H. CHRISTOPHERY.

LEVER HANDLE.

APPLICATION FILED SEPT. 8, 1910.

981,246.

Patented Jan. 10, 1911.

Fig. 1.

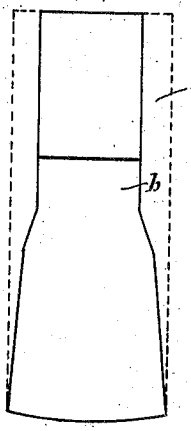


Fig. 2.

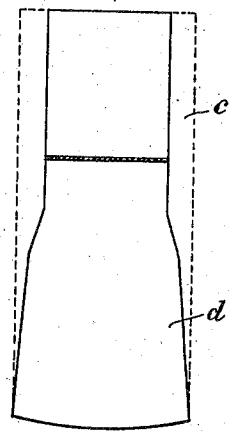


Fig. 3.

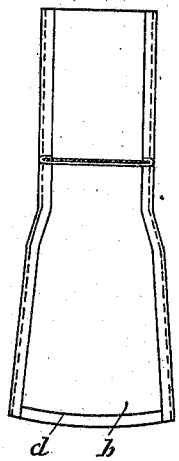


Fig. 4.

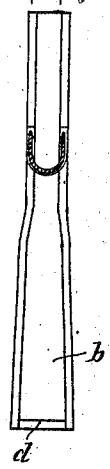


Fig. 5.

Fig. 6.

Fig. 9.

Fig. 10.

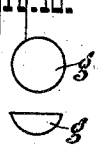


Fig. 7.

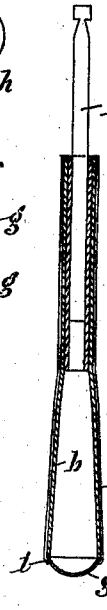


Fig. 8.

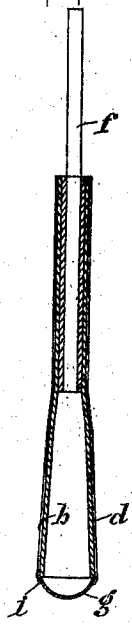


Fig. 13.

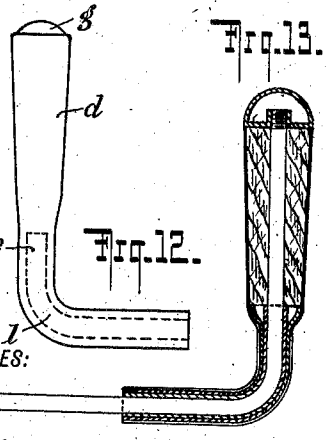
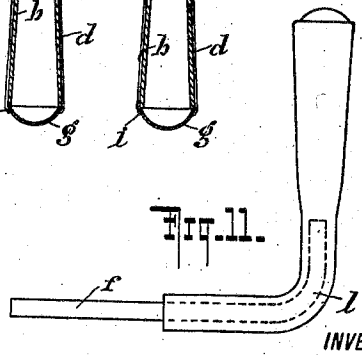


Fig. 12.

Fig. 11.



WITNESSES:

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LEVER-HANDLE.

981,246. Specification of Letters Patent. **Patented Jan. 10, 1911.**

Application filed September 8, 1910. Serial No. 580,992.

To all whom it may concern:

Be it known that I, HEINRICH CHRISTOPHERY, a subject of the German Emperor, residing at Iserlohn, Rheinland, Germany, have invented certain new and useful Improvements in Lever-Handles; and I do hereby 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 appertains to make and use the same, reference being had to the accompanying drawing, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to the manufacture of handles such as used on door latches, casements and the like and consists in a method of producing handles of substantial construction in a cheap manner and the handles produced according to the invention.

Hitherto door lever-handles have been made from short tubes which were either electro-plated or provided with an ornamental sheath in some other way. But such handles have proved unsatisfactory, since they could not be efficiently secured to the squared or similar latch spindle merely by frictionally engaging the same, with the result that the handle portion moved relatively to the spindle after a short time. Moreover when employing tubular handles of this type it was not possible to apply an ornamental sheath thereto without leaving a soldered or projecting joint.

By the method according to this invention these drawbacks are overcome by forming the handle from a strip of sheet metal with or without an ornamental sheath which is shaped to receive a tubular sleeve preferably of other than circular cross section, the strip being then compressed around the sleeve to constitute a shank portion which is finally bent so as to form a lever-handle.

The accompanying drawing shows the constituent parts of a preferred form of lever handle made according to this invention, in which—

Figure 1 is a plan of the sheet metal strip the cross section of this strip being indicated thereon. Fig. 2 is a similar view of the ornamental sheath. Fig. 3 is a similar view showing the sheath applied to the strip. Fig. 4 is an elevation of the compound strip bent to receive the spindle sleeve, the cross section being indicated as before. Figs. 5 and 6 show in elevation and plan two forms of sleeve for supporting a spindle. Figs. 7 and 8 show in longitudinal section a door handle before being bent. Fig. 9 is a plan of the piece from which a cap is formed to close the handle. Fig. 10 shows in plan and side elevation a cap stamped thereon. Figs. 11 and 12 each show in side elevation a handle after the shank portion has been bent, and Fig. 13 is a longitudinal section of a modified form of handle.

The manufacture of handles according to this invention is realized in the following manner: From a piece or strip *a* of sheet metal, preferably iron, a strip *b* of the shape shown in Fig. 1 is cut out in the usual manner. A correspondingly shaped sheath *d* (Fig. 2) for the same is stamped out from brass or other ornamental sheeting, this sheath being a few millimeters longer and wider than the iron strip *b*. The parts *b* and *d* are then joined together by flanging over the projecting lateral portions of the sheath (Fig. 3) and then bent to form approximately a U in cross section as shown in Fig. 4.

A sleeve *e* within which is a spindle *f* or *k* of square or some other section other than circular as shown in Figs. 5 and 6 is then inserted within the bent strip, Fig. 5 showing a sleeve which is only partly filled by its spindle, this spindle *k* being subsequently withdrawn so as to form a socket portion to receive the latch spindle proper *f* which is permanently attached to the other sleeve as shown in Fig. 11. After the sleeves with their spindles *k* and *f* have been introduced into the bent strip the latter is compressed around the sleeve so that the various parts assume the shape shown in Figs. 7 and 8. The longitudinal edges of the strip with its sheathing are thus brought close together but the lower end of the handle *i* is left open. This end is subsequently closed by a cap *g* comprising a domed plate *h* formed from a circular strip, Fig. 9. The cap is placed on the open end of the handle, so that its edges engage the outer end of the handle strip, and is secured by the projecting edges of the sheathing *d* being compressed around its base as shown in Figs. 7 and 8. The handles thus formed have only to be bent at an angle to give them the required lever shape shown in Figs. 12 and 13. The completed handle shown in Fig. 11 has permanently attached thereto the latch actuating spindle *f* while the handle

seen in Fig. 12 constitutes the socketed portion of the handle formed from the construction shown in Fig. 7. To this end the former or temporary spindle *k* which supported the sleeve while the handle strip was being compressed around it is withdrawn from the sleeve after the handle is bent so that the socket is formed. The upper end of the former or spindle *k* is shaped to be engaged by a special tool to facilitate its withdrawal.

The provision of sleeves *e* within the handles and in the case of that shown in Fig. 11 the addition of the spindle *f* strengthens the handles at their bend *l* so that their durability is insured even when subjected to jar or strain. Moreover the sleeve cannot become loosened within the handles nor can the spindle move relatively to the sleeves as has previously been the case.

If desired the strip *b*, *d* can be made of such dimensions that intermediate layers of wood horn or similar substances can be inserted between the inner wall of the handle and spindle proper which extends the entire length of the handle so that its end projects therefrom. This projecting end may be screw threaded to engage a correspondingly threaded cap which maintains the packing material in place as shown in Fig. 13.

I do not confine myself to the exact construction of parts shown in the accompanying drawings since it is obvious that variations of detail may be made without departing from the spirit of my invention but

What I claim is:

1. A lever handle for doors and the like comprising a sheet metal shell having a bent shank and a tubular sleeve embraced by said shank, said sleeve extending in both directions from said bend, substantially as and for the purpose described.

2. A lever handle for doors and the like comprising a shell the body portion of which consists of two layers of sheet metal mechanically united and the shank of which is bent, a cap, and a tubular sleeve tightly embraced by said shank, said sleeve extending in both directions from said bend, substantially as and for the purpose described.

3. A lever handle for doors and the like comprising a shell the body of which consists of two layers of sheet metal united at a pair of opposite edges and the shank of which is bent, a cap, a tubular sleeve extending around said bend and tightly embraced by said shank, and a spindle also extending around said bend within and engaged by said sleeve, substantially as and for the purpose described.

4. A lever handle for doors and the like comprising a shell the body of which consists of two layers of sheet metal united at a pair of opposite edges and the shank of which is bent, a tubular sleeve extending around said bend and tightly embraced by said shank, a spindle also extending around said bend within and engaged by said sleeve, and a cap fastened to one end of said spindle, substantially as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

HEINRICH CHRISTOPHERY. [L. S.]

Witnesses:

CHAS. J. WRIGHT,

WALTER VONNEGUT.