

(No Model.)

R. WALLACE.

METHOD OF MAKING HANDLES FOR CUTLERY.

No. 323,240.

Patented July 28, 1885.

Fig. 1.

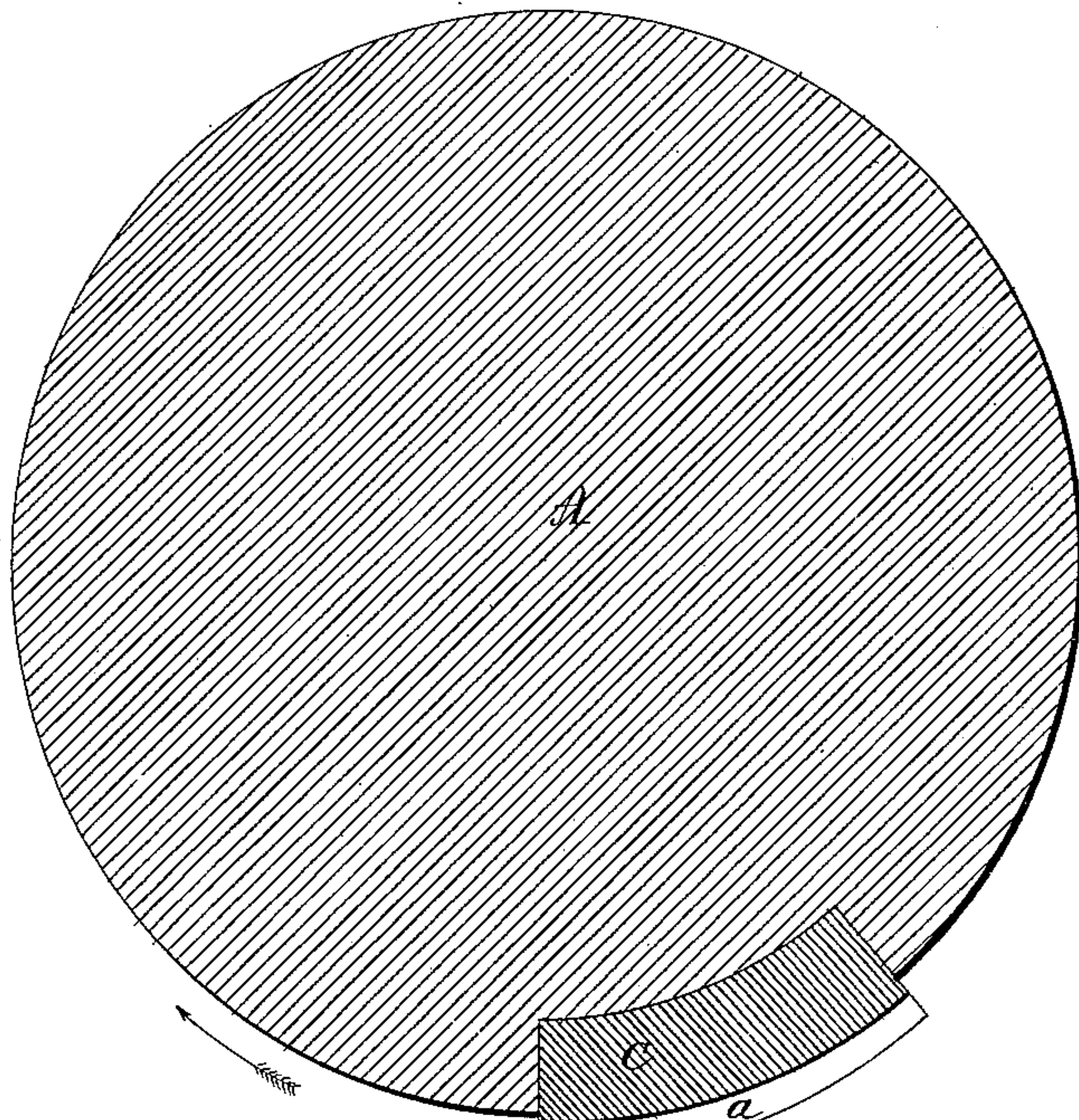


Fig. 3.

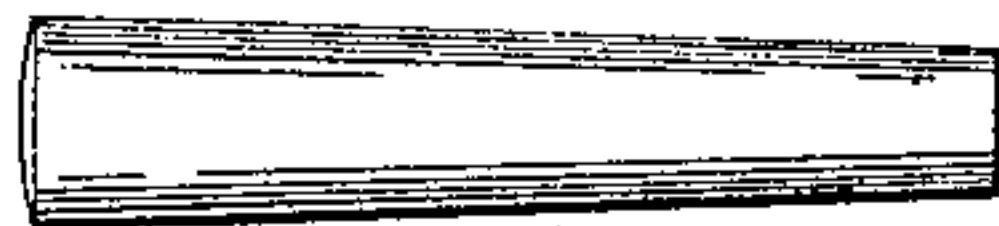


Fig. 4.



Fig. 5.



Fig. 6.

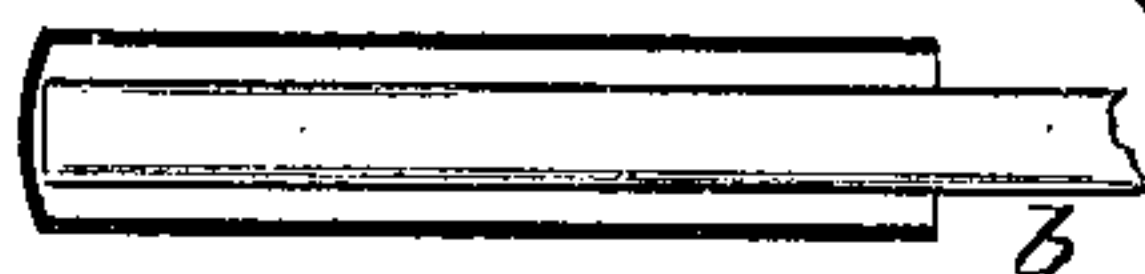


Fig. 2.

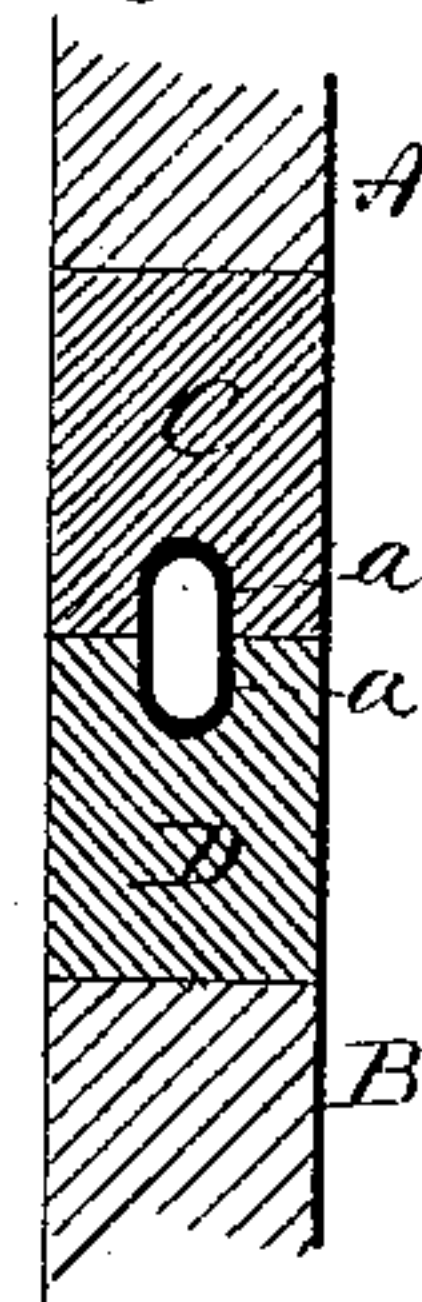


Fig. 7.



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METHOD OF MAKING HANDLES FOR CUTLERY.

SPECIFICATION forming part of Letters Patent No. 323,240, dated July 28, 1885.

Application filed December 26, 1884. (No model.)

To all whom it may concern:

Be it known that I, ROBERT WALLACE, of Wallingford, in the county of New Haven and State of Connecticut, have invented a new
5 Improvement in the Manufacture of Handles for Table-Cutlery; and I do hereby declare the following, when taken in connection with accompanying drawings, and the letters of reference marked thereon, to be a full, clear, and
10 exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a transverse section through the rolls, showing a longitudinal section of the
15 dies as in the act of taking the blank, the blank with its mandrel shown in broken lines; Fig. 2, a transverse section through the dies at their meeting-point; Fig. 3, a side view of the handle complete; Fig. 4, a side view of the blank
20 from which the handle is to be made; Fig. 5, a transverse section of the same; Fig. 6, a longitudinal section of the blank in a vertical plane showing the mandrel therein; Fig. 7, a transverse section of the same.

25 This invention consists in the method hereinafter fully described, and particularly recited in the claims.

In the more general construction of this class of handles they are made in two parts,
30 the handle being divided longitudinally in a central plane parallel with the blade, the meeting edges of the two parts soldered or brazed together. This construction is expensive, and, owing to the fact that the parts are liable to
35 separate in use, is an objectionable form of handle. Such handles have also been made of a drawn tube-like shape—that is to say, a tube closed at one end; but in this construction, while they avoid the objection to a di-
40 vided handle, they have been necessarily of equal transverse sectional area throughout, an undesirable form of handle, so that whereas the hollow class of handles are desirable for cutlery, owing to the difficulties which I have
45 mentioned, they have been largely superseded by solid metal handles, because in solid metal a shape has been attained gradually tapering from the butt to the bolster, and which is the most desirable shape for such
50 handles, and is that usually adopted for ivory and similar classes of handles for fine cutlery.

The object of my invention is the production of a tubular handle in one single piece, having its butt-end closed, and tapered toward the bolster; and my invention consists in first
55 drawing up a tubular blank, but closed at one end, the closed end being an integral part of the tube, and the tube in transverse section throughout corresponding in shape to a transverse section of the handle at its largest point,
60 then drawing the tube from the closed end to reduce the diameter from the closed end toward the open end, and as more fully hereinafter described.

I first draw up the blank in sheet metal in
65 flat tubular form, closed at one end and open at the other, and of the length required for the handle, in the usual method of drawing up such tubular articles—that is to say, by means of punches and dies. Such a blank is
70 seen in Figs. 4 and 5. In thickness this blank corresponds to the thickness of the handle to be finished, equal throughout. In depth it corresponds to the depth of the handle at the
75 butt, and the oval shape of the butt is given in the process of drawing, the best form of the handle in transverse section being flat sides with rounded edges. This blank is such
80 a tubular handle as I have before mentioned as made from a single piece, and of equal transverse area throughout. In my improved construction of handle I now take this blank
85 and roll it into tapering form, as seen in Fig. 3, giving to the handle the requisite shape, gradually tapering from the butt to bolster
end, and of uniform shape.

The best method for bringing the handle to the shape required, is by means of dies arranged in rolls. A, Fig. 1, represents one roll,
90 and B the other. In the periphery of one roll, a die, C, is arranged, and in the other roll, B, a companion-die, D, is in like manner arranged. The cavity in the two dies corresponds to the shape of the exterior of the handle, the plane of the cavity being at right angles
95 to the axis of the rolls, and as seen in Fig. 2, a representing the cavity in the two parts, one-half in each part. At the forward end of the dies the cavities together in depth correspond to the depth of the handle at the
100 butt-end. From that forward end, rearward, the depth of the cavities gradually dimin-

ishes, according to the taper required for the handle. The width of the cavities corresponds to the thickness of the blank, and is equal throughout. The blank is introduced just as the ends of the dies meet together in a diametrical line through the axis of both rolls, and as seen in Fig. 1, broken lines indicating the blank as thus introduced.

The rolls are revolved in the usual manner for revolving this class of rolls, and in the direction indicated by the arrow. The cavities fully embrace and inclose the blank at the active part of the roll, and so that, as the rolls revolve, they gradually compress the metal of the blank, reducing its depth toward the bolster or narrower end, the blank following through with the dies, it being delivered at the opposite end in shape, as seen in Fig. 3.

Before introducing the blank to the rolls, I prepare a mandrel, *b*, which in thickness corresponds to the distance between the two sides of the blank, but in depth is less than the depth of the blank—that is, not greater than the depth of the smallest end of the handle when finished. This mandrel I insert in the blank, as seen in Figs. 6 and 7; also seen in broken lines, Fig. 1. It fits closely within the blank, and while it permits the contraction vertically—that is, edgewise or in depth of the blank—it prevents any contraction or displacement of the metal of the sides of the handle; hence wrinkling or “buckling” under the edgewise pressure of the dies cannot occur, and the handle comes from the dies smooth and perfect throughout.

By this method I am enabled to produce a handle, which, in shape, corresponds to the finer class of handles—such as ivory—much lighter

than solid-metal handles, and without the objections of hollow handles as heretofore produced. The drawing operation lengthens the blank to a considerable extent, so that the blank should be made as much shorter than the ultimate length as the process lengthens the blank.

I do not claim, broadly, contracting a straight tubular blank, one end of which is closed, and from the said closed end to produce a tapered handle, as such I am aware is not new.

I claim—

1. The method herein described, of making tapered tubular handles for cutlery, consisting in first forming a blank of flattened tubular shape closed at one end, the transverse section of said blank corresponding in form to that of the transverse section of the finished handle at the butt, then passing said blank between roller-dies to gradually contract its depth from the butt or closed end toward the open or bolster end, substantially as described.

2. The method herein described for forming tapered hollow or tubular handles for table-cutlery, in which the butt end of the handle is closed, consisting in introducing a mandrel into the open end of the blank, the said mandrel being in thickness equal to the distance between the two sides of the blank, but in depth no greater than the opening in the end of the handle when finished, then passing the said blank with the mandrel therein between roller-dies, substantially as and for the purpose set forth.

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Witnesses:

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