

(No Model.)

S. COTTLE.

METHOD OF MAKING BUTTONS, &c.

No. 384,192.

Patented June 5, 1888.

Fig.1.

Fig.2.

Fig.3.

Fig.4.

Fig.5.

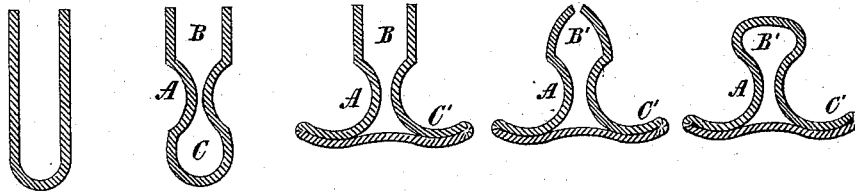
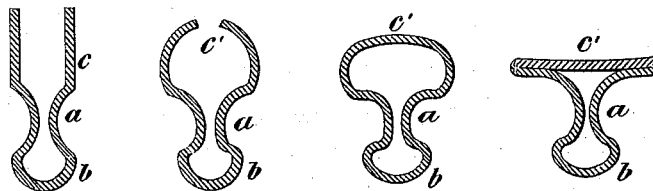


Fig.6.

Fig.7.

Fig.8.

Fig.9.



WITNESSES:

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METHOD OF MAKING BUTTONS, &c.

SPECIFICATION forming part of Letters Patent No. 384,192, dated June 5, 1888.

Application filed December 9, 1887. Serial No. 257,384. (No model.)

To all whom it may concern:

Be it known that I, SHUBAEL COTTLE, of the city, county, and State of New York, have invented a new and useful Improvement in Processes of Manufacture of Stud, Collar, or Sleeve Buttons, of which the following is a specification.

My invention consists in a new process of manufacturing a stud, collar, or sleeve button in the form of a metallic shell without an opening into its interior, the said button being produced from a single piece of sheet or thin metal.

My process consists, essentially, in first producing a tube of thin metal of uniform thickness and closed at one end; second, compressing said tube at about its middle, so as to leave two portions, one closed and the other open, joined by a shank of narrower diameter; and, third, closing the open portion. The button therefore contains two flanged portions united by a shank. One of these flanged parts is made smaller than the other and constitutes the head of the button. The other part forms the base or back, which is double. Either the closed or open part of the tube after compression may be converted into the back by flattening and drawing it out to larger diameter than the uncompressed portion of the tube. This flattening and enlarging may follow or precede the final closing of the opening of the button.

In the accompanying drawings, Figures 1 to 5, inclusive, are sectional views of my button during different successive stages of its manufacture. Figs. 6 to 9, inclusive, exhibit the successive stages of a button made by modification of my said process. In the process illustrated by Figs. 1 to 5 the head of the button is left open during the various stages, and is finally closed. In Figs. 6 to 9 the back of the button is left open until the final closing.

Similar letters of reference indicate like parts.

The initial form of the blank is represented in Fig. 1, the same being a short section of tube closed and rounded at one end. By means of suitably-formed dies this tube is compressed at its middle portion, as shown at A, Fig. 2. The compressed part ultimately becomes the post or shank of the button. The open portion B above the part A may become the head and the closed portion C below the part A may

become the base or back. I next flatten and draw out the part C to form a double base or back, C', Fig. 3. This I may do by pressing the blank in suitable dies. In this stage the shank A and base C' are completed in form, the head B, however, being still open. The button is now adjusted in the lathe so that the open end of the head B is conveniently presented to the action of the spinning-tool, and by means of this tool the circumferential edge is spun inward, as shown at B', Fig. 4. This spinning operation is continued until the opening is entirely closed by the metal meeting, when the upper surface of the head is finally smoothed off, thus completing the construction of the button.

By the above successive steps it will be apparent that the shank A is first produced, then the base or back C, and finally the closed head B. I may modify this so as to leave the back open until after the shank and head are formed. Thus in Fig. 6 the blank appears substantially the same as in Fig. 2, with the exception that the closed part *b*, which becomes the head, is smaller than the closed part C in Fig. 2, which, as already described, becomes the base or back. The part *a*, Fig. 6, is similar to the part A, Fig. 1. The upper circumferential edge of the part *c*, Fig. 6, is drawn inward by spinning, so as to cause the blank to take the form shown at *c'* in Fig. 7. Then the opening in the part *c'* is closed by continuing the spinning operation, as shown in Fig. 8, and the base is finally flattened, as shown in Fig. 9, which figure is obviously the same as Fig. 5.

The various manipulations suitable to cause the blank to take the form above described are all well known to workers in metal and others skilled in the art. I produce, as already stated, the shanks at A or *a* by compressing the blank in dies; but I do not limit myself to this means, because I may produce the same form by spinning. So, also, I flatten the base C' or *c'* by pressing in dies; but I may do it by upsetting or spinning. So, also, I may close the opening in the base *c'* or head B' by spinning, as described, or by compression in dies or upsetting.

In another application for Letters Patent, filed on the 28th day of October, 1887, Serial No. 253,582, and now pending, I have fully described and claimed the button produced by

the aforesaid process as a new construction. The subject-matter of said application is herein disclaimed.

I claim—

5 1. The process of manufacture of a stud, collar, or sleeve button of thin metal without an opening into its interior, and having two flanged portions and a connecting-shank, substantially as herein described, which consists
10 in first forming a tube of metal of substantially uniform thickness and closed at one end; second, compressing and thereby reducing the diameter of said tube at about its middle portion; third, closing the opening in said tube
15 by pressing together and into close contact the metal around the edge of the opening in said tube, substantially as described.

2. The process of manufacture of a stud, collar, or sleeve button of thin metal without an
20 opening into its interior, and having a hollow head, a double base, and a hollow connecting-shank, which consists in first producing a tube closed at one end; second, compressing and so reducing the diameter of said tube at
25 about its middle portion; third, flattening the

closed part of said tube to form a flange of greater diameter than the uncompressed portion of said tube; fourth, closing the opening in said tube by pressing into close contact the metal around the edge of the opening in said tube, substantially as described. 30

3. The process of manufacture of a stud, collar, or sleeve button of thin metal without an opening into its interior, and having a hollow head, a double base, and a hollow connecting-
35 shank, which consists in first producing a tube closed at one end; second, compressing and so reducing the diameter of said tube at about its middle portion; third, closing the opening in said tube by pressing into close contact the
40 metal around the edge of the opening in said tube, and, fourth, flattening the portion of the tube so closed to produce a flange of greater diameter than the non-compressed part of said tube, substantially as described.

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Witnesses:

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