(No Model.)

A. T. MATTHEWS.

SHEET METAL KNOB.

No. 475,880. Patented May 31, 1892.

Fig. 1.

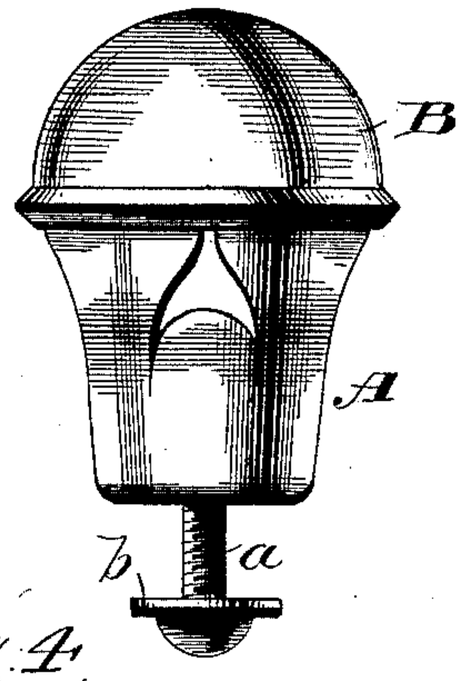


Fig. 2.

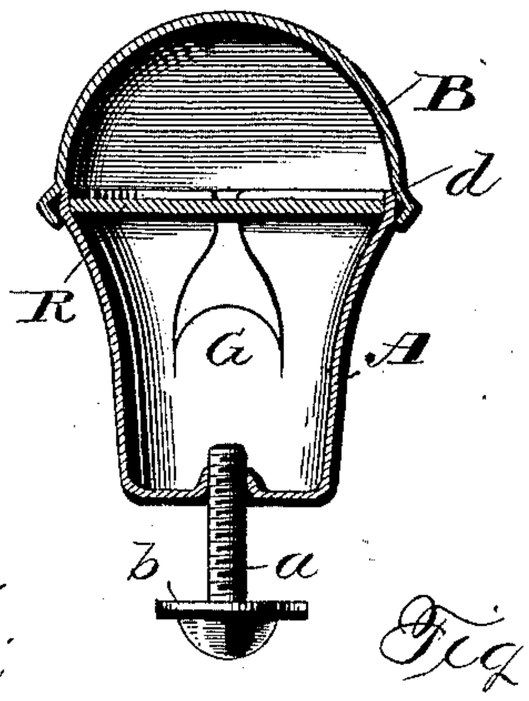


Fig. 4.

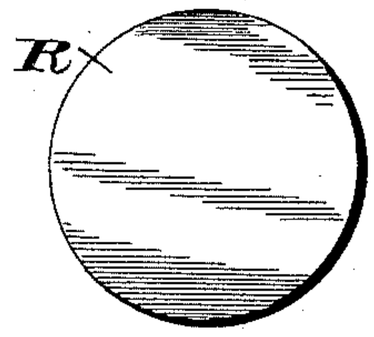


Fig. 3.

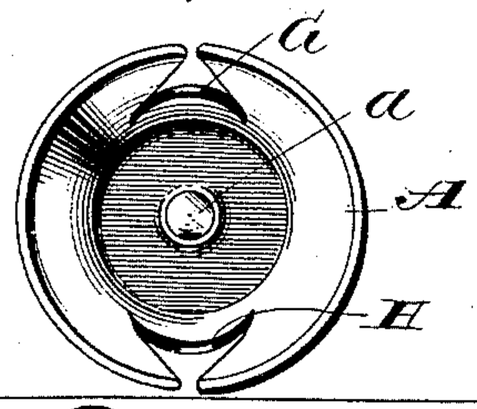
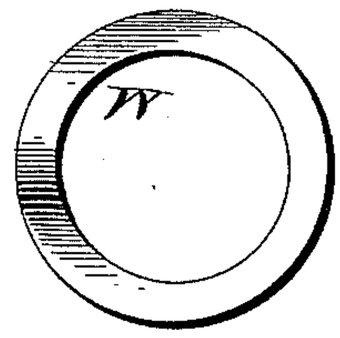


Fig. 5.



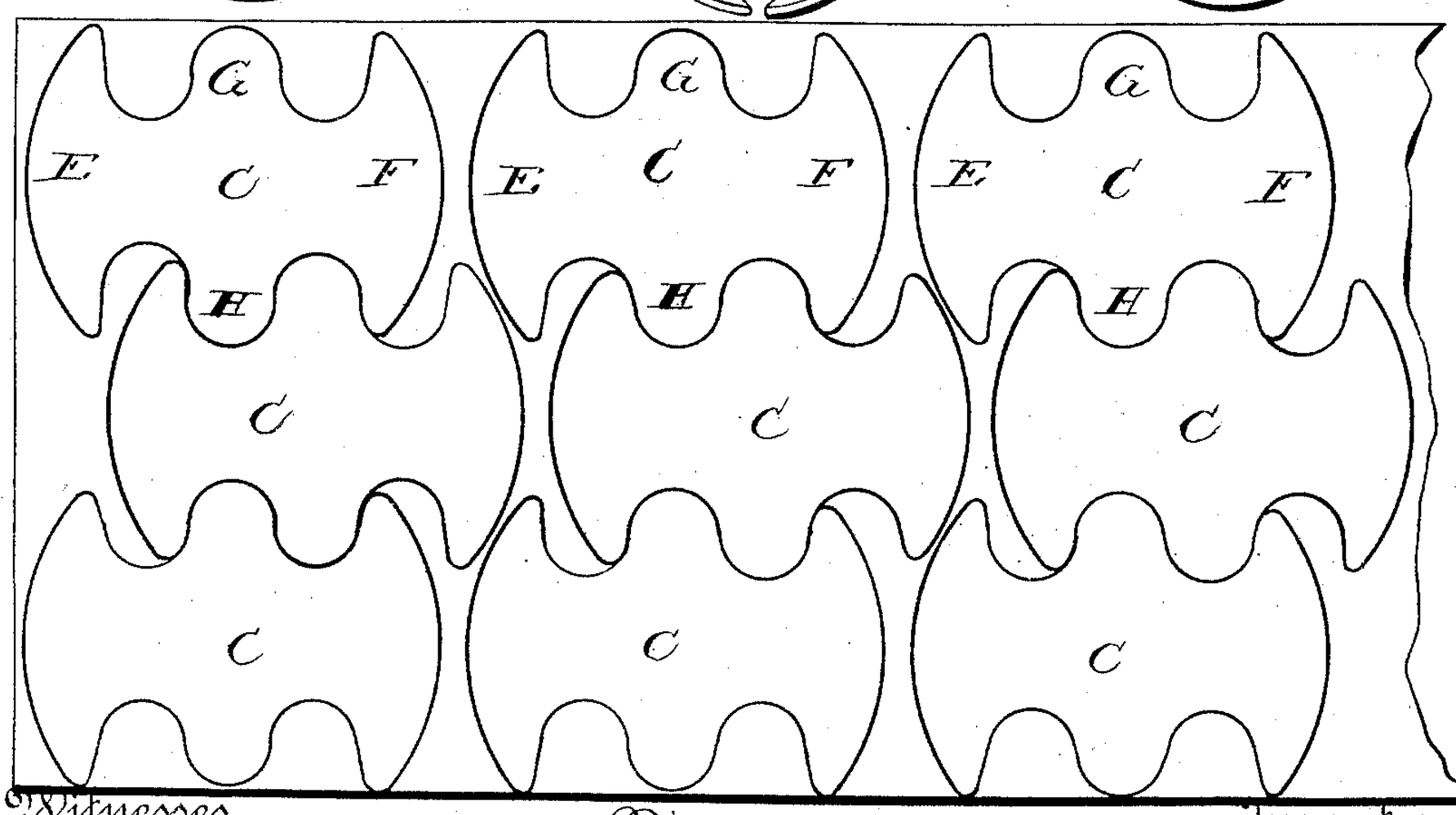


Fig. 6.

Witnesses
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L. A. Williamson.

Inventor
Ambrose T. Matthews,
By his Attorney
Louis W. Southgate

UNITED STATES PATENT OFFICE.

AMBROSE T. MATTHEWS, OF WORCESTER, MASSACHUSETTS.

SHEET-METAL KNOB.

SPECIFICATION forming part of Letters Patent No. 475,880, dated May 31, 1892.

Application filed December 23, 1891. Serial No. 415,978. (No model.)

To all whom it may concern:

Be it known that I, AMBROSE T. MATTHEWS, a citizen of the United States, residing at 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.

The aim of this invention is to produce a new and improved sheet-metal knob; and to this end the invention consists of the device described and claimed in this specification, and illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of my improved knob. Fig. 2 is a central sectional view of the same. Fig. 3 is a plan of the base-section. Fig. 4 is a view of one form of disk used in the base-section. Fig. 5 is a similar view of a modified form of disk; and Fig. 6 is a view, on a slightly-reduced scale relatively to the other figures, of a strip of metal, showing the way in which the blanks for the base-sections may be cut out.

My invention relates, primarily, to the base-sections of the ordinary sheet-metal knobs and to a new and improved way of making the same. The base-sections of sheet-metal knobs have been made before with two leaves and with four leaves. The four-leaved blank has the advantage that the die will not slip on the blank in shaping or striking the same up, as when the die commences to act on the blank the same will be guided from four points, and hence cannot slip away from the center of the blank; but the four-leaved blank cannot be economically cut from the metal. The two-leaved blank can be economically cut from the metal; but the same is very apt to slip in the dies and break laterally at the corner where the most strain comes.

My invention, therefore, aims to produce a blank for the base-sections which will combine the advantages of both the two-leaved and the four-leaved blank. To this end I form the blank with a number of whole leaves, preferably two, and a partial leaf or projection between each whole leaf. I may also, if desired, place a disk or ring in the top of the base-section, so that when the cap or cover is closed over the same the edge of the base-section will resist pressure.

Referring now to the drawings and in detail, A represents the base-section of a knob embodying my invention, and B the cap or cover of the same. The base-section A may be pricked in or tapped in the bottom in the usual manner to receive the ordinary screw *a*, having washer *b*. The base-section is struck up from a blank, as C. This blank has the two leaves E and F, which are made convex at their ends, as shown, to form the top edge of the section, and between these leaves E and F are formed the projections or partial leaves G and H. When the base-section is struck up, a sort of half-moon-shaped hole will be left in the section between each of the leaves, the bottom of the holes being formed by the edge of the partial leaves, which preferably are curved, as shown, and, further, the partial leaves or projections will act to keep the blank in the center of the dies during this operation. This will give a base-section of very handsome contour or shape. The blanks for the base-sections may be economically cut out, as shown in Fig. 6, by lapping the sides of the leaves of one row of blanks into or between the leaves and the partial leaves of the next row, and this will of course cheapen the manufacture. I preferably do not bring the edges or sides of the leaves together at the top to form a continuous edge; but I form the sections in the dies with a sort of rim or annular portion *d* at the top of the same, and into this rim I drop a disk or ring. This disk may be solid, as R, in the form of a washer, as W, or a wire ring. When the cap is closed over the base-section containing the disk or ring, the edge of the section will resist the pressure and will prevent the cap from springing the leaves of the base-section. I find that this is a superior construction over the base-section with the leaves butted together to form a continuous edge, as the latter is difficult to make, requiring exact dies, and also when the cap is applied to the latter with any more than the usual pressure the leaves are apt to snap past one another and thus of course defeat the very object of the continuous edge.

I am aware that it is not new to place a disk

between the base-section and the cap for the purpose of reinforcing the fastening device; but so far as I am informed it is broadly new to place a disk inside of and within the base-section and to close the edge of the cap over the edge of the base-section, whereby the base-section will be strengthened or reinforced to resist the pressure due to the closing over of the cap.

An economical construction with my device is to use a washer on the larger size knobs and the center cut out of the washer as the disk for the smaller sections.

So far as the broad idea of my invention is concerned the blank may have any desired number of whole leaves with partial leaves formed between the same.

With my improved construction, as before described, I am able to make knobs of very thin stock, and I contemplate using the disk or ring in all forms of base-sections to which a cap is to be applied, no matter whether the section is leaved or solid.

Modifications of the construction herein shown may be made by a skilled mechanic without departing from the scope of my invention.

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

1. A sheet-metal knob consisting of a base-section and a cap, said base-section formed from a blank having leaves and partial leaves or projections formed between the whole leaves, substantially as described.

2. A sheet-metal knob consisting of a base-section and a cap, said base-section formed from a blank having two leaves convex on their ends and projections or partial leaves formed between each of said whole leaves, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

AMBROSE T. MATTHEWS.

Witnesses:

JAMES J. RAFFERTY,

LOUIS W. SOUTHGATE.