(No Model.)

W. A. TURNER.

SHEET METAL BLANK FOR KNOBS.

No. 458,839. Patented Sept. 1, 1891.

Fig. 1.

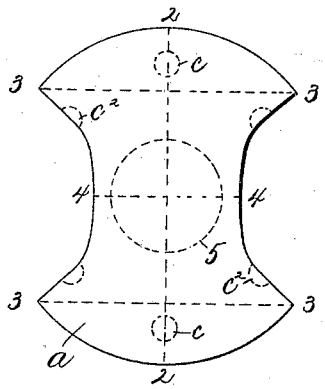
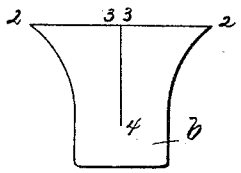


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM A. TURNER, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO EDMUND CONVERSE, OF SAME PLACE.

SHEET-METAL BLANK FOR KNOBS.

SPECIFICATION forming part of Letters Patent No. 458,839, dated September 1, 1891.

Application filed January 29, 1891. Serial No. 379,577. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. TURNER, of Worcester, county of Worcester, State of Massachusetts, have invented an Improvement in Sheet-Metal Blanks for Knobs, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention relates to a blank to be formed by dies, so as to make the bottom section of a knob, such as used for stoves or for other purposes where a hollow sheet-metal knob is applicable. Knobs for stove-door handles have been made from sheet metal usually formed in two sections, a bottom or back section and a top section, which are united around their edges.

This invention relates, especially, to the blank for the bottom section. The bottom section of a sheet-metal knob has sometimes been made from a circular blank, which is drawn by dies into the cup or bell shape required for the bottom section of the knob, and in some cases the blank has had gores around its periphery, thus forming wings which are bent up from the flat base and drawn together, the edges of the wings either abutting or overlapping.

The present invention consists in a blank of special shape, which will be hereinafter described, and which has advantages over other blanks heretofore used for making knobs, said advantages consisting both in economy of material and in improved quality, both in strength and appearance, over what is attained by blanks of the kind previously used for this purpose.

The blank forming the subject of this invention is longer than its width, and is bounded by two convex or outwardly-curving arcs at the ends of its greater dimensions and concave curves at its sides, the width between the point of nearest approach of the concave curves preferably being greater than the diameter required for the flat base of the bottom section of the knob. By this construction an oblong blank is formed that can be cut from a strip of sheet metal, or which can be cut from sheets of metal, so as to leave but very little waste, the wider parts of one row of blanks extending into the recessed portions of the adjacent strip or row of blanks. When the blank is acted upon by dies, its end portions are bent upward about at right angles to the middle or base portion, and as the blank is wider at the ends than at the middle sufficient material is afforded at the ends to give to the base portion of the knob the flaring or bell shape that is desired, the convex curves at the ends of the blank forming the circular top of the bottom section of the knob which receives the top section of the knob in the usual manner.

Figure 1 represents the shape of the blank for making knobs embodying this invention, and Fig. 2 is a side elevation of the base-section of the knob formed from said blank.

The blank *a* is of the shape shown in Fig. 1, being oblong or of greater length, measured along the dotted line 2 2, than its greatest width measured on the dotted line 3 3. The said blank is bounded at its ends by convex curves 3 2 3 and at its sides by concave curves 3 4 3, so that the width of the end portions, measured on the line 3 3, is greater than the width measured on the line 4 4, across the middle of the blank, which width at 4 4 is, however, greater than the diameter of the base of the finished knob *b*, (see Fig. 2,) which base is represented in dotted lines at 5, Fig. 1. It is essential that there should be no angle on the curved side recesses 3 4 3, and especially that there should be none at or near the point 4, as the existence of such an angle would cause the metal to form improperly at this point in the act of drawing or bending the blank from the flat form represented in Fig. 1 to the finished form represented in Fig. 2, which would result in the cracking of the base portion of the blank.

When desired to provide holes for ventilation, such holes may be punched in the blank, as represented at dotted lines at *c*, Fig. 1; or suitable notches may be formed in the edges of the concave curves, as shown in dotted lines at c^2; or the width of the blank may be slightly less than shown in Fig. 1, so that when subsequently drawn to the form shown in Fig. 2 the two portions of the concave curves 3 4 3, instead of abutting along their entire length, as shown in Fig. 2, may have a

space left between them sufficient for ventilation.

When a blank of the form shown in Fig. 1 is subjected to the usual operation in dies, it assumes the form shown in Fig. 2, the wide end portions being bent upward from the base portions inclosed in the dotted-line circle 5, Fig. 1, so that the curved ends 3 2 3 of the blank form the circular upper edge of the base-section of the knob, as indicated in Fig. 2, while the two halves 4 3 of each of the concave side curves come together, as shown in Fig. 2, forming two slits extending down from the top of the base-section of the knob toward the base of said section, but preferably terminating a short distance above said base, as shown in Fig. 2, and by having the said side recesses of the blank curved, as shown, and separated from one another by a distance greater than the diameter of the base, the metal in the base-section, Fig. 2, is properly formed at the point 4 without bulging or overlapping, and also without cracking or tending to extend the slit 3 4, Fig. 2, down toward and across the base, defects which invariably occur when an angular gusset is removed from the sides of the blank.

I claim—

The herein-described blank for the base-section of a sheet-metal knob, the same being of greater length than width and bounded by convex curves at the ends of said greater dimension and concave curves at the ends of said less dimension, substantially as and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM A. TURNER.

Witnesses:

JOS. P. LIVERMORE,

M. E. HILL.