

W. F. Letchworth,

Bridle Bit.

No. 102838.

Patented May 10, 1870.

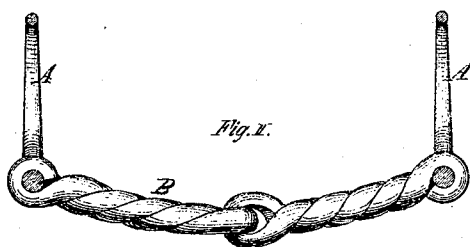
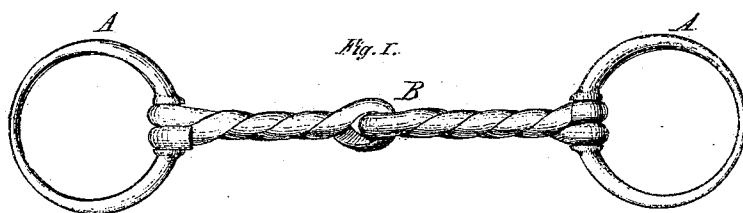


Fig. III.



Fig. IV.



Fig. V.



Victor H. Becker  
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# UNITED STATES PATENT OFFICE.

WILLIAM P. LETCHWORTH, OF BUFFALO, NEW YORK.

## IMPROVED BRIDLE-BIT.

Specification forming part of Letters Patent No. **102,838**, dated May 10, 1870.

*To all whom it may concern:*

Be it known that I, WM. P. LETCHWORTH, of the city of Buffalo, in the county of Erie and State of New York, have invented a certain new and useful Improvement in Bridle-Bits, of which the following is a specification.

There is perhaps no one cause to which more of the serious disasters resulting from horses running away can be attributed than that of the breaking or parting of the mouth-piece of the bridle. This mouth-piece is usually composed either of twisted wire, which forms the most reliable and at the same time one of the cheapest bits, or of malleable iron, cast with a hook at each end, which engages with the cheek-pieces by closing around them, forming what is termed a "cold-joint." This mouth-piece is objectionable from the fact that the bending of the metal in forming the joints frequently produces partial fractures, which are not always discernible and which so weaken the connection as to render the bit insecure. The wire bit, though possessing the desirable qualities of strength and cheapness, is rejected by many on account of its liability to abrade, by reason of its roughness, the animal's mouth, and a smooth bit of inferior strength and reliability adopted in its stead. In other cases the mouth-piece is covered with leather or vulcanite, or by a cast-metal sleeve, each of which involves a greater or less expense and increases by so much the cost of the bit.

The object of my invention is the production of a twisted bit, of wrought-iron, which shall possess all of the desired qualities of the twisted-wire bit and at the same time be sufficiently smooth to prevent the abrasion of the animal's mouth.

The nature of my invention consists in forming the mouth-piece of a bridle-bit of wrought-iron rods of such shape in cross-section as will produce, when twisted together, a mouth-piece having a comparatively smooth surface instead of the rough, spirally-corrugated surface which characterizes it when made of twisted wire.

In the accompanying drawings, Figure I represents a plan of my improved bit; Fig. II, a section through the cheek-pieces. Figs. III, IV, and V are cross-sectional views of rods of suitable shape for forming my improved mouth-piece.

Like letters refer to like parts in each of the figures.

A represents the cheek-pieces, of any ordinary and suitable construction; and B, my improved mouth-piece, made by twisting together small rods of wrought-iron, half-round or half-oval in cross-section, or of equivalent shape, having a plane or flattened side, the flattened side of the rod being on the inside, after it has been twisted together. By the use of this shape of rod a mouth-piece is produced which has a comparatively smooth outer surface, so much smoother than the common twisted-wire bit as to render a special covering to protect the mouth unnecessary. When round wire or rods are employed the roughness of the mouth-piece is in proportion to the diameter of the wire or rod—the larger the wire the rougher the bit. This fact renders the use of large wire objectionable on account of the roughness of the bit produced therefrom, while a bit made of small wire is objectionable from the fact that it is more liable, by reason of its small diameter, to cut the horse's mouth, besides possessing less strength. By employing half-round or, preferably, half-oval rods a bit of sufficiently large size to prevent cutting the mouth, and of sufficient smoothness to avoid abrading, can be readily produced.

What I claim as my invention is—

A mouth-piece for bridle-bits, made of half-round or half-oval rods or wire twisted together as specified, as an improved article of manufacture.

WM. P. LETCHWORTH.

Witnesses:

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