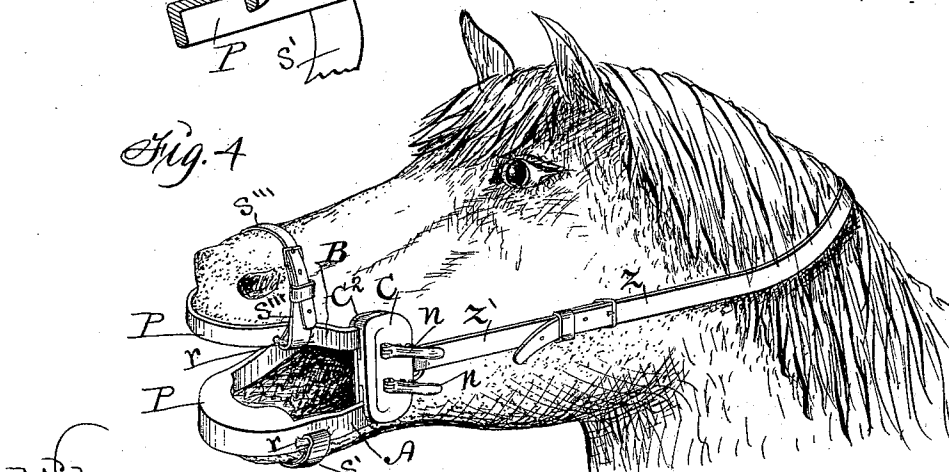
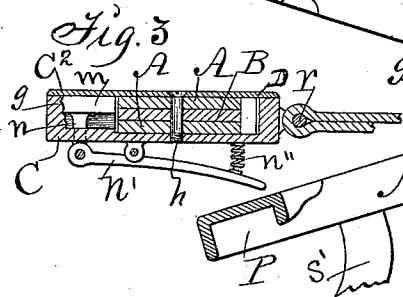
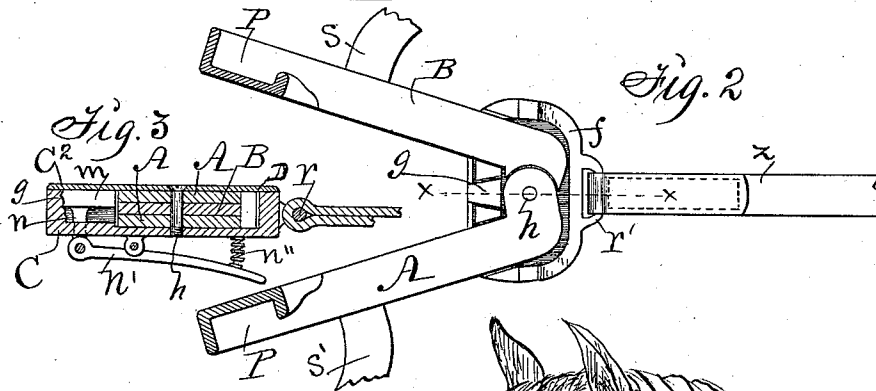
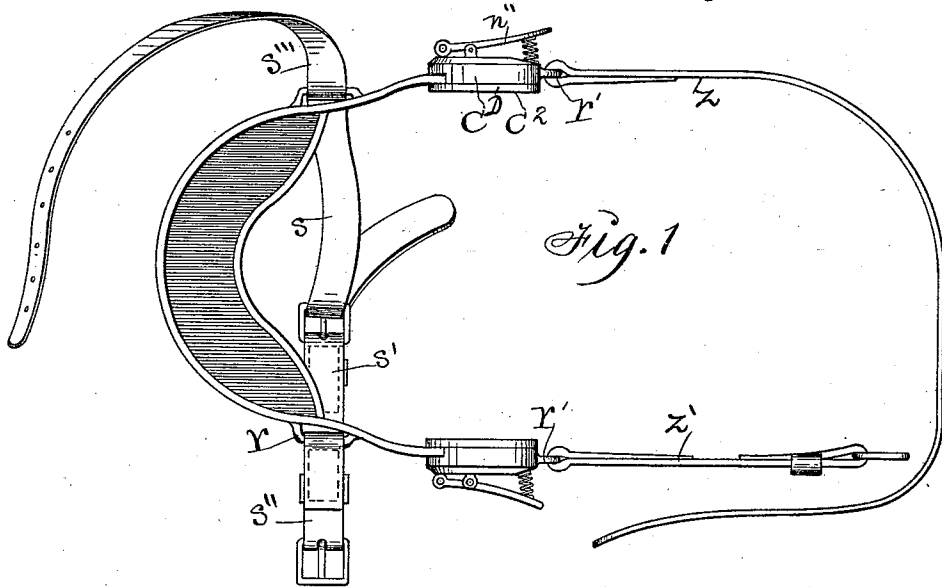


(No Model.)

G. Z. BARNES.
MOUTH SPECULUM FOR HORSES.

No. 472,939.

Patented Apr. 12, 1892.



Witnesses:
W. P. Smith.
R. H. Drwig.

Inventor: George Z. Barnes,
By Thomas G. Orwig, atty.

UNITED STATES PATENT OFFICE.

GEORGE Z. BARNES, OF PEKIN, ILLINOIS.

MOUTH-SPECULUM FOR HORSES.

SPECIFICATION forming part of Letters Patent No. 472,939, dated April 12, 1892.

Application filed November 6, 1891. Serial No. 411,103. (No model.)

To all whom it may concern:

Be it known that I, GEORGE Z. BARNES, a citizen of the United States of America, and a resident of Pekin, in the county of Tazewell and State of Illinois, have invented a new and useful Mouth-Speculum for Horses, of which the following is a specification.

My invention consists in the construction and combination of metal jaws, jaw-locking mechanism, and straps and buckles, as hereinafter set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a top view of the speculum, showing the jaws closed upon each other. Fig. 2 is a sectional view looking outward from a central line of the mating jaws and showing the jaws open and the inside plate of the base, to which the jaws are pivoted, removed to uncover its interior and the means for retaining the jaws locked in an open position. Fig. 3 is an enlarged view through the line *x x* of Fig. 2, showing the relative positions of the jaws and the means for operating the locking devices. Fig. 4 is a perspective view showing the complete speculum applied to a horse as required in practical use.

A is the lower and B the upper jaw. They conform in shape and size, and each is made of cast metal complete in one piece. Each has a lateral bend at each of its rear ends, and the ends of one jaw are bifurcated to admit the ends of the mating jaw, as required, to produce a hinged connection that will allow the jaws to open and close.

C and D are mating base-pieces adapted to be combined with the ends of the jaws to inclose and support the ends of the jaws, to restrict the separation of the jaws, and to inclose and support jaw-locking devices. Each base has a flange or rim *f*, projecting inward, and an integral stop *g*, and a screw-threaded perforation that will coincide with the perforation in the ends of the jaws. The mating interlaced ends of the jaws are connected with each other and pivoted to the base-pieces by means of screws *h*. Plates *C*² and *D*² are fitted to the insides of the piece C and D, and fastened thereto by means of the screws *h*, that extend through the ends of the jaws and

into the perforations or screw-seats in the central portions of the base-pieces. The plates are thus detachably fixed to the cover and conceal the ends of the jaws and to produce bearings for the pivotal screws *h*, that connect the jaws.

m are solid blocks fitted against the top and bottom of the fixed stop *g*. Each block has an integral projection *n*, that extends through a corresponding opening in the base and is connected with a lever *n'*, pivoted to the inside of the base.

n'' is a spring connected with the long arm of the lever and the base in such a manner that it will, in its normal condition, press the block *n* against the inside of the cover of the hollow base to fill the space between the jaw and the stop *g*, as required, to lock the jaw when it is open. To close the jaws, the long arms of the four levers *n'* must be simultaneously pressed toward their supporting-bases C and D, as required, to draw the block *n* outward, so as to allow the jaws to pass over them and to close against the sides of the stop *g*.

P represents a crescent-shaped cup formed on or fixed to the front end of each one of the jaws A and B to admit an animal's teeth in such a manner that when the jaws are forcibly separated the teeth will engage the cups and the cups and teeth will coact in preventing any portion of the jaws from contact with and pressure upon the gums and flesh of the mouth, as required, to prevent irritation, bruising, bleeding, and pain. In other words, the free ends of the teeth, when in contact with the cups, will prevent the jaws of the instrument from coming in contact with the jaws or the flesh of the animal, and thereby prevent irritation of the animal, and also protect the operator's hand and arm from contact with the animal's teeth.

Loops *r* are formed on or fixed to the jaws for attaching straps thereto.

S and S' are leather straps attached to the lower jaw A and adapted to be buckled around the lower jaw of an animal. S'' and S''' are corresponding straps attached to the upper jaw B, to be buckled around the upper jaw of the animal. *z* and *z'* are straps attached to loops *r'*, projecting rearward from the base—

pieces C and D, as required, to buckle them over the top of the head or neck of an animal for the purpose of retaining the speculum attached to the animal.

- 5 To apply the speculum, I close the jaws and place the speculum on the horse and open his jaws sufficiently to allow his front teeth to enter the cups P and then force the jaws of the horse and the jaws of the speculum open
10 far enough to release the spring-actuated blocks *n* and to enter the spaces between the jaws and the stops *g*, and to thereby lock the jaws as required to retain them open, so that the mouth and uncovered teeth and throat
15 can be inspected and treated.

I claim as my invention—

1. A speculum for opening and retaining open a horse's mouth, comprising two jaws hinged together at their rear end portions, to
20 extend forward parallel with the jaws of the

horse, cups or depressions at the front and free ends of the said jaws, adapted to admit an animal's front teeth, means for retaining the free ends of the jaws separated while in an animal's mouth, and means for fastening
25 the complete device to an animal's head, for the purposes stated.

2. In a speculum, a base-piece C, having a flange *f* and stop *g*, the ends of two mating jaws fitted to said base-piece and pivoted
30 thereto by means of a screw *h*, a detachable cover C², having a perforation to admit the screw *h*, a block *n*, having a stem *n'*, and a spring-actuated lever *n''*, arranged and combined to operate in the manner set forth, for
35 the purposes stated.

GEORGE Z. BARNES.

Witnesses:

W. H. McLAUGHLIN,
FRED S. ZOEGER.