(No Model.)

J. STANLEY.

BRIDLE BIT.

No. 346,231. Patented July 27, 1886.

Fig. 1

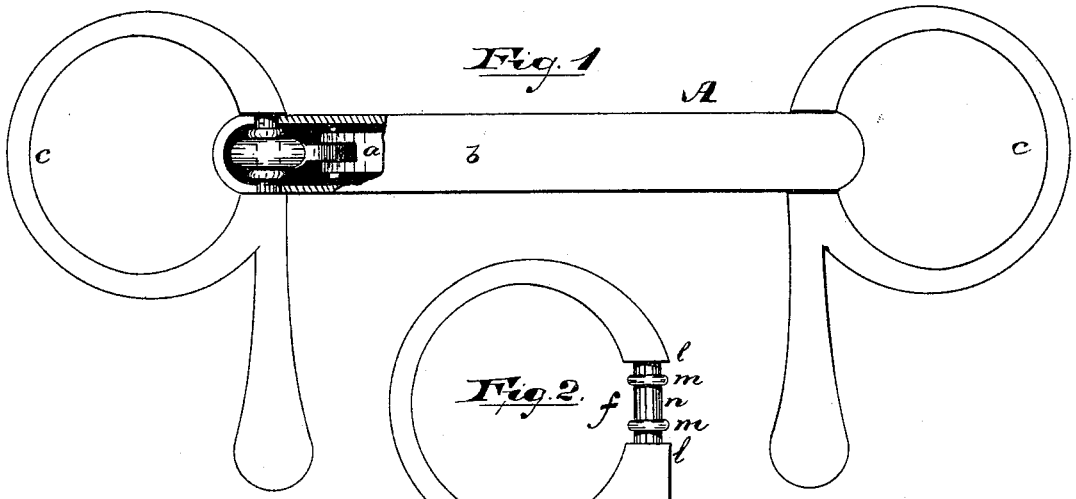
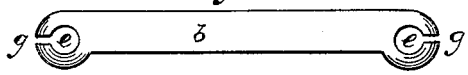


Fig. 2.

Fig. 3.



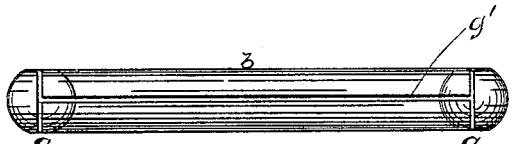


Fig. 4.

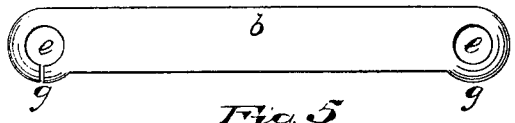


Fig. 5.

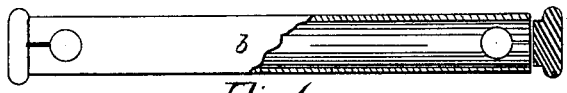


Fig. 6

WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES STANLEY, OF NEWARK, NEW JERSEY.

BRIDLE-BIT.

SPECIFICATION forming part of Letters Patent No. 346,231, dated July 27, 1886.

Application filed October 28, 1885. Serial No. 181,145. (No model.)

To all whom it may concern:

Be it known that I, JAMES STANLEY, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Bridle-Bits; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specificaton.

This invention relates to certain improvements in that class of bits having rubber coverings which extend not only across the mouth-piece of the bit but over and around the ends or heads thereof, transverse perforations being provided in said coverings to allow a passage for the cheek-piece beams. Heretofore this covering has been molded directly upon the chain or flexible core, so that the rubber was caused to enter the recesses or apertures in and between the core-sections, clogging them so that the mouth was made undesirably stiff and solid, and should one of the links become broken or detached when in use it was impossible to draw back the covering to gain access to the link without so thoroughly mutilating the covering as to render it of no value for future use in connection with the bit.

The object of this invention is to allow in a bit a mouth-piece covering with closed ends, the said covering, after being slitted at one end, to be turned readily back to expose the core, and then be rearranged and cemented at the end, and thus be as good and serviceable as at first; to secure increased freedom of movement of the core-sections in such a bit, whereby it is rendered more flexible; to secure in a bit having its sections free or unclogged by rubber, as described, a more secure end finish to the covering and protection against the longitudinal movement of the said covering, and to reduce the cost of construction.

The invention consists in the improved bit of the class specified, the parts of which are arranged and combined substantially as will be hereinafter set forth, and finally embodied in the clauses of the claim.

Referring to the accompanying drawings, in which like letters indicate corresponding parts in each of the several figures, Figure 1 is an elevation of a bit partly broken away to show the construction thereof more clearly. Fig. 2 is a side elevation of a cheek-piece in detail; and Figs. 3, 4, 5, and 6 are detail views of coverings for the core of the mouth-piece, showing modifications in the construction thereof.

In the drawings, A is a bit having a sectional core, *a*, a tubular rubber or equivalent covering, *b*, and cheek-pieces *c*.

In carrying out the invention I mold independent of the core a core-covering having the ends closed or brought together, as in Figs. 3 to 6. Said covering through the middle is, when viewed in longitudinal section, as in Figs. 1 and 6, approximately straight on the inside, or does not conform closely to the irregularities in the surface of the core and thus clog the free action of the links or sections, there being no intervening films of rubber to stop or hinder a free pivotal movement of the parts, as will be understood. This freedom of the covering from the core also allows the tube to be drawn back to expose the core and be replaced in position without detriment to its value. Near the ends the covering is provided with perforations *e e* for the beams *f f* of the cheek-pieces, and at the extremities the rubber comes together, closing the ends. When in proper relation to the cheek-pieces and core, the covering thus constructed allows a free movement of the links or sections, while at the same time the closed ends of the covering prevent any longitudinal movement of the covering on the core, and any possibility of disarrangement, such as the withdrawal of ordinary tubing from end caps or like accidental displacements.

To allow the insertion of the core to the interior of the covering, I provide slits or cuts *g g*, either at the closed ends, as in Fig. 3, or at the sides, as in Figs. 4 and 5, which may be formed either when the covering is molded or be cut with a die or other tool. With this construction of the tube or covering the core may be thrust into position from one end before securing one of the cheek-pieces in place; or I may complete the construction and combination of the metal parts of the bit, and then, by providing an additional longitudinal cut

or slit, *g'*, apply the covering. Said covering being in place, the slit or slits are closed by suitable cement—preferably that having rubber in its composition—which so unites with the rubber of the covering as to produce a perfect union, and so that the slits have no weakening or otherwise deteriorating effect. When the cement is sufficiently dry, the bit is finished ready for use.

As before indicated, I may use an ordinary piece of tubing—such as that commonly found in the market—in lieu of the specially-molded tube having the closed ends. In this case, after said tube has been arranged on the mouth-piece its ends are closed by caps or end tips, of like material with said tube, the parts being cemented together, as above mentioned; but as this construction may involve additional labor it is not preferred.

Preferably but one end of the molded tube is slitted, the other end being a closed or unslitted socket having only the transverse-beam perforation, as in Fig. 5.

In connection with the tubular covering having the closed end, I form a pivotal beam or pin in the cheek-piece, having lugs or other means to keep the core centrally between the shoulders *l l* of said cheek, and prevent said core from impinging upon that portion of the covering lying between said shoulders and the core. To this end I prefer to form on said beam projections *m m*, forming a groove, *n*, between, in which the end of the core is fastened. The same effect may be obtained by simply reducing the central diameter of the beam; but this construction is somewhat defective in that it reduces the strength of said beam; or, again, a central bulb or projection may be formed on the beam and a corresponding socket in the core, in which said bulb or projection is arranged and fastened by wrapping or turning said core around said bulb, as will be understood.

The peculiar process of securing the cover upon the core will probably form the subject-matter of a subsequent application, and is not claimed herein.

Having thus described the invention, what I claim as new is—

1. In combination with a mouth-piece, core, and covering, cheek-pieces having a pivotal beam or pin provided with projections *m m*, forming a groove, *n*, to receive the end of the core and hold it centrally between the shoulders *l l* of the cheek, to prevent said core from impinging upon that portion of the covering between the said core and shoulders, substantially as shown and described.

2. The improved bridle-bit herein shown and described, combining therein cheek-pieces, a sectional or jointed mouth-piece or core, and a core-covering, the interior walls of which are devoid of intervening clogging portions, which extend into the recesses between the links or sections, and which is provided with terminal tips or portions for closing over the ends of the core, whereby increased freedom of action of the links is secured, and at the same time the covering is prevented from working longitudinally on the said core, all substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 22d day of October, 1885.

JAMES STANLEY.

Witnesses:
CHARLES H. PELL,
OSCAR A. MICHEL.