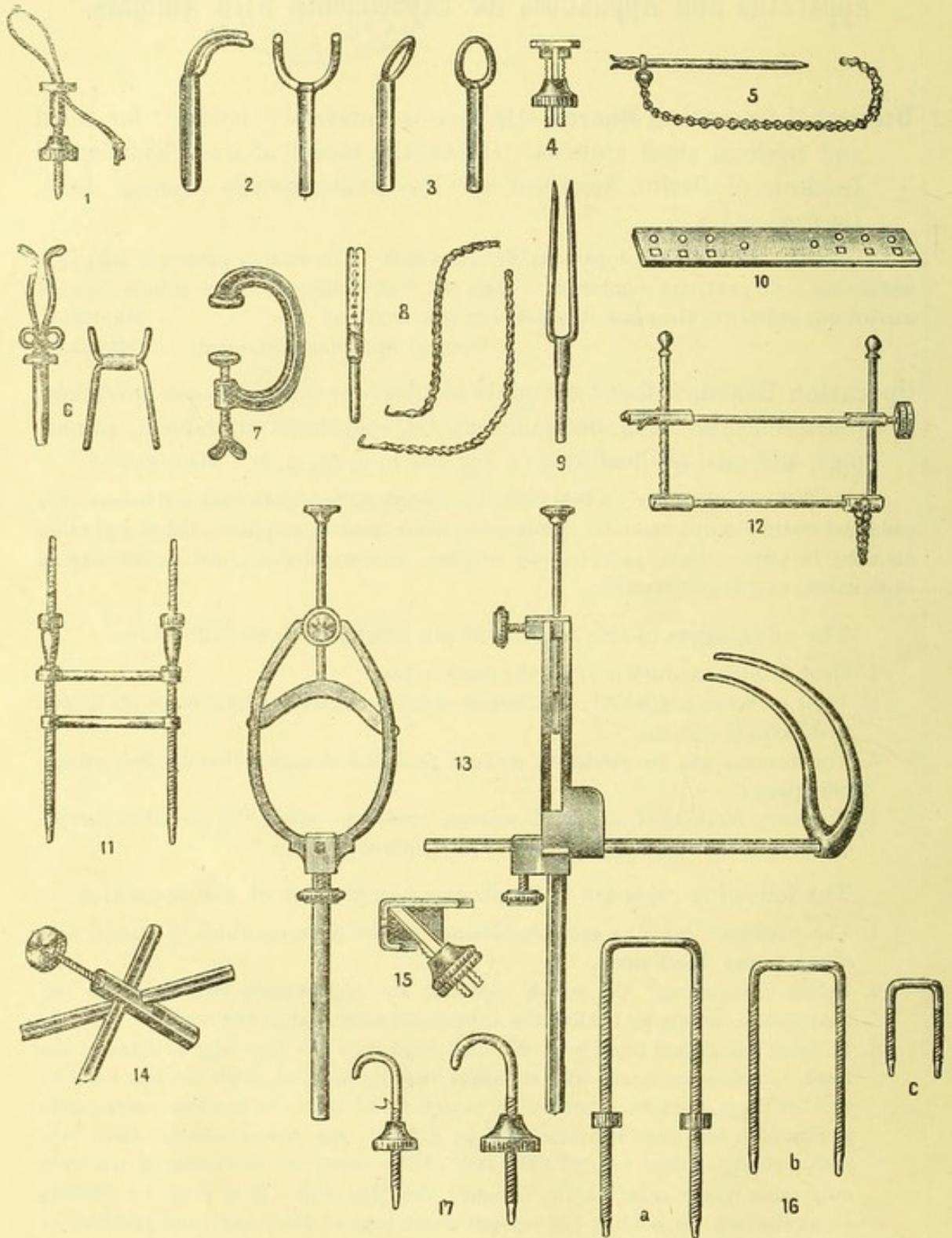
The advantages of this apparatus are briefly told, as follows:—

1. Most simple construction of all the parts in use.
2. Their universal availability for animals of different size and kind in simple as well as difficult operations.
3. The animals can be stretched without pain and struggle, whereby they remain unimpaired.
4. The easy mobility of the head- and leg-"holders" keeps the stretched animal quiet while the operator adjusts it in the required position.

The following rules are to be observed in the use of the apparatus:—

1. The "holder" must be securely fastened to the table on which it stands, with clamp-screws (hand vices).
2. Before "stretching" the animal establish the approximate length of the leg-holders and cording by holding the animal sideways against the board.
3. In fixing the animal begin with the hind legs, then the fore legs, and lastly the head. Rabbits are seized with the right hand by the neck, with the left hand by the hind legs, then stretched out in such manner that the position corresponds to that of a fast-running animal. Dogs and cats are seized with the hand, rats with a strong forceps, firmly by the skin of the neck; the stretching of the body only takes place after having fastened the hind legs. It is done by shifting about the fork for holding the occiput (hind part of the head), and jamming it fast in the slit of the board.
4. The leg-cording must be carefully tightened and securely jammed in to prevent the animal loosening them. The clamp-screws may then be removed if necessary.

* Lest anyone should imagine that these instruments are not intended for sale outside Germany, it should be mentioned that throughout this Catalogue the descriptions are frequently given in three languages, German, English and French—and that wherever this occurs the translation from the German by Mr. Paul Grünfeld only is here given.—S. C.



F. & M. Lautenschlager, Berlin N.

Fig. 462.

Numerated metal pieces belonging to the Operating Apparatus according to Dr. W. Cowl.
(All the pieces we send out are marked as above.)

The special arrangement is shown in the figures (on page 154) 462, 1—17.

The complete apparatus is composed of the following parts :

1. Leg-holders with loop-holes, quickly shifted and easily jammed in. They serve to fix frogs, mice, rats, guinea-pigs, rabbits, cats, dogs, etc.
2. Forks for holding the occiput in 4 sizes :
 - Size a, for rats and animals of similar size ;
 - „ b, „ rabbits, guinea-pigs, etc. ;
 - „ c, „ cats, little dogs, big rabbits, etc. ;
 - „ d, „ dogs up to 6 kilog. (12 lb.) weight, etc.
3. Muzzle holders in 4 sizes :
 - Size a, for rats and animals of equal size ;
 - „ b, „ rabbits, guinea-pigs, etc. ;
 - „ c, „ cats, little dogs, big rabbits, etc. ;
 - „ d, „ dogs up to 6 kilog. weight, etc.
4. Simple squeezers for muzzle- and occiput-holder with big nut and quick-working runner (screw).
5. Bar with (closing) chain for larger animals to keep their muzzles closely shut.
6. Elastic holders of hind legs with clasping fork for " stretching " rabbits and small dogs without assistance.
7. Clamp-screw for securing the board to the table while the animal is being stretched.

The above enumerated parts (Nos. 1 to 7) will be found sufficient for ordinary operations. For special purposes the following parts have been constructed :

8. Sharp and blunt preparing hooks, easily fastened to tags, which again are easily adjusted on any part of the board.
9. Movable tags with protecting fork, to keep in position and guard against derangement of such caoutchouc tubes as are connected with delicate vessels (as in the case of hematological measurements and records).
10. Widening piece for keeping the legs asunder.
11. Movable gag with screw for smaller animals (for introducing medicaments and probes, operations in the throat and cavity of the mouth, their leisurely inspection, etc.).
12. Quickly movable gag for larger animals ; can be taken to pieces. This gag is constructed in a manner to be easily inserted and fastened to the canine teeth. It also contains a contrivance by means of which the " rack " (tooth bar) may be fixed in any desired position. This gag may be used with Nos. 13 and 16, especially when the operation is to be deep in the cavity of the mouth and the throat.
13. Independent " holder " of the head which permits the head of the animal to be removed at will from the board so as to be brought freely into different positions by the hand. In using it in conjunction with No. 12, the operator is enabled to examine the cavities of the mouth and throat as well as the vocal cords (ligaments of the glottis) of cats and dogs, without the use of the laryngoscope.
14. Angle-pieces and staves to fix the head- and muzzle-holders in different positions, specially required for operations at the occiput and neck, as well as in the cavity of the mouth and throat.
15. Angle-squeezers for muzzle-holder, specially required for operating on the occiput and neck of dogs.
16. Squeezing forks in three different sizes, with quick-winding screws for different use, such as neck- and beak-holders for pigeons, ducks, etc. ; trunk-, head-, and tail-holders for snakes, fishes, and other animals.
17. Half-round hooks in two sizes, with quick-winding screws, for similar use as in No. 16 ; also serviceable as wing-holders of birds.

The following illustrations, taken from nature, show the different uses the Universal operation-board may be applied to. The operator will thereby be enabled to fix the different positions of the animals in the form prescribed. For better guidance, all the parts required for any given position are numbered in conformity with the general survey given above in the Fig. 462 (1 to 17). The rest will be easily understood from the explanations accompanying the illustrations.

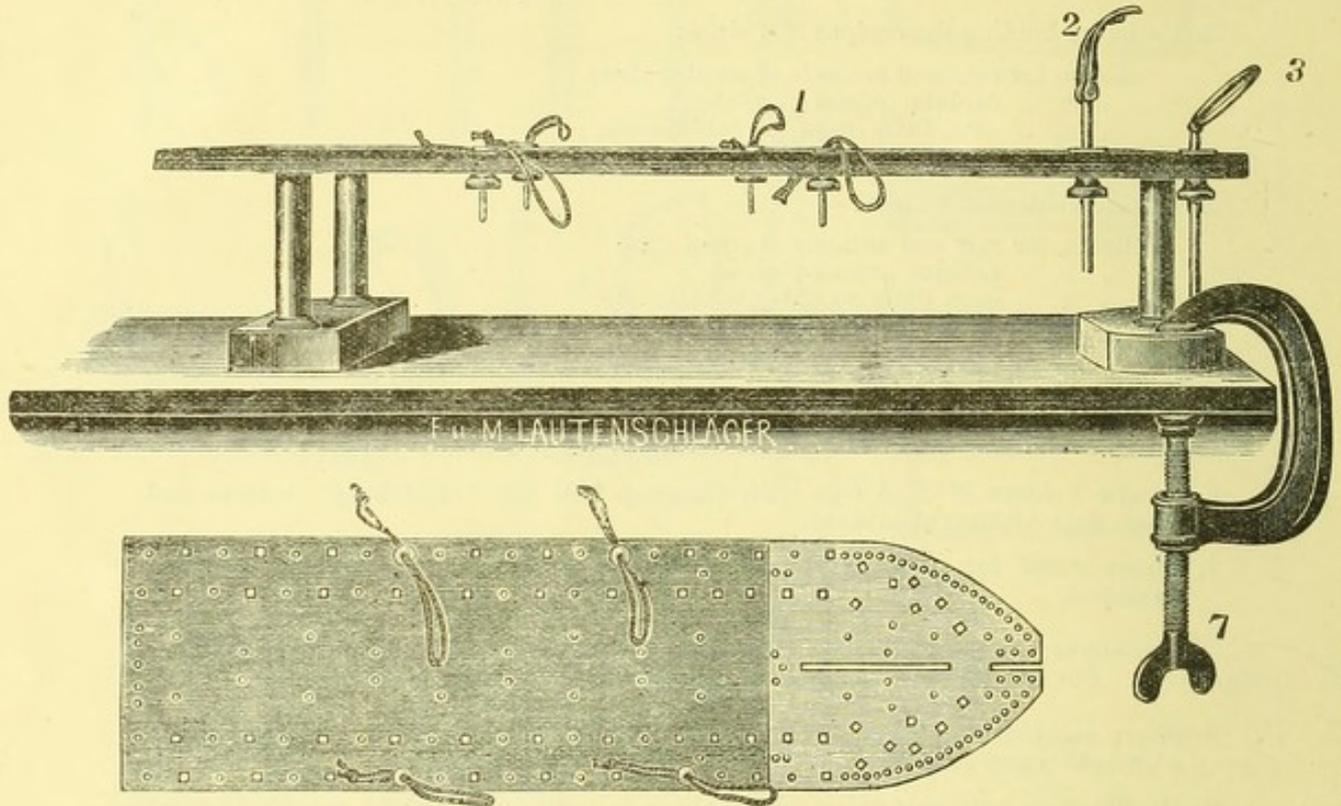


Fig. 462a. Operation-board, top and side view.

It consists of an oaken board with metal mounting, provided with numerous holes. The feet are removable, so that the board holding the (stretched) animal may be handed round (to the students) for inspection. The board is fastened to the table with the clamp-screw (No. 7); the leg-holders with loop-holes (No. 1); the occiput-holder (No. 2); and the muzzle-holder (No. 3) are placed conveniently in holes and slits as shown in the illustration.

It will be seen from the illustration that the head of the animal may be raised, or lowered, or stretched, or put sideways within a large range. This is done by shifting about the occiput- and muzzle-holders (Nos. 2 and 3).

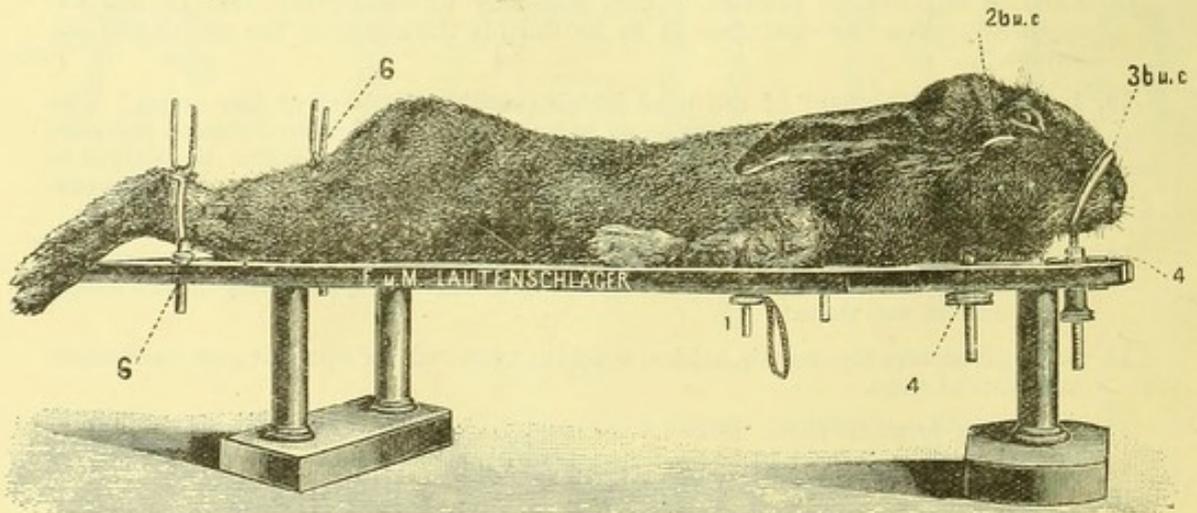


Fig. 462b. Rabbit

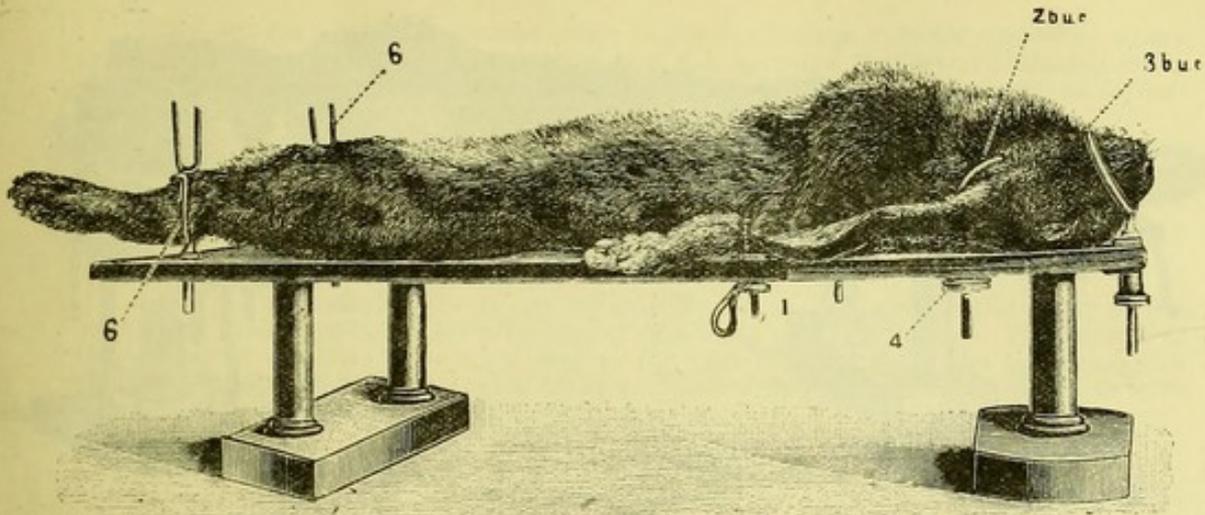


Fig. 462 c. Rabbit.

To fix the hind legs, the leg-holders with loops (No. 1) may be used. The different positions of the head will be guaranteed, as already described, by the thorough movability of the occiput-forks (No. 2) and the muzzle-holder (No. 3). According to the size of the animal 2*b* and 3*b* or 2*c* and 3*c* will be used. To keep the animal secure and quiet as much as possible, sufficient latitude must be given to these instruments to enable the operator to stretch the neck of the animal to the required degree by means of the occiput-forks.

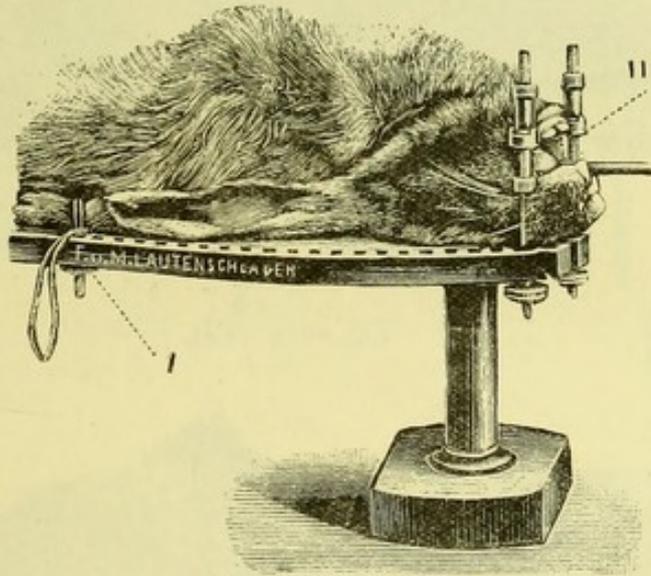


Fig. 462 d. Rabbit.

For special operation, as already mentioned, use the supplementary instruments marked in the illustrations (462d, e), viz., in pharmacological and bacteriological experimental dietetics (experiments of nutrition) as shown in Fig. 462d; in operations on occiput and neck, as shown in Fig. 462e.

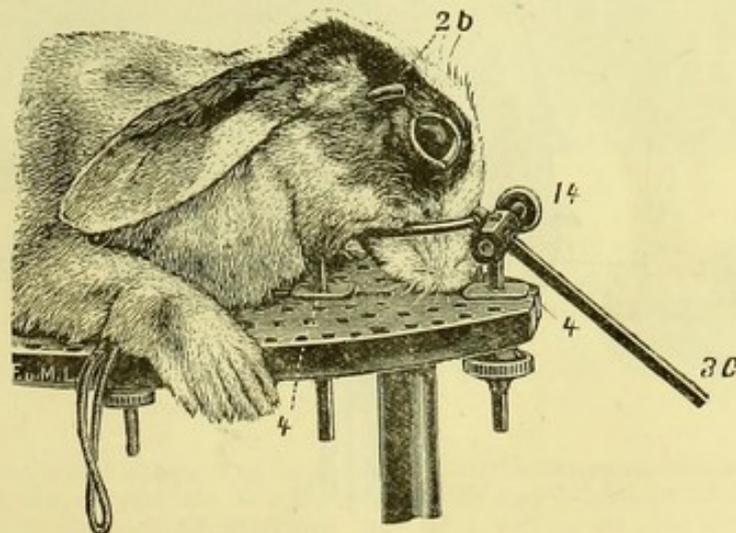


Fig. 462 e. Rabbit.

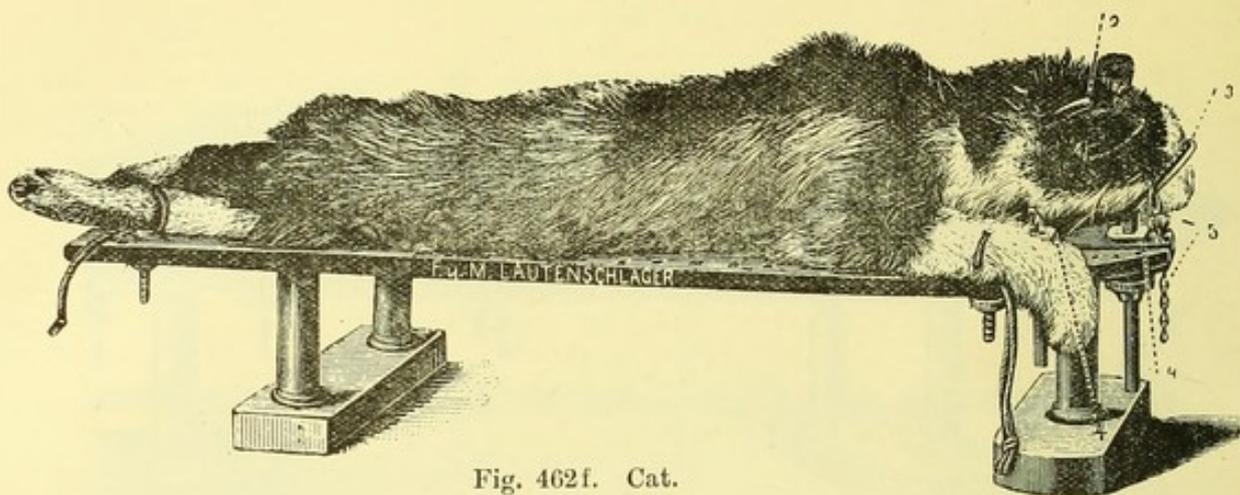


Fig. 462f. Cat.

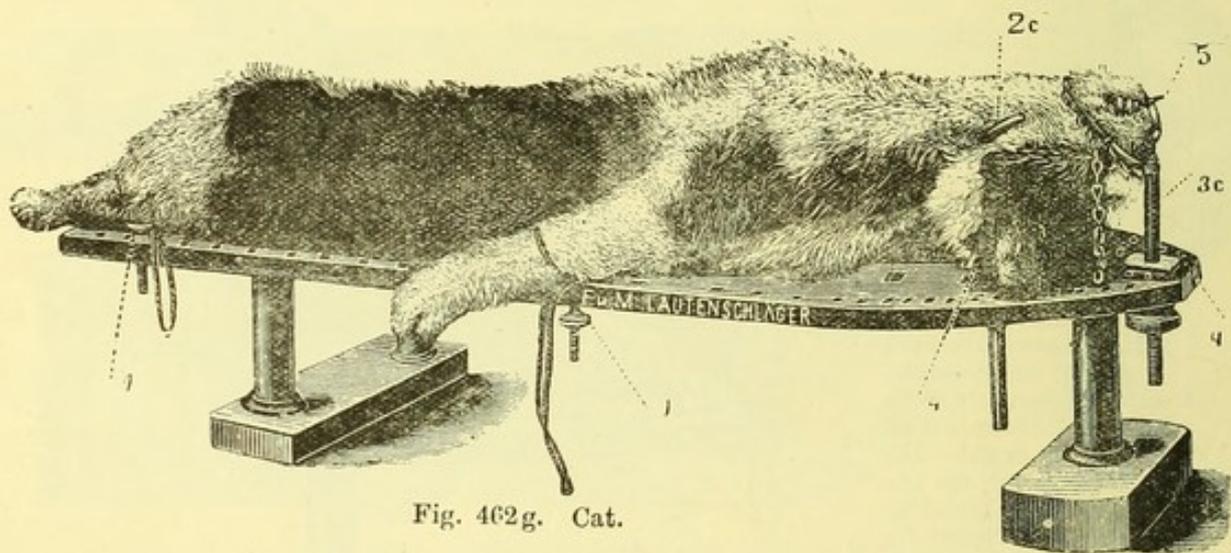


Fig. 462g. Cat.

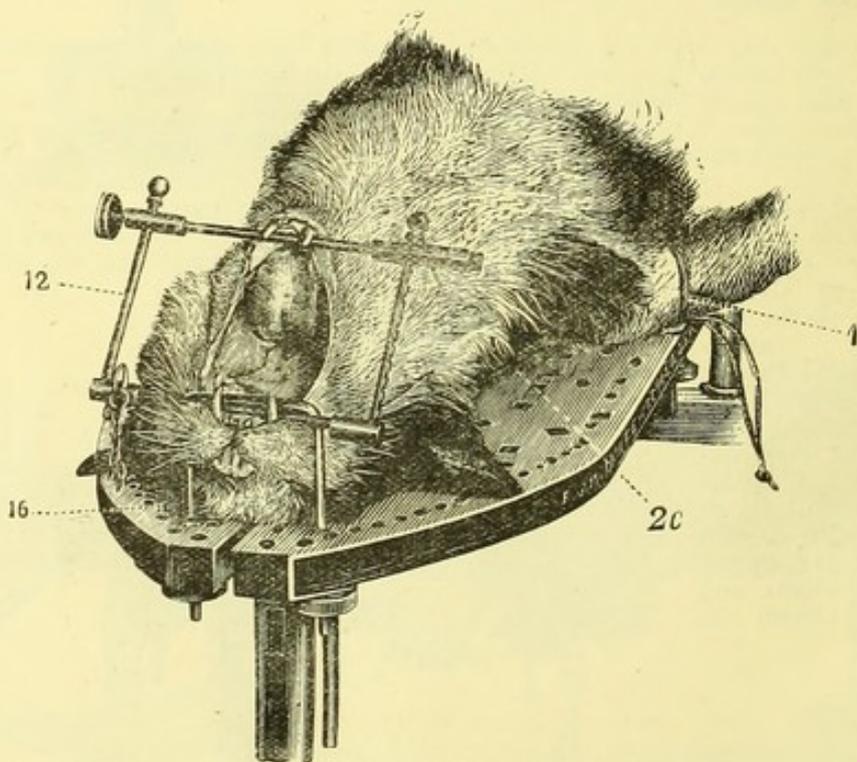


Fig. 462h. Cat or Dog.

Fig. 462 f & g. With cats and other larger mordacious animals, especially where the occiput-forks would be an impediment to the operator, the bar with closing chain must be applied behind the canine-teeth (as shown in the illustration) in order to tighten the muzzle.

Wild cats are best caught in nooses made of soft iron wire of easy flexibility, gradually narrowing in the noose and lifting up the animal therewith, the latter becomes absolutely powerless, and by being put under a closing glass-bell (fig. 481) may be rendered insensible with chloroform or bromethyl with which the pad had been previously saturated.

Fig. 462 h illustrates how to use the gag (No. 12) in operations in the cavity of the mouth and throat, or in the brain by way of the basis of the cranium. The muzzle of the animal is moreover to be made fast to the board by means of the squeezing-fork (No. 16). In operations on the vocal chords or their simple rectification proceed as with dogs. This will be more fully explained further down.

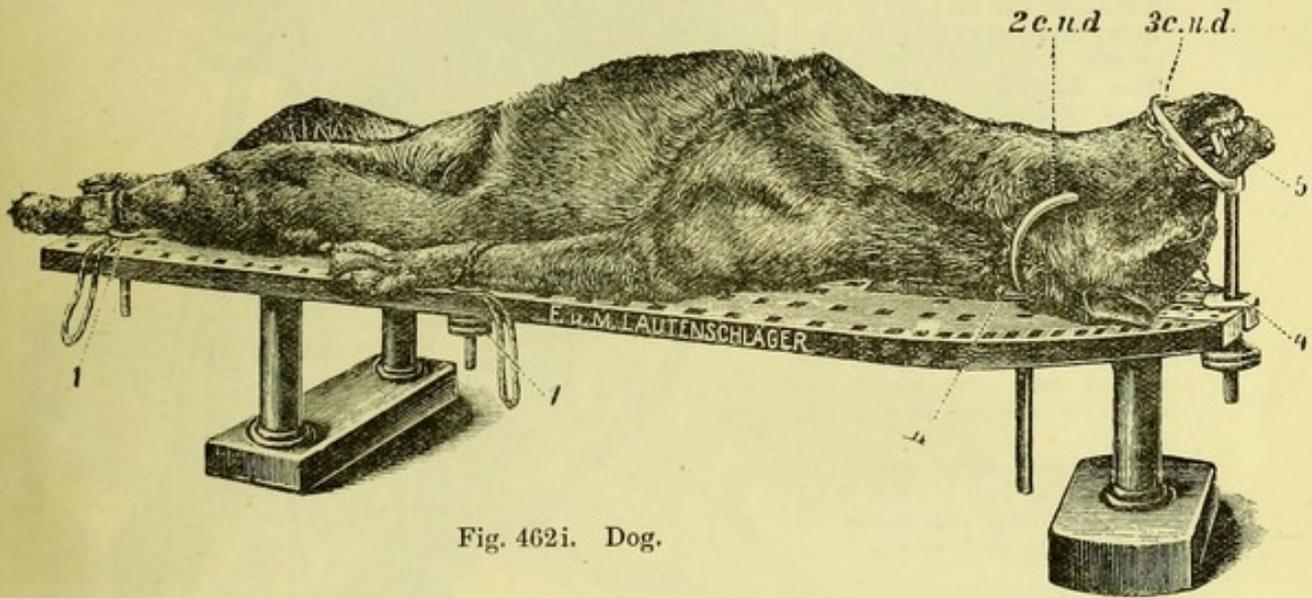


Fig. 462i. Dog.

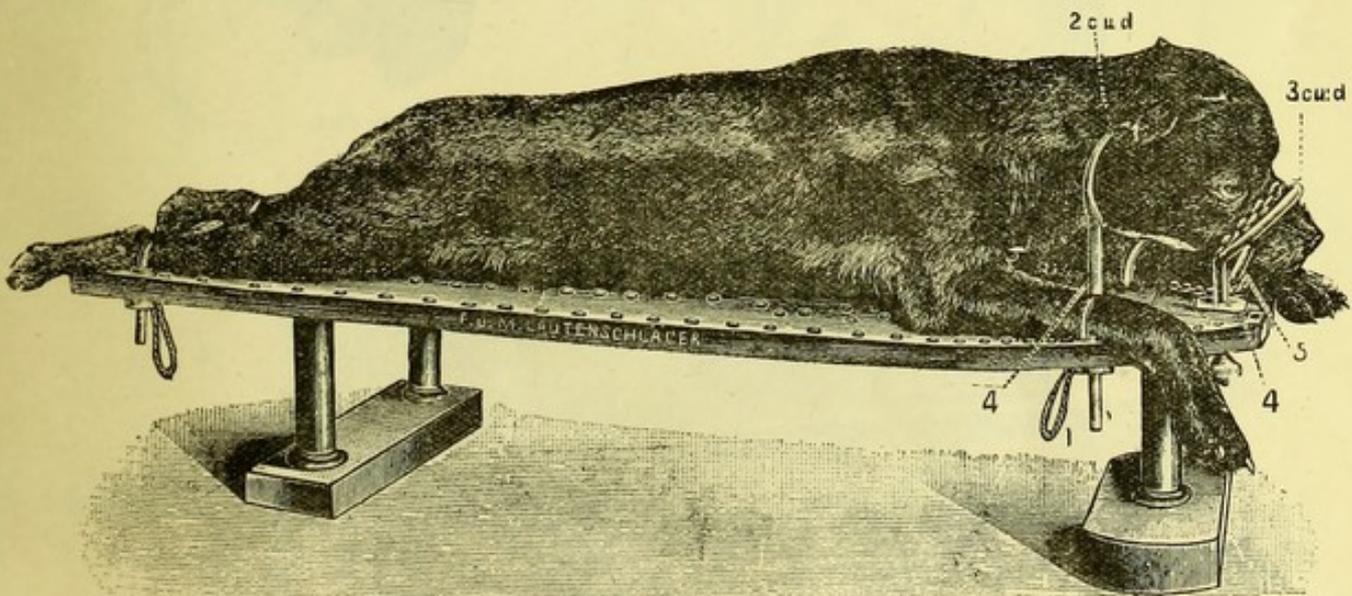


Fig. 462k. Dog.

Dogs up to the weight of 6 kilogr. may be advantageously fastened on this board. According to the size of the animal, use Nos. 2c and 3c, or 2d and 3d, for securing the head. To obtain different positions of the head raise or lower *ad lib.* the muzzle-holder (No. 3) and the occiput-forks (No. 2).

Dogs suitable to this board may easily be stretched there without the use of narcotics.

For larger animals there is a massive trough-shaped board with corresponding head-holder (Claude Bernard's Kynolith) made after the improved Leipsic model, as shown in Fig. 463—463 b.

The stretching of dogs and cats for operations in the cavity of the mouth and throat, or the larynx, as well as for inspection of the vocal chords, may easily be learnt from the illustration (4621). First of all fasten the head-holder (No. 13) to the head of the animal, the muzzle being kept closed. The gag (No. 12) is then taken to pieces, and the right part, folded up, is passed right across through the mouth behind the canine-teeth, fastened there in connection with its left part, and spread out; after which the screw is applied to the left side.

After unscrewing the angle-piece (No. 14) the head of the animal can easily be moved into any position by the hand.

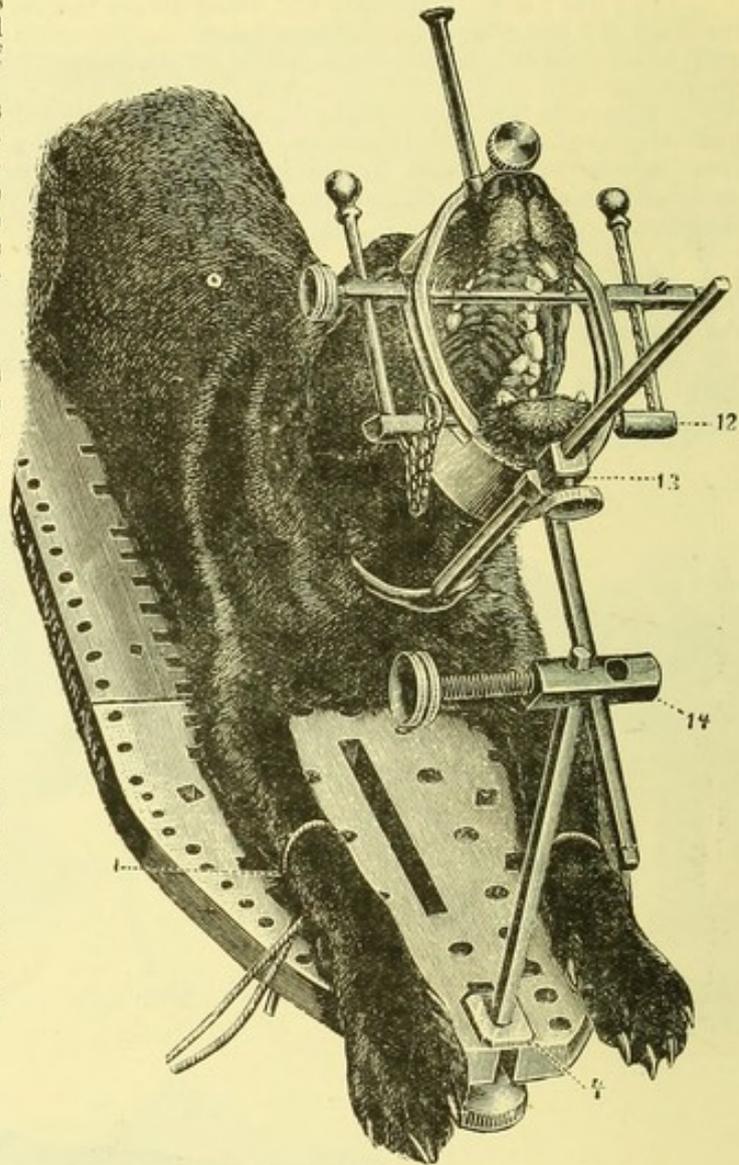


Fig. 4621. Dog or Cat.

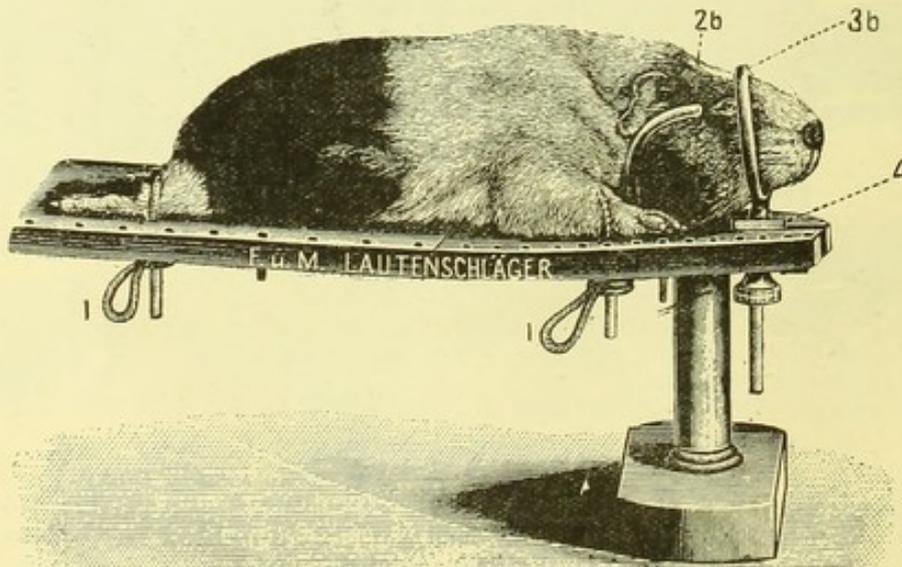


Fig. 462m Guinea-pig.

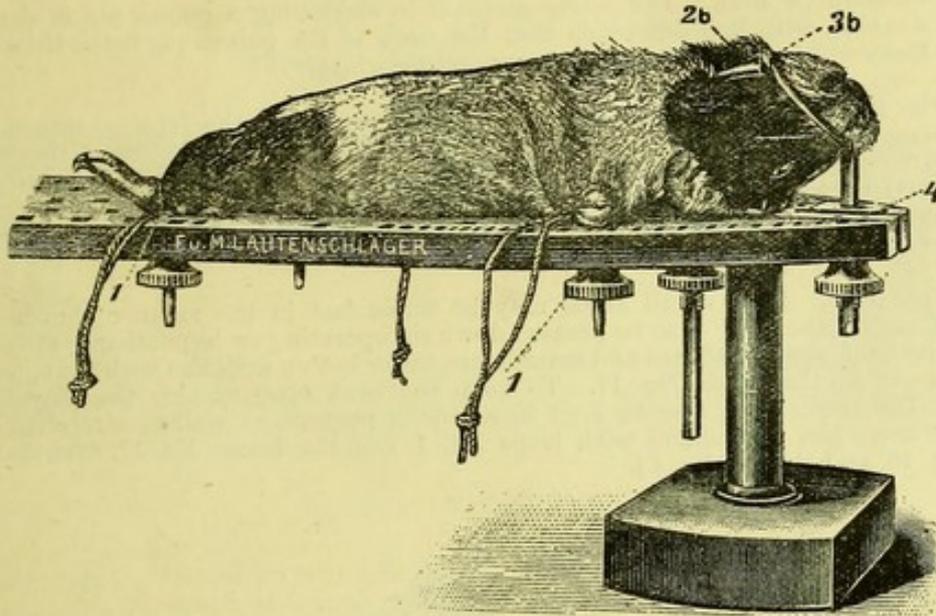


Fig. 462n. Guinea-pig.

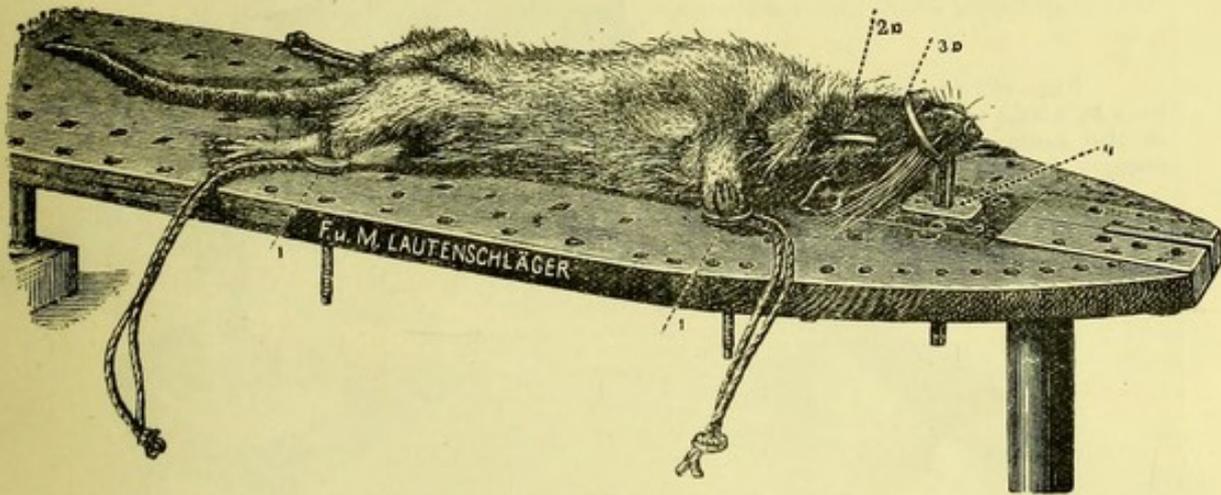


Fig. 462o. Rat.

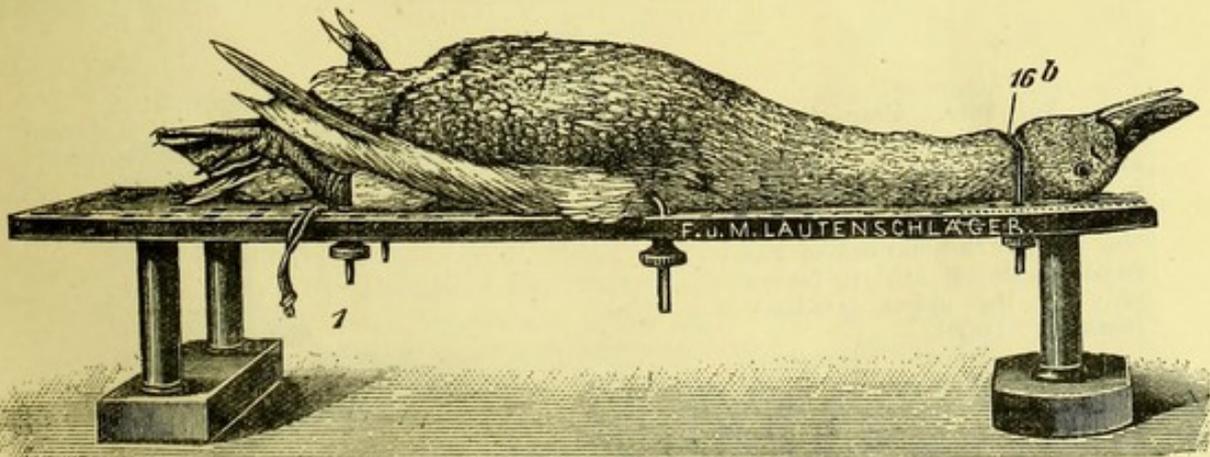


Fig. 462p. Duck, etc.

Fig. 462m & 462n. The *modus operandi* in stretching a guinea-pig is similar to that of a rabbit, with that difference that the neck of the guinea-pig being thicker, the occiput-forks will have to be chosen correspondingly larger.

Fig. 462o. Seize the animal sharply by the neck with the forceps, secure first of all the legs, then stretch the head with the occiput-forks No. 2a, and shove the muzzle-holder No. 3a, which must already be in its place on the board, over the mouth of the animal and press it down firmly. In taking off the animal from the board proceed inversely. For the fore-legs of somewhat larger animals half-round hooks No. 17 may be used advantageously.

Fig. 462p. Birds of all kinds may be made fast in the manner shown in the illustration. If the beak is to be pressed down (in operating or hypnotising) stretch the bird on its back upon the board and manipulate one or both mandibles with the squeezing-forks No. 16 or the hooks No. 17. To keep the beak open employ the movable gag No. 11. The animal may also be kept in a sitting posture, as well as stretched on the belly, by using the leg-holders with loops No. 1, and the hooks No. 17, eventually the forks No. 16, and the gag No. 11.

Fig. 462q. Small birds may be made secure absolutely in the same manner as larger ones.

For operations on the Nervus octavus of pigeons, Ewald has constructed a special holder. (*Vide* No. 473.)

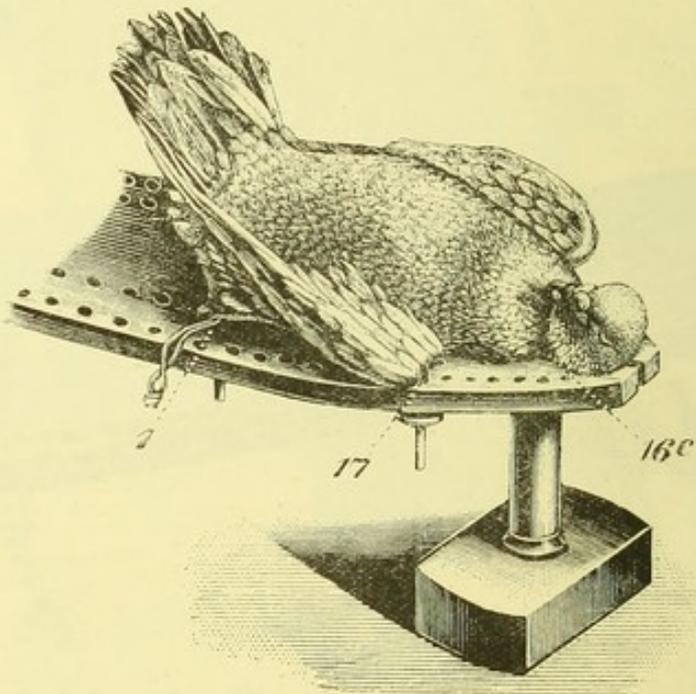


Fig. 462q. Pigeon, etc.

Fig. 462r. Frogs, toads, salamanders, and other legged amphibia are to be held down in the manner shown in this illustration. Squeezing forks No. 16, (in examinations of the cavity of the mouth) to fasten only on the upper jaw-bone (maxillary bone).

For delicate operations and preparation use Dr. W. Cowl's special frog-board (Fig. 479) with Brucke's speculum.

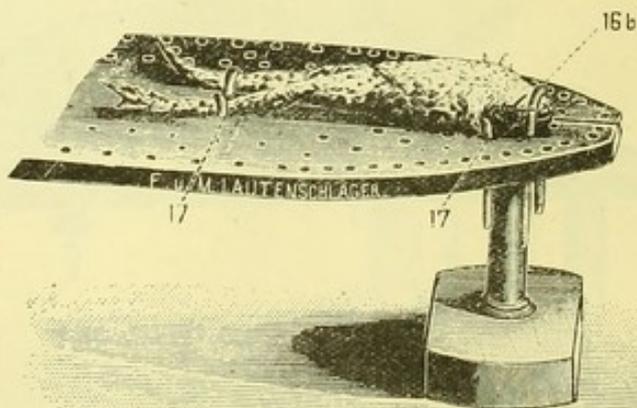


Fig. 462r. Frog, etc.

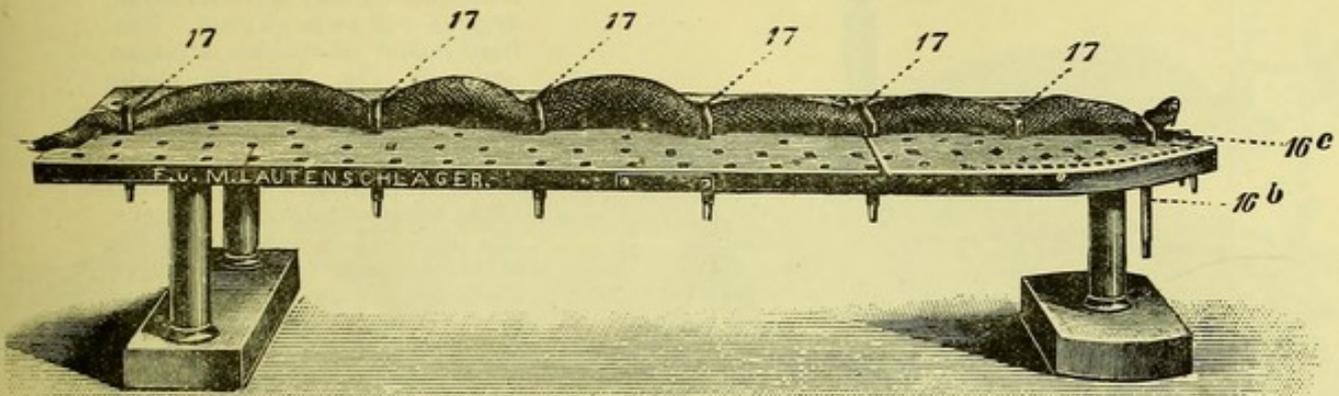


Fig. 462s. Adder, Viper, etc.

Fig. 462s. The animal must be kept in a cool place. Seize it by the neck with a large operating forceps, hold it against the board in the desired position, and then fasten it tightly to the board by means of the half-round hooks (No. 17) and squeezing-forks (No. 16) applied to the body, neck, and one or both jaws. It is advisable to have a piece of card-board on the slit of the forepart of the board as a support for the head of the snake.

In taking off the animal—especially in a warm room—care must be taken to keep a firm hold of the neck of the animal with the forceps.

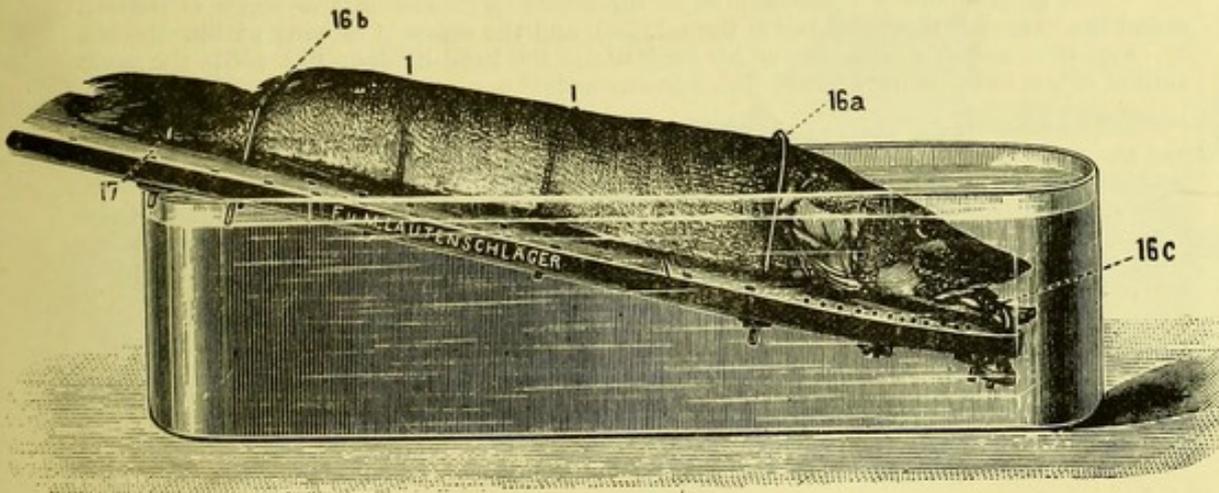


Fig. 462t.

The Universal operation-board being thoroughly "paraffined" (rendered impervious to water and proof against the action of acids and alkalis), it may also be used—as the illustration (462t) shows—for any aquatic animals.

463 **Operation-board** for dogs, Leipsic model, Fig. 463 a, b ; with head-holder after Claude Bernard-Cyon, with improved construction after the model of the Physiological Institute at Berlin. It consists of a strong trough-shaped board, separable in two parts ; two massive head-holders with strong "nut" (muzzle-holder receiver), segment cut out and movable cross-bar. The whole operation-board complete, Mk. 120.—

Claude Bernard's dog-holder, improved by Cyon (Fig. 463 a, b, on pages 164 and 165), specially adapted for large dogs weighing up to 60 kilogr. (120 lbs.). The trough-shaped board, perforated sideways, which must be built in massive style, can be taken asunder,

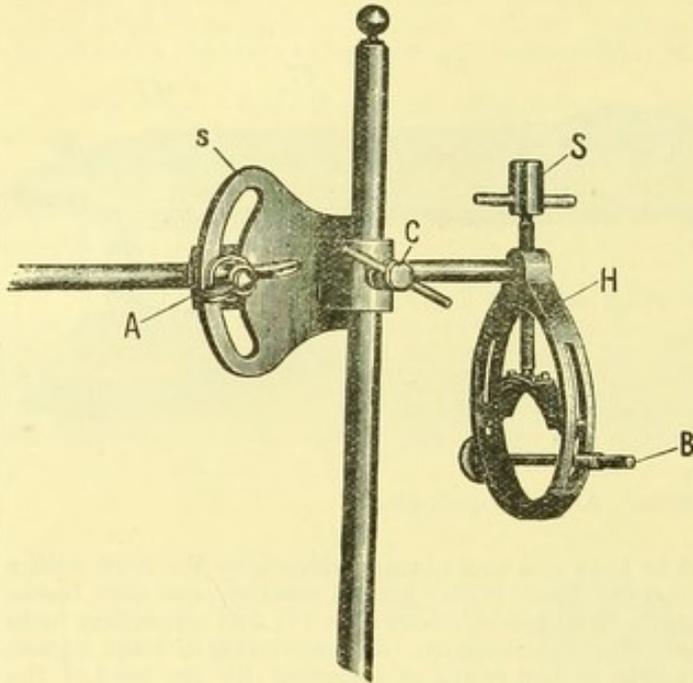


Fig. 463

as shown in Fig. 463 a, b; and consequently may serve for small dogs as well as large ones. The head-holder (shown on a larger scale in Fig. 463), is made entirely of steel and thoroughly well worked, so that no accident can happen even with the strongest animals under operation, experience having taught the necessity of having this instrument made of the strongest material. This head-holder is movable in any direction. Two of them *H*, differing in size for different sized animals, go with each board.

The head-holder *H* moves round a steel bar, where it is held by the screw *C*. It has a central quick-working screw, which enables the operator to effect quickly any desired position of the head. The central screw moves on saddle-like bow without pad in a slit of the holder. The same (curved) slit contains also a cross bar *B*, which is

passed through the mouth of the dog behind the canine-teeth, as shown in Fig. 463 a and b.

The head-holder *H* is movable in all directions by means of the screw *C* moving round the "stand" (the steel bar in the middle), and the screw *A* moving within the slit *S*. Fig. 463 a shows a large dog on his back under the head-holder; Fig. 463 b, the same animal in the same condition with head downwards.

The fastening of the animal on the operation-board is carried out as follows: Inject the animal with 0.5 to 2 ccm. (according to the size of the animal) of a solution holding 10% of morphia. After 15 to 30 minutes, morphia-sleep will set in, whereupon place the animal on the trough-shaped board, adjust one of the head-holders, draw the crossbar through the mouth behind the canine-teeth and use the central screw *S*; after that fasten fore- and hind-legs, and (having securely screwed down the central screw *S*) attach the head-holder to the "stand."

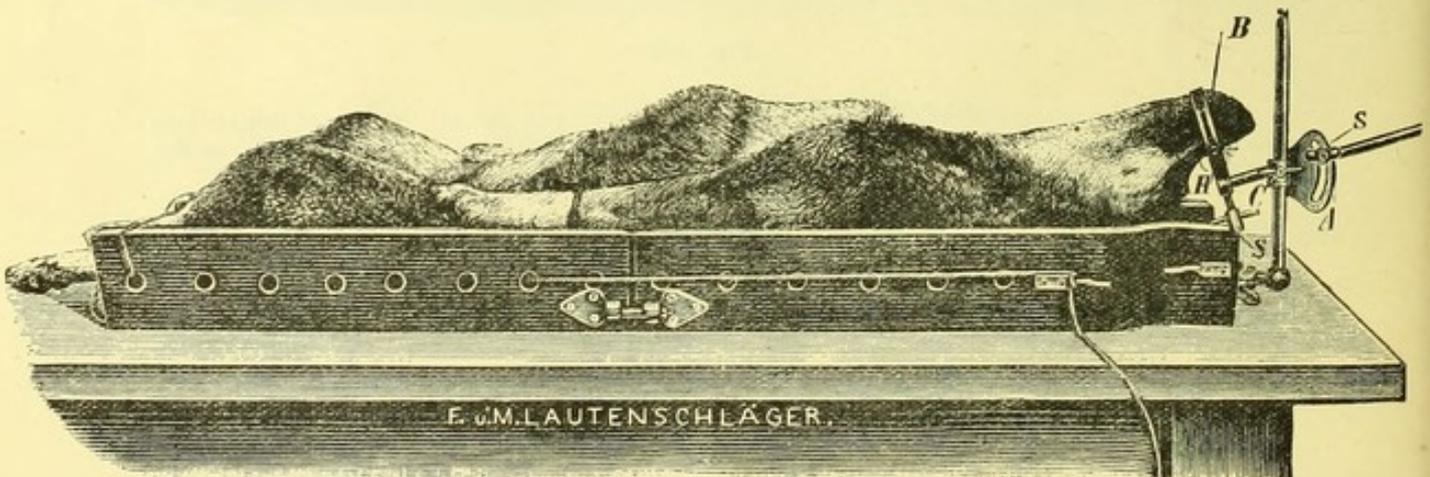


Fig. 463 a.

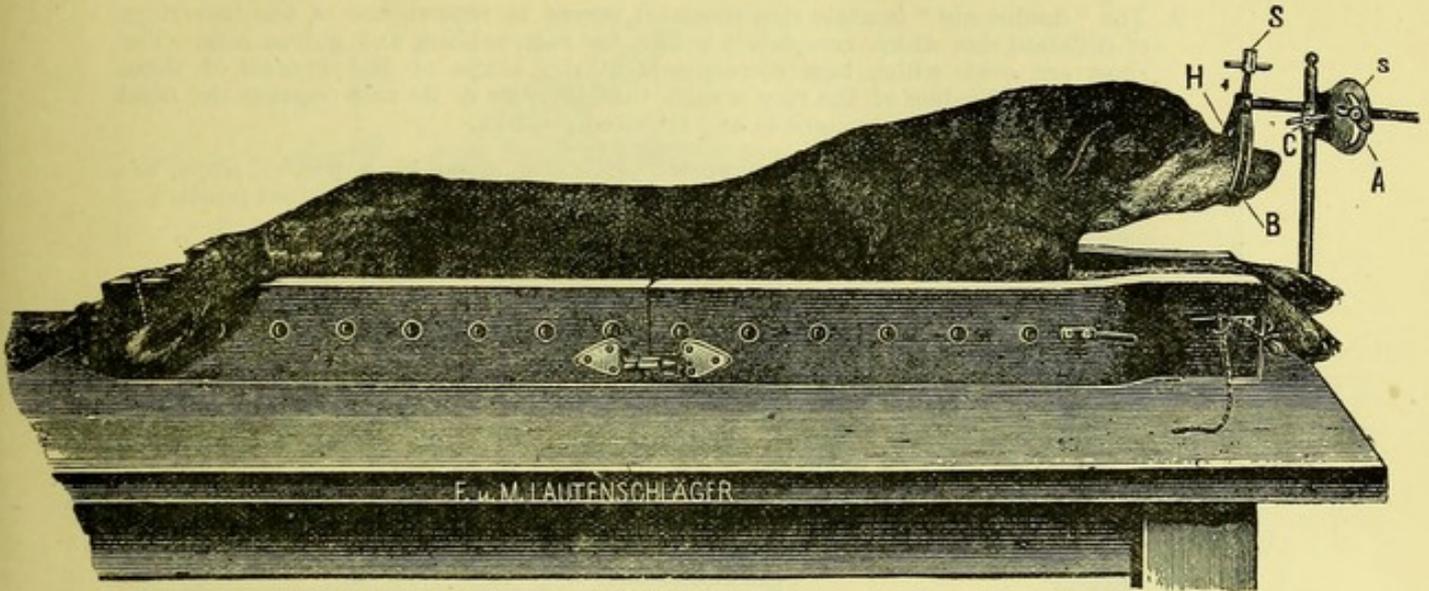


Fig. 463 b.

F. & M. Lautenschlager Berlin N.

464 | **Operation-board** for dogs according to Malassez. Complete with movable holder, nickel plated. Mk. 180.—.

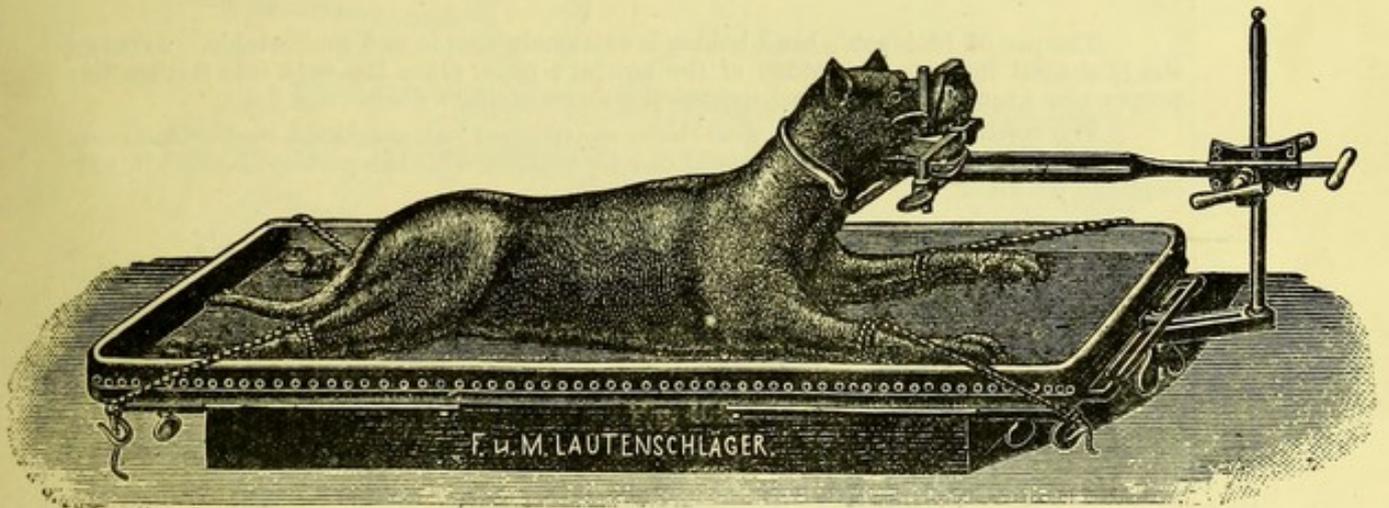


Fig. 464.

465 | **Operation-board** according to Dr. Steinach, Fig. 465, for cats, rabbits, guinea-pigs, rats, etc.

Price complete without movable leg-rope holder . . . Mk. 55.—.
 " " with " " " " . . . " 75.—.

The apparatus consists of movable neck-holders, 4 oval rings of different width, and a massive oaken board loaded with lead, on which the cord-holders may be shifted into any horizontal position. (D. R. G. M.) The head-holder fastened to an equally movable vertical stave with "double-nut" (muff-shaped cylindrical receiver) may thus be moved in all directions.

Steinach's operation-board offers extraordinary advantages for ordinary operations; for more delicate operations, however, Cowl's apparatus as described under 462 is indispensable.

Steinach's head-holder has three parts:

1. The (horizontal) cord-holder *a*, which abuts in a movable U-shaped hook ("nut") securable by the screw *b*.

2. The "double-nut" (muzzle ring receiver) serves to receive one of the four rings of different size which completely suffice for cats, rabbits, and guinea-pigs. The rings are oval, which best corresponds to the shape of the muzzle of these animals. The duct of the ring is such that in spite of its side-position the head may nevertheless be brought to any required position.
3. With the joint *a*—which is connected with the stand by a "nut" (caps the stand by a muff-like hole)—the head may be brought into any required position.

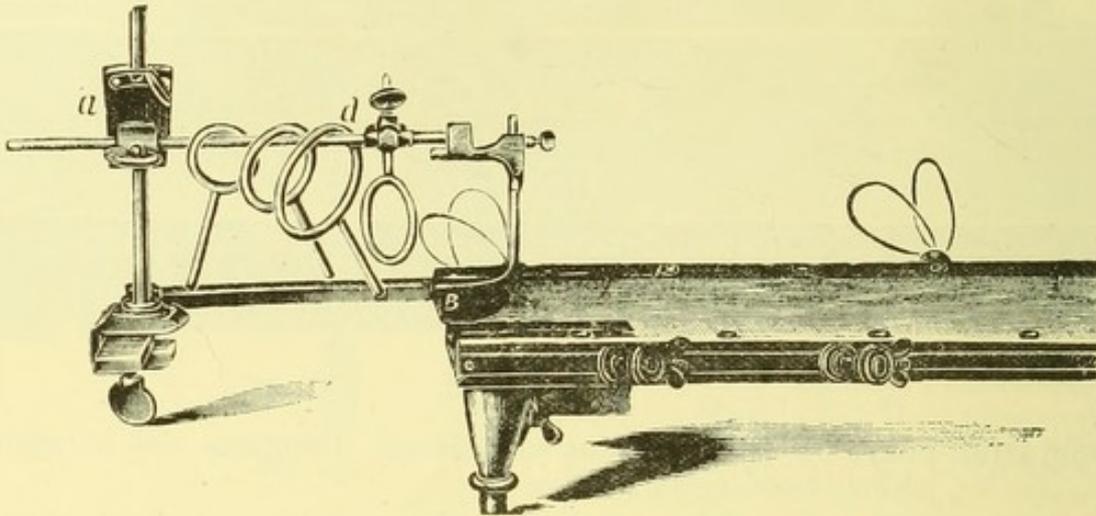


Fig. 465

The use of Steinach's head-holder is extremely simple and comfortable. Arrange the U-shaped hook to the width of the animal's neck, place the neck into it, pass the proper ring over the muzzle, and tighten the screw of the "double nut" *d*.

The cord-holder for the legs we have constructed—as suggested by Steinach—in a manner that the legs of the animal can be brought with the greatest facility in any requisite position.

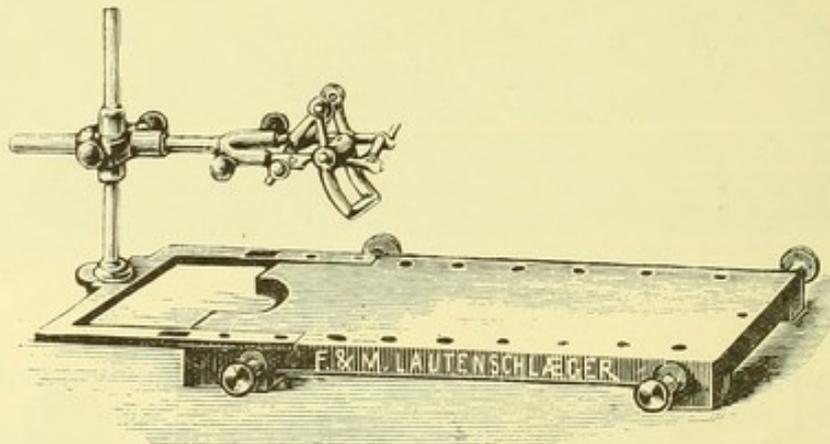


Fig. 466

- 466 **Operation-board** according to Czermak, Fig. 466, for rabbits, consists of a board with four screws, iron angle-piece with "stand" and head-holder complete. Mk. 36.—.

Czermak's apparatus has been outstripped by the more recent constructions of Cowl, Steinach, Malassez, Latapie, which will probably supplant it ultimately.

- 467 **Operation-table** for rabbits after Malassez, Fig. 467; consists of neck-holder, movable ring, "double nut" (muff-like perforation), with joint and stand which may be fastened to the metal table. Mk. 48.—.

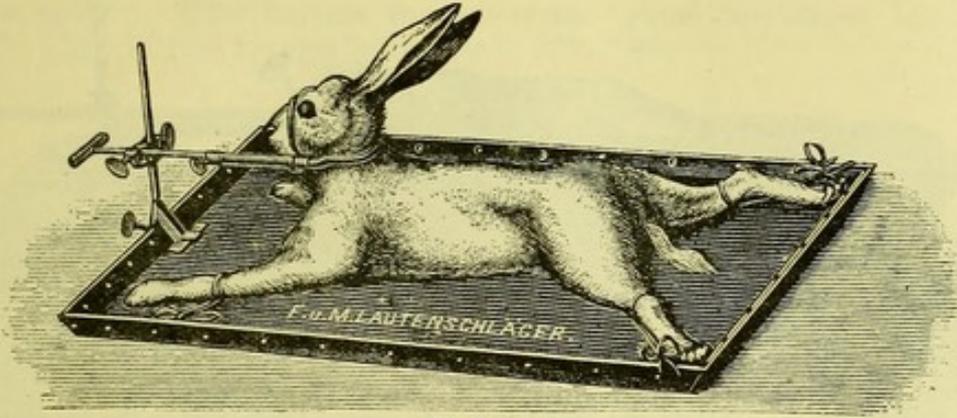


Fig. 467.—

468 **Operation-holder** for guinea-pigs after Malassez, constructed as the previous holder, but only adapted for guinea-pigs. Mk. 40.—

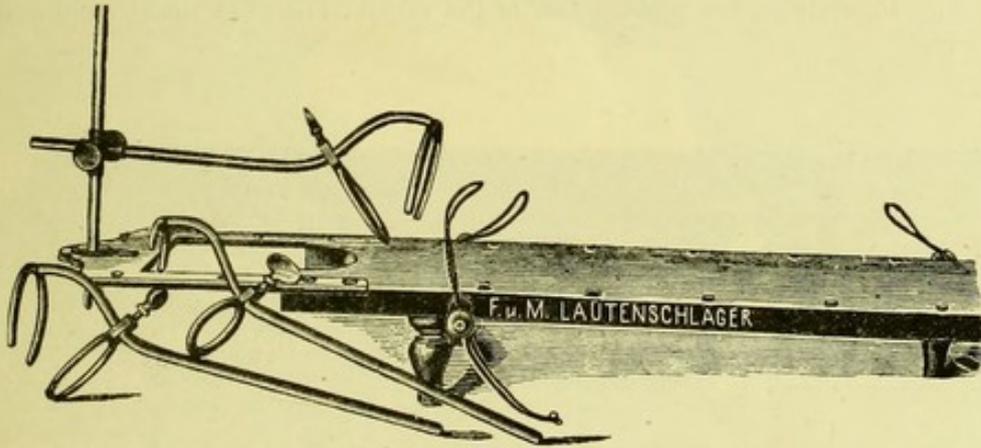


Fig. 469.

469 **Operation-board** after Tatin, Fig. 469, 469a and b, for guinea-pigs, rabbits, cats, and rats. Mk. 40.—

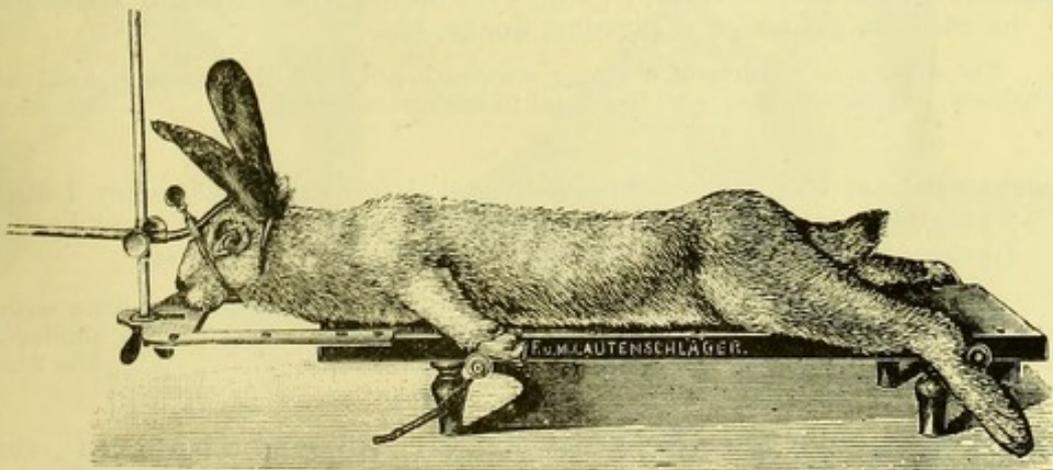


Fig. 469a.

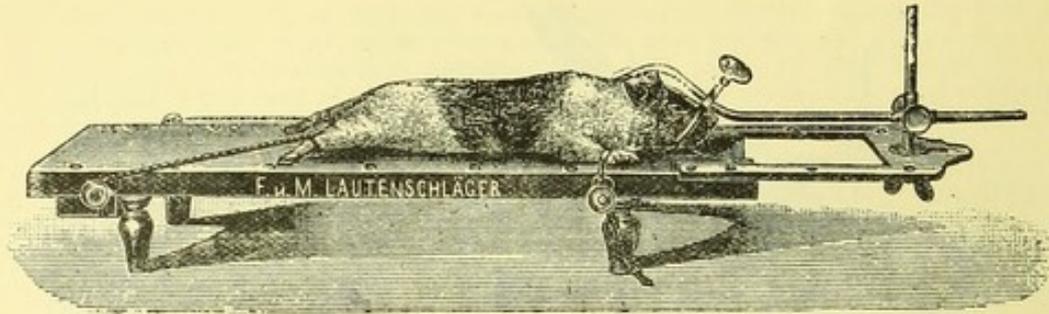


Fig. 469 b.

The apparatus consists of a board with side screws for fastening the leg-slings, and 4 head-holders which are movable by means of a "double nut" (muff-like perforated piece) shoved on to the stand. The holders are strong metal-staves ending in horse-shoe-shaped pieces of different sizes. The holders are placed round the neck of the animal, the rings are shoved over the muzzle, rendering thus the making fast of the animal quick and secure.

Price for rabbits only Mk. 18.—
 „ guinea-pigs and rabbits „ 30.—

Fig. 469 a shows the making fast of the rabbit; Fig. 469 b the stretching of the guinea-pig.

F. & M. Lautenschlager, Berlin N.

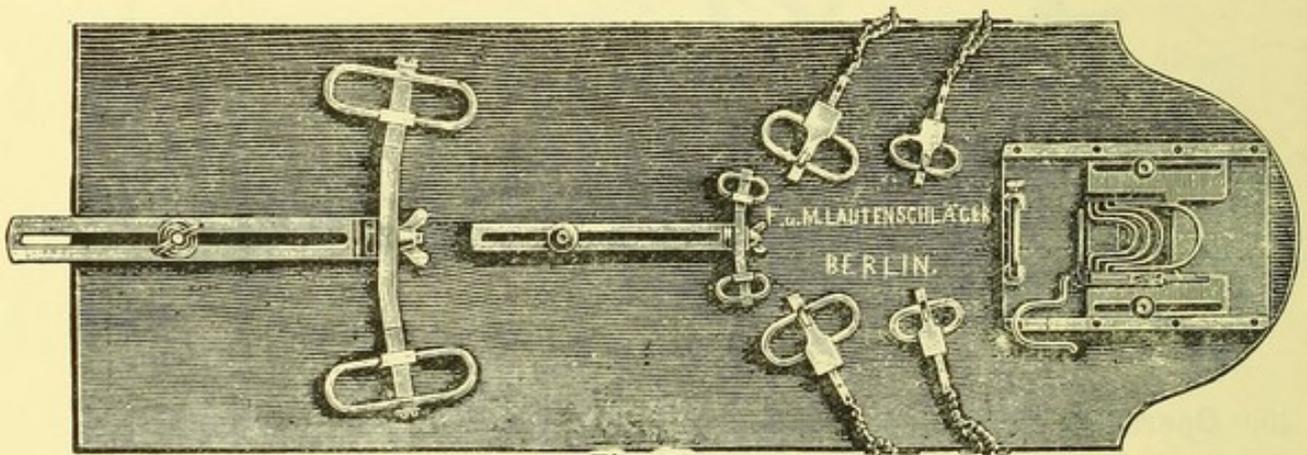


Fig. 470.

470 **Operation-board** after Latapie, Fig. 470, Model of the Pasteur Institutes, for rabbits, guinea-pigs, pigeons, ducks, etc.

The apparatus consists of a strong wooden board, with the necessary head- and leg-holders. Price complete, with the metal pieces nickel-plated Mk. 95.—

471 **Operation-board** for guinea-pigs, as Fig. 471 (on page 169), after Heim's "Lehrbuch d. b. U. u. D.," page 152 (Ludwig Heim's "Text-book of Bacteriological Investigation and Diagnosis," Stuttg., 1894).

The apparatus consists of an oaken board containing a number of holes with a larger hole in the centre; holder with ball-and-socket-joint (construction similar to Fig. 469). Price complete, nickel-plated metal pieces Mk. 28.—

472 **Guinea-pig holder** after Dr. Voges, Fig. 472, 472 a and b (patented), consisting of a cylindrical tin canister with side-slit and strainer at

the bottom. The holders in two sizes. Price for larger animals, Mk. 1.80. Price for smaller animals, Mk. 1.50.

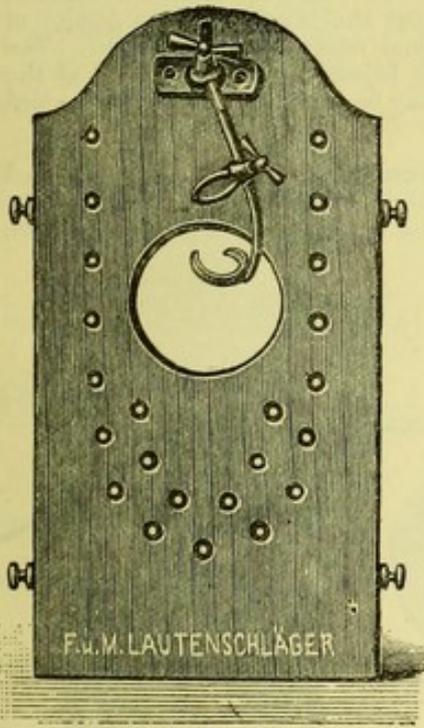


Fig. 471.

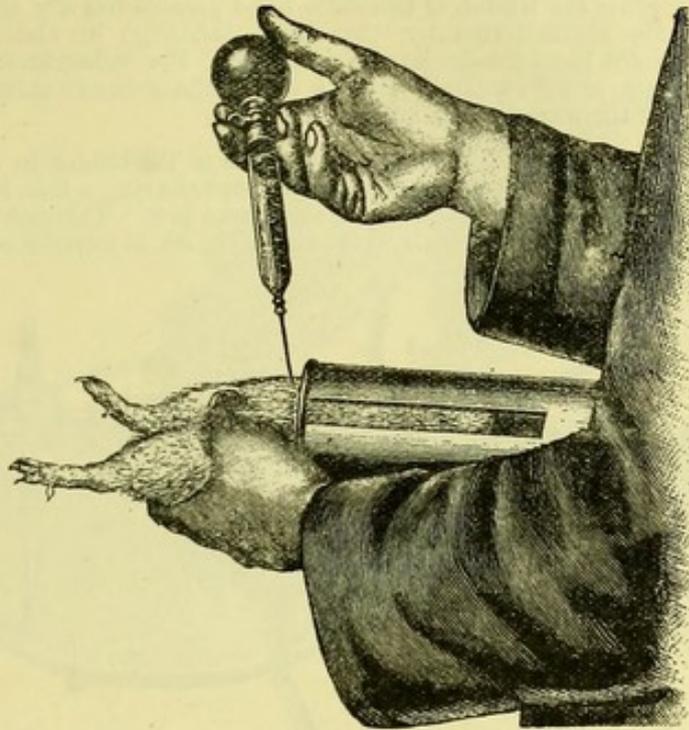


Fig. 472a.

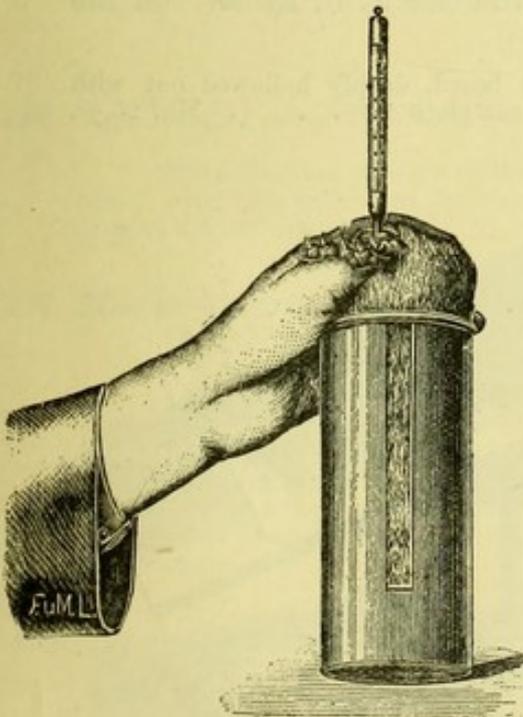


Fig. 472.

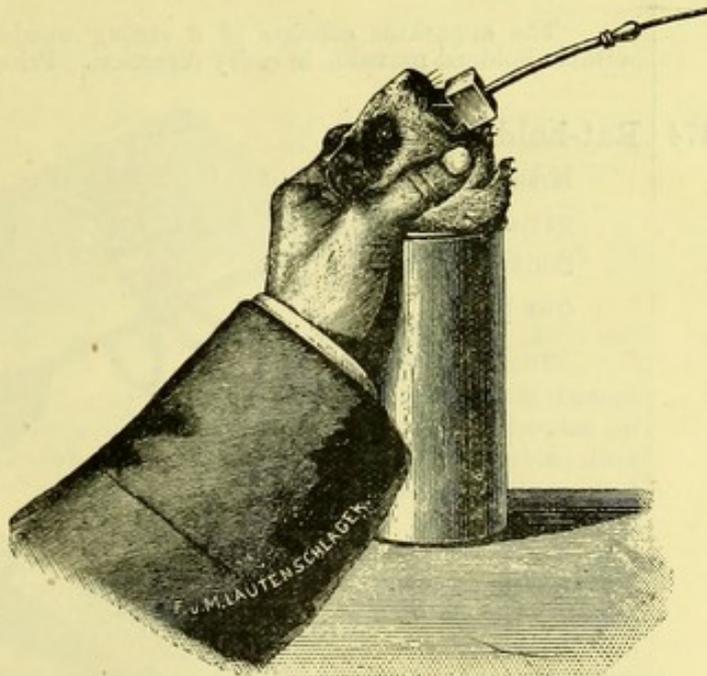


Fig. 472b.

Fig. 472 shows the availability of the new holder for measurements of temperature. The animal is shoved head foremost into the canister so that only the after part

projects. The animal remains absolutely quiet, thus avoiding the breaking of the thermometer, which hitherto was of frequent occurrence.

Fig. 472a shows the application of the holder in cases of infections in the peritoneum (intra-abdominal infections). The four fingers of the left hand hold the canister, while the thumb of the same hand presses heavily against the inguinal region (groin) of the animal, thereby "bracing" (inflating) its abdominal covering (peritoneum). The right hand manipulates the syringe. For subcutaneous injections there is a slit at the side of the canister, where a fold of the animal's skin may be easily drawn out and raised to the necessary height for injection.

Fig. 472b represents the use of the holder in inoculations. The animal is placed inside the canister. A piece of wood, having a hole in the centre, is introduced into the mouth, between the upper and lower jaw. Through the central hole a probe or drain, rubbed over with glycerine and olive oil, is introduced.

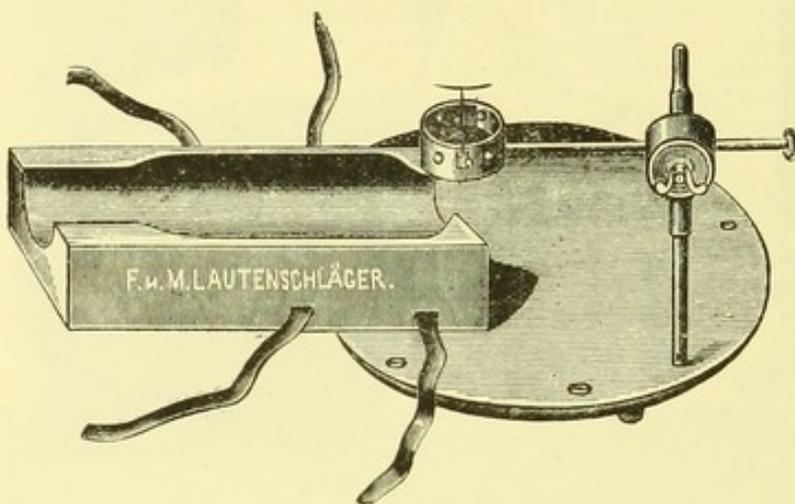


Fig. 473.

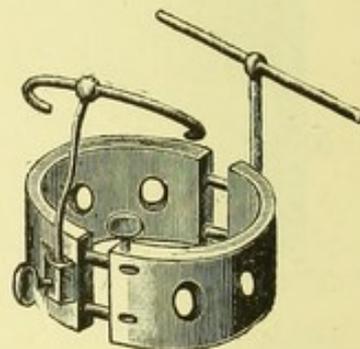


Fig. 473a.

- 473 **Pigeon-holder** after Ewald, Fig. 473 and 473a (see E. R. Ewald "on the tip of the Nervus octavus").

The apparatus consists of a strong wooden board, deeply hollowed out with suitable holders, movable in every direction. Price complete Mk. 25.—.

- 474 **Rat-holder** after Kitasato. Original model, constructed by our firm.

The apparatus consists of a metal turning table to which the neck-holder *K* is made fast. A wire grating *H*, which can be shifted vertically and horizontally, serves to secure the head of the rat. The squeezer *S*, which is also shiftable, serves to secure the tail of the rat.

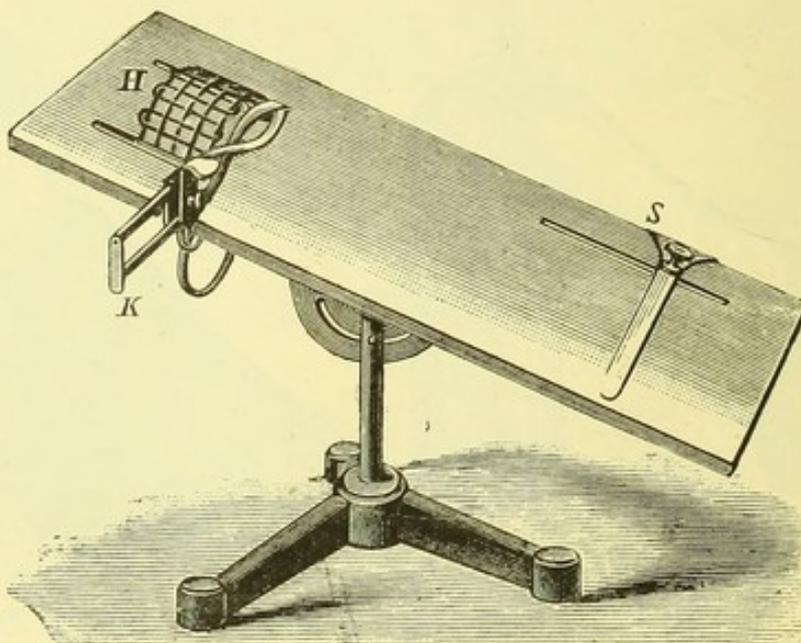


Fig. 474.

Price of the complete holder Mk. 25.—.

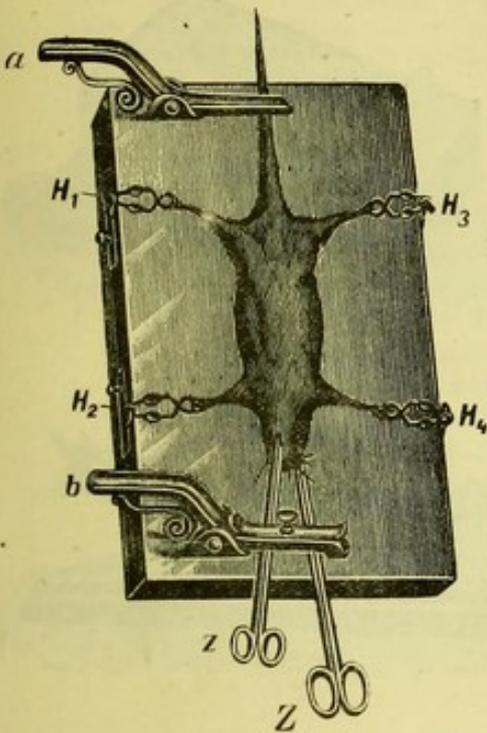


Fig. 475.

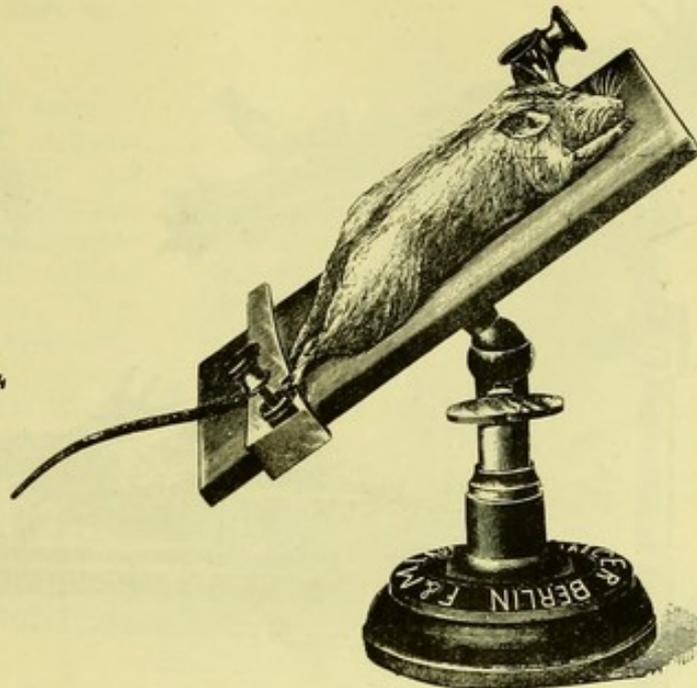


Fig. 477.

F. & M. Lautenschlager, Berlin N.

475 **Rat-holder** after Kurt Müller, Fig. 475.

The apparatus consists of a massive metal plate with two spring squeezers *a* and *b* for keeping down the tail of the animal, and the forceps *Z, z*, with which the head is seized. The legs of the rat are held by four elastic holders *H₁, H₂, H₃, H₄*.

Price Mk. 35.—.

476 **Rat-holder** after Behring, Fig. 488, on page 175.

The apparatus consists of the forceps (Fig. 488, on page 175), and perforated oak-board, with four squeezers for securing the leg-holders and wire-noose for holding the jaws of the rat Mk. 10.—.

477 **Mouse-holder** after Kitasato, specially prepared and improved by us. (Fig. 477, above.)

The apparatus consists of a metal turning table, securable in every position, with head-holder and tail-squeezer. Price Mk. 6.50.

This holder is particularly well adapted for stretching mice without assistance. Take the animal with the long nippers (Fig. 489, on page 175) out of the mouse-trap and push it straightway under the head-holder, which opening under the pressure, closes of itself by its own elasticity. The head being thus secured, the tail is squeezed in under the cross-piece.

478 **Mouse-holder**, Fig. 478 (on page 172) after the model of the Board of Health at Berlin.

The apparatus consists of a massive bevelled block of wood, with basket and tail-squeezer Mk. 5.—.

Apply this holder as follows: Take the mouse with the forceps or long nippers out of the mouse-trap, and with a backward motion draw the animal into the elastic basket. The body is held tight. The tail is easily secured under the cross-piece.

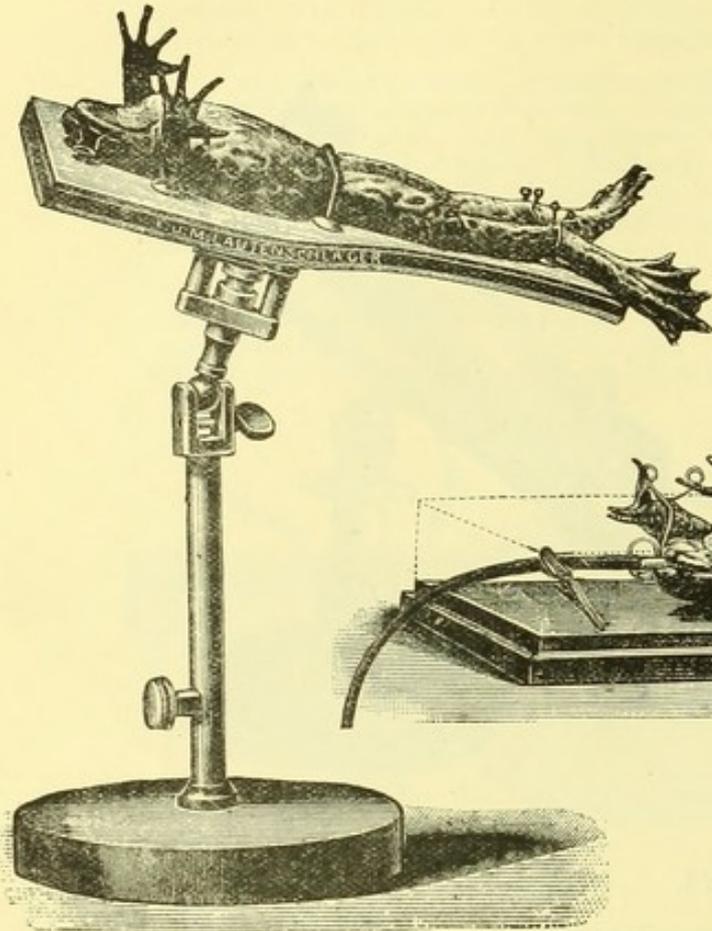


Fig. 479.

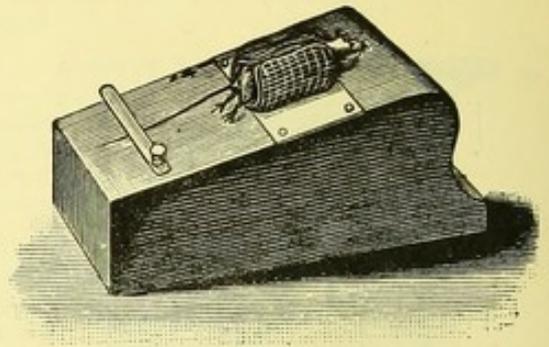


Fig. 478.

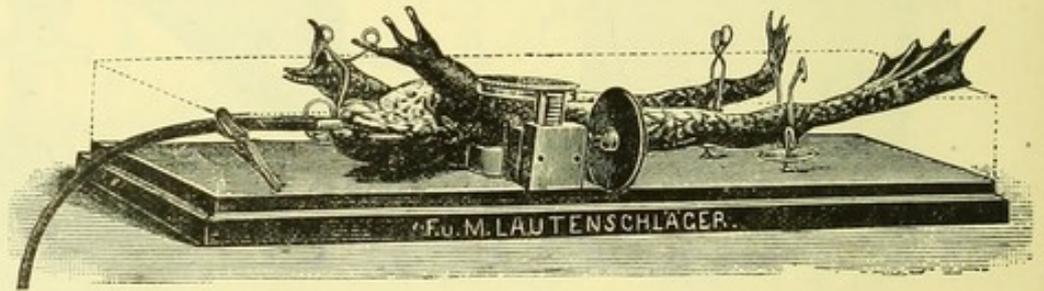


Fig. 480.

F. & M. Lautenschlager, Berlin N.

- 479 **Frog-holder** after Dr. W. Cowl, for delicate preparations, when the animal is required to be stretched without being impaired.

The holder consists of a board, scooped out, and having a metal support, which can be firmly connected (by a sucking apparatus), with a stand provided with a turning-joint. The extremities are held by fork-shaped squeezers, with tags which may be fastened to any part of the board.

To keep the animal perfectly quiet the basin and wire mouth-holder are provided with hooking-tacks (-pins) as shown in Fig. 479.

Price complete Mk. 25.—.

- 480 **Frog apparatus** after Professor Holmgren (Fig. 480) for observing microscopically the capillary circulation of the blood on the tongue, lungs, swimming-web, caul (the fatty membrane covering the intestines), and intestines of frogs.

Price complete Mk. 20.—.

The apparatus consists of a shiftable board surmounted by a glass frame. The object (in Fig. 480 it is a frog with inflated lungs) is brought under the glass frame and microscopically observed.

The animal is covered over with a box, which in the figure is marked by dotted lines. This box has a cutting on top which serves to introduce the object, and another cutting at the sides which permits shifting the glass frame from outside. The box moreover protects the object under observation against getting dry.

The inflation of the lungs is best accomplished with Dr. W. Cowl's glass cannula and the cautchouc-tube attached to it, which is pressed in by the compressor. To prevent the animal moving, either inject some curare, or use Dr. Cowl's leg-holders, mentioned under No. 479.

- 481 **Glass-bell**, Fig. 481, with "tubus" (tubular opening and stopper on top of the glass-bell) and rim, after Professor J. Munk, to prepare cats and other mordacious animals for stretching on the operation-board. The animals are caught, as explained, page 159, placed under the glass-bell, and narcotized (rendered insensible) with chloroform or ether. Price Mk. 15.—.

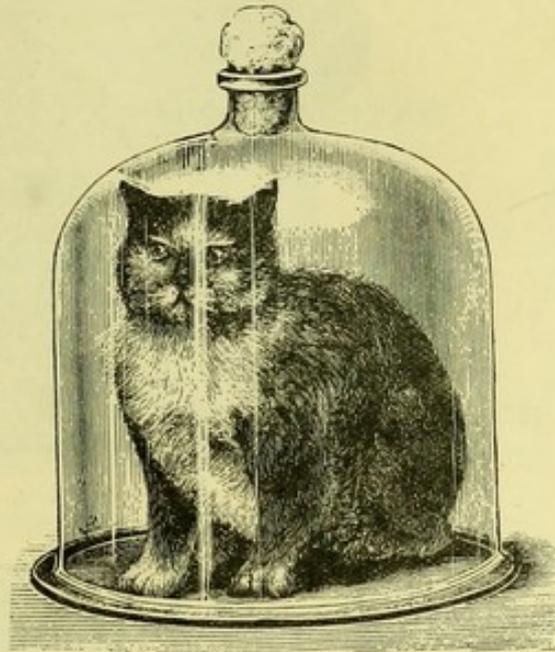


Fig 481



Fig. 483.

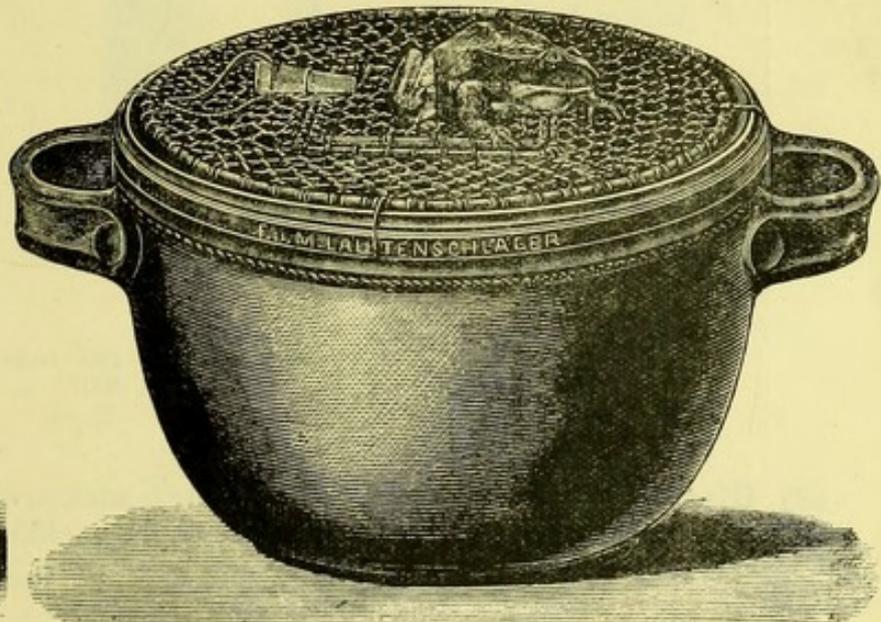


Fig. 482.

- 482 **Earthen Vessel**, Fig. 482, with wire-netted cover-lid and trap-door, for keeping frogs and other amphibia or aquatic animals. Price Mk. 8.—.

- 483 **Glass-jar**, for keeping rats and other experimental animals, Fig. 483.

The apparatus consists of a cylindrical jar with wire-netted cover-lid, lead-loaded and provided with a knob.

| | | |
|-----------------|---------|-----------|
| Inner height | 21 | 30 (c.m.) |
| Inner diameter | 15 | 30 " |
| Price | Mk. 2.— | 9.— |

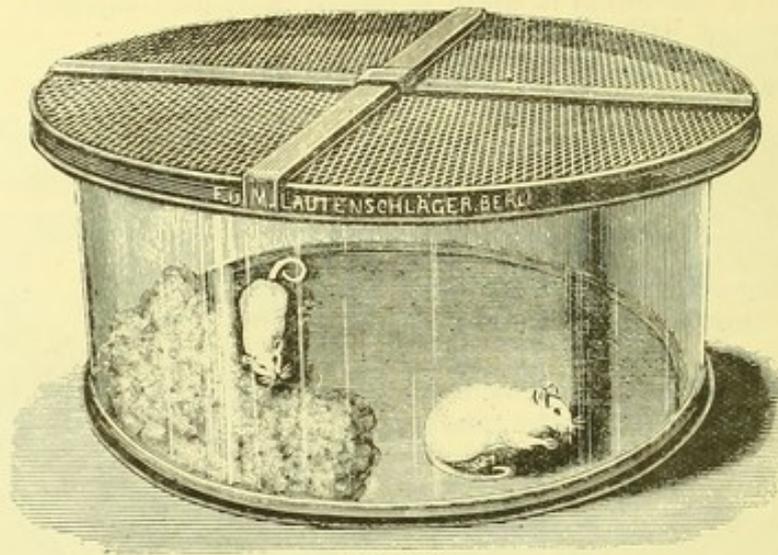


Fig. 484.

484 **Glass-jar for holding mice**, Fig. 484, with wire-netted cover-lid, lead-loaded, suitable for a larger number of animals. (Model of the "Institute of Infectious Diseases," Berlin).

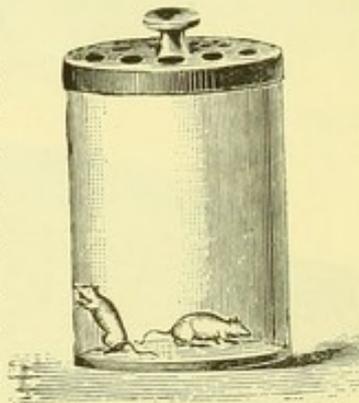


Fig. 485.

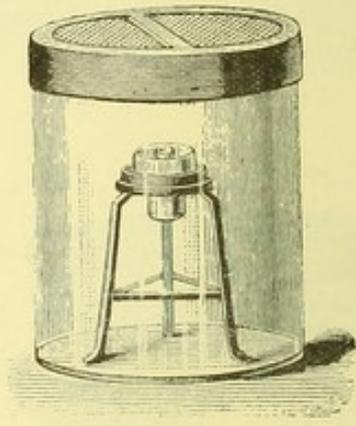


Fig. 485 a.

| | | | |
|----------------|----------|------|------|
| Inner height | 200 | 250 | m.m. |
| Inner diameter | 400 | 500 | " |
| Price . . . | Mk. 29.— | 35.— | |

485 **Glass-jar for holding mice**, with wire-netted cover-lid and lead-weight, or with perforated cover-lid and knob. Fig. 485 and 485 a.

| | | | |
|----------------|----------|-----|------|
| Inner height | 210 | 210 | m.m. |
| Inner diameter | 110 | 150 | " |
| Price . . . | Mk. 1.50 | 2.— | |

With drinking vessel after Prof. Ehrlich, Fig. 485 a, 1 Mk. additional.

486 **Tongs for holding mice**, Fig. 486 (on page 175).

| | |
|--|-----------|
| Price in nickel-plated steel | Mk. 3.50. |
| „ pure nickel | „ 5.—. |

487 **Tongs for holding rats**, Fig. 487 (on page 175).

| | |
|--|----------|
| Made of iron, price | Mk. 6.—. |
| Polished and nickel plated steel | „ 13.50. |

These tongs are provided at both (crooked) ends with furrows, wherewith the animal may be securely grasped with the least possible infliction of pain.

491c **Tattooing Instrument** with three sets of figures. Price . . Mk. 42.—.

491d " " with one set of figures and the date
of the year." Price „ 9.—.

492 **An extra set** of figures to enable the marking of equivalent digits (11, 99, 111, 999) at one stroke. Price Mk. 35.—.

493 **Tattooing Tincture** 20 grammes. Mk. 1.—.

Cattle and sheep are best marked at the inner hairless part of the ear. After the operation of marking, the spot is rubbed with gunpowder, sulphuret of mercury, or ochre. These colouring matters, as well as the gunpowder, must be prepared into a pulp before using. If desired we supply these colouring-pulps.

494 **India-rubber Stamp** after Dr. Abel, Fig. 494 (on page 175), for marking guinea-pigs. Price Mk. 8.—.

Fig. 494 represents the skin of a guinea-pig, spread out after being cut open at the central line of the abdomen. In this figure the coloured parts of the trial-animal are marked with coloured crayons. The skin of a guinea-pig may be coloured in the five following tinges: white, yellow, brown, grey, and black. The last four colours only are marked in: the white spots remain unmarked.

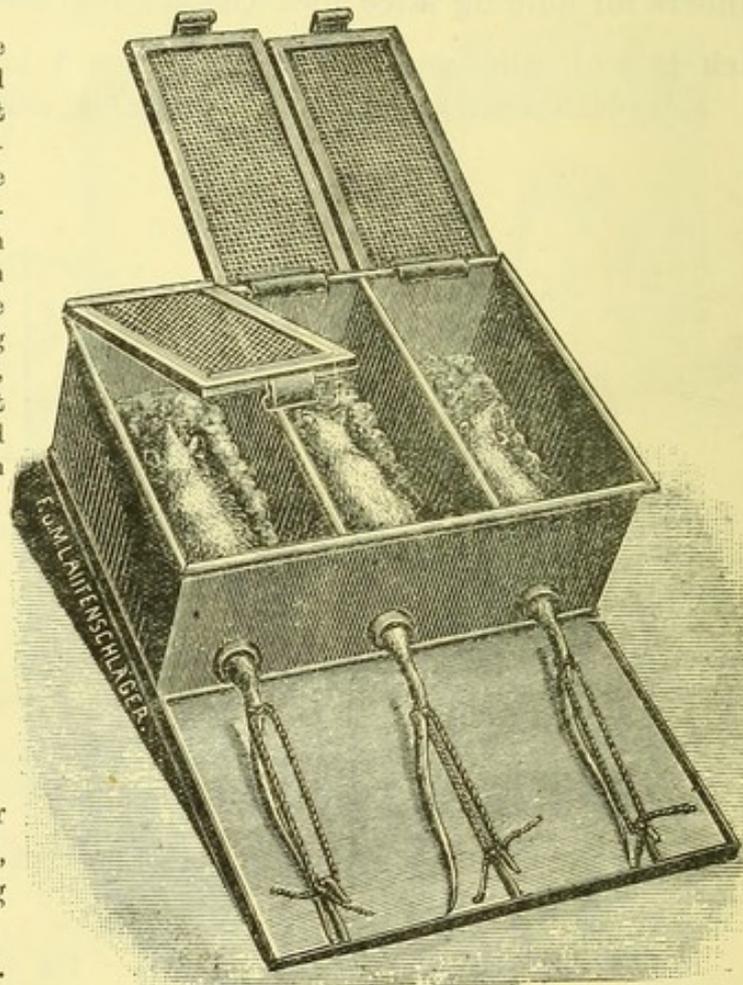


Fig. 495.

495 **Isolating Cage** after Schimmelbusch, Fig. 495, for keeping trial animals.

Price, Mk. 9.—.

The apparatus consists of a metal receptacle divided into three compartments separated by partition walls. Each of the compartments has a separate wire cover-lid and a hole through which the tail of the mouse may be drawn. The whole receptacle is prolonged in a plate with three hooks on which the tails of the animals are made fast.

This isolating cage was used in his experiment: "On disinfection of septicly infected wounds." (Published in "Progress of Medicine," 1895, No. 1 and 2.)

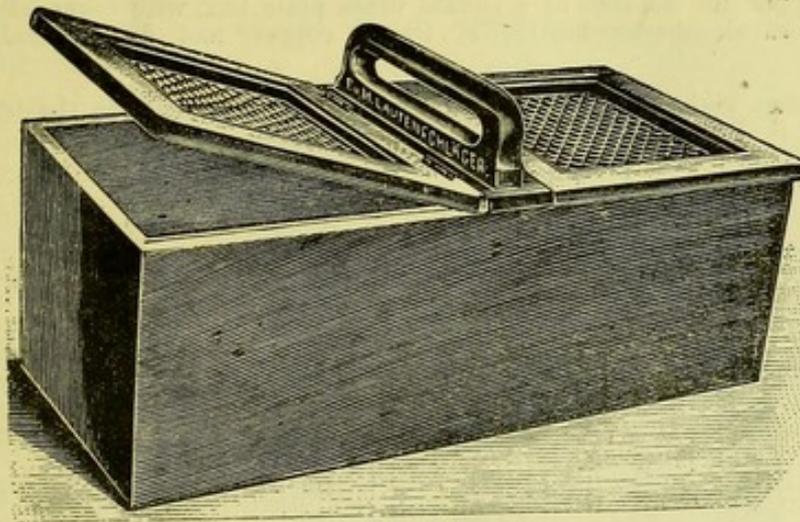


Fig. 496.

496 **Transporting box** for taking animals from the stables to the laboratory, Fig. 496, made of strong wood with 2 wire cover-lids and massive handle.

| | | | |
|-----------|------|------|-----------|
| | 700 | 500 | mm. width |
| | 300 | 300 | „ height |
| | 300 | 250 | „ depth |
| Price Mk. | 25.— | 20.— | |

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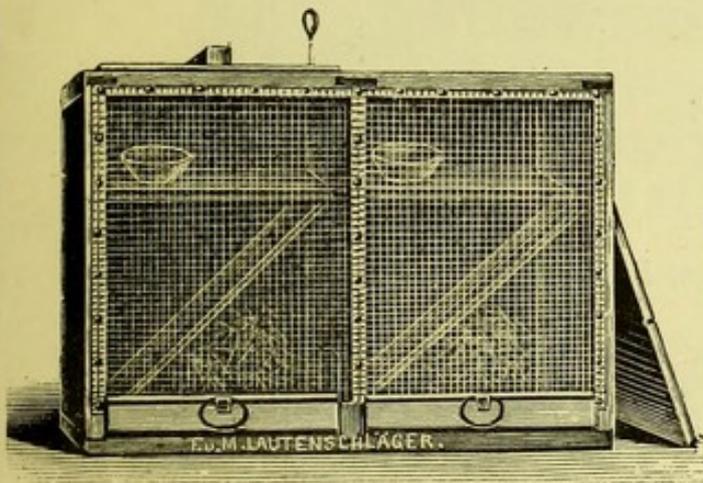


Fig. 497.

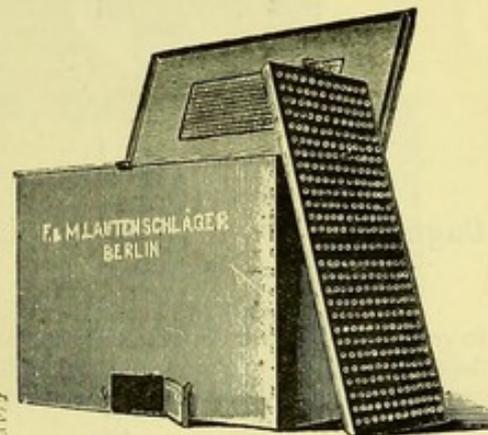


Fig. 498.

497 **Cage for breeding mice**, Fig. 497.

The apparatus consists of a strong wooden receptacle, the corners of which are faced with zinc-plate. The inside of the cage has two compartments, in each of which there is, 10 cm. from the roof, a board on which the food is placed. A slanting board leads from the bottom of the cage to the food.

At the bottom of the cage there are two drawers with overlapping border which permits the cleaning of the cage and the introduction therein of saw-dust.

Size of cage 50 × 30 × 30 cm. Price complete Mk. 18.—.

498 **Isolating cage** after Eber, Fig. 498, for the separate keeping of cats, dogs, etc., for the purpose of obtaining their urine.

The apparatus consists of a square brass plate box, with cover, slightly nickel-plated, perforated, double bottom of tinned copper, and drain-funnel with glass receptacle.

The latter may easily be removed through the little door at the bottom of the front side.

| | | |
|-----|-----|-----------|
| 800 | 660 | mm. width |
| 600 | 400 | „ height |
| 400 | 270 | „ depth |

Price Mk. 70.— 35.—

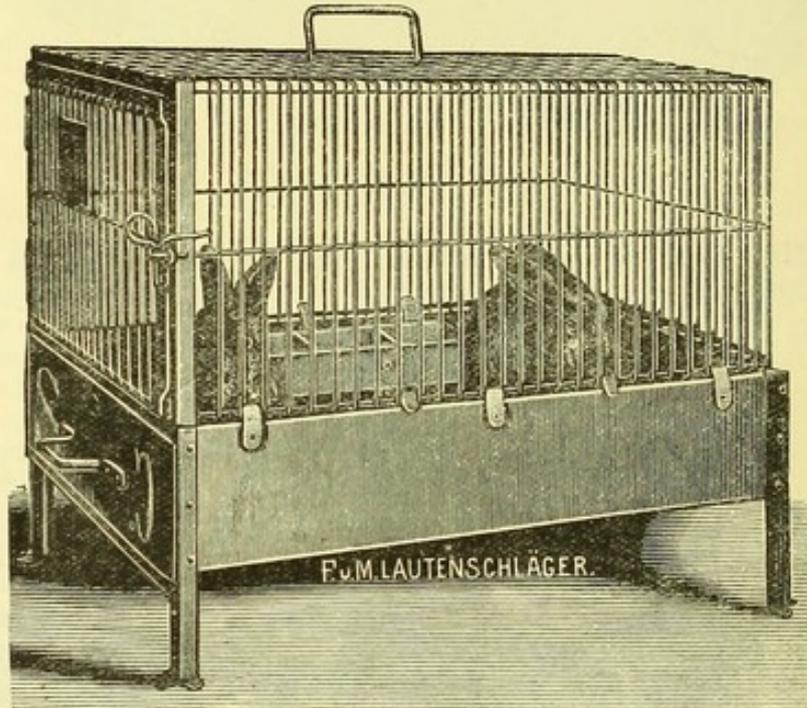


Fig. 499.

499 **Cage** for rabbits and guinea-pigs, Fig. 499. Model of the Institute for Infectious Diseases.

The apparatus consists of a massive understructure, made of a material not liable to rust, with drawer for cleaning the cage, and a wire superstructure with massive lock-door. The interior of the cage holds fodder- and water-bowls, well-secured, which can easily be removed and replaced.

| | | |
|-----|-----|-----------|
| 400 | 600 | mm. depth |
| 300 | 400 | „ width |
| 300 | 500 | „ height |

Price Mk. 28.— 35.—

500 **Cage**, Fig. 500 (on page 179), for keeping guinea-pigs, and transporting them from the stables to the laboratory.

The apparatus consists of a strong square box made of a material not liable to rust, and a wire superstructure with door and handle.

| | |
|-----|-----------|
| 280 | mm. width |
| 150 | „ height |
| 280 | „ depth |

Price Mk. 7.—

501 **Cages** for larger animals, such as dogs, monkeys, etc., with strong iron bars, doors, etc.

1115 mm. width.
1280 „ depth.
1000 „ height.

Price Mk. 250.—.

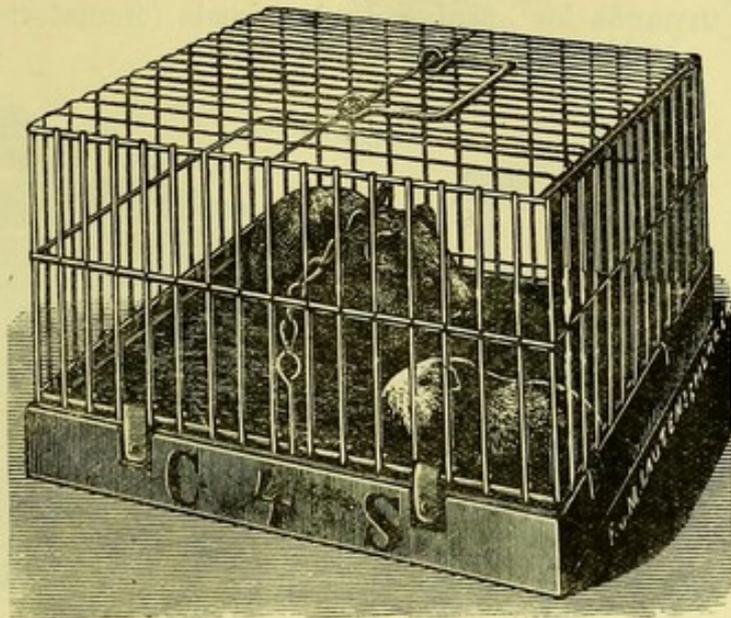


Fig. 500.

502 **Stands** for Cages.
Price according to size. From Mk. 30.— to 150.—.

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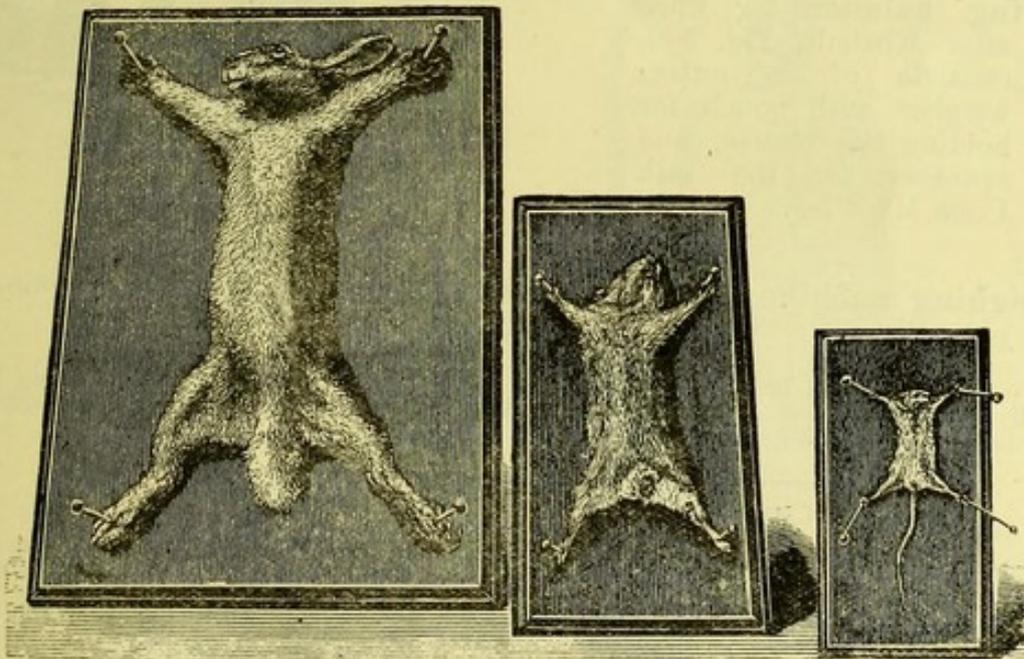


Fig. 503 b.

Fig. 503 a

Fig. 503.

503 **Dissecting-board** of soft wood, Fig. 503 a and b, for rabbits, guinea-pigs, rats, mice, etc.

| Price per board for mice. | For guinea-pig. | For rabbit. | For monkey. |
|---------------------------|-----------------|-------------|-------------|
| Fig. 503. | Fig. 503 a. | Fig. 503 b. | |
| Mk. 0.50. | Mk. 3.—. | Mk. 6.50. | Mk. 9.—. |

The boards for monkeys, rabbits, and guinea-pigs, are provided with hooks, screwed in, wherewith to secure the extremities of the animal. Mice are fastened with long pins provided with big glass heads.

504 **Pins**, with glass heads for fastening the extremities of mice, price per 10 pins Mk. 0.40.

505 **Furnaces** for burning dead animals (crematories) according to size and build. Mk. 120.— to Mk. 2000.—.

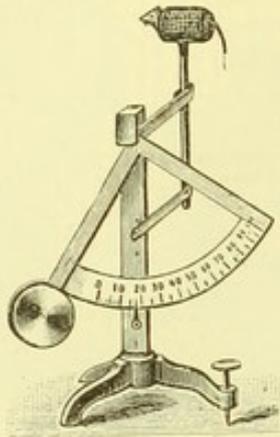


Fig 506

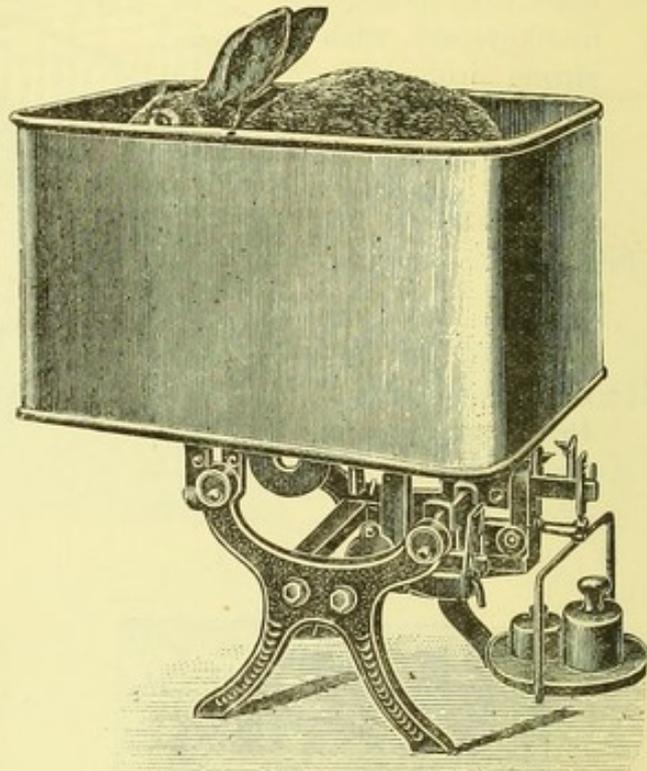


Fig 507.

F. & M. Lautenschlager, Berlin N.

506 **Spring balance** for mice after Ehrlich, Fig. 506, consists of a letter-weigher with pouch for holding the mouse, and squeezer for the tail. Price Mk. 3.—.

507 **Weighing machine** after Dünschmann, for weighing rabbits and guinea-pigs, Fig. 507.

The apparatus consists of a weighing machine of great sensibility, simply but solidly constructed, with metal receiver, of which the weight is given, so that the balance may be used with or without the receiver.

| Capacity of bearing. | Size of bridge. | | Price. |
|----------------------|-----------------|---------|----------|
| | Kilogr. | length. | |
| 20 | 250 mm. | 220 mm. | Mk. 40.— |
| 25 | 300 " | 250 " | " 50.— |
| 50 | 400 " | 350 " | " 70.— |

507a **Weights**, from 0.01 to 1000 grammes in a wood box . . . Mk. 18.—.

508 **Scales** for larger animals, such as sheep, dogs, etc.

The apparatus consists of a solidly constructed weighing machine (decimal-balance) with folding bridge holding an enclosure made of strong iron bars. This enclosure is provided with an easily working door. The animal is completely shut in, thus avoiding the troublesome escaping of the animal usual in ordinary weighing machines.

| | | | |
|-----------------------------|-----|-------|----------|
| Capacity of bearing Kilogr. | 100 | Price | Mk. 75.— |
| | 150 | " | " 80.— |
| | 200 | " | " 90.— |
| | 250 | " | " 95.— |
| | 300 | " | " 105.— |

Appendix.

New Muzzle Gag according to Dr. W. Cowl.

(Described in the "Transactions of the Physiological Society," at the meeting of the 12th November, 1897.)

(Reprinted in the "Archive for Physiology," Fasc. 1, 1898.)

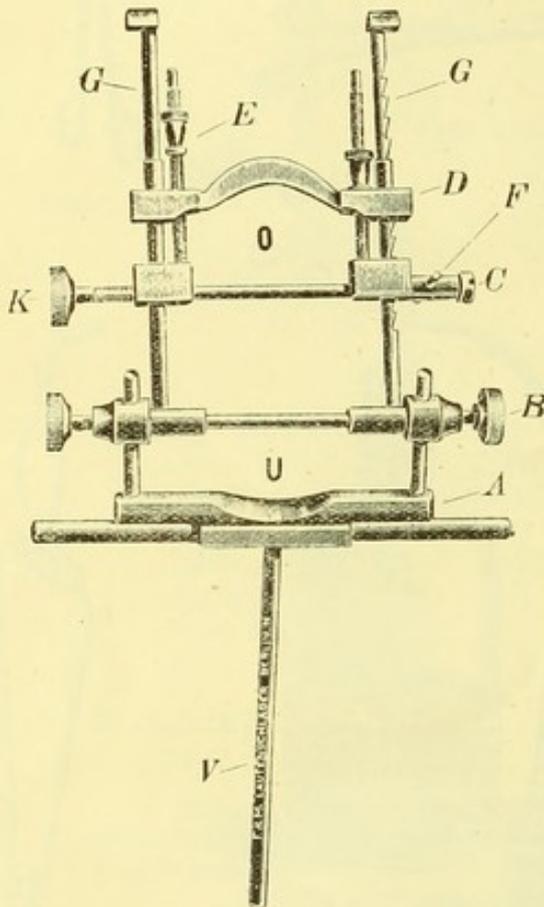


Fig. 2332.

The new gag, as shown in Fig. 2332 consists of solid metal piece *A* with guiding pole *V*, a metal piece *B* with two staves *G*, one of which is provided with indentations. The metal piece *C*, *K*, is shiftable as soon as steadying spring *F* is loosened. The metal piece moves freely in "nuts." The upper jaw of the animal is placed in the space *O*, while the lower jaw lies in the space *U*. By a judicious shifting of the metal pieces *B* and *D*, the proper fixing of the jaws is obtained.

For using the gag (for instance with a dog) follow the rules laid down in page 164. But in many cases it is possible to apply the gag without narcosis. The illustration (Fig. 2332a) is the copy of a photograph obtained from a big animal gagged without narcosis.

Bigger animals are fastened to Bernard-Cyon's operation-board (463) in the manner illustrated in Fig. 2332 a, and the gag secured to stands by means of two "double nuts" (perforated block) Fig. 2334 m (on page 443). In moving *C*, *K* upward, the mouth of the animal may be opened to any extent. In certain operations—*f*, *i*, in the cavity of the throat, or at the base of the brain, or at the vocal chords; or when it is desired to take the photographs thereof the tongue of the animal is seized and drawn out with the forceps *Z* (in Fig. 2332 a), which is provided with a snap-spring. The forceps is jammed fast by the holder *H* (Fig. 2332 a) which is fastened to the guiding pole *V* by means of the perforated block *M*. If the throat-flap ("epiglottis") is to be stretched (for inspection of the vocal chords), then an epiglot-

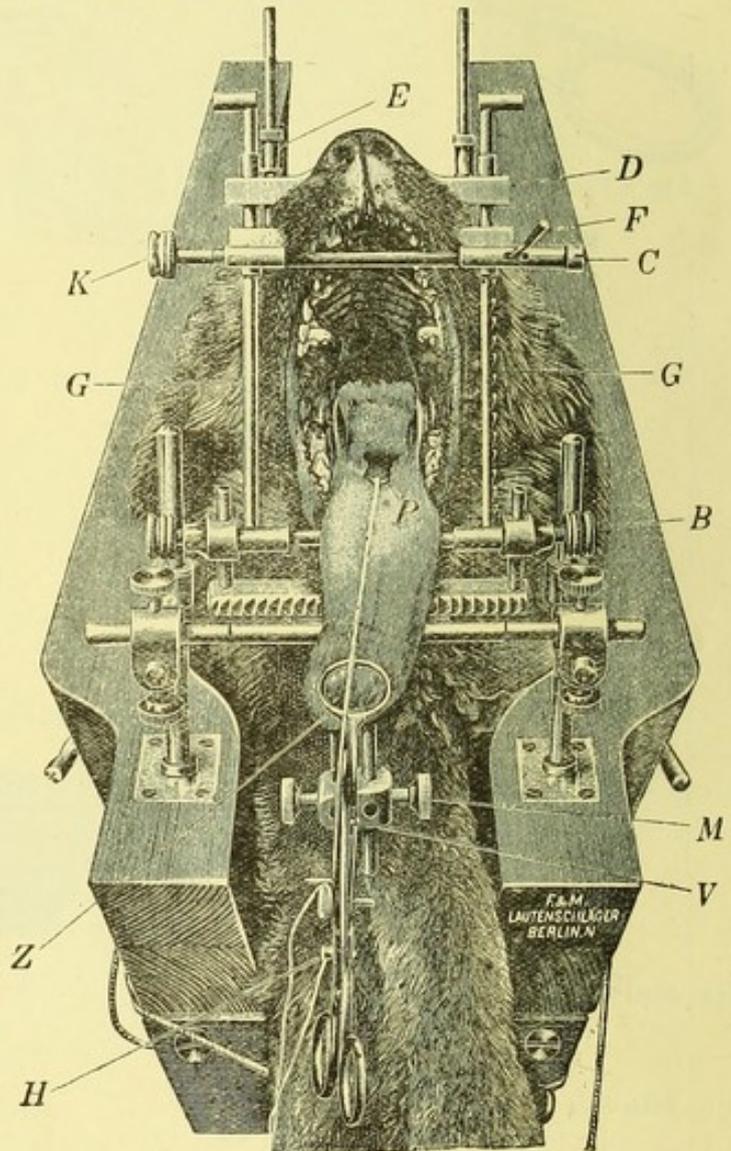


Fig. 2332a.

pincers (*P*, Fig. 2336) is introduced with a Pean's forceps, and after seizing and drawing the epiglottis, is made fast with a string.

In daily observations of the cavity of the throat, the vocal chords, etc., the stretching of the animal on the board is not necessary in most cases, and the use of the gag is simplified and sparing, so that bigger animals may thus be treated without difficulty, as Fig. 2332 b shows.

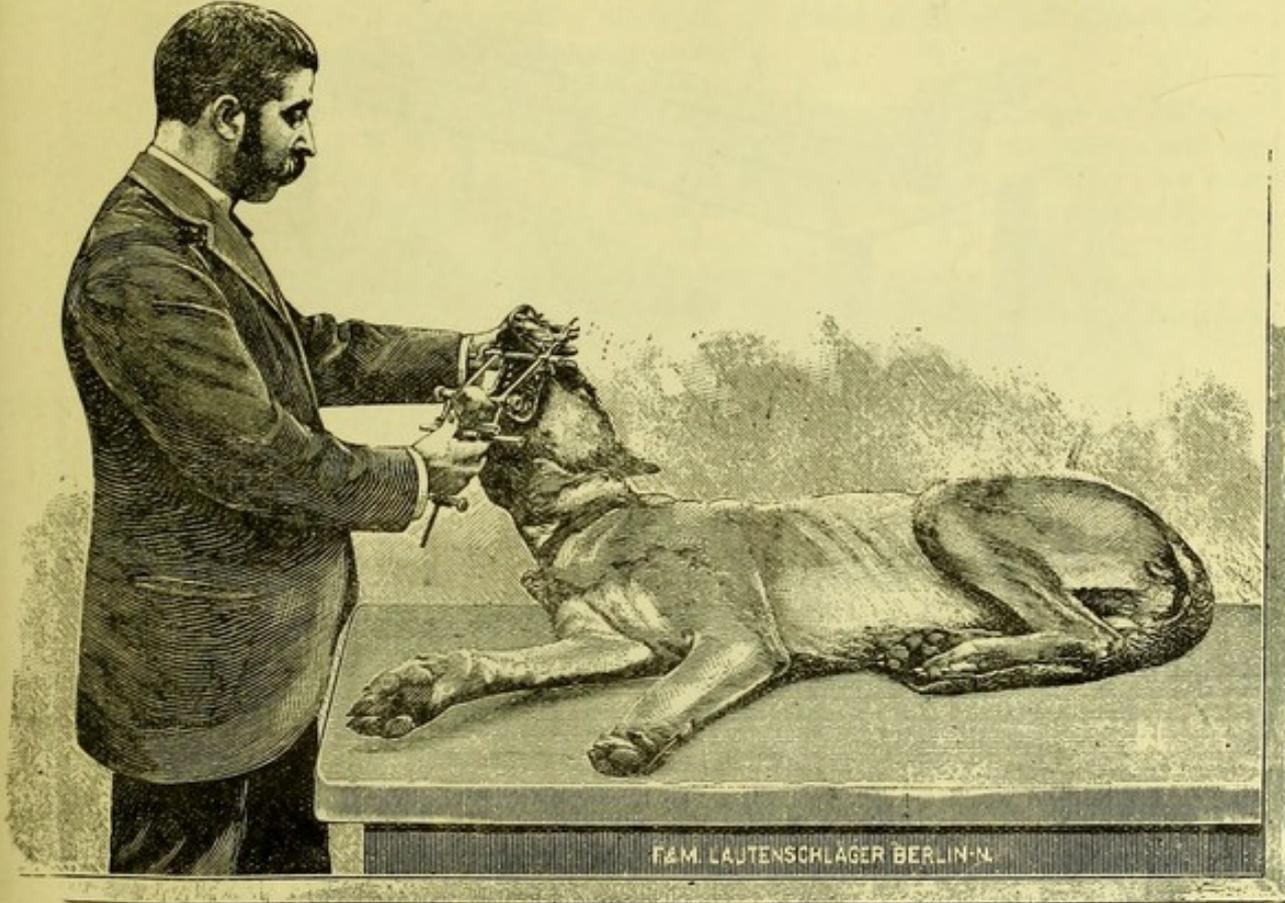


Fig 2332 b

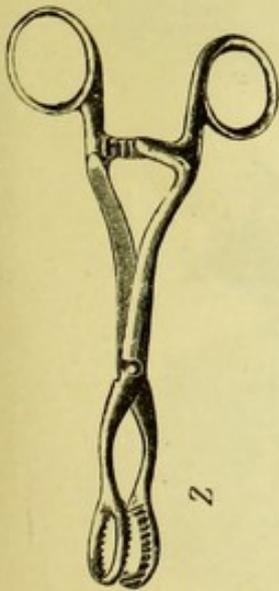


Fig. 2333.

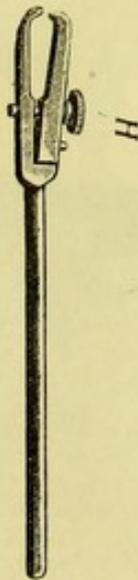


Fig. 2335

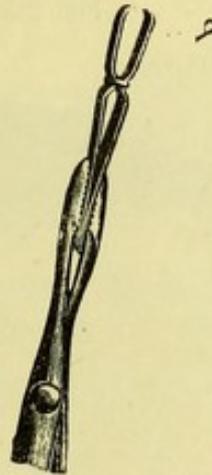


Fig. 2336

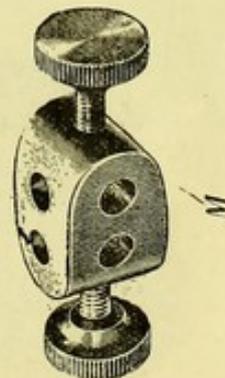


Fig 2334

| | | |
|------|--|------------------------------|
| 2332 | Mouth Opener, solidly constructed, Fig. 2332 and 2332 a. | Mk. 45.—. |
| 2333 | Tongue Holder, with snap spring | Mk. 5.80. |
| 2334 | Double "Nuts" | per piece, Mk. 3.50 Mk. 7.—. |

- 2335 1 Holder H. for fixing the tongue-forceps Mk. 4.90.
- 2336 Epiglot-forceps, Fig. 2336, according to Cowl „ 1.50.
- 2337 2 Steel Rods with plates when used with Bernard-Cyon's board (463) Mk. 2.50 each „ 5.—.

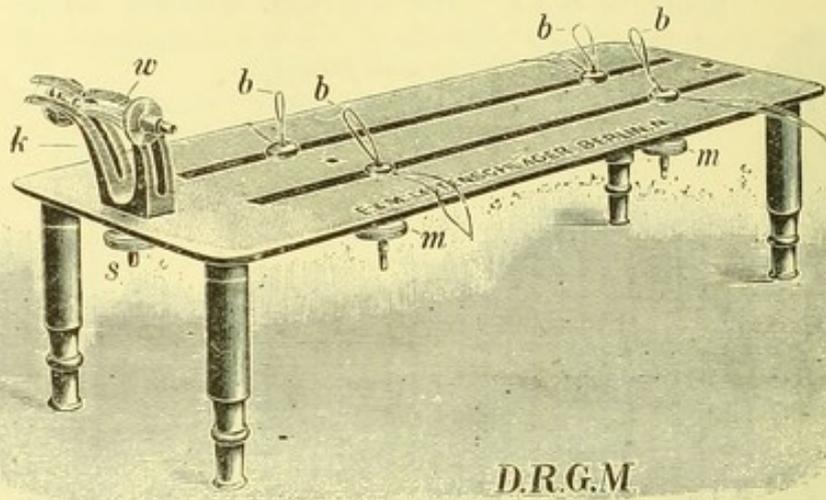


Fig. 2338

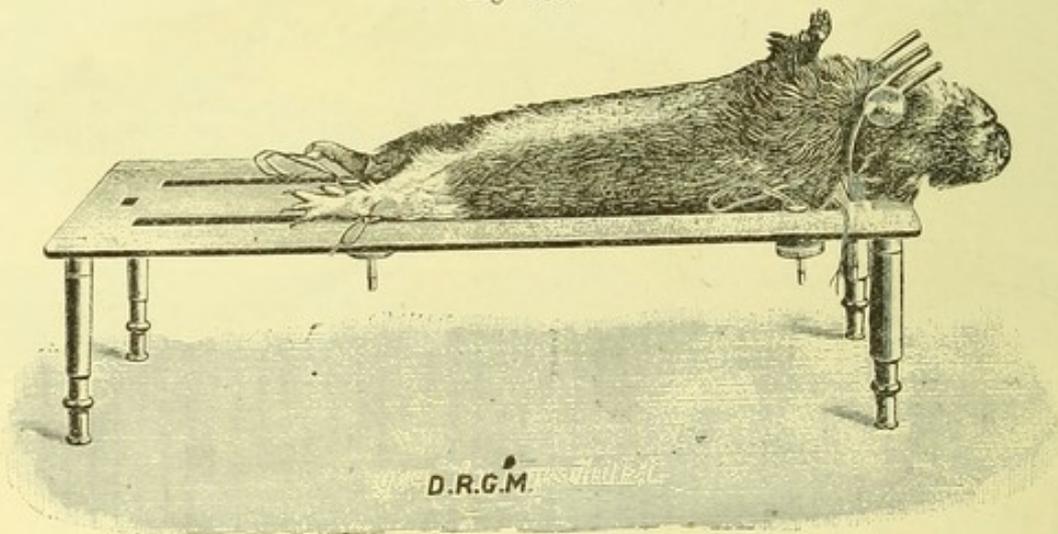


Fig. 2338 a.

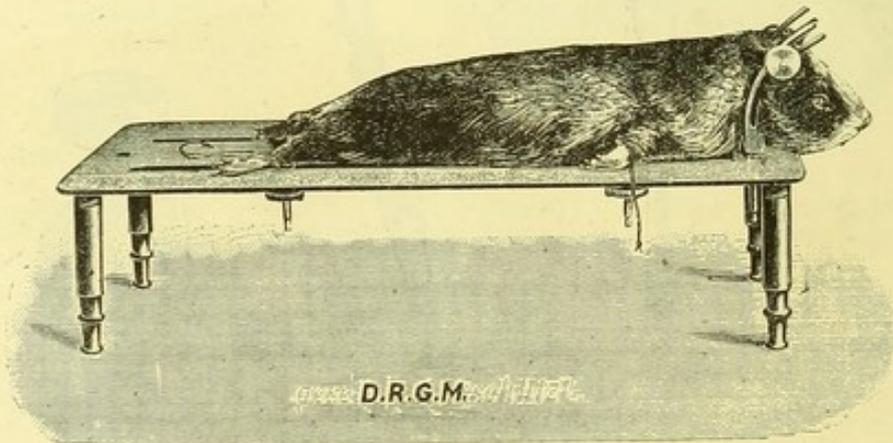


Fig. 2338 b.

2338 Aseptic (non-putrescent) Operation-Table for the expeditious and painless fixing of guinea-pigs, rats, and small cats.

2359 *Animal-Holder, newest construction, Fig. 2359, 2359 a, and 2359 b, consists of a strong wood board or metal plate, with metal grooves running along the sides, into which the leg-holders, H, H₁, H₂, H₃, may be fixed in every possible position. The head-holder consists of the shiftable fork G, held fast in any position by the screw B. The neck is placed into this fork G. One of its prongs ends in a square metal stick M, on which a metal piece, destined to hold the rings, R, R₁, R₂, moves to and fro.*

The stretching of the animal is done in the simplest manner as follows: Place the neck of the animal into the fork G, and close up the latter until the two metal pieces lie close behind the jaw-bones; then shove a fitting ring over the muzzle of the animal and fasten its legs by means of the shiftable leg-holders H, H₁, H₂, H₃. This animal-holder is specially adapted for stretching rabbits, guinea-pigs, cats, rats, small dogs, etc., both on the back as well as the belly. Price of the apparatus, elegantly finished, with polished wood board and nickel-plated metal pieces Mk. 75.—.

2360 *With unpolished wood board and metal pieces not nickel-plated Mk. 70.—.*

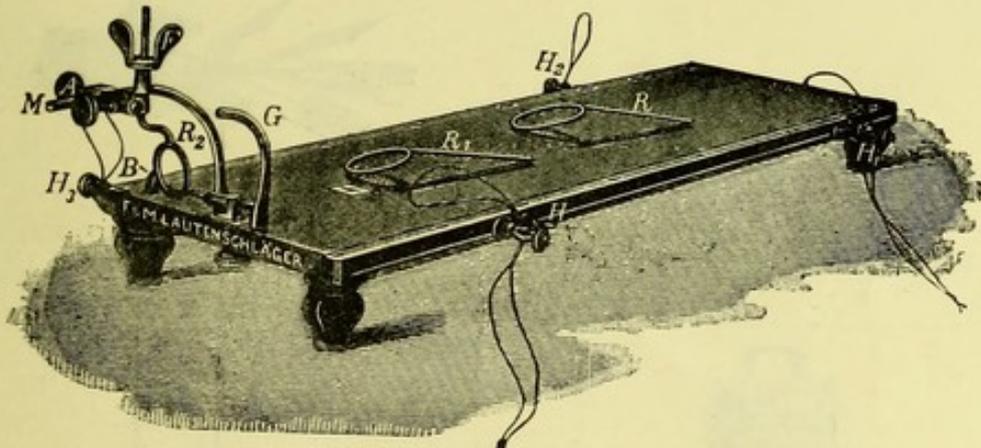


Fig. 2359.

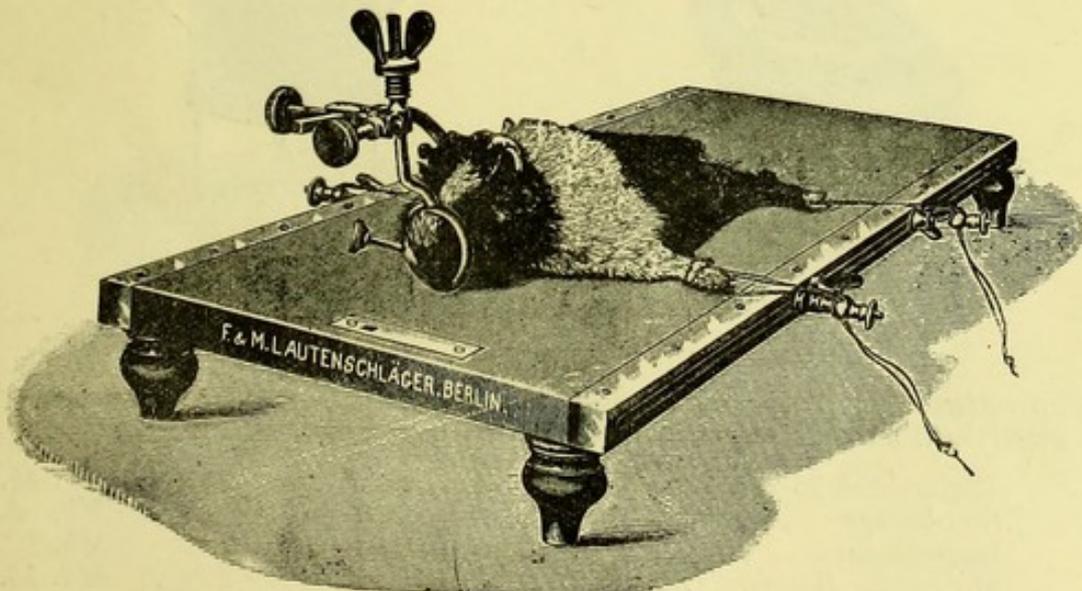


Fig. 2359 a.

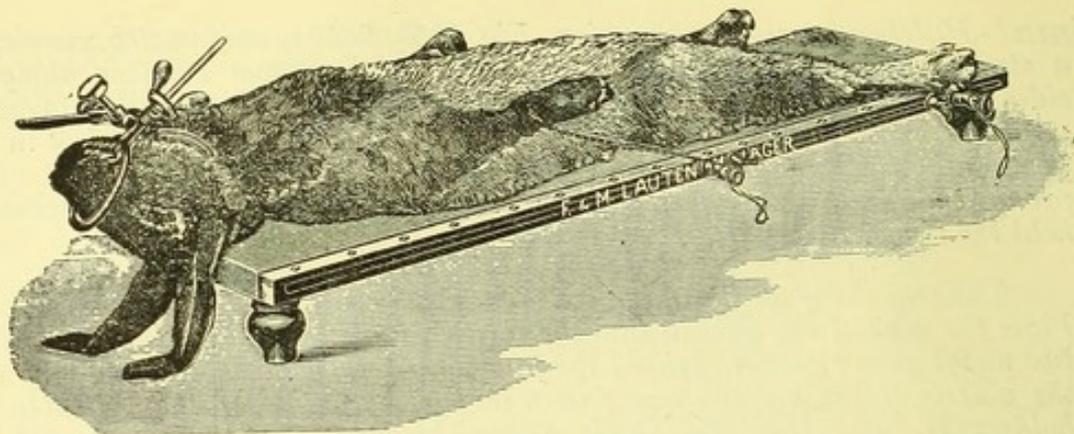


Fig. 2359 b.

2361 *Portable Freezing Machine according to Kral, for conveying the frozen virus to the place where the inoculation is to take place. (In warm weather the machine must be supplied with ice.) Price Mk. 20.—.*

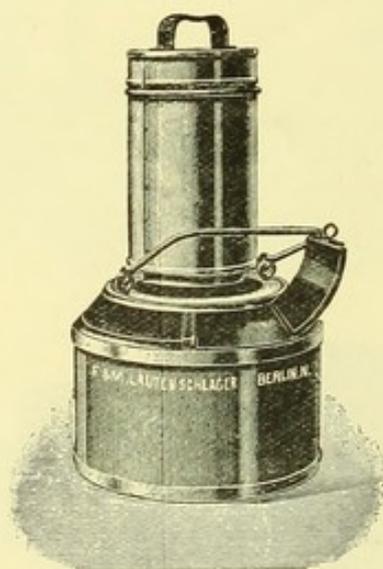


Fig. 2361.



Fig. 2362.

2362 *Thermostat (apparatus for keeping the temperature constant) consists of a water-bath with an automatic stirring arrangement, Fig. 2363.*

| | | |
|------------------------------------|------------------|------------------|
| <i>Water-bath 35 cm. diameter</i> | <i>.</i> | <i>Mk. 45.—.</i> |
| <i>Gas-burner</i> | <i>.</i> | <i>Mk. 5.50.</i> |
| <i>Gas-regulator</i> | <i>.</i> | <i>Mk. 10.—.</i> |
| <i>Holder for Reaction Glasses</i> | <i>.</i> | <i>Mk. 15.—.</i> |