

No. 862,020.

PATENTED JULY 30, 1907.

F. E. RUTHERFORD.
VETERINARY MOUTH SPECULUM.

APPLICATION FILED APR. 4, 1907.

FIG. 1

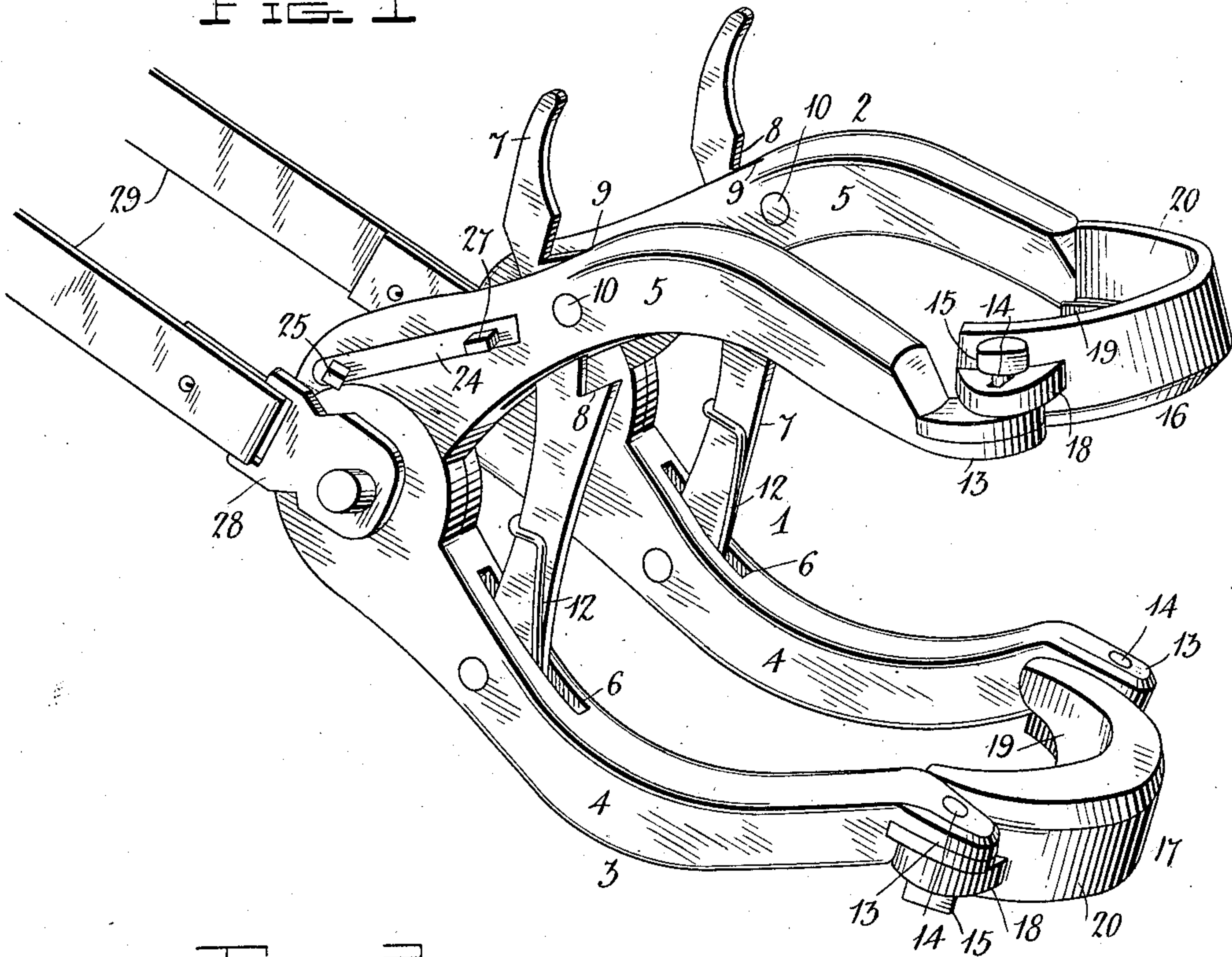


FIG. 2

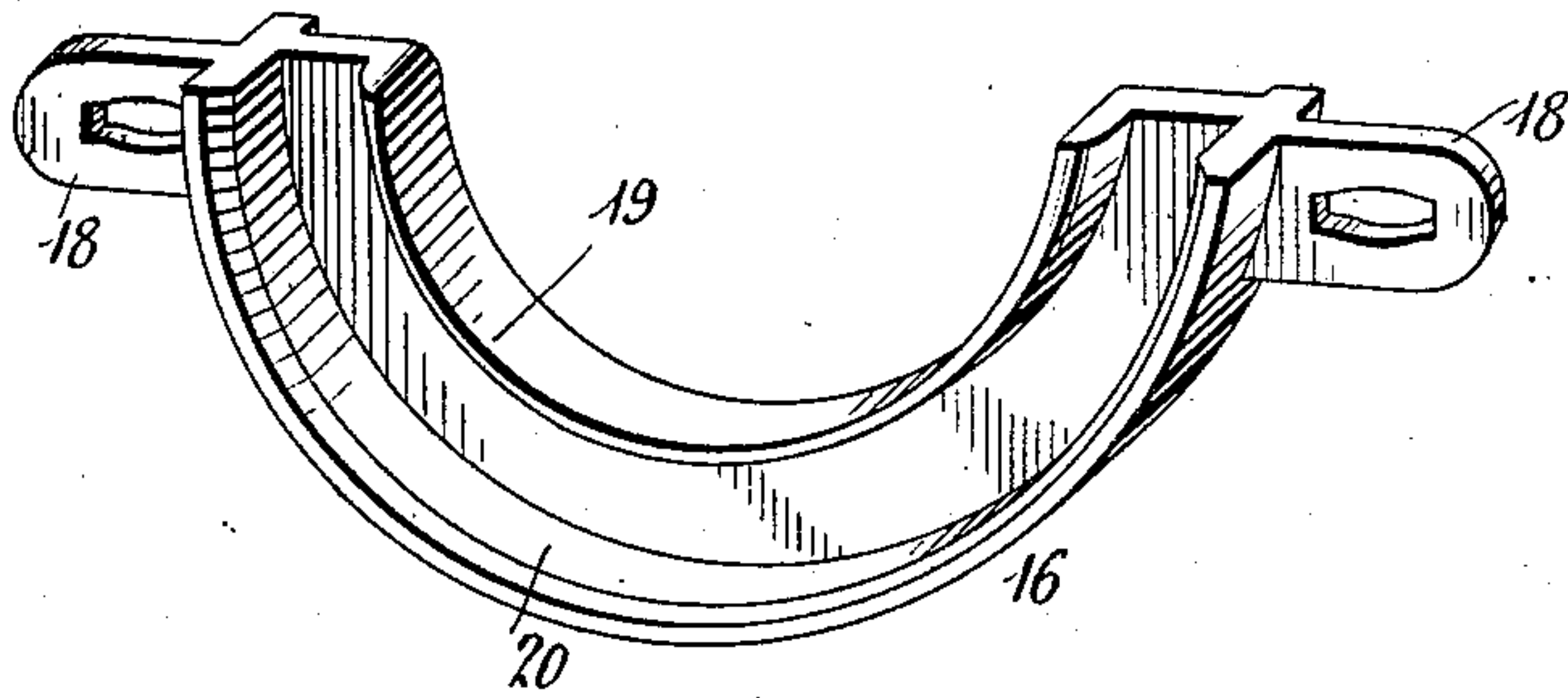


FIG. 3

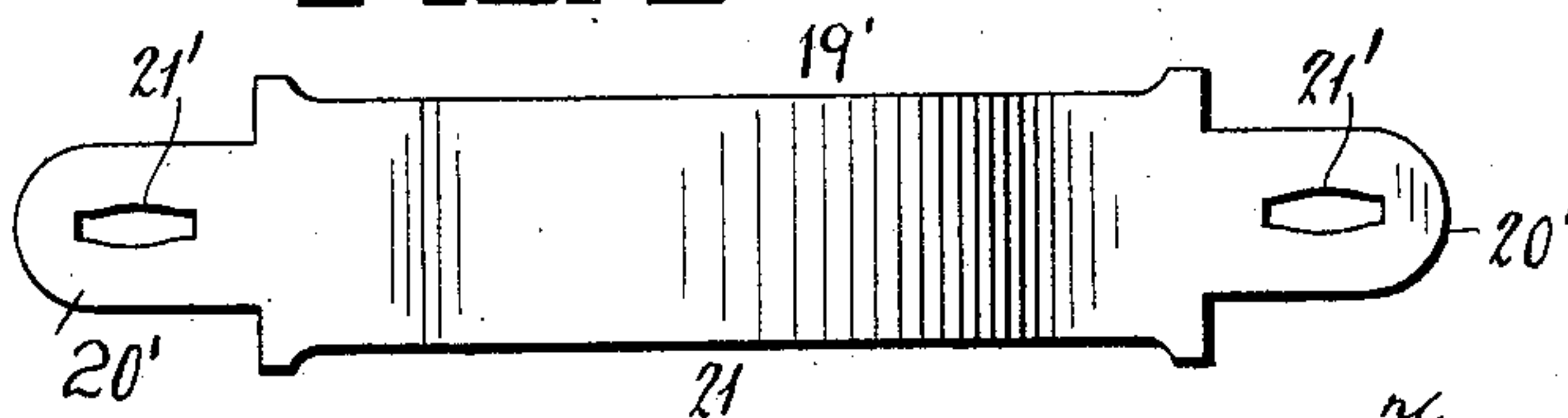
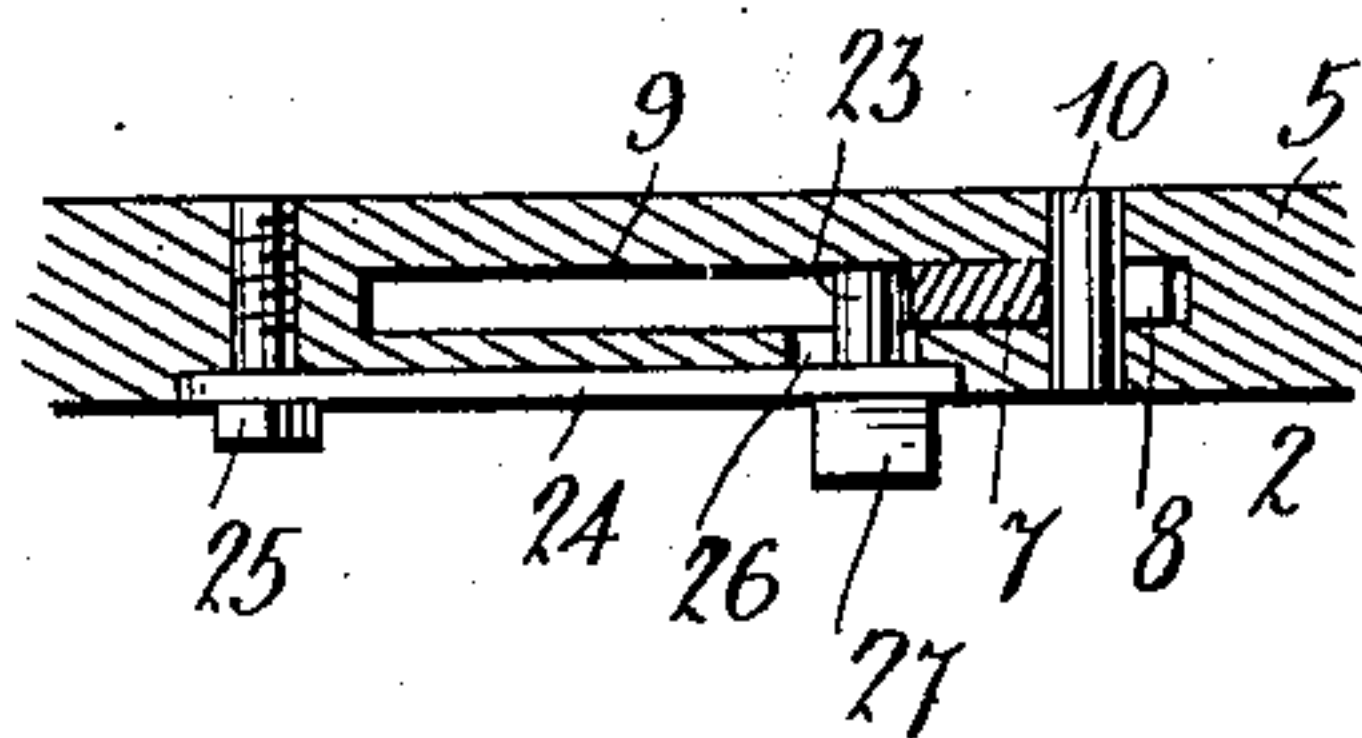


FIG. 4



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UNITED STATES PATENT OFFICE.

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VETERINARY MOUTH-SPECULUM.

No. 862,020.

Specification of Letters Patent.

Patented July 30, 1907.

Application filed April 4, 1907. Serial No. 366,370.

To all whom it may concern:

Be it known that I, FRANK E. RUTHERFORD, a citizen of the United States, residing at Dallas, in the county of Dallas and State of Texas, have invented certain new and useful Improvements in Veterinary Mouth-Speculums; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

10 This invention relates to improvements in veterinary mouth speculums.

The object of the invention is to provide a mouth speculum by means of which the jaws of the animal to which the same is applied may be forcibly held in an open position to permit dental or surgical operations to be performed.

With the foregoing and other objects in view which will appear as the nature of the invention is better understood, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a veterinary mouth speculum constructed in accordance with the invention; Fig. 2 is a similar view of one of the mouth pieces which are used on the instrument when the latter is applied to the front teeth of the animal; Fig. 3 is a plan view of one of the mouth pieces for engaging the gums or jaws of the animal when it is desired to operate upon the front teeth; and Fig. 4 is a detail sectional view through one side of the upper jaw pieces of the speculum showing the arrangement of the spring locking pins for holding the ratchet extending bars in an operative position.

Referring more particularly to the drawings, I denote the speculum which consists of an upper jaw member 2 and a lower jaw member 3. The lower jaw member 3 comprises a pair of side bars 4 which are pivotally connected at their inner ends to the side bars 5 of the upper jaw member. In the side bars 4 of the lower jaw member are formed slots 6 in which are pivotally mounted the lower ends of ratchet expanding bars 7, said bars being provided on their outer edges with a series of ratchet teeth 8.

The bars 7 project through and are adapted to work in slots 9 formed in the side bars 5 of the upper jaw member 2. The teeth 8 on the forward edge of the bars 7 are adapted to be engaged with pins 10 arranged in the side pieces 5 across the slots 9 therein, whereby the opposite jaw members of the speculum are held in an expanded or open position, the distance between said jaws being regulated by engagement of the teeth 8 with the pin 10. The bars 7 are held in an operative position in engagement with the pin 10 by means of springs 12 which are engaged with the bars 7 adjacent to their lower pivoted ends and arranged as shown in Fig. 1 of the drawings.

On the forward ends of the side pieces 4 and 5 of the upper and lower jaw members are formed lugs 13 on which are arranged fastening bolts 14 having elongated heads 15 whereby the upper and lower mouth or teeth engaging pieces 16 and 17 may be detachably connected to the ends of the upper and lower jaw members, as shown. The mouth pieces 16 and 17 are provided on their opposite ends with slotted lugs 18 which are adapted to be engaged with the bolts 14 and the lugs 13, after which the bolts 14 are turned so that the elongated heads thereon will lie across the slots in the lugs 13 thereby securely fastening said mouth pieces on to the ends of the jaw members. The mouth pieces 16 and 17 are curved to fit the front teeth of the animal and are provided with inner and outer segmental flanges 19 and 20 which form a segmental groove or channel in said mouth piece to receive the front teeth of the animal and prevent the slipping of the mouth piece or displacement of the jaw members 2 and 3. The mouth pieces 16 and 17 are used when it is desired to operate upon the back or molar teeth or on the mouth or throat of the animal.

When it is desired to operate upon the front teeth or incisors, a different form of mouth piece is provided and adapted to be secured to the upper and lower jaw members in the same manner as described in connection with the pieces 16 and 17. The mouth member employed when it is desired to operate upon the front teeth is shown in Fig. 3 of the drawings and consists of a plate or bar 19', the central portion of which is curved or bulged outwardly in opposite directions while the ends of the same are flattened and provided with oppositely-projecting lugs 20' in which are formed elongated openings 21' to receive the elongated heads 15 of the bolts 14 when said mouth pieces are applied to the ends of the side pieces of the jaw members, said bolts being turned to bring the heads thereof across the slots, thereby securing the mouth pieces in place. When the mouth pieces 19' are employed, they are adapted to engage the gums or jaws of the animal immediately in rear of the front teeth or incisors, thereby leaving said teeth free and unobstructed to permit the same to be operated upon. In order that the ratchet expanding bars 7 may be locked in engagement with the pins 10 in the side bars 5 of the upper jaw member 2, I provide locking pins 23 which are arranged on the forward ends of catch springs 24, arranged on the outer sides of the side pieces 5 adjacent to their pivoted ends as shown in Fig. 1, the springs 24 being secured to said side pieces by screws or bolts 25 while the pins 23 on the opposite end of the same are adapted to be projected through holes or passages 26 formed in said side bars and to project across the slots 9 therein immediately in rear of the ratchet bars 7 thereby locking the teeth of the same into engagement with the pins 10. The free ends of the springs 24 may be provided with operating lugs 27

by means of which the same may be swung outwardly to disengage the pins 23 from the rear sides of the bar 7 to permit the same to be disengaged from the pins 10 when it is desired to open or close the jaws of the specu-
5 lum. To the pivoted ends of the jaw members 2 and 3 are pivotally connected loop or eye members 28 to which are connected the inner ends of a head stall or attaching straps 29 by means of which the speculum is held in position upon the head of the animal.

10 From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor
15 details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention, as defined by the appended claims.

Having thus described the invention, what is claimed as new is,—

A veterinary mouth speculum comprising upper and lower pivotally connected jaw members provided with slots, mouth pieces attached to the outer ends of said members, pins extended transversely through the slots in one set of said members, expander bars terminally pivoted
25 in the slots in the other set of jaw members and having ratchet teeth designed for engagement with said pins to hold the jaws in open position, springs arranged to act on the expander bars for throwing them into engagement with the pins, catch springs attached to the pin-carrying
30 jaws, and locking pins carried by the free ends of said springs and adapted to project transversely through the slots in rear of the expander bars for holding the teeth of the latter in engagement with the transverse pins.

In testimony whereof I have hereunto set my hand in
35 presence of two subscribing witnesses.

FRANK E. RUTHERFORD.

Witnesses:

W. A. BROWN,
O. J. LAW.