

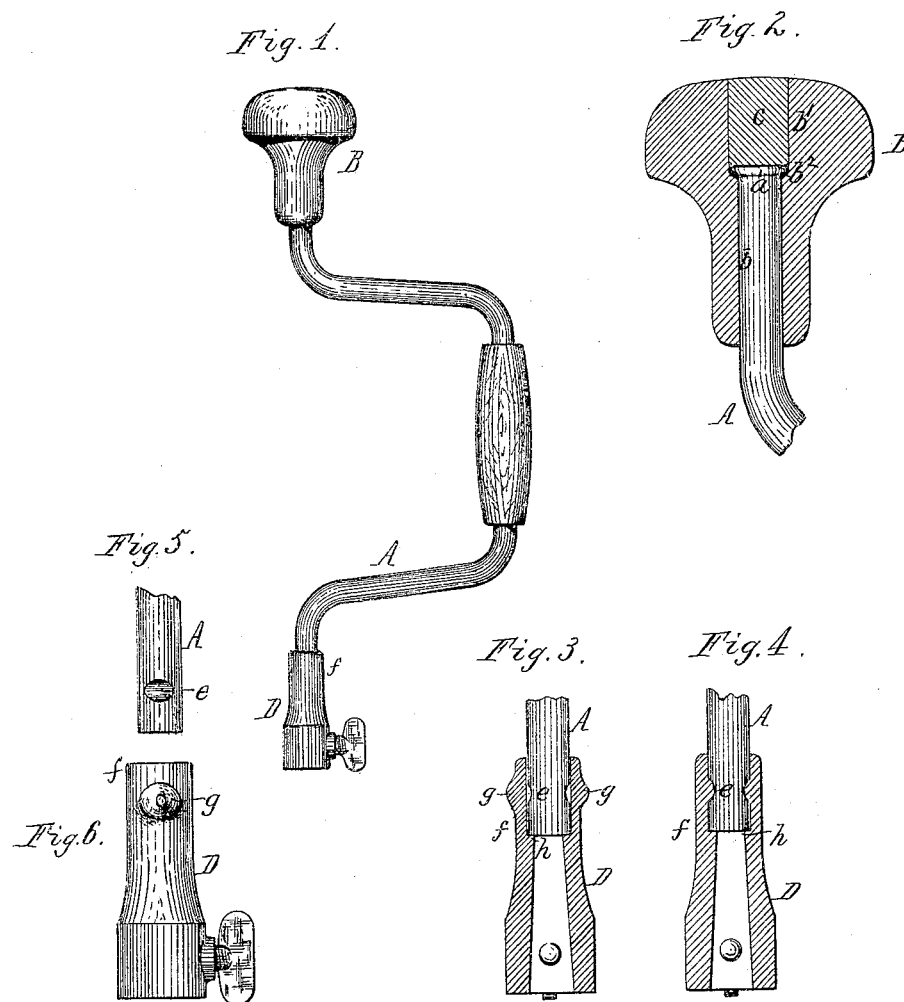
(No Model.)

C. H. AMIDON.

BIT STOCK.

No. 263,455.

Patented Aug. 29, 1882.



Chas. Buchheit.  
Edw. J. Brady. } Witnesses

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# UNITED STATES PATENT OFFICE.

CHARLES H. AMIDON, OF BUFFALO, NEW YORK.

## BIT-STOCK.

SPECIFICATION forming part of Letters Patent No. 263,455, dated August 29, 1882.

Application filed August 26, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES H. AMIDON, of the city of Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Bit-Braces, of which the following is a specification.

This invention relates to a novel construction of the head and socket portions of a bit-brace, whereby the brace is materially cheapened and simplified.

The invention consists of a head of peculiar construction, which is applied to the brace bar or rod before the latter is bent, whereby the head is securely held in position on the bar; also, of a socket secured to the brace-rod by impressing the metal of the socket into depressions or indentations formed in the rod, and of the particular construction of this socket, as hereinafter fully set forth.

In the accompanying drawings Figure 1 is a side elevation of my improved brace. Fig. 2 is a sectional elevation, on an enlarged scale, of the head of the brace. Fig. 3 is a sectional elevation of the socket applied to the end of the brace-rod previous to securing the parts together. Fig. 4 is a similar view, showing the parts secured together. Fig. 5 is an elevation of the end of the brace-rod to which the socket is applied. Fig. 6 is a side elevation of the socket previous to securing it to the rod.

Like letters of reference refer to like parts in the several figures.

A represents the rod or bar of the brace, and B the head, constructed of wood and attached to one end of the rod A. The latter is provided at its end with a collar or annular enlargement, *a*. The inner portion of the head B is constructed with a bore, *b*, which fits around the rod A, and the outer portion of the head is constructed with a larger bore, *b'*, which fits over the enlargement *a* of the rod. A shoulder, *b<sup>2</sup>*, formed at the junction of the bores *b* and *b'*, fits against the inner side of the enlargement *a* and prevents the head from being separated from the rod. The head is slipped on the rod before the latter is bent, and is secured in place on the rod by a wooden plug, *c*, which fills the outer

portion of the bore *b'* above the enlargement *a*, and which is glued or otherwise secured in the bore *b'*. The head B is by this means firmly held on the rod A against movement lengthwise of the rod, but permitted to turn thereon.

D represents the socket, which receives the end of the bit, and which is secured to the opposite end of the rod A. The latter is constructed with one or more notches or depressions, *e*, near its end, which notches are covered by the sleeve *f* at the inner end of the socket.

*g* represents one or more enlargements or protuberances formed on the sleeve *f* of the socket, in line with the notches *e* of the rod; and *h* is a shoulder formed in the bore of the sleeve *f*, and bearing against the end of the rod A when the sleeve is in the proper position on the rod.

The socket D is constructed of malleable iron or similar malleable metal, and secured to the rod by applying the sleeve to the end of the rod, with its enlargements *g* opposite the notches *e* of the rod. The socket is then placed in a powerful press, whereby the metal of the socket is depressed into the notches *e* of the rod, thereby securely fastening the socket on the rod. The pressure of the press falls upon the enlargements *g*, and the latter are made just large enough to replace the metal which is forced into the notches *e*, thereby leaving the exterior surface of socket of a smooth cylindrical form when the parts are secured together, as shown in Fig. 4. It is obvious, however, that the metal of the socket can be pressed into the notches *e* of the rod A in the absence of the enlargements *g* of the socket; but this would form indentations in the outer surface of the socket, and I therefore prefer to employ the above-mentioned enlargements.

I claim as my invention—

1. The combination, with the brace-rod A, made of uniform thickness throughout its length, except at its end, where it is provided with an enlargement or collar, *a*, of the head B, constructed with an inner narrow bore, *b*, fitting on the rod, and an outer enlarged bore, *b'*, fitting over the collar *a*, the head being slipped on the rod before it is bent and held

on the same by a plug, *c*, secured to the bore *b'*, and bearing against the collar *a*, substantially as set forth.

2. The combination, with the brace-rod *A*,  
5 provided with one or more notches, *e*, of a socket, *D*, of malleable metal, constructed with one or more enlargements, *g*, opposite the notches *e* of the rod, whereby the metal which is pressed

into the notches *e* is replaced by the enlargements *g* and a smooth exterior form of the 10 socket preserved, substantially as set forth.

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Witnesses:

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