A. L. BREWER.

Auger or Forcing Screw for Brick and Tile Machines.

No. 233,320. Patented Oct, 19, 1880.

Fig. 1.

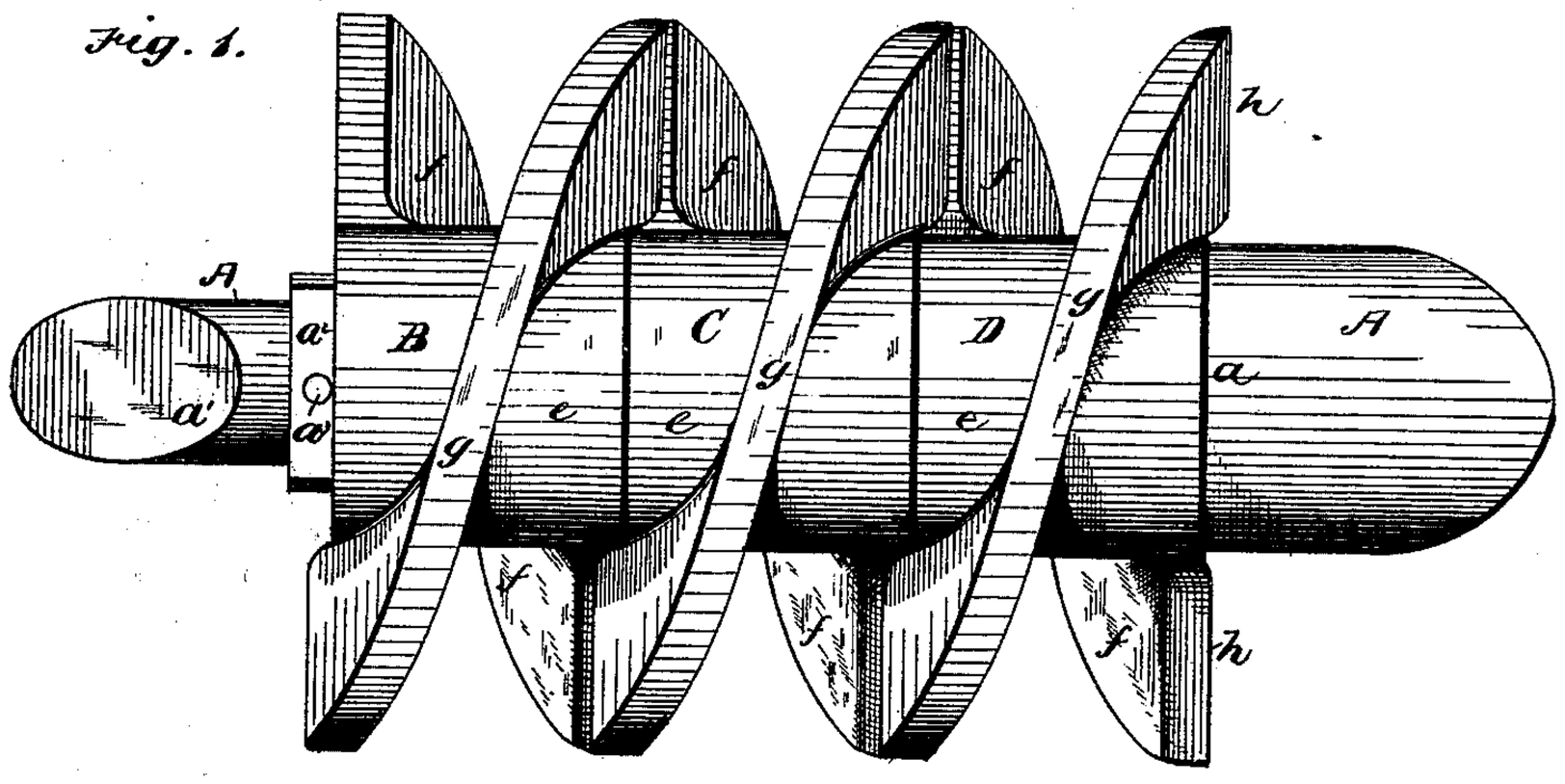


Fig. 2.

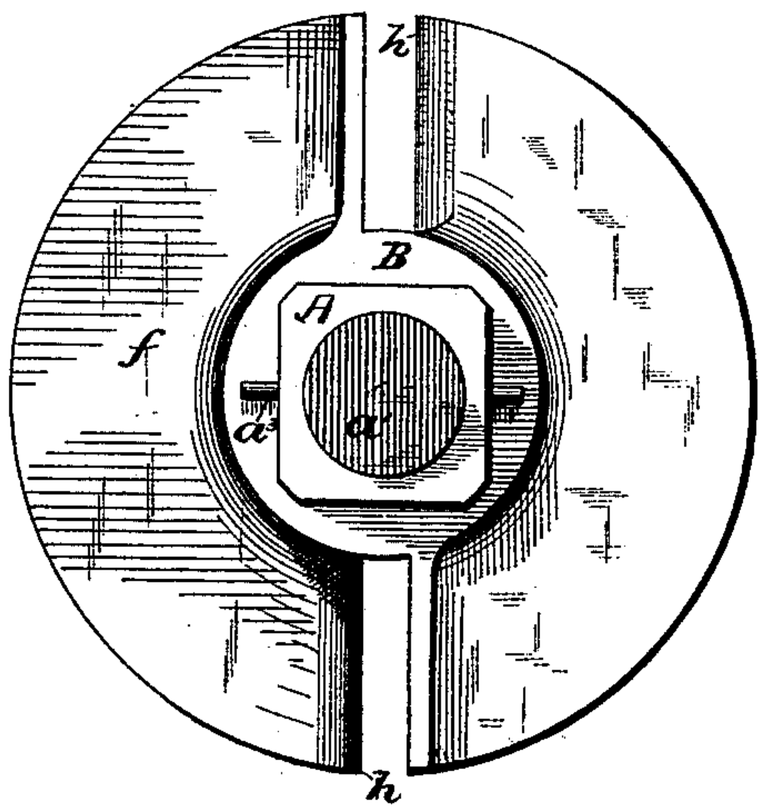
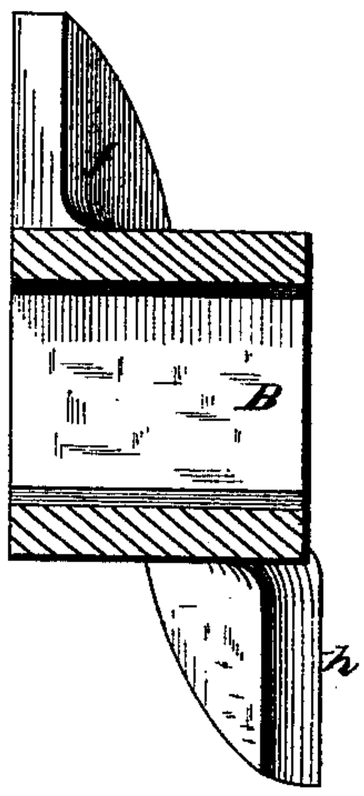


Fig. 3.



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UNITED STATES PATENT OFFICE.

ALBERT L. BREWER, OF TECUMSEH, MICHIGAN.

AUGER OR FORCING-SCREW FOR BRICK AND TILE MACHINES.

SPECIFICATION forming part of Letters Patent No. 233,320, dated October 19, 1880.

Application filed December 29, 1879.

To all whom it may concern:

Be it known that I, ALBERT L. BREWER, of Tecumseh, in the county of Lenawee and State of Michigan, have invented a certain new and useful Improvement in the Forcing-Screws or Augers of Brick and Tile Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, refereuce being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of the entire auger and a portion of the shaft. Fig. 2 is an end elevation of the auger. Fig. 3 is a vertical section of one of the auger-segments taken in line with the center of the shaft.

Similar letters of reference denote the same parts in the several figures.

In the construction of augers or forcing-screws for brick and tile machines heretofore practiced the entire screw has been in a single piece, by reason of which, owing to the peculiar form of the screw, it could not be chilled. The result of this has been that the screw-threads are liable to wear out very rapidly and become worthless for use. Another result has been that if the screw-thread became broken or damaged at any point the entire screw was thereby rendered useless; and still another result has been that the length of the screw could not be varied, although sometimes it is desirable so to do.

To remedy these difficulties my invention consists in constructing the screw of short chilled segments, each consisting of a central hub and two peripheral screw threads or flanges, each extending half-way around the hub and terminating opposite each other, whereby the segments are enabled to be chilled, and each segment is adapted to fit to the adjacent segments and to be interchanged therewith, all as I will now proceed to describe.

In the drawings, A represents the shaft, which is of any suitable form for use in a brick or tile machine. At the inner end of the screw the shaft is formed with a stout shoulder, or the equivalent thereof, as shown at *a*. From the shoulder, toward the outer end, the shaft is reduced in size and is made square, or of such other equivalent form as will prevent the segments from turning upon it. The extreme outer end of the shaft may be rounded and still further reduced in size, as shown at *a'*, for the purpose of receiving the core, if it is to be used as a tile-machine.

The segments are severally cast with a central aperture adapted to closely fit upon the square portion a^2 of the shaft, and they are secured in position upon the shaft by means of a pin, a^3, or any other suitable fastening, which, in connection with said shoulder *a*, will securely hold them in place.

The screw-segments, of which two, three, or more may be used, are shown at B C D. Each of them is cast with a central hub, *e*, having the axial opening or perforation to fit upon the square portion of the shaft, as above described. Each segment is also provided with peripheral screw-threads, and I preferably construct them each with two threads, *f g*, extending half-way around and opposite to each other, as shown in Fig. 1, so that when in place the ends of the threads *f* will abut against, or nearly abut against, the ends of the threads *g*, thus forming two practically-continuous lines of screw-threads around the instrument. The inner ends of the threads (shown at *h h*) should be sharpened or beveled in such manner as to properly cut or take into the clay, and to this end I make the inner ends of each screw-thread *f g* with the bevel, as shown.

Any single screw would work practically if the inner ends of the screw-threads of the inner segment, D, were sharpened in the manner described; but by sharpening or beveling the inner ends of the threads of each segment the same patterns and molds may be used for casting all the segments, and the segments being all of exactly the same form will be interchangeable, and may be applied to the shaft without regard to their number or position. The outer ends of the threads may be made of any desired form, beveled or otherwise, that will not impede the passage of the clay.

The segments thus formed can readily be cast in an ordinary chilled mold, and as such mold can be made by any mechanic skilled in the art, I do not deem it necessary herein to describe the same.

Should any segment become worn or broken it can be readily removed and a fresh one sup-

plied in its place, and by simply slipping a ring upon the shaft to take the place of the outer or inner segment, the screw may be lengthened or shortened, as desired.

The threads being of chilled iron the screw will be much less expensive than if made of steel, and will be more durable than any screw-threads heretofore practicable for this class of machines, as no means, so far as I am aware, has ever been known by which the screws used in these machines could be made of chilled metal.

I prefer to cast my segments in metal molds, as the result of which the sections are made sufficiently smooth as not to require polishing. The segments may each have two, three, or more threads.

Although I design my screws particularly for brick and tile machines, yet the same principle may be applied in the construction of any screw which will admit of being cast and made up in sections in the manner substantially as herein shown.

I claim as my invention—

A forcing-screw for brick and tile machines, composed of short segments, each consisting of a central hub and two peripheral screw threads or flanges, each extending half-way around the hub and terminating opposite each other, whereby the segments are enabled to be chilled, and each segment is adapted to fit to the adjacent segments and to be interchanged therewith, substantially as described.

ALBERT L. BREWER.

Witnesses:
HORACE BREWER,
H. W. CONKLING.