(No Model.)

W. A. TURNER.

SHEET METAL KNOB.

No. 520,151. Patented May 22, 1894.

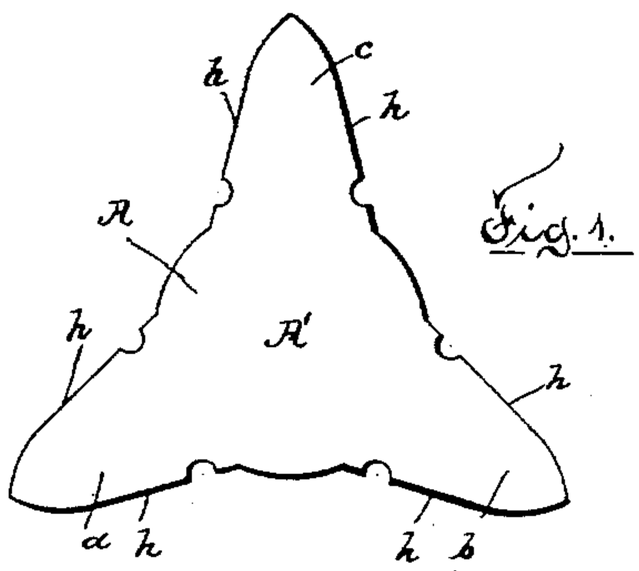


Fig. 1.

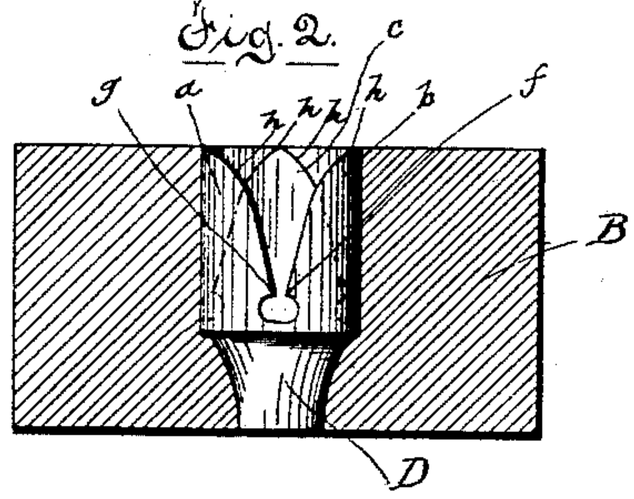


Fig. 2.

Fig. 4.

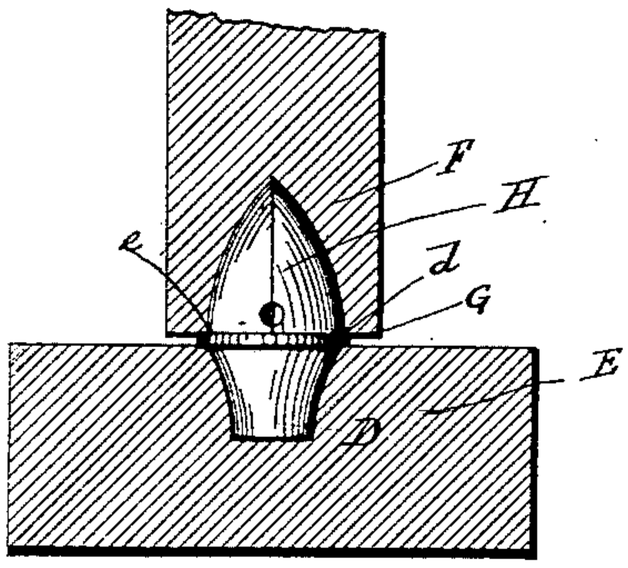


Fig. 3.

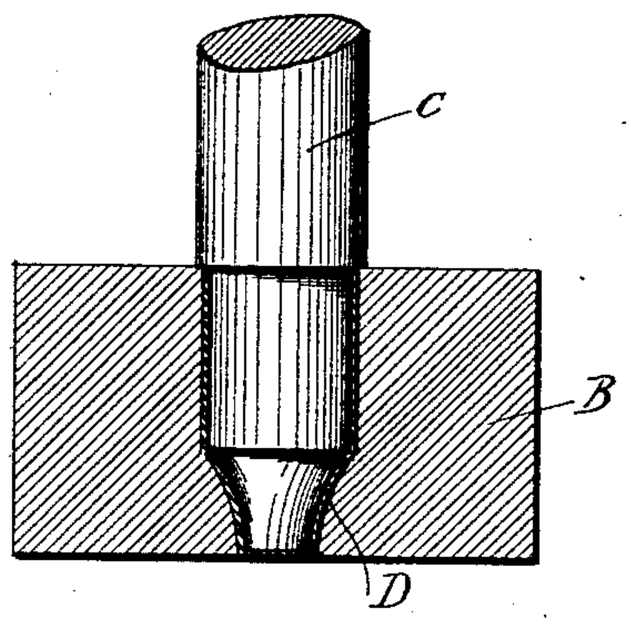
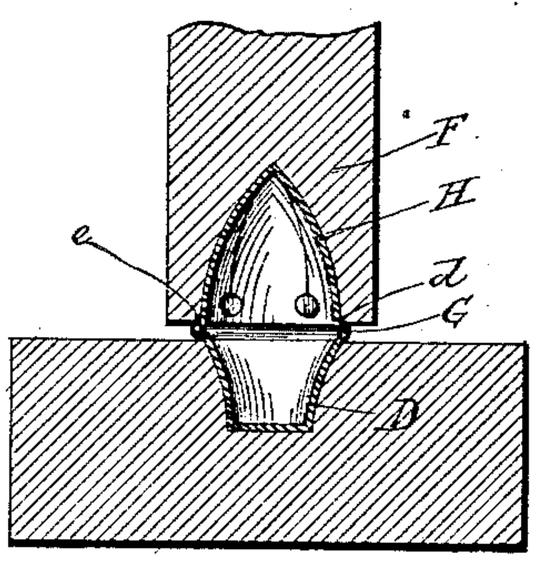


Fig. 5.



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SHEET-METAL KNOB.

SPECIFICATION forming part of Letters Patent No. 520,151, dated May 22, 1894.

Application filed October 21, 1890. Serial No. 368,867. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. TURNER, a citizen of the United States, and a resident of Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Sheet-Metal Knobs, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a blank from which the knob is formed. Fig. 2 denotes a sectional view of the female die into which the blank is forced, forming the shape represented in side view in said figure. Fig. 3 represents the lower or female die in sectional view with the upper or male die shown in full, and with the shaped blank shown in sectional view. Fig. 4 represents the completed knob as held and inclosed by the finishing dies, which are represented in sectional view, and Fig. 5 represents the finishing dies and the completed knob all in sectional view.

Similar letters refer to similar parts in the different figures.

My invention relates to a sheet metal knob adapted for use upon stoves, furnaces, and for similar uses, and it consists in forming a completed acorn-shaped knob from a single blank, as hereinafter described and set forth in the claim.

Referring to the accompanying drawings, A denotes a blank from which my improved knob is formed, A′ represents the circular central portion, from which I form the base of the knob and *a*, *b*, and *c* are the wings which form the crown of the knob.

In Fig. 1 of the drawings the blank is represented as having three wings, but the number can be varied, if desired.

Each of the wings *a*, *b*, and *c* extend radially from the central, and circular portion of the blank, and their width gradually decreases to the end which is pointed. The blank as represented in Fig. 1 is forced into the shape represented in Fig. 2 by means of the dies, represented in sectional view in Fig. 3, in which B is the female die and C the male die, the central portion A′ of the blank is drawn into an appropriate shape to form the base of the knob, one of such shapes being represented at D, Fig. 3. The wings *a*, *b*, and *c* are at the same time drawn into the cylindrical shape represented in full in Fig. 2. The blank after being pressed into the form represented in Fig. 2 and in sectional view in Fig. 3 is then placed in the die E, Fig. 4, shaped to exactly conform to the shape of the base D, and leaving the wings *a*, *b*, *c* above the die to be acted upon by a compressing die F, which is provided with a recess of the shape of the completed crown H of the knob, and with the distance between the corners *d* and *e* of the die H as much less than the diameter of the cylindrical barrel formed of the wings *a*, *b*, *c* by the dies B and C, as the space between the points, or corners *f* and *g* of the wings so that as the die F is forced over the barrel formed by the wings *a*, *b*, *c*, the edges *h*, of the wings *a*, *b*, and *c* will be brought together and into contact, and forming the pointed or acorn shaped crown H of the knob as represented in Fig. 4. It will of course be obvious that the shape of the base D can be varied by a variation in the form of the dies B and C, and also that the particular shape represented of the crown H can be changed by changing the form of the wings *a*, *b*, *c* and also changing the form of the inclosing die F to correspond with the alterations in the shape of the wings *a*, *b*, *c*. By the compression of the wings at the points *d* and *e*, or radially at the bottom of the crown H I form a rib or bead G, completing the similitude of an acorn. It has been customary heretofore, to form such shaped knobs of two pieces, one piece forming the base of the knob D and the other forming the crown H, the two being united by overlapping or seaming their edges at the bead or rib G.

It is the object of my present invention to form a knob of a form substantially like an acorn or one having a base portion and a crown with the crown portion of less diameter than the base in a single piece of metal, making the crown integral with the base of the knob, and I accomplish this object with two operations of the die press by forming the wings pointed and employing a pressing die for bringing the leaves together provided with a conoidal chamber, which causes the tips of the radial wings to be turned over and become curved as their edges are brought

into contact. By making the diameter of the larger end of the pressing die slightly less than the diameter of the base I form a rib G and secure an acorn-shape.

What I claim as my invention, and desire to secure by Letters Patent, is—

A sheet metal knob formed from a sheet metal blank having a solid central section and radial wings gradually decreasing in width, the base section of said knob being formed from the solid central section of the blank and the crown section formed from said radial wings, said wings being pressed inward to bring their points together and also downward forming a rib, or bead G at the base of said radial wings, substantially as described.

Dated at Worcester, Massachusetts, this 18th day of October, 1890.

WILLIAM A. TURNER.

Witnesses:
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