S. B. DUNN.

SPECULUM.

APPLICATION FILED JULY 26, 1913.

1,154,748.

Patented Sept. 28, 1915.

Fig. 1.

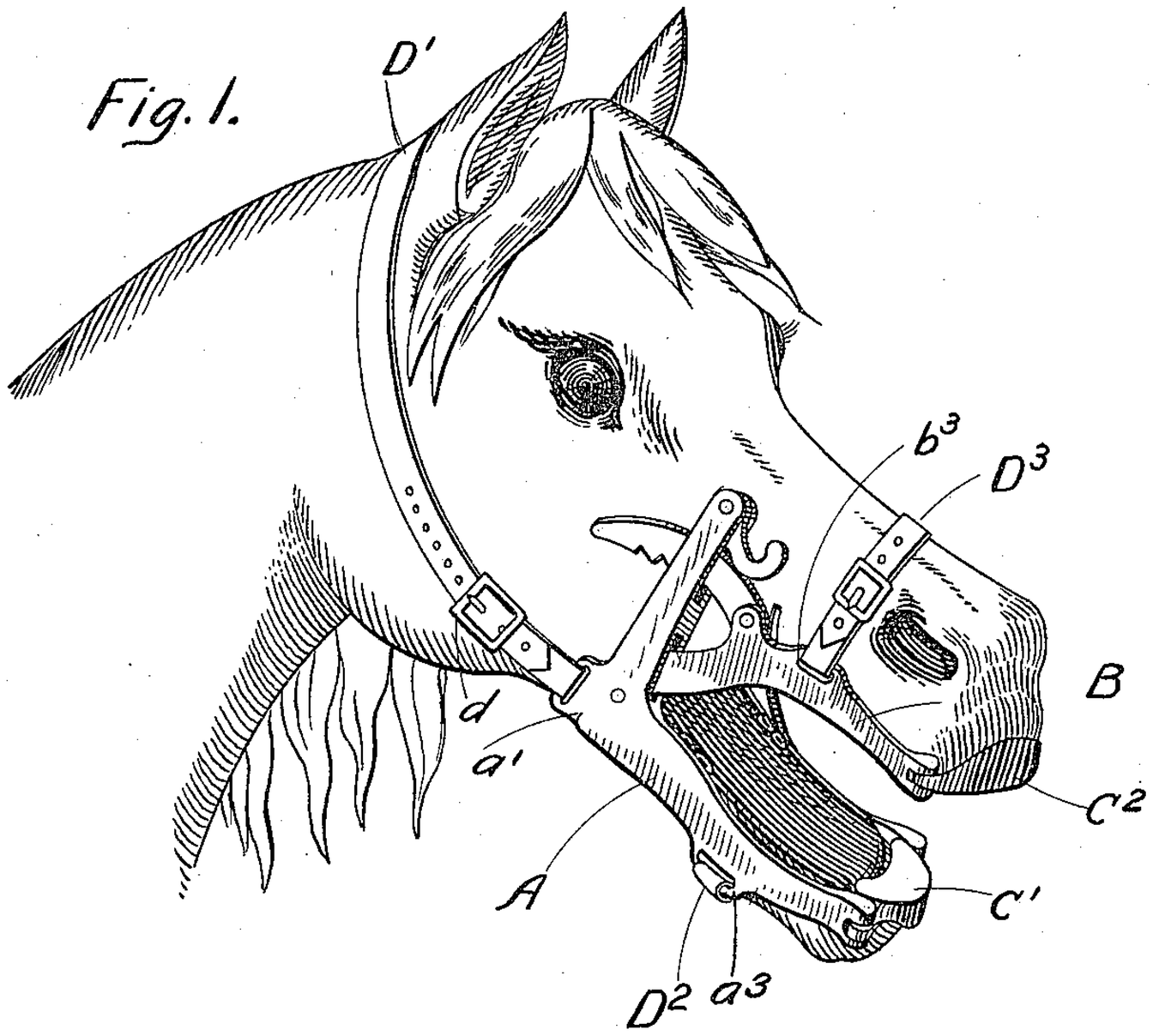
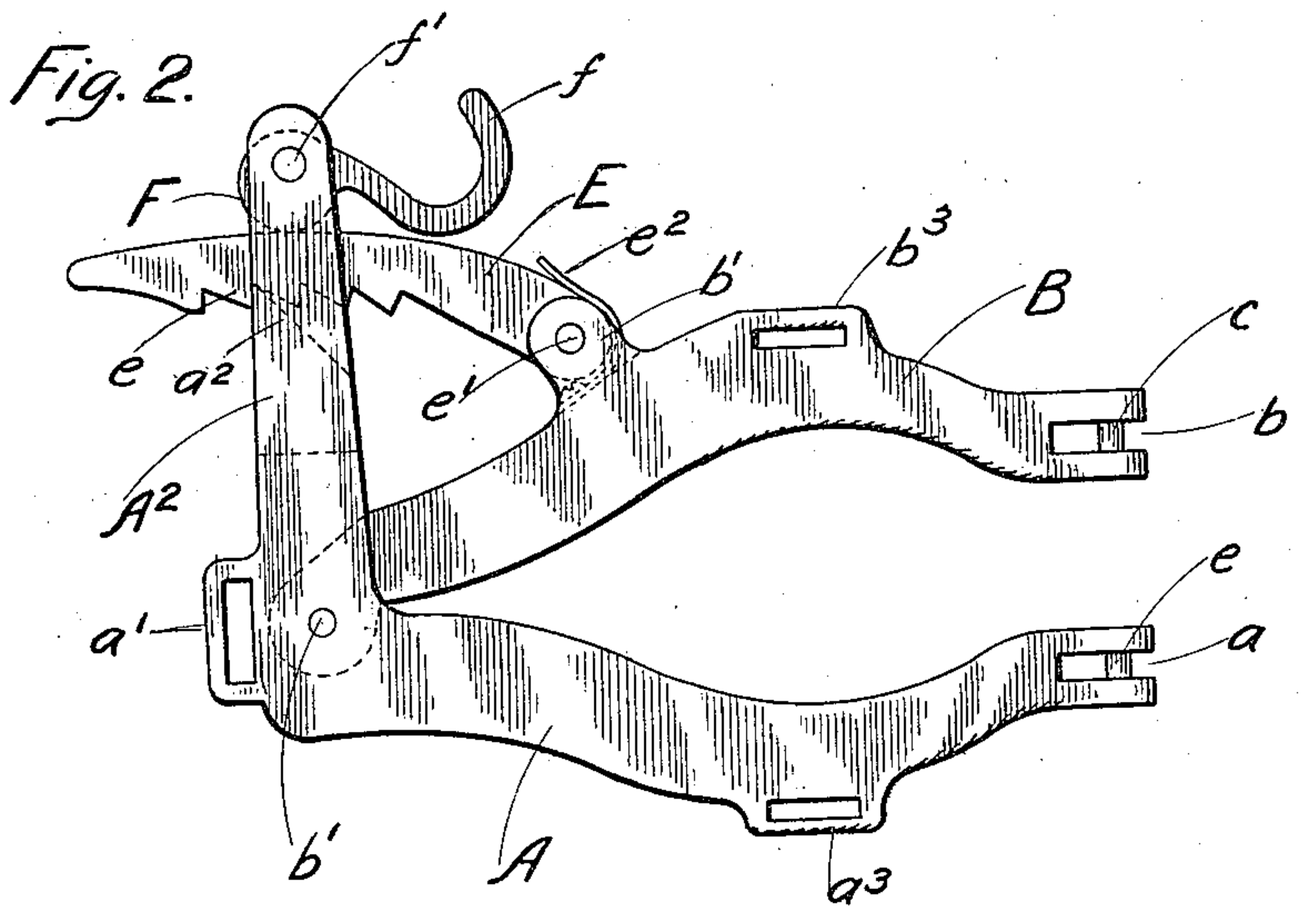


Fig. 2.



Witnesses:

C. E. Burnap

Henry A. Parks

Inventor:

Sola B. Dunn

By Sheridan, Wilkinson and Scott

Attys

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

SOLA B. DUNN, OF CHICAGO, ILLINOIS.

SPECULUM.

1,154,748. Specification of Letters Patent. Patented Sept. 28, 1915.

Application filed July 26, 1913. Serial No. 781,341.

To all whom it may concern:

Be it known that I, SOLA B. DUNN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Specula, of which the following is a specification.

My invention relates in general to veterinary instruments, and more particularly to specula.

The primary object of my invention is to provide an improved speculum which may be conveniently applied to the mouth of a horse and readily adjusted to hold the mouth open to any desired extent, and which will be positively retained in adjusted positions without danger of being accidentally released.

A further object of my invention is to provide an improved speculum for holding open the mouths of animals, which will be simple in construction, convenient in operation, and efficient in use.

My invention will be more fully disclosed hereinafter with reference to the accompanying drawing, in which the same is illustrated as embodied in a convenient and practical form, and in which—

Figure 1 is a perspective view showing my improved speculum applied to the head of a horse; and Fig. 2 a side elevation of one of the duplicate pairs of coöperating jaws.

The same reference characters are used to designate the same parts in the two figures of the drawings.

The speculum comprises two pairs of pivoted jaws, one of such pairs being located at each side of the mouth of a horse, and as the two pairs are the same in construction and operation a detailed description of the operation of one pair of jaws will be sufficient.

A and B designate the jaws of each pair, which are pivotally connected at b', the end of the upper jaw B preferably extending within a recess in the jaw A. Supported in the ends of the corresponding jaws of the two pairs are tooth plates C' and C^2, which may be supported by the ends of the jaws in any convenient manner, as by means of reduced ends which extend between the pairs of lugs a and b on the ends of the corresponding jaws of the pairs. Pins c may be employed as the means for retaining the reduced ends of the tooth plates between the pairs of lugs on the jaws.

The jaw A of each pair is provided with a loop a', preferably located adjacent the point of pivotal connection of the upper and lower jaws. A strap D′ is secured at its opposite ends to the loops a' of the opposed jaws A′ and is adapted to pass around the head of the horse. The strap D′ preferably comprises a buckle d, by means of which it may be adjusted so as to properly locate the speculum with respect to the mouth of the horse. Each of the jaws A is also provided with a loop a^3, with which a strap D^2 is connected, such strap passing around the jaw of the horse, as shown in Fig. 1. Each of the upper jaws B is provided with a loop b^3, with which a strap D^3 is connected, such strap being adapted to pass around the nose of the horse and retain the tooth plate C^2 tightly against the upper teeth of the horse.

Pivotally connected to each of the upper jaws is a latch E, having downwardly extending teeth e. This latch is pivotally connected to a lug b' on the jaw B, by means of a pivot pin e'. A spring e^2 engages the latch E adjacent its pivotal support and tends to oscillate the latch downwardly. The latch E passes through a slot formed in an extension A^2 of the lower jaw. An upwardly projecting tooth a^2 is formed at the bottom of the slot through the projection A^2, which coöperates with the downwardly projecting teeth e on the latch.

In order that any one of the teeth e on the latch E may be retained in positive locked engagement with the fixed tooth a^2, a retaining device F is provided. This retaining device is preferably in the form of an eccentric, pivotally mounted upon a pin f' and lying within the bifurcated upper end of the projection A^2 of the jaw A. A curved finger piece f projects from the cam F for oscillating the cam into and out of locked relation with the latch E. The curved finger piece also serves as a stop to limit the movement of the cam so that it will firmly lock the latch in position to hold the two jaws open without danger of accidental disengagement of the latch and the consequent closing of the jaws. The curved finger piece also serves as a weight to automatically swing the cam into locking position. The fact that the cams at both sides of the head of the horse project forwardly permits the

convenient operation of the cams and the uniform locking of both of the latches so as to maintain the two sides of the speculum open to the same extent.

The manner of using and operation of my improved speculum are as follows: The two pairs of jaws are placed on the opposite sides of the mouth of a horse with the tooth plates C′ and C² resting upon the lower and upper teeth of the horse. The strap D′ is then passed around the head of the horse and tightly adjusted to retain the tooth plates in proper relation to the teeth. The jaw strap D² and the nose strap D³ are then adjusted to secure the upper jaws B to the nose of a horse and the lower jaws A of the two pairs tightly to the jaw of the horse. Each retaining cam F is oscillated so as to be disengaged from the adjacent latch E by swinging the finger piece *f* thereof from the position shown in Fig. 2 toward the left.

The mouth of the horse is then opened, thereby separating the jaws of each pair and coincidentally moving the respective latches toward the left in Fig. 2. Such movement of the latches causes the depending teeth *e* thereon to successively pass the adjacent fixed teeth a^2. During the movement of the latches E the teeth *e* thereon automatically and successively rest upon the fixed teeth a^2 by the action of gravity, owing to the fact that the latches are pivotally connected to the upper jaws of the respective pairs thereof. The springs e^2 also serve to insure the engagement of the teeth of the latches with the coöperating fixed teeth a^2. After the mouth of the horse has been opened to the desired extent, it will be retained in such open position by reason of the engagement of the teeth on the latches E with the fixed teeth a^2, but to prevent accidental disengagement of the teeth on the latches from the fixed teeth, the cam retaining devices F are oscillated into the position shown in the drawings, thereby positively retaining the teeth on the latches in locked engagement with the corresponding fixed teeth. There is therefore no danger of the accidental disengagement of the latches and the closing of the mouth of the horse.

From the foregoing description it will be observed that I have invented an improved speculum for holding open the mouths of animals, particularly horses, in which the retaining latches are pivotally connected to the upper members of the pairs of jaws so that they will be actuated by gravity to automatically engage the coöperating fixed teeth, and thereby retain the members of the pairs of jaws in adjusted positions.

It will be further observed that the accidental closing of the mouth of the horse is entirely avoided by reason of the retaining device for positively holding the latches in the positions they assume when the pairs of jaws have been adjusted to the desired extent.

I claim:

1. In a speculum, the combination with two pairs of pivotally connected jaws, of teeth plates supported by the free ends of corresponding jaws, means for supporting the jaws upon the head of an animal in operative relation to the mouth, a latch having downwardly projecting teeth pivotally connected to the upper jaw of each pair, a projection on the lower jaw of each pair extending beyond its pivotal connection with the upper jaw, a fixed tooth on each of said projections with which engage the teeth on the latch pivoted to the corresponding upper jaw to hold the jaws in adjusted position, a locking device for positively retaining each latch in locked position, and means for limiting the movement of each locking device to position it in its most effective locking engagement with the latch.

2. In a speculum, the combination with two pairs of pivotally connected jaws, of teeth plates supported by the free ends of corresponding jaws, means for supporting the jaws upon the head of an animal in operative relation to the mouth, a latch having downwardly projecting teeth pivotally connected to the upper jaw of each pair, a projection on the lower jaw of each pair extending beyond its pivotal connection with the upper jaw, a fixed tooth on each of said projections with which engage the teeth on the latch pivoted to the corresponding upper jaw to hold the jaws in adjusted relation, and a locking device for positively retaining each latch in engagement with the corresponding fixed tooth, said device comprising means for limiting the locking movement thereof.

3. In a speculum, the combination with two pairs of pivotally connected jaws, of teeth plates supported by the free ends of corresponding jaws, means for supporting the jaws upon the head of an animal in operative relation to the mouth, a latch having downwardly projecting teeth pivotally connected to the upper jaw of each pair, a projection on the lower jaw of each pair extending beyond its pivotal connection with the upper jaw, a fixed tooth on each of said projections with which engage the teeth on the latch pivoted to the corresponding upper jaw to hold the jaws in adjusted relation, a cam pivotally mounted on each of said projections in position to engage the adjacent latch and positively retain the same in locked engagement with the corresponding fixed tooth, and a forwardly projecting curved finger piece on each cam for actuating the same and limiting the locking movement thereof.

4. In a speculum, the combination with

two pairs of pivotally connected jaws, of teeth plates supported by the free ends of corresponding jaws, means for supporting the jaws upon the head of an animal in operative relation to its mouth, a latch having downwardly projecting teeth pivotally connected to the upper jaw of each pair, a projection on the lower jaw of each pair extending beyond its pivotal connection with the upper jaw, said projection having an opening through which the latch on the corresponding upper jaw extends, a fixed tooth on each projection at the bottom of the opening therein with which engage the teeth on the latch pivoted to the corresponding upper jaw, a cam pivotally mounted in the bifurcated end of each projection in position to engage the adjacent latch and positively retain the teeth thereon in locked engagement with the underlying fixed tooth, and a forwardly projecting upwardly curved finger piece for actuating the same and for swinging the same into locking position through the action of gravity.

In testimony whereof, I have subscribed my name.

SOLA B. DUNN.

Witnesses:
GEO. L. WILKINSON,
HENRY A. PARKS.