

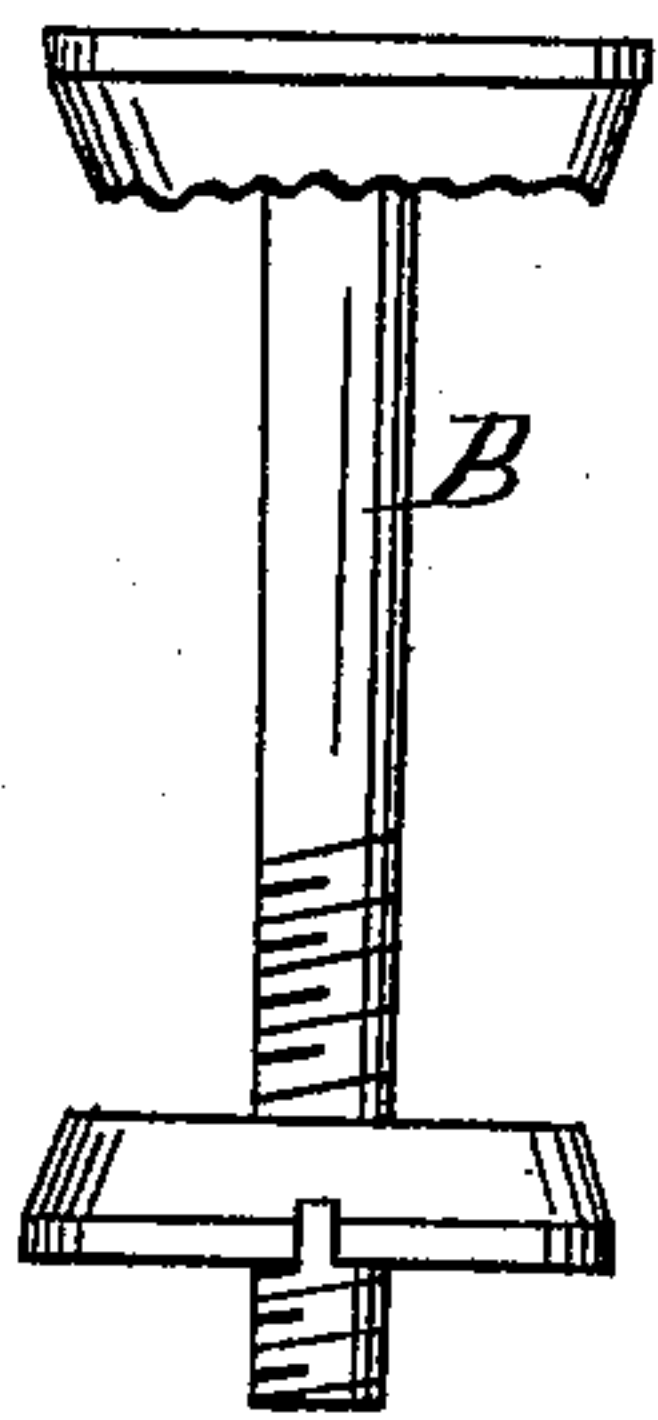
*D. T. Munger.*

*Heading Screws.*

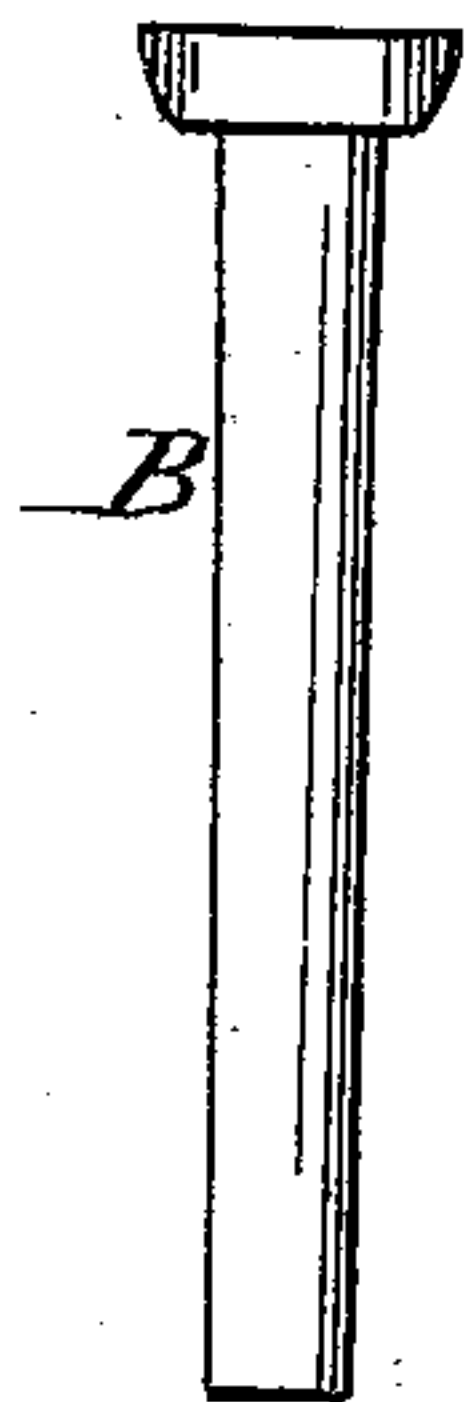
*Nº 98,180.*

*Patented Dec. 21, 1869.*

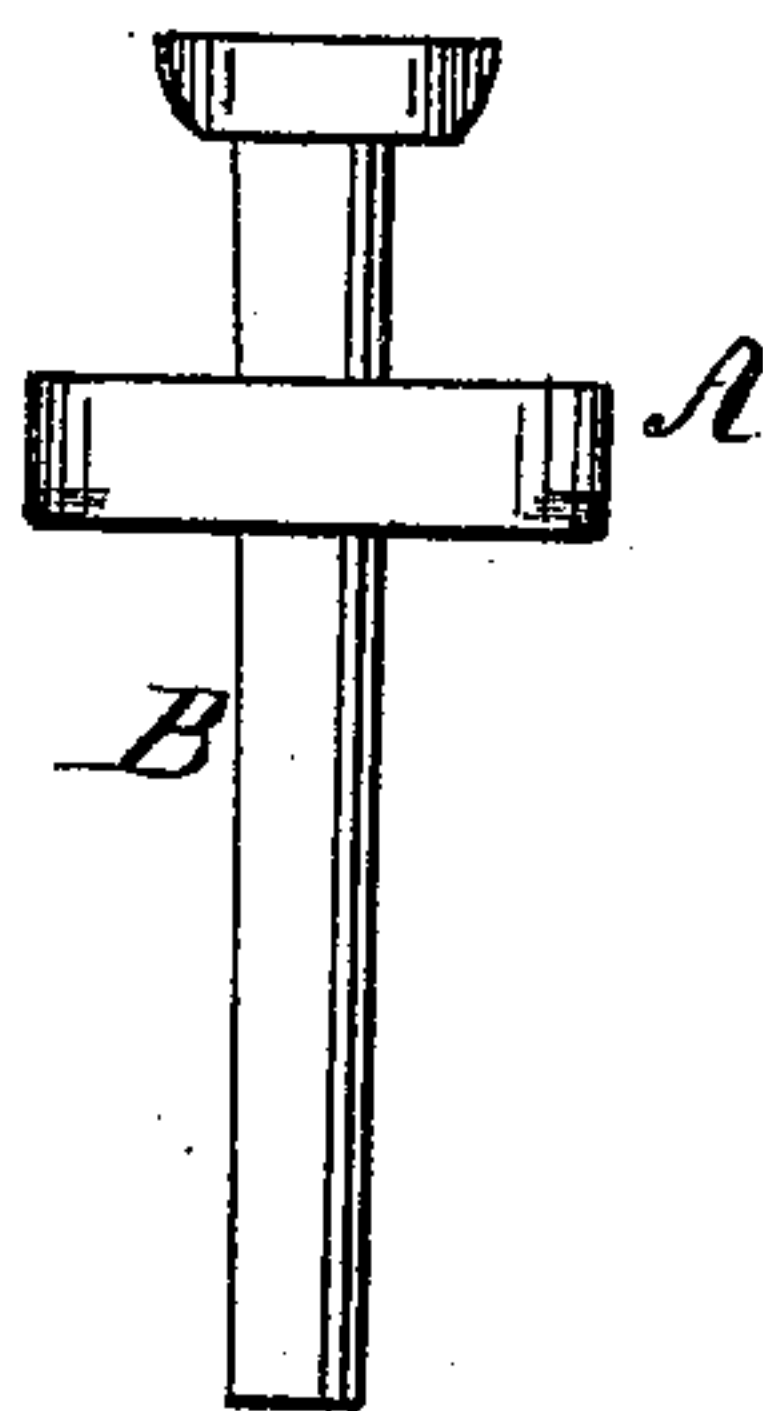
*Fig: 1.*



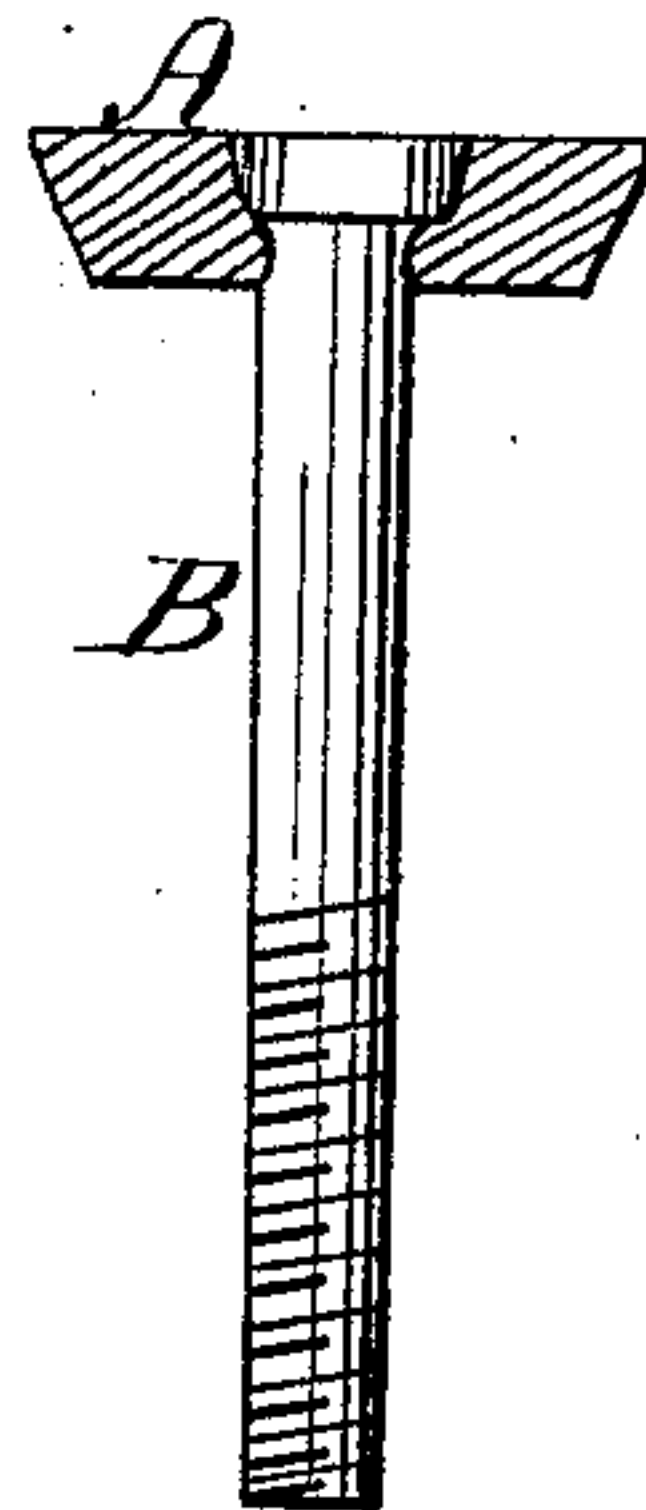
*Fig: 2.*



*Fig: 4.*



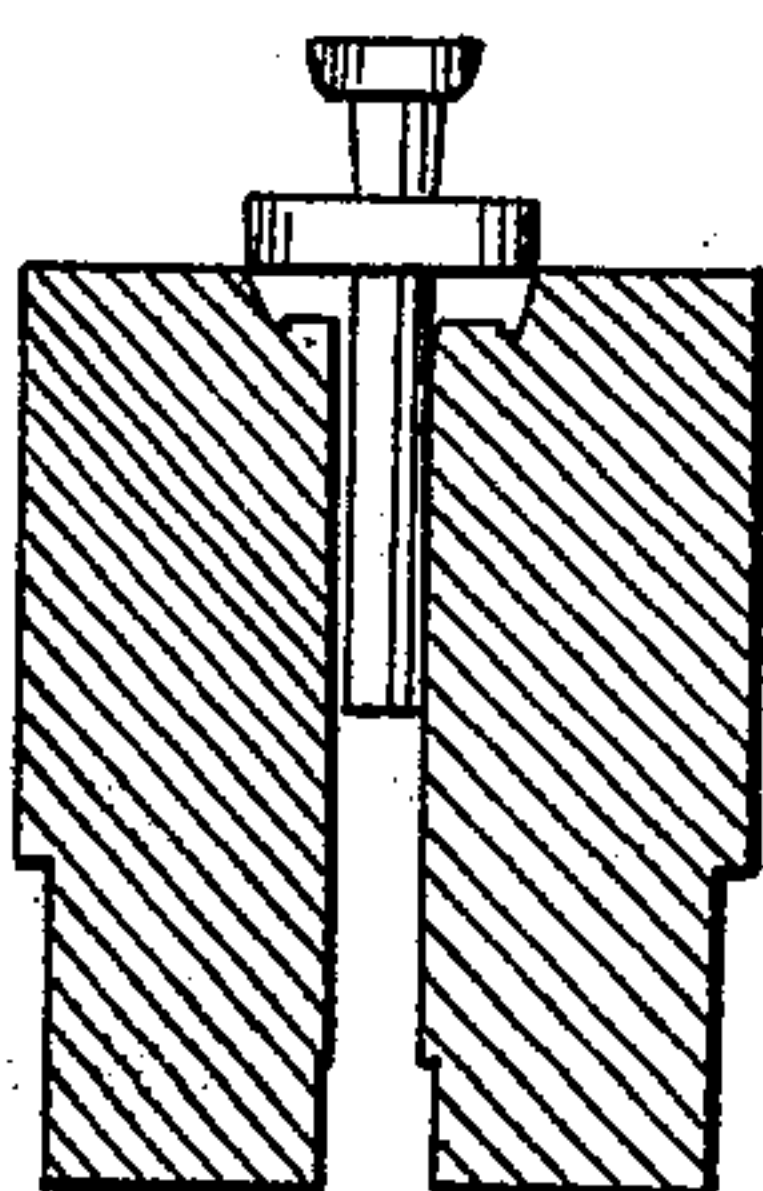
*Fig: 5.*



*Fig: 3.*



*Fig: 6.*



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*By his Attorney*

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# United States Patent Office.

DANIEL T. MUNGER, OF WATERBURY, CONNECTICUT, ASSIGNOR TO HIMSELF AND RUFUS E. HITCHCOCK, OF SAME PLACE.

*Letters Patent No. 98,180, dated December 21, 1869.*

## METHOD OF HEADING SCREWS.

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, DANIEL T. MUNGER, of Waterbury, in the county of New Haven, and State of Connecticut, have invented a new Improvement in Method of Heading Screws and Rivets; and I do hereby declare the following, when taken in connection with the accompanying drawings, and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view of the screw or rivet complete;

Figure 2, the shank;

Figure 3, the disk;

Figure 4, the shank, as placed through the disk, preparatory to the introduction of the dies; and in

Figure 5, a central section of the head, illustrating the manner in which the parts are united together.

Figure 6, a sectional view of the dies, with the blank placed therein, preparatory to striking up.

This invention relates to an improvement in screws, such as are used for saw-handles, but is alike applicable to the formation of other screws, rivets, &c.

Heretofore, saw-screws have been either formed entire from cast-metal, or the head soldered to the shank of the screw. Both constructions are liable to break, inasmuch as the cast-metal or soldering is not sufficiently strong to withstand the strain upon the saw, and this difficulty exists in screws, rivets, &c., for other purposes.

By my invention, these difficulties are entirely overcome, and consists in forming a perforated disk as a blank for the head, and in a blank for the shank, the

said shank being previously upset, so as to form a small head, and conically-shaped neck, then setting the said formed shank through the perforation in the disk, then placing both disk and shank into suitable dies, then driving the shank through the disk until the head on the shank is embedded into the disk, and the disk driven into the dies, so that that part of the disk immediately below the head of the shank contracts closely around the neck of the shank.

A, fig. 3, is the blank for the head, which consists of a disk struck from sheet-metal, and perforated through its centre.

B, fig. 2, is the blank for the shank, formed from wire, its head-end upset, so as to enlarge the blank at that end, and form a small head and conically-shaped neck, the shoulder at the head being slightly rounded; then this shank is inserted through the disk, as in fig. 4, and placed in suitable dies. The shank is driven down through the disk, and the disk and shank into the die, which process unites the two parts, as seen in fig. 5.

This result is practically demonstrated by cutting open many of the heads, which are found to be the same, and this union of the two parts is the strongest possible to be made, inasmuch as, in striking up, the metal is hardened or condensed about the head and neck. The shank is threaded in the usual manner.

I claim, as my invention—

The method herein described, of making blanks for screws, rivets, and like articles of manufacture.

DANIEL T. MUNGER.

Witnesses:

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