

David F Fetter.

Hollow Bolt

N^o 86,976.

Patented Feb. 16. 1869.

Fig: 2.

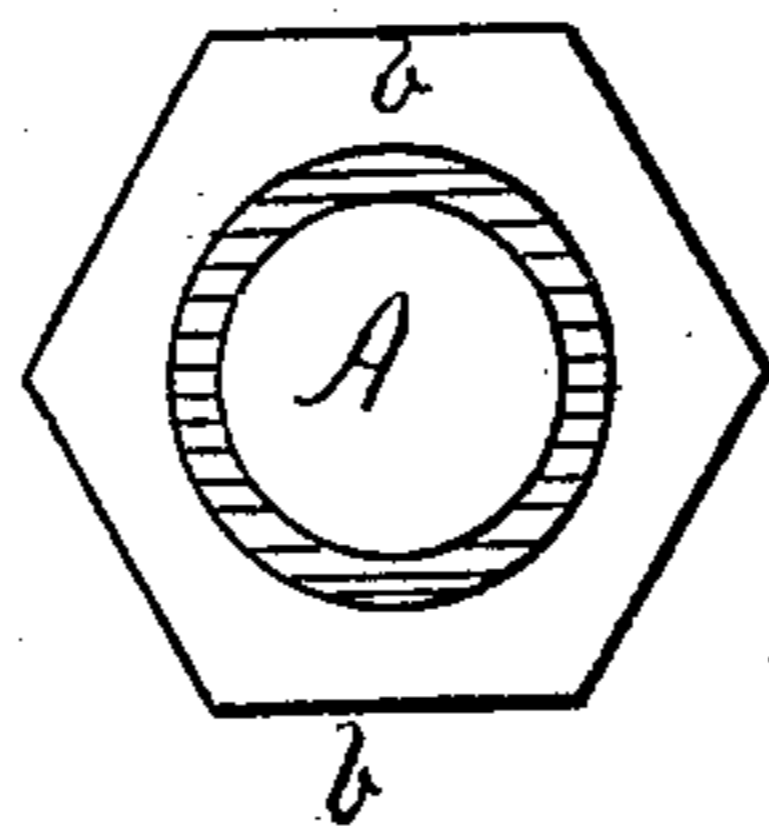
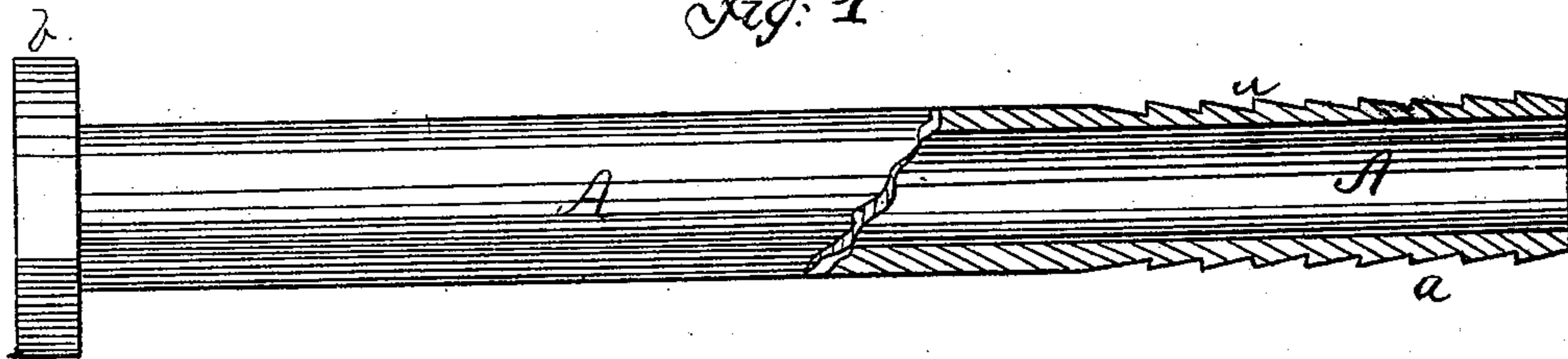
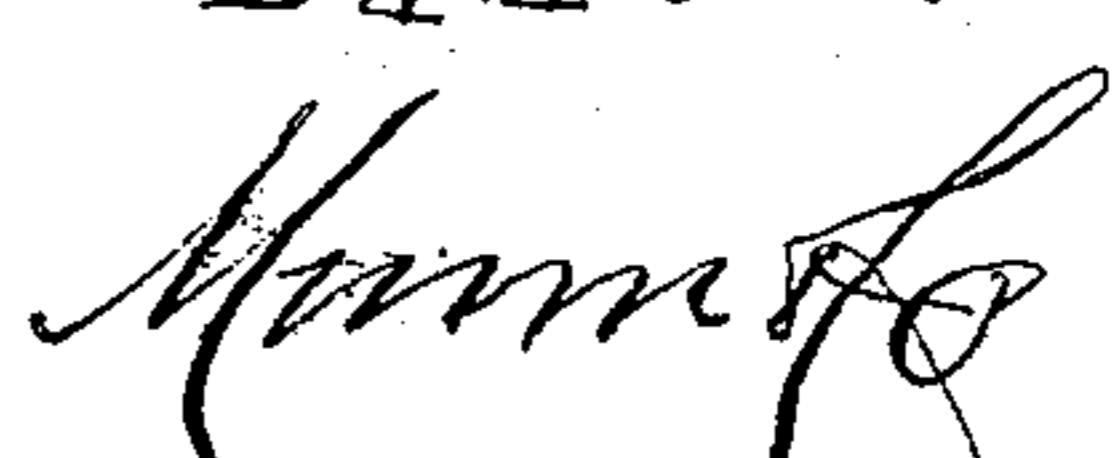


Fig: 1.



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per 
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DAVID F. FETTER, M. D., OF NEW YORK, N. Y.

Letters Patent No. 86,976, dated February 16, 1869.

IMPROVEMENT IN HOLLOW BOLTS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, DAVID F. FETTER, M. D., of the city, county, and State of New York, have invented a new and improved Tubular Bolt; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

Figure 1 represents a side view, partly in section, of my improved tubular bolt.

Figure 2 is an end view of the same.

Similar letters of reference indicate corresponding parts.

This invention relates to an improvement in hollow bolts for ship-building-purposes, in which a large proportion of metal may be utilized, while it will be fully as strong as those heretofore employed.

It consists in providing one end of the hollow bolt with a series of concentric grooves, so arranged that the bolt may be easily driven into the wood, but cannot be withdrawn.

A, in the drawings, represents a bolt made of tubular iron, or other suitable material, of suitable length and diameter. Concentric grooves, *a a*, are formed

around it, near one end, as shown in fig. 1, to make it hold in the wood. When the bolt is driven into the wood, it will enter very easy, but cannot again be withdrawn, as the sharp edges retain it, harpoon-fashion, in the wood. Such a bolt can, if desired, be filled with wood, to increase its strength.

The bolt is made with a head, *b*, as shown.

I am aware that hollow or tubular bolts, having screw-threads cut upon one or both ends, have heretofore been used, but this construction I do not claim, as it forms no part of my invention.

Having thus described my invention,

I claim as new, and desire to secure by Letters Patent—

As a new article of manufacture for ship-building-purposes, the hollow bolt A when provided upon one end with a series of concentric grooves, *a*, which permit the bolt to be easily driven into the wood, but prevent it from being withdrawn, as herein shown and described.

DAVID F. FETTER, M. D.

Witnesses:

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