(No Model.)

D. M. IRELAND.

BACK FOR METALLIC KNOBS.

No. 455,509. Patented July 7, 1891.

Fig-1-

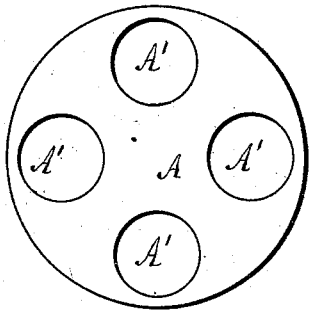


Fig-2-

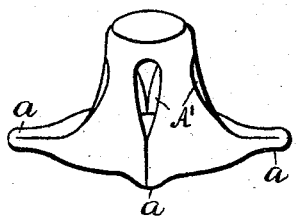


Fig-3-

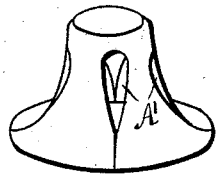


Fig-4-

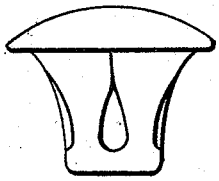
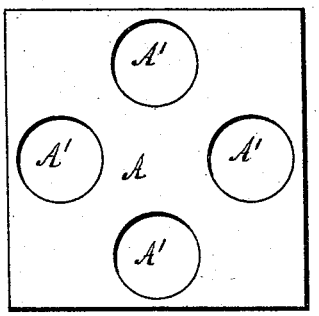


Fig-5-



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UNITED STATES PATENT OFFICE.

DAVID M. IRELAND, OF DETROIT, MICHIGAN.

BACK FOR METALLIC KNOBS.

SPECIFICATION forming part of Letters Patent No. 455,509, dated July 7, 1891.

Application filed October 28, 1890. Serial No. 369,591. (No model.)

To all whom it may concern:

Be it known that I, DAVID M. IRELAND, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Backs for Metallic Knobs; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

In the drawings, Figure 1 shows a pattern from which the knob-back is produced by stamping. Fig. 2 illustrates the same after it has been struck up in the press. Fig. 3 illustrates the same after it has been completed by trimming off its edges. Fig. 4 illustrates the same in a complete knob. Fig. 5 is a variation in which the pattern is square instead of round.

It is the object of my invention to produce a back for a metallic knob. Heretofore this has been accomplished by cutting a pattern in the form of a cross, then stamping the same. This has caused the metal to abut along the sides of the knob and to open out at the flared end; but this form made the knob-back too close along its contracted portion, so that when used in connection with a stove-knob or the like it would become unduly heated. So, also, its flared portions being entirely separated from each other they were apt by rough handling to be crushed together, and so injured before the outer end of the knob was adjusted thereon, or they were apt to be thus crushed together in the operation of putting on the outer end or head of the knob, and they moreover did not present a pleasing appearance. So, also, such knob-backs have been made from a pattern similar to that just described, but in which there were recesses formed in the pattern, designed when the edges were brought together by the stamping process that these curved portions come opposite to each other, and so make one or more complete circular openings along said abutting edges. This was, however, open to another objection. Unless the pattern was placed very accurately beneath the stamping-die these recesses would not match exactly opposite each other and so form a crude and ill-appearing knob-back, or should the metal draw a little more upon one side than the other in the press in the process of shaping the back the said curved portions, although matching at one edge, might not match at the opposite edge of said circular orifice, and although the pattern was so shaped as to cause the metal to abut and form a continuous circle at the extremity of the flared portion these previously-mentioned difficulties were very obnoxious.

It is the purpose of my invention to produce a knob-back which shall not possess these objectionable features. To this end I make the pattern, as shown at A in Fig. 1, round in form, with rounded pieces punched out of the same at A′; but the pattern is not opened therefrom to the edge, nor are there any openings between the said circular spaces and the center of the pattern. This is then placed in the press and pressed into the shape shown in Fig. 2. This brings the metal together along the outer edge and squeezes together beyond the edge the portions *a*, which existed between the circular spaces A′ and the outer edge of the pattern. These are subsequently trimmed off, leaving the device complete, as shown in Fig. 3. It is manifest that with this style of pattern no particular harm, either to the knob or to its appearance, can result from a failure to locate it at its exactly proper position in the press if there are no edges to be matched together by the process of pressing, and the openings will all be shapely throughout in the finished back, since they are not formed, as heretofore, by an attempt to match or register recesses in two adjacent portions of a pattern. Then again the outer edge of the pattern being round is more conveniently cut and much more conveniently handled by the operator and results in a greater production with the same amount of labor. It also produces a knob in which the largest part of the openings is adjacent to the inner end of the knob, which in the case of a stove-knob serves materially to keep it cool; and, finally, the flared edge with the portions *a*, being continuous throughout, is held rigidly against displacement, and the said edge can with a shearing or trimming punch be brought throughout to an exact circular finish simultaneously with the trimming off of the portions *a*, thus insuring that the flared edge

shall be always in proper shape for the reception of the head of the knob. Instead of using a round pattern, as shown in Fig. 1, it is manifest that a square pattern may be employed, as shown in Fig. 5, in the same way, the only difference being that between the portions *a* of the stamped back the corners would extend out and these corners would be trimmed off, together with the parts *a*; or, in fact, any other exterior form of pattern may be employed.

In order that the metal along that circle which is to constitute the extreme flared edge in the finished knob-back may come together throughout, the orifices A′, formed by punching the metal from the pattern-piece, are made sufficiently large that in the said back after it has been pressed they will extend beyond the edge of the finished knob-back into the portions *a*. This requires simply that the orifices shall extend sufficiently near the outer edge of the pattern that as the metal is pressed it will contract the said orifices laterally and squeeze the metal beyond it out longitudinally into the projecting lips *a* and permit the adjacent metal along the sides at the outer portions of said orifices to come together and abut, but without buckling the metal upon itself.

What I claim is—

A pressed sheet-metal backing for knobs, formed from a sheet-metal plate provided with an unbroken periphery and perforations arranged entirely within the periphery and having opposite portions of the edges of each perforation pressed into direct contact with each other on radiating lines, leaving the remainder of the edges separated to provide the perforations, substantially as and for the purpose described.

In testimony whereof I sign this specification in the presence of two witnesses.

DAVID M. IRELAND.

Witnesses:

W. H. CHAMBERLIN,

MARION A. REEVE.