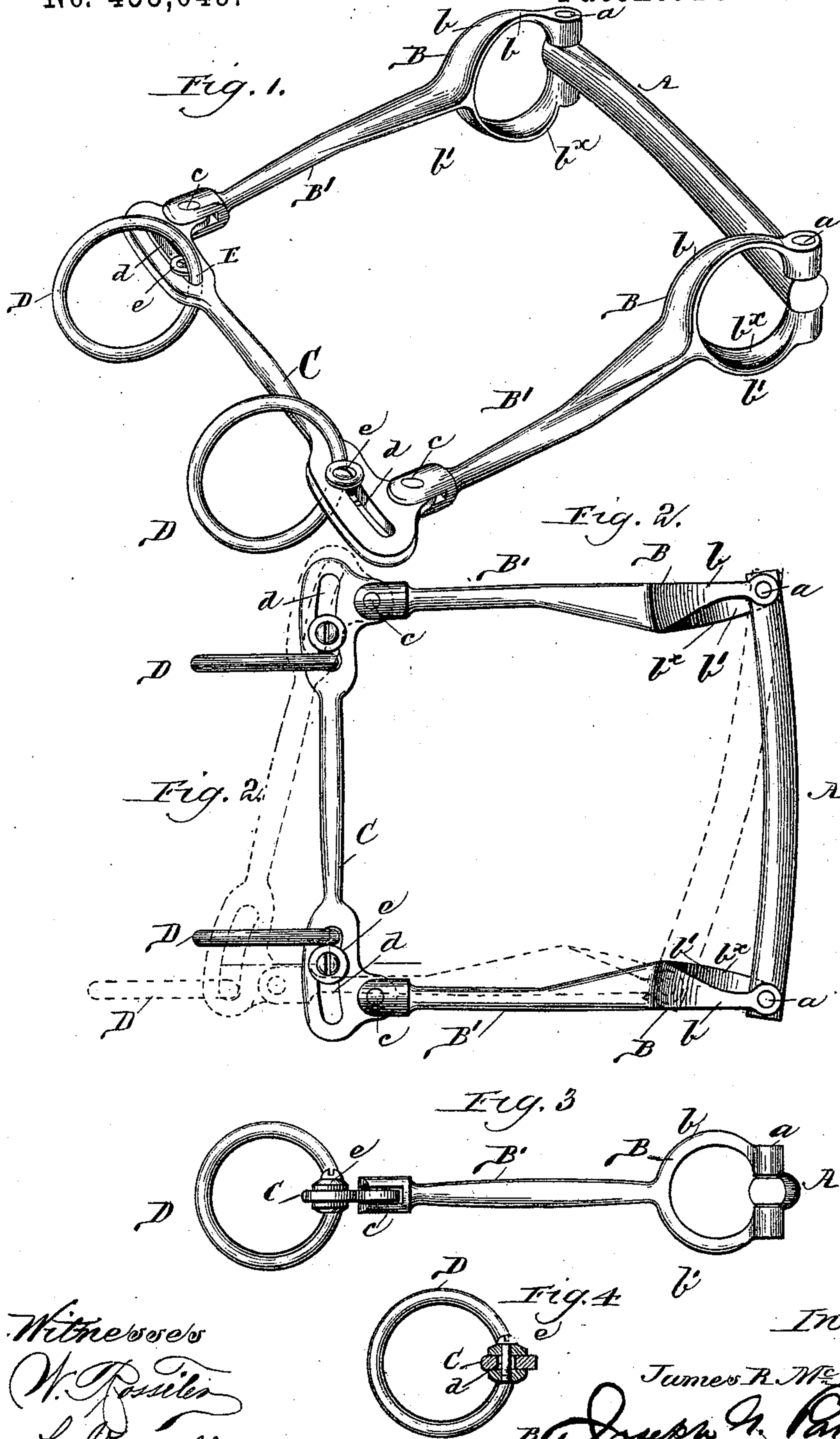


(No Model.)

J. R. McDONALD.
BRIDLE BIT.

No. 455,049.

Patented June 30, 1891.



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UNITED STATES PATENT OFFICE.

JAMES R. McDONALD, OF CHICAGO, ILLINOIS.

BRIDLE-BIT.

SPECIFICATION forming part of Letters Patent No. 455,049, dated June 30, 1891.

Application filed September 8, 1890. Serial No. 364,282. (No model.)

To all whom it may concern:

Be it known that I, JAMES R. McDONALD, 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 Bridle-Bits for Horses, of which the following is a specification.

This invention is designed to give a greater control over horses when driving or riding, and particularly such as are inclined to run away or to shy or to be otherwise refractory.

Heretofore a snaffle-bit has been made having rigid offsets or clamps connected with each bar of the snaffle intended to press upon the gland-sockets of the lower jaw of the horse. In such construction, as indicated in Letters Patent No. 347,209, of August 10, 1886, the rearwardly-projecting arms of the snaffle-bars are turned into inverted spoon-plates, and an even pull on both lines will necessarily compress the plates on each side of the under jaw and pinch it, since the connection between the plates behind the jaw or at the chin of the jaw is a flexible one, allowing both plates to move toward each other, owing to the joint in the snaffle-bit; but on the other hand a pull on one line or rein only will not particularly affect the plate on the other side.

In the construction which I propose to use either a snaffle-bit or a stiff bit may be employed; but from each end of the bit a stiff link pivoted thereto extends rearwardly to a pivotal connection with a rigid cross-bar, and each link may or will have a pressure-plate for acting on the gland-sockets of the lower jaw. The bridle-connection also may or will be such as to diminish or increase the leverage on the bit, so as to make the jaw-pressure more or less. With such construction pressure cannot be brought to bear simultaneously upon each side of the horse's lower jaw by a direct and even pull upon both reins, as in the construction referred to, but that when one line is pulled upon the bit will act upon one side of the mouth, while the pressure device, whatever it may be, will act upon the other side of the mouth or rather of the chin, or upon each gland-socket.

In the drawings, Figure 1 is a perspective view of a bit constructed according to my invention, the mouth-piece or bit proper being

stiff. Fig. 2 is a top plan view thereof, showing the operation in dotted lines. Fig. 3 is a side elevation, and Fig. 4 a detail.

A represents the mouth-piece or bit, which may be of any construction suitable to the purpose intended, either a stiff bit or a snaffle-bit, or a curb-bit to be operated upon by a curb-rein in the usual way. To the sides of this bit are attached by pivots *a* the forward ends of ring-shaped pressure-yokes B, the upper arm *b* of which is adapted to hold the cheek-straps of the bridle, while the lower arm *b'* projects inwardly somewhat beyond the upper arm, as shown at *b^x* in the second figure of the drawings, to form, with the inner edge of the upper arm, a sort of taper more perfectly conforming to the outline of the horse's mouth at the point where the bit is to be applied. These yokes converge rearwardly, each into a single bar or link B', respectively, pivoted at their rear ends, as at *c*, to the ends of the cross-bar C, parallel with the bit-piece and of about the same length. This cross-bar is intended to come under the chin of the horse to hold the links and yokes parallel or nearly parallel with each other and at fixed distances, so far as the rearward extension is considered, and to govern all parts in a sort of parallel movement whenever acted upon by the reins. At or adjacent to each end of this cross-bar are mounted the rings D, to which the reins are intended to be attached. These rings may have fixed positions along the cross-bar; but I prefer that they shall be either free to move along slots *d* in the flattened ends of such cross-bar, so as to give additional leverage by their slip to one side or the other whenever the rein is pulled on such side, or that they shall be limited in their motion by clamping bolts and nuts *e*, set in the slots and adjustable therealong to limit their effective length for the purpose of changing the leverage and adapting the bit to horses of tender mouths or of more or less docility. Whenever these clamping bolts and nuts are at the inner end of the slots, as shown in the drawings, the leverage is comparatively small; but by moving them along the slots outwardly the leverage that can be brought to bear increases, and if they are removed altogether it is obvious that with each

alternate pull the rings will slip along the slots, one to the inner end and one to the outer end, so that all potential strength shall be exercised upon and through the one at the outer end to turn or stop the horse.

Of course if the bit used is a snaffle-bit, instead of the stiff army bit shown in the drawings, some slight modification of movement may be occasioned; but it will be impossible for such a movement to practically change the position of the side pieces or pressure-yokes of the bit, since the rigid bar at the rear will hold them apart.

I do not intend to limit myself herein to any particular form of pressure device, although the one described I consider preferable; nor do I intend to limit myself to the use of a pressure device, provided a stiff cross-bar is employed with the side links or bars pivoted to the mouth-piece; nor do I intend to limit myself to any particular form of mouth-piece, intending to use, as stated in the preamble, any one of the usual forms in connection with the features of my invention; neither do I consider the slotted cross-bar adapted to give play to the rein-rings absolutely necessary as regards other features of the invention, provided the cross-bar gives the proper leverage to the mouth-piece in the way hereinbefore described; but

What I do claim as my invention is—

1. The combination of the mouth-piece or bit, the links connected to each end thereof by upstanding pivots, the opposite parallel cross-bar connecting the outer ends of said links and arranged to come behind the chin of the horse, and the rings for the driving-reins adjacent to each end of said cross-bar.

2. The combination, substantially as hereinbefore set forth, of the stiff mouth-piece, the pressure arms or links pivoted to the ends of said mouth-piece, and the cross-bar parallel with said mouth-piece and about the length thereof, to which the rear ends of said pressure arms or links are pivoted, so as to come behind the chin of the horse.

3. The combination, substantially as hereinbefore set forth, of the mouth-piece or bit, the links yoke-shaped at their forward ends and having the lower arm of the yoke formed so as to project inwardly beyond the inner edge of the upper arm that both may conform to the outline of the mouth of the horse, and

a connection between the rear ends of said links.

4. The combination, substantially as hereinbefore set forth, of the mouth-piece or bit, the links yoke-shaped at their forward ends, the lower arm of said yoke being formed to project inwardly to bring its inner end beyond the edge of the upper arm, so that the two may conform to the mouth of the horse, and the upper arm formed to receive the check-straps, the rearwardly-projecting arm from said yoke, and the connecting-bar between the two.

5. The combination, substantially as hereinbefore set forth, of the mouth-piece, the yoke or pressure arms pivoted thereto, the rearwardly-projecting arms therefrom, and the cross-bar to which said arms are pivoted, provided with slots adjacent to the pivotal attachment and with the rings for the reins.

6. The combination, substantially as hereinbefore set forth, of the mouth-piece, side arms or bars hinged to and passing from the respective ends thereof and having pressure devices tapering to conform to the outline of the horse's mouth, and rein-rings connected with the ends of said side bars.

7. The combination, substantially as hereinbefore set forth, with the mouth-piece, of the yokes hinged to respective ends thereof, the lower arm of each yoke projecting inwardly more than the upper.

8. The combination, substantially as hereinbefore set forth, of the mouth-piece, a parallel rear bar, side links uniting them, pivotal rein-rings arranged to slide in slots in the ends of said side bars, and clamping-screws adjusting the distance to which said rings can move.

9. The combination, substantially as hereinbefore set forth, of the mouth-piece, yokes pivoted thereto by vertical pivot-bolts, arms rigid with said yokes extending rearwardly, a cross-bar having curved slots at each end, clamping-screws to provide for the adjustment of the leverage effected by said cross-piece and a substantially tapering mouth-piece, and the links.

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