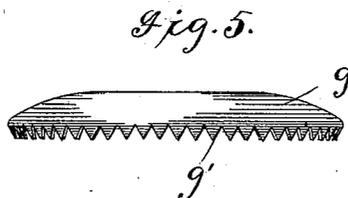
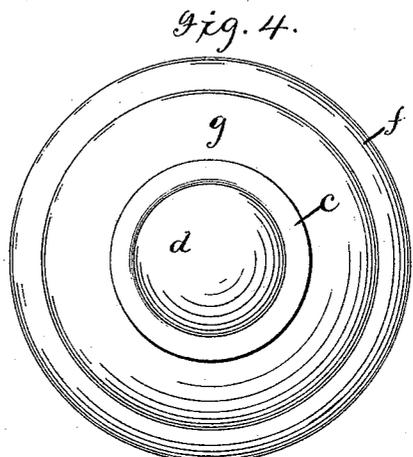
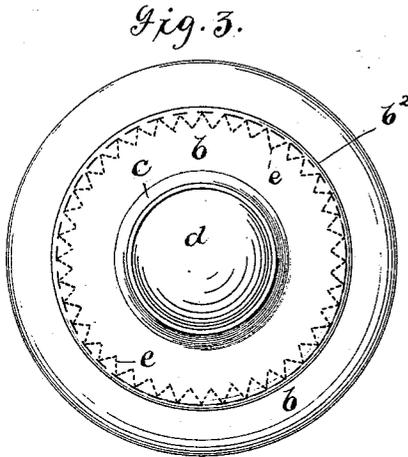
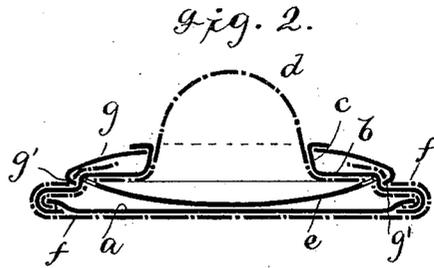
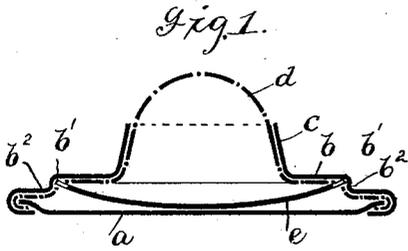


(No Model.)

J. N. GOTENDORF, Jr.
BUTTON.

No. 454,266.

Patented June 16, 1891.



Witnesses:
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Benj. Miller.

Inventor:
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UNITED STATES PATENT OFFICE.

JAMES NATHAN GOTENDORF, JR., OF PARIS, FRANCE, ASSIGNOR TO BRENT GOOD, OF NEW YORK, N. Y.

BUTTON.

SPECIFICATION forming part of Letters Patent No. 454,266, dated June 16, 1891.

Application filed March 29, 1888. Serial No. 268,753. (No model.) Patented in France December 9, 1886, No. 180,199, and in Belgium July 8, 1887, No. 78,153.

To all whom it may concern:

Be it known that I, JAMES NATHAN GOTENDORF, Jr., a citizen of the United States of America, and at present residing at Paris, in the Republic of France, have invented certain new and useful Improvements in Covered Buttons, (for which Letters Patent have been granted in France, No. 180,199, dated December 9, 1886, and in Belgium, No. 78,153, dated July 8, 1887,) of which the following is a specification.

This invention relates to improvements in the manufacture of covered buttons.

The object of the invention is to simplify and improve the construction of the button in such a way that the flexible shank and the covering fabric will be more firmly secured upon the metallic parts, whereby the fabric is secured upon the shell of the button.

Reference is to be had to the accompanying drawings, forming part of this specification, in which like parts are indicated by like letters of reference in the several views, and in which—

Figure 1 is a cross-section, drawn on an enlarged scale, of the shell of a button constructed according to my invention before being covered. Fig. 2 is a similar view of the entire button after the parts are clenched together. Figs. 3 and 4 are plans of Figs. 1 and 2, respectively. Fig. 5 is an elevation of the collet.

The metallic shell of the button is composed of a disk *a* and a back *b*, united to the disk *a* by the edges of the back *b* being turned over and embracing the edges of the disk *a*. This is performed in two operations by means of the usual punches and dies, whereby the edges of the back are turned up and then clinched or turned down over the face of the disk *a*, this clinching operation being performed after the cloth-shank *d* has been introduced, as hereinafter described. The back *b* has formed in one with it a neck *c*, which is produced by first cupping the back at the center and then punching out the bottom of the cup, this being done in two operations by means of ordinary punches and dies, as is well understood. At the same time that the back *b* is cupped to form the neck an annu-

lar shoulder *b'* b^2 is formed in it for the purpose of co-operating with the serrated disk and collet hereinafter referred to.

The shank *d* is formed of a disk of cloth, preferably of such size that its edges will overlap the edges of the disk *a* and be tightly nipped between them and the turned-over edges of the back *b*.

e is a slightly-cupped metal disk having serrated edges and corresponding in diameter to the shoulder *b'*, so that when the parts *a b* are united, as hereinafter described, the teeth of the disk *e* will be forced to penetrate the fabric *d* of the shank and become tightly jammed in the re-entering angle at *b'*, thus holding the shank *d* securely in place.

In putting these parts together the fabric *d* is first pushed the proper distance (by means of a suitable tool) through the neck *c* of the back, and the latter is laid neck downward in a die. The cupped disk *e* is then placed concave side downward on the fabric *d* and the disk *a* is placed in position within the upwardly-turned edges of the fabric *d* and of the back *b*. The back *b* is then clinched by its edges being turned downward and inward by a concave-faced punch being brought down upon it. The serrated cupped disk *e*, being situated in the position described, is, by the clinching together of *a* and *b*, slightly flattened and forced to spread into the re-entering angle *b'*, thereby firmly securing the shank *d*. The shell is then ready for being covered, which is performed by means of a tool such as that forming the subject of another application for Letters Patent of the United States of even date herewith, Serial No. 268,752.

f is the covering fabric, stamped out in the form of a disk, of sufficient size to cover the face and be wrapped round the edges of the shell and be secured at the back thereof by a collet *g*, as hereinafter described. This collet *g* is a cupped annular disk having a central aperture adapted to pass over the neck *c* of the back *b*, and having a toothed circumference, the points of the teeth *g'* being slightly convergent or directed toward the center, so that when pressed against the inwardly-turned portions of the covering fabric

f at the back *b* of the shell, as hereinafter described, they will pierce the fabric, and on meeting the back *b* will be bent more directly inward toward the center of the button and enter the re-entering angle *b*² in the back *b*, thereby firmly retaining the covering fabric. At the same time that the teeth *g*' are bent inward the end of the neck *c* is splayed outward and clinched over the back of the collet *g*, so as to hold the collet securely in position with its teeth firmly embedded in the covering fabric. The collet *g* is formed by punching out a serrated blank, by means of a correspondingly-serrated punch and die, then cupping the blank by means of a convex punch and cupped die, whereby the teeth are turned up parallel to the axis. A central hole is then punched in the cupped disk, and finally the teeth are caused to slightly converge toward the axis, as shown in Fig. 5, by the pressure of a concave or hollow faced punch while the disk is held in a suitable cup or die.

The mode of covering the shell and clinching the collet by means of a tool such as that described in my other application for Letters Patent aforesaid is as follows: The disk *f* of covering fabric having been placed over the cavity of the bed-die and the metal shell having been placed face downward upon it, and the two having been pushed down to the bottom of the cavity, the collet *g* is placed and held teeth downward within the parallel part of a hollow gathering-tool, whereby the edges of the covering fabric *f* are gathered inward toward the center, and the gathering-tool is then brought down slightly in advance of punches for driving in the teeth of the collet and riveting over the neck *c*, whereupon the gathering-tool first turns the edges of the covering fabric inward, and then the punches force the teeth of the collet through said fabric and clinch the neck of the shell over the collet, as above described.

It is to be understood that the disk *a* of the shell may be either flat or convex, according as a flat or convex face button is to be formed.

In the manufacture of my button there are important advantages due to flanging the back of the metallic shell over the face-disk. In the first place, the edges of a button such as herein shown and described, in which no outer shell is employed, must be rounding and not sharp; otherwise the covering fabric will be cut through thereby when the button is completed. If the face-disk flanges over the back,

the flattening-punch that gives the final stamping finish to my button must strike the button on its back, and this operation flattens and sharpens its edges; but when I flange the back over the face-disk in the manner illustrated the blow of the punch is then exerted on the face of the disk, and as this affords a larger surface than the back presents there is consequently more resistance to the shock of the tool, and the edges of the button, instead of being thin and sharp, are left rounding, and I find this to be the result even when the stamping is done with considerable force.

Another advantage incident to my plan of uniting the back and face-disk is that it enables me in the process of manufacturing the button to secure the shank or tuft firmly in position by clinching it between said disk and the bend or lap of the back. If I were to flange the tuft together with the face-disk over the back, the force of the punch would cut the tuft at the border and render useless the security intended against misplacement.

Having now particularly described and ascertained the nature of the said invention and in what manner the same is to be performed, I declare that what I claim is—

1. The combination, with a shell consisting of a back piece, as *b*, and a face-disk, as *a*, said parts united by having the edges of the back flanged over to embrace the edges of the disk, and the back provided with an annular shoulder, as *b*', of a flexible shank, as *d*, having its edges clinched between the edges of said disk and the bend or lap of the back, and a serrated disk, as *e*, which engages with the shank *d* and co-operates with the under surface of the annular shoulder *b*', substantially as set forth.

2. In a covered button, the combination, with a disk, as *a*, and a back, as *b*, having a neck *c* formed integral therewith and provided with an annular shoulder *b*², of the covering fabric *f* and a collet, as *g*, provided with convergent or inwardly-directed teeth, the latter engaging with the annular shoulder, while the neck *c* is clinched over upon the collet, substantially as set forth.

The foregoing specification of my improvements in the manufacture of covered buttons signed by me, this 27th day of February, 1888, at Paris, France.

JAMES NATHAN GOTENDORF, JUNIOR.

Witnesses:

HENRY LIPS,
ARTHUR E. VALOIS.