No. 657,762. Patented Sept. 11, 1900.

J. DEAN.

BRIDLE BIT.

(Application filed Feb. 3, 1898.)

(No Model.)

Fig. 1.

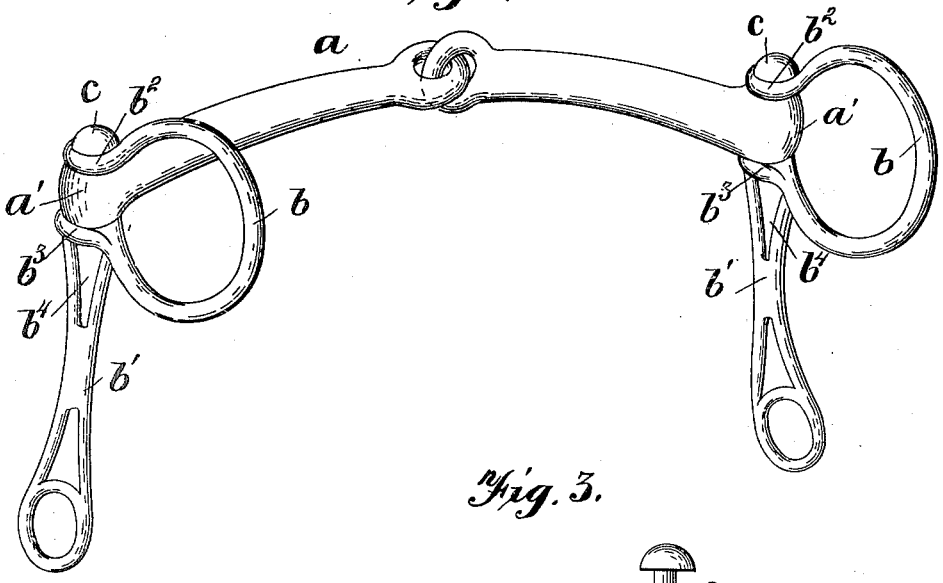


Fig. 3.

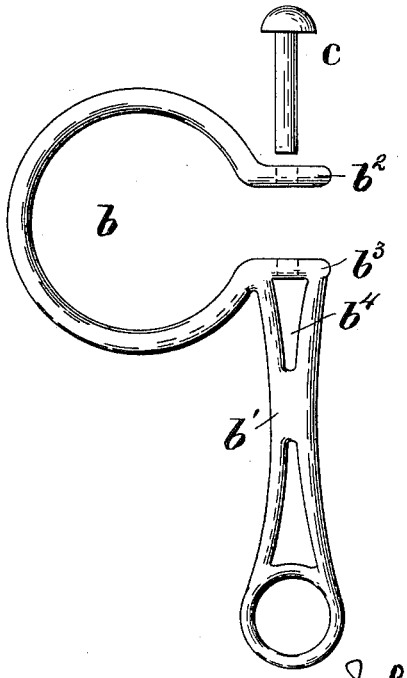
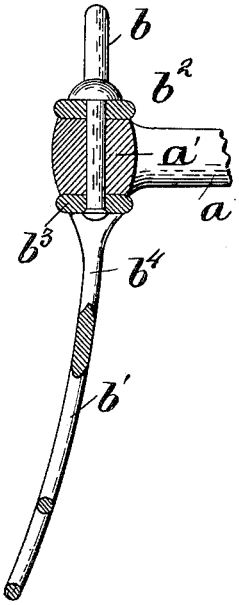


Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN DEAN, OF RACINE, WISCONSIN, ASSIGNOR TO JOHN P. DAVIES, OF SAME PLACE.

BRIDLE-BIT.

SPECIFICATION forming part of Letters Patent No. 657,762, dated September 11, 1900.

Application filed February 3, 1898. Serial No. 668,927. (No model.)

To all whom it may concern:

Be it known that I, JOHN DEAN, a citizen of the United States, and a resident of Racine, in the county of Racine and State of Wisconsin, have invented certain new and useful Improvements in Driving-Bits; and I do hereby declare that the following is a full, clear, and exact description thereof.

This invention relates to certain improvements in driving-bits.

Heretofore in some instances half-snaffle bits have had their cheek-piece rings each spread or distended and formed at the end having the imperforate spoon with a projecting shank passed through the mouthpiece. Such construction required bending and compression of the ring to bring its opposite end into engagement with said shank and to close the ring. Such old bits were expensive and difficult to manufacture and assemble for reasons which are obvious to those skilled in the art, and, furthermore, expensive machinery was required by reason of the necessary bending, and the completed article was weak and defective in construction in certain respects. The ring was weakened by bending, which also prevented the employment of cast metal and increased the expense and difficulty in manufacture. In other instances a screw-threaded hole was tapped into one end of the cheek-piece ring to register with the pivot-holes in the opposite ring end and in the mouthpiece. This screw-threaded hole was closed at its lower end and entered the cheek-piece at the junction between the ring and the imperforate spoon, and the cheek-piece and mouthpiece were hinged together by a machine-screw entering said screw-threaded hole. This old structure presented certain difficulties in manufacture which also in a measure reduced the durability of the completed article and decidedly increased the cost thereof. It was necessary to tap the threaded hole a certain depth to leave a space between the bottom thereof and end of the screw. It was expensive and a slow process to tap each hole. The screws were expensive and worked loose in use, and much time and care were necessary in inserting the screws and turning each to the desired degree of tightness. In another instance an attempt was made to avoid the expense of manufacturing the bits just mentioned and to avoid certain disadvantages incident to such bits by using a smooth pin instead of the screw and locking the smooth pin by a small cross-key through the solid spoon; but it is obvious to those skilled in the art that the trouble and time necessary to drill each small cross-hole and cause the same to intersect the closed socket for the pin at exactly the proper point and in then inserting and fitting the small cross-keys and properly securing them greatly increased the cost of manufacture of the article and rendered the assembling thereof a tedious process.

It is the object of my invention to provide an improved snaffle or half-snaffle bit of increased strength and durability and which avoids the practical disadvantages of the hereinbefore-mentioned bits and which can be so easily and economically manufactured as to reduce the cost of the completed article to the consumer to a minimum figure, which is materially less than the necessary cost of the bits hereinbefore referred to.

My invention consists in certain novel features in construction and in combinations and arrangements of parts, as more fully and particularly pointed out and specified hereinafter.

Referring to the accompanying drawings, Figure 1 shows in perspective a half-snaffle bit constructed in accordance with my invention. Fig. 2 is a view, partially in section, showing one end of the mouthpiece. Fig. 3 is a detail elevation of a cheek-piece, the pivot-rivet shown in elevation above the same.

In the drawings, a is the mouthpiece or bar formed with vertical end eyes a' a'. Said bar can be jointed, stiff, or flexible and can be made of various materials or combinations of materials suitable for the purpose. Each bit has two cheek-pieces which are similar so far as features of construction are concerned. Each cheek-piece is made in one integral piece of metal and is composed of a rein or bridle ring b and a spoon b', projecting vertically from an end thereof. Each ring has the side opening receiving an eye of the mouth-bar and is formed with the parallel horizontal extremities b^2 b^3, fitting the opposite faces of the mouth-bar eye, respect-

ively. The upper ring end or projection b^2 has an opening therethrough registering with the mouth-bar eye. The spoon is shown depending from the lower extremity b^3 of the ring, which is formed with the vertical rivet-opening registering with the mouth-bar eye.

The extremities of the mouth-bar are hinged to the cheek-pieces by the two pivot-rivets *c c*. Each rivet is headed at the upper end and passes down through the extremities b^2 b^3 and a mouth-bar eye, with the said head exposed and resting on the top face of the extremity b^2. The lower end of each rivet is exposed and projects through and preferably beyond the vertical hole in extremity b^3, and each cheek-piece is suitably formed at the junction between the ring and spoon to expose the end of the rivet and permit upsetting thereof.

In the drawings I show each cheek-piece provided with a transverse opening or aperture b^4, completely adjacent to the ring extremity, from which the spoon projects, and intersecting the rivet-hole through extremity b^3.

In view of my peculiar construction the several parts of the bit can be separately completed and thoroughly finished, and to assemble a bit it is only necessary to insert the two pivot-rivets. As both ends of each rivet are exposed, one or both of these ends can be then upset to complete the bit. A suitable instrument or implement can be inserted in each transverse opening b^4 to engage the rivet end and upset the same.

It should be noted that the extremity of each rein-ring from which the spoon projects has its front and rear portions (in the line of strain on the ring) of its eye or perforation tied together rigidly by the forked upper end of the spoon. This arrangement not only permits the insertion of the instrument on which the end of the rivet is upset, but also braces the said eye. Thus should the metal of said eye crack between the ends of the spoon, which might occur during the process of upsetting the rivet, the parts will still be rigidly and operatively tied together by the spoon integral therewith.

The cheek-pieces are so constructed that the rivets can be upset without in any way marring or defacing other parts of the bit and so that the rivets or adjacent parts do not have to be finished after the upsetting operation.

By reason of my peculiar construction I am enabled to produce an exceedingly strong and durable bit and one which can be most easily, quickly, and economically manufactured and put on the market at a very low price.

Having thus fully described my invention, what I claim is—

The bit consisting essentially of a mouth-bar provided with end openings, the two cheek-pieces, each having the ring with the two extremities above and below a mouth-bar end and having perforations alined with the opening therein and the spoon integral with one of said extremities and provided with the transverse tool-receiving opening intersecting the perforation in said extremity, the portion of the spoon divided or forked by said opening uniting or binding together the diametrically-opposite portions of said ring extremity in front of and behind its perforation, and the two headed rivets passed through said ring extremities and mouth-bar ends and projecting into said transverse openings and adapted to have their ends upset by an instrument inserted in said openings, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand, at Racine, in the county of Racine and State of Wisconsin, in the presence of two witnesses.

JOHN DEAN.

Witnesses:
R. W. VAN OMENN,
MARY THIESEN.