(No Model.)

F. W. HASTINGS.

DEVICE FOR MAKING DIES FOR FORMING AUGER HEADS.

No. 321,967. Patented July 14, 1885.

Fig. 1.

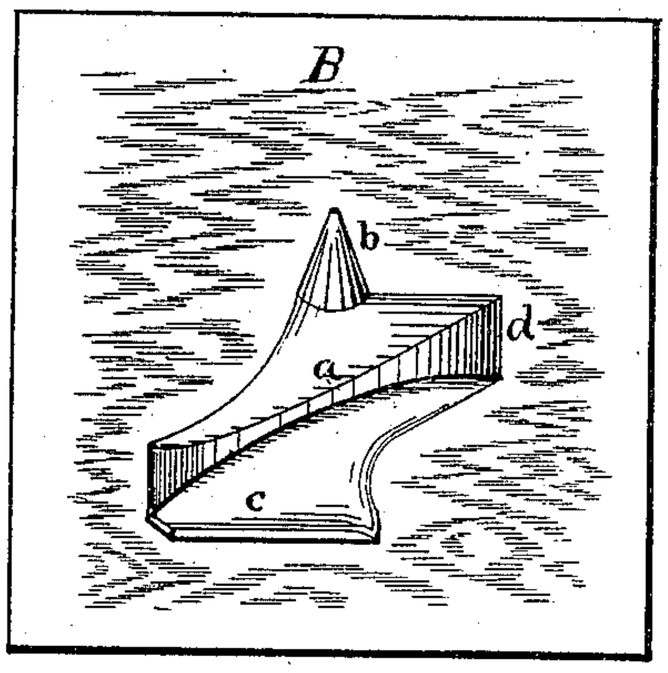


Fig. 2.

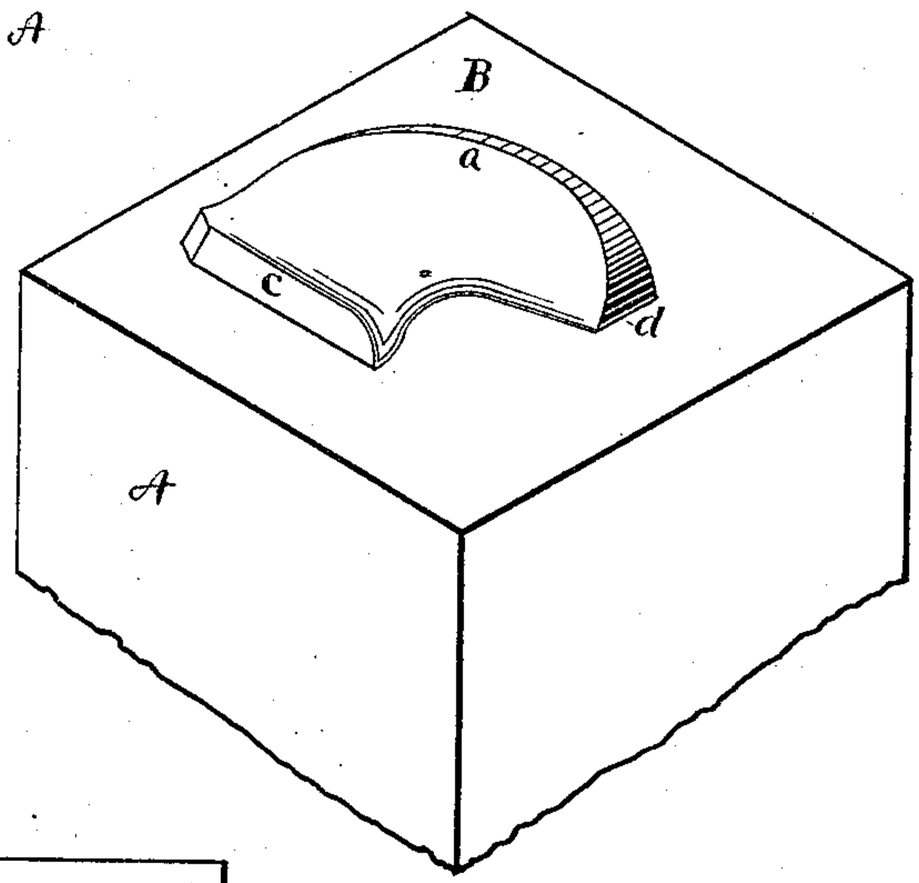


Fig. 3.

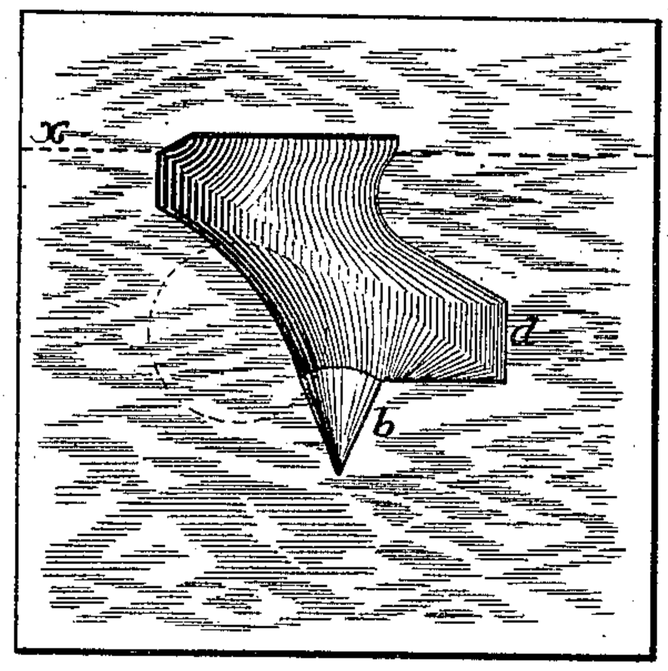
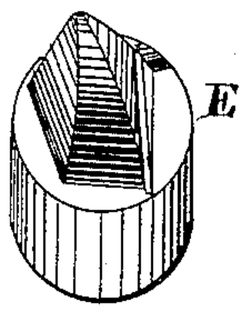


Fig. 4.



Witnesses:

J. Edward Ludington

Daniel S. Clemmey Jr.

Inventor.

Frank W. Hastings

by Wes. Tovey

Atty

UNITED STATES PATENT OFFICE.

FRANK W. HASTINGS, OF WALLINGFORD, CONNECTICUT, ASSIGNOR TO THE JENNINGS & GRIFFIN MANUFACTURING COMPANY, OF SAME PLACE.

DEVICE FOR MAKING DIES FOR FORMING AUGER-HEADS.

SPECIFICATION forming part of Letters Patent No. 321,967, dated July 14, 1885.

Application filed January 19, 1885. (No model.)

To all whom it may concern:

Be it known that I, FRANK W. HASTINGS, a citizen of the United States, residing at Wallingford, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Punches for Making Dies for Forming the Heads of Augers, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 is a plan view of the under side of the punch, and Fig. 2 is a perspective view of the same. Fig. 3 is a plan view of the die or impression made by the punch. Fig. 4 is a view of the pintle which forms a part of the die.

My invention relates to a punch for making dies for forming the heads of augers and bits. Heretofore these dies have been made by cutting-tools in the hands of a die-sinker.

The object of my invention is to reduce the cost of these dies, and to make them more nearly alike.

The letters on the several parts of the punch are used to designate the corresponding parts or depressions in the die.

To enable others to make and use my improved punch, I will give a detailed description of the same.

A cubical block of steel, A, has its upper end formed to be held in an ordinary drop. Its lower end is planed or cut away, leaving the flat or plane surface B and a projecting part, which is formed into a half turn or twist, *a*, of an auger, one half, *b*, of a conical point, and the part *c*. The part *d* is made thick to form a cutting-lip. The part *c* does not correspond with the twist of an auger, but is made thicker, so as to make a deeper impression in the die, whereby the twist will not come against the die when the auger is inserted to form the "head," as the cutting-edges and conical screw of an auger are called. When the twist of the auger is inserted in the die to form the head, it is only requisite that the end of the twist be inserted. The die is therefore cut away on the dotted line *x*, so that the end of the twist only will rest on it when the head is formed.

Having described my improved punch, the manner of using it is as follows: A block of steel is slowly and evenly heated to as high a temperature as it will bear without burning. It is then placed and securely fastened in an ordinary drop, and the punch let fall upon it at intervals. Between the intervals water may be thrown into the impression made by the punch, to remove the scale and secure a smooth impression. Preferably I make four or five blows with the punch and a better impression is thus made than when only one or two are made. The die is then planed off and the ordinary and well-known pintle E, Fig. 4, is inserted in the die in the ordinary way to complete it, the place of insertion being indicated by dots in Figure 3.

Having described my improved punch, what I claim, and desire to secure by Letters Patent, is—

The punch herein described, having its lower end or side cut away to form the plane surface B, one-half, *a*, of a turn or twist of an auger or bit, one-half, *b*, of a conical point, and the part *c*, the half turn or twist increasing in thickness from its outer edge and having the thick part *d* to form a cutting-lip, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK W. HASTINGS.

Witnesses:

GEORGE TERRY,

GEORGE P. SALISBURY.