

E. H. TRACY.  
Die for Making Augers.

No. 48,633.

Patented July 4, 1865.

Fig. 1.

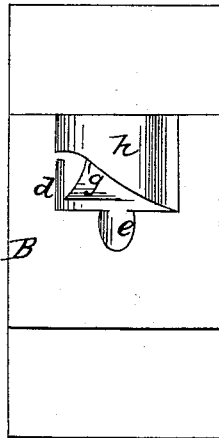


Fig. 2.

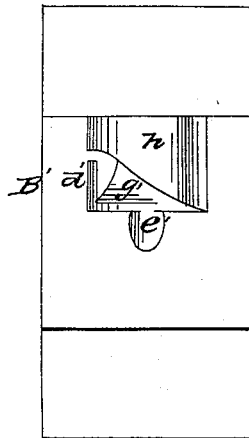


Fig. 3.

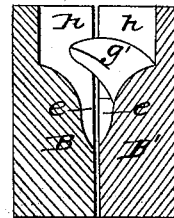


Fig. 4.

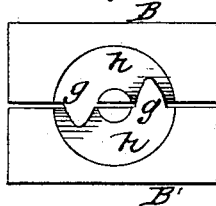


Fig. 5.

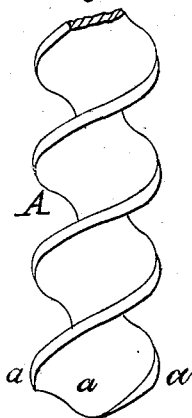


Fig. 6.

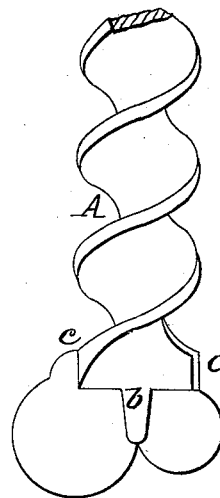
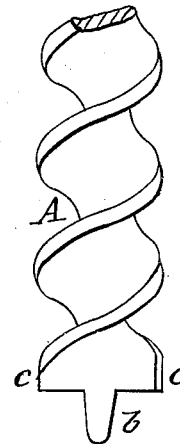


Fig. 7.



Witnesses  
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# UNITED STATES PATENT OFFICE.

EDWD. H. TRACY, OF MERIDEN, CONNECTICUT, ASSIGNOR TO THE EAGLE AUGER AND SKATE MANUFACTURING COMPANY, OF SAME PLACE.

## IMPROVEMENT IN DIES FOR MAKING AUGERS.

Specification forming part of Letters Patent No. 48,633, dated July 4, 1865.

*To all whom it may concern:*

Be it known that I, EDWARD H. TRACY, of Meriden, New Haven county, State of Connecticut, have invented a new and useful Improvement in the Manufacture of Double-Lipped Screw-Augers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figures 1 and 2 show the form of the two dies which are used for producing the lips and spur on the auger-stocks. Fig. 3 is a vertical transverse section through both dies. Fig. 4 is a top view of the dies. Figs. 5, 6, and 7 are views of the auger in its different stages of manufacture.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to a new and improved mode of forming the lips and the centering-spur on the double-lipped twisted augers; and it consists in so constructing dies for this purpose that the end of a twisted auger-stock can be swaged into the proper form by a single blow and at one operation, as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, A represents the twisted stock of a double-cutting lipped auger, which is of the usual form. These stocks are prepared for the swaging process by rounding one end, as shown at *a*, Fig. 5, and this end is made somewhat thicker than the body of the stock in order to afford a sufficient amount of metal for the formation of the spur *b* and cutting-lips *c c*. (Shown in Figs. 6 and 7.)

B B' represent two dies, which, when they are brought together, as shown in Figs. 3 and 4, have a space between them corresponding to the size and conformation of the bit of the auger. (Shown in Figs. 6 and 7.) The chambers of these dies are represented by Figs. 1, 2, 3, and 4, wherein *d d'* are the grooves or recesses which produce the lips *c c*. *e e'* are the recesses which produce the spur *b*, and *g g'*, with their inclined semi-spiral surfaces, conform to the spiral or screw form of the lower end of the auger-stock and swage the metal of the

auger-point into the required form to leave throats for the discharge of the chips in boring. These projections *g g'* are at opposite sides of their respective dies, so as to form the lips *c c* at opposite sides of the screw-stock.

As there will always be a surplus of metal in the point *a* of the auger-blank, this will be crowded out between the flat faces of the dies during the swaging operation, somewhat in the form represented in Fig. 6, and is cut off in finishing the auger, leaving the latter as represented in Fig. 7.

As it is only necessary to operate upon the lower end, *a*, of the auger-blanks, or those portions which are received beneath or within the spaces formed by the projections *g g'*, I leave the cylindrical chamber *h* free to receive the twist of the auger, and to support the same during the swaging operation.

The lips and spurs are formed on the auger-stocks in the following manner: The point *a* is first heated to a proper temperature and then adjusted in one of the dies, after which the other die is forcibly brought down upon it and the metal caused to fill up the recesses in both dies.

By my invention it will be seen that by a single operation a bit having a central spur and two lips is produced, and the hitherto difficult manipulation of forging such a bit is dispensed with, and the work can be performed in a superior manner and with much less expense than can be done by hand.

I am aware that it is not new to swage the bits of the common single lip or ship-auger by means of dies; but the double-lipped and spurred augers have never before my invention been produced by means of dies and a swaging operation. Dies for this purpose must be made of a peculiar form and in halves, so that each die will produce one of the cutting-lips and one-half of the spur.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The construction of the respective parts of the die which perform the operation set forth, substantially in the manner described.

EDWARD H. TRACY.

Witnesses:

OLIVER RICE,  
ORVILLE H. PLATT.