

(No Model.)

2 Sheets—Sheet 1.

C. H. BUTLIN.
CURB BIT.

No. 466,222.

Patented Dec. 29, 1891.

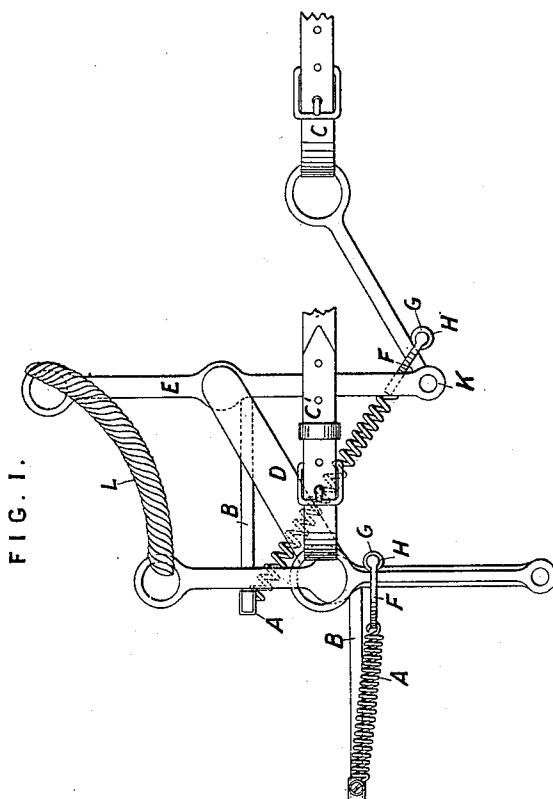
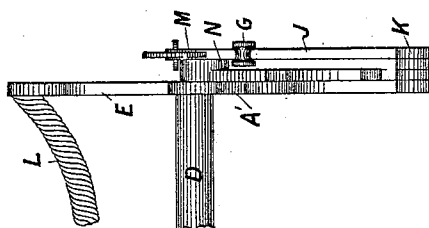


FIG. 5.



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Inventor:
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by Messrs. Dailley
his attorney

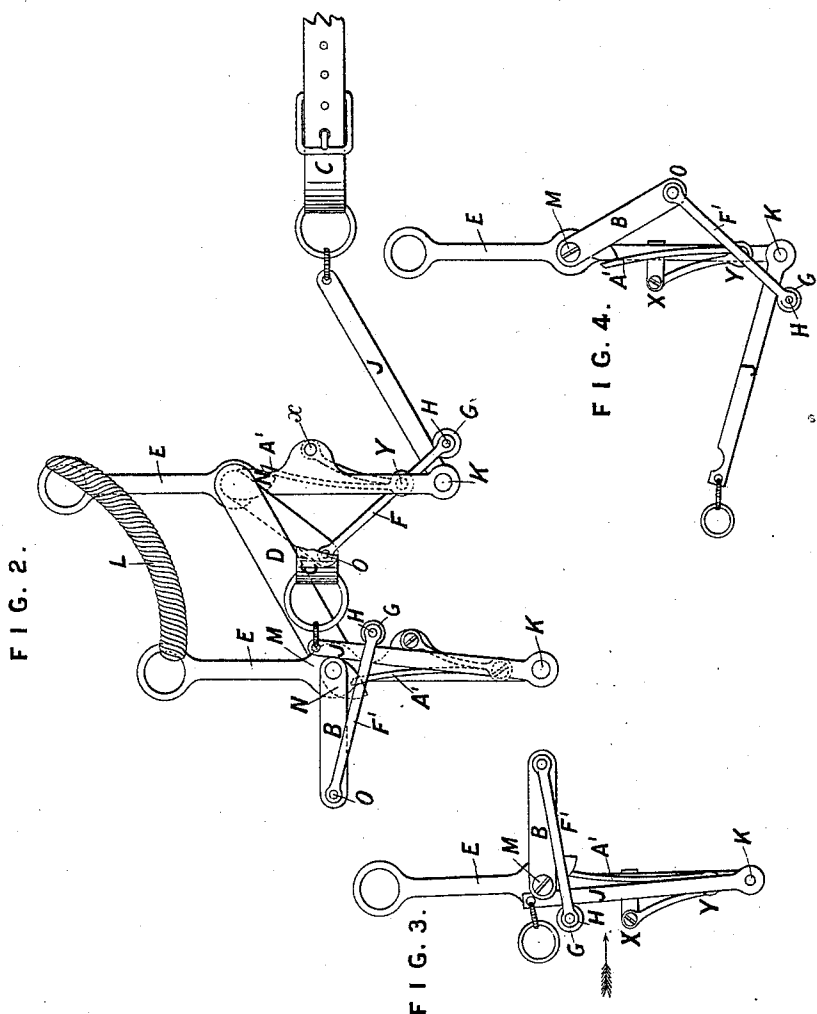
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Witnesses:
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J. R. ...

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UNITED STATES PATENT OFFICE.

CHARLES H. BUTLIN, OF CAMBORNE, ENGLAND.

CURB-BIT.

SPECIFICATION forming part of Letters Patent No. 466,222, dated December 29, 1891.

Application filed March 3, 1891. Serial No. 383,618. (No model.) Patented in England June 4, 1890, No. 8,650; in Germany September 17, 1890, No. 56,142; in France February 2, 1891, No. 211,530; in Belgium February 28, 1891, No. 93,817, and in Austria-Hungary June 22, 1891, No. 9,247 and No. 23,930.

To all whom it may concern:

Be it known that I, CHARLES HENRY BUTLIN, surgeon, a subject of the Queen of Great Britain, residing at Camborne, in the county of Cornwall, England, have invented new and useful Improvements in Curb-Bits, (for which I have obtained Letters Patent of Great Britain, No. 8,650, dated June 4, 1890; Germany, No. 56,142, dated September 17, 1890; Austria-Hungary, Nos. 9,247 and 23,930, dated June 22, 1891; Belgium, No. 93,817, dated February 28, 1891, and France No. 211,530, dated February 2, 1891,) of which the following is a specification.

The object of this invention is to construct a curb-bit in such a manner that a driving-rein only is required, the rein for the curb as at present used being entirely dispensed with.

According to this invention I hinge or pivot an arm to the bottom of each cheek-piece of the curb, and to the extremity of these pivoted arms I attach the driving-reins in the ordinary manner. To each cheek-piece I also affix a horizontal arm projecting forward, and to the front of these horizontal arms are affixed spiral or other springs connected by means of a cord or chain to a small pulley bearing against the under side of the pivoted arms aforesaid. By this construction, when the rein is pulled with a force anything less than the power of the spring, the snaffle or simple part of the bit will alone act; but when more force is used the pivoted arm is turned down horizontally, or nearly so, thus bringing down the pulley and its attached chain or cord and extending the spring. The pulley will thus slide toward the pivoted end of the lever. When the rein is released, the spring returns the pivoted arm to its initial position close against the cheek-piece.

As a modification of my invention the outwardly-projecting arms may be hinged to the cheek-pieces and the ends of the springs attached to the cheek-pieces and projecting arms aforesaid, the springs being so arranged as to keep the said arms normally horizontal, or nearly so. The cords or chains or connecting-rods are fastened to the extremities of the said arms and to the attached pulleys, which bear

against the under side of the arms pivoted to the bottom of the cheek-pieces, as before.

In order that my invention may be more fully understood and carried into practice, I will now proceed to describe the same with reference to the accompanying drawings, in which similar letters are used to indicate corresponding parts throughout; but I do not limit myself to the precise details here described.

Figure 1 is a perspective view of curb-bit according to my invention, having coiled springs A affixed to the forwardly-projecting arms B. This view shows the right-hand rein C as it would appear when pulled with considerable force, so as to overcome the power of the spring A, thus exerting considerable leverage on the bit. The left-hand rein C' is in its normal position.

Fig. 2 shows a perspective view of the modified form of my invention, wherein the forwardly-projecting arms B are pivoted to the cheek-pieces E, the springs A being also attached to the cheek-pieces. In this view, also, the position of the parts is shown as they would appear when the right-hand rein C is pulled with considerable force, the left-hand rein being in its normal position.

Fig. 3 is a side elevation of the bit shown in Fig. 2 when the rein is untouched or only slightly pulled. Fig. 4 is a similar view when the rein is pulled hard over; and Fig. 5 is part of a back elevation of this bit, looking in the direction of the arrow shown in Fig. 3.

In Fig. 1 each horizontal arm B is riveted, brazed, or otherwise rigidly affixed to the cheek-piece E at or just immediately below the junction of the mouth-bar D with the cheek-piece E. The arm B projects forward—i. e., in the direction in which the animal is going—and to its forward end, on the outside, is secured one extremity of a helical or coiled spring A. The other extremity of this spring is secured to a double chain, wire, or cord or to a fork or stirrup-shaped piece F, carrying a roller or pulley G, loose on a fixed spindle joining the two sides of the fork or stirrup-shaped piece F. If desired, the pulley or roller G may be fast on the spindle H, whose ends rest in suitable bearings in the sides of

the fork or stirrup-piece F. The arm J, to which the rein is secured, is passed between the two sides of the said fork or stirrup-piece F and is pivoted at K to the lower end of the cheek-piece and on the outside thereof. The power of the spring A is so adjusted as to keep the roller or pulley G bearing against the rear side of the rein-arm J, which normally remains in a vertical position parallel with the cheek-piece E, as shown on the left side of the bit. With a gentle pull on the rein the parts will remain in their normal position and the bit will act as a snaffle or simple bit only. When the animal bolts or becomes restive or from any other cause is required to be suddenly pulled up or checked, a strong pull on the rein will overcome the power of the spring and will turn the rein-arm J over at an angle to the cheek-piece until it is horizontal, or nearly so, thereby exerting powerful leverage on the bit—namely, the direct pull of the rein-arm J on the bottom of the cheek-piece E, and the pressure of the said rein-arm J on the roller or pulley G, causing it to slide or roll down to the pivoted end of the rein-arm J. By this means the bar D is forced upward toward the back of the animal's mouth and the curb-chain L is forced against the under jaw.

In the modified form of my invention shown in Figs. 2 to 5 the arm B is pivoted at M on the outside of the cheek-piece, and a cam or tail-piece N is attached to or formed integral with the arm B. Against the back of this cam or tail-piece N bears a knife-spring A', turned on itself round a stud at Y to give it greater length and secured at X on a bulge or projection affixed to or formed on the cheek-piece E. To the front end of the arm B is pivoted at O a rod F', bifurcated at its rear end, or parallel rods may be used, so as to take the roller or pulley G, which bears on the rear side of the rein-arm J. The pressure of the spring A' on the cam or tail-piece N keeps the arm B normally horizontal, as shown in Fig. 3. When, however, the rein is strongly pulled, the rein-arm J is pulled down and the roller or pulley G slides to the bottom, as in the first form of my invention. The rod or lever F', however, pulls down the end of the arm B, turning the same on its pivot M, thereby holding back the knife-spring A'. In this

position the action on the curb is the same as that hereinbefore described with reference to Fig. 1 under similar circumstances.

I am aware that it has been already proposed to apply a spring to a curb-bit for the purposes herein set forth; but hitherto the spring has been attached direct to the top of the cheek-piece and the rein attached to a collar or sleeve sliding over the cheek-piece, so that when the rein was strongly pulled the collar or sleeve would slide to the bottom of the cheek-piece and turn the said cheek-piece over at an angle. This is objectionable, because the fixed end of the spring was necessarily attached to the cheek-piece above the mouth-bar, so that a good deal of the force applied to the rein was exerted to no purpose; also, the action of the bit would be capricious, depending on the position of the horse's mouth, for if he brings his mouth near the chest a very small pull would bring the curb into action.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. A curb-bit having a forwardly-projecting arm B rigidly affixed to each cheek-piece E at or near the junction of the mouth-bar with the cheek-piece, to the front end of which said arm B is secured the end of coiled or helical spring A, whose other end carries a roller or pulley G, which rides over the rear end of a rein-arm J when the rein is pulled with force, the said rein-arm J being pivoted or hinged at bottom of the cheek-piece, operating substantially in the manner described and illustrated.

2. A curb-bit having cheek-pieces, a forwardly-projecting bar extending from each of said cheek-pieces, a roller or pulley connecting with each of said bars, and a rein-arm pivoted at the lower end of one of said cheek-pieces, said roller or pulley being adapted to ride over said rein-arm, substantially as and for the purposes hereinbefore set forth.

CHARLES H. BUTLIN.

Witnesses:

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