

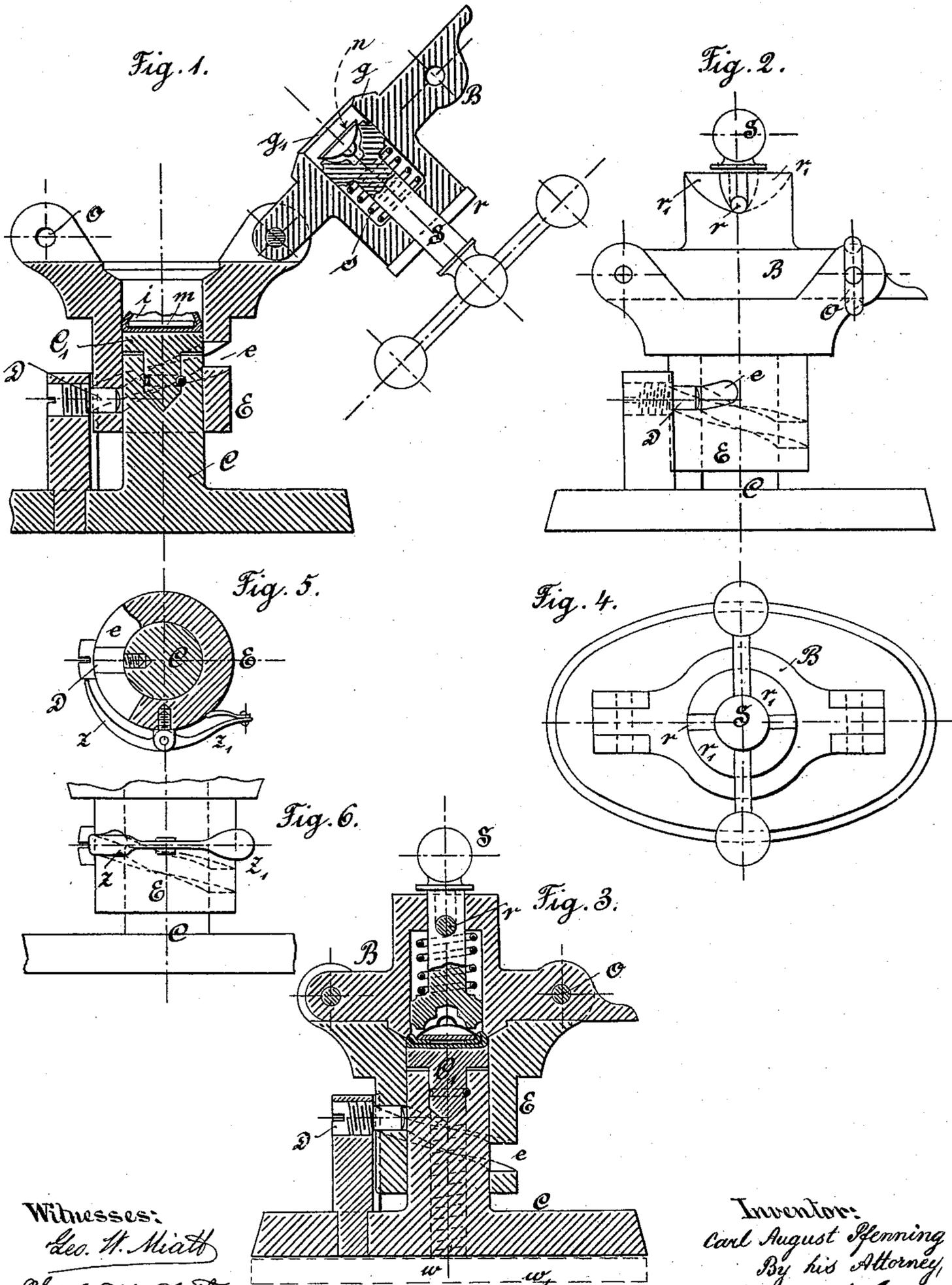
(No Model.)

C. A. PFENNING.

BUTTON MACHINE.

No. 396,423.

Patented Jan. 22, 1889.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

CARL AUGUST PFENNING, OF BARMEN RITTERSHAUSEN, PRUSSIA, GERMANY.

## BUTTON-MACHINE.

SPECIFICATION forming part of Letters Patent No. 396,423, dated January 22, 1889.

Application filed April 5, 1888. Serial No. 269,670. (No model.)

*To all whom it may concern:*

Be it known that I, CARL AUGUST PFENNING, a subject of the German Emperor, residing at Barmen Rittershausen, in Rhenish Prussia, Germany, have invented a new and useful Apparatus for the Manufacture of Buttons, of which the following is a full, true, and exact description, reference being had to the accompanying drawings.

The present invention relates to a change and improvement in the apparatus for the manufacture of buttons with a covering or surface of cloth, specified in the American Letters Patent No. 350,211, dated October 5, 1886, in order to be able to manufacture by this arrangement buttons the combination of which differs from those which are made by the apparatus described by said American Letters Patent No. 350,211, under date of October 5, 1886.

The buttons which are to be made, and which are already known in their composition, consist of an upper part covered with stuff and a mold-shaped lower part with an eyelet or a cloth shank. The joining together of the upper and lower parts takes place by bending the rim of the upper part of the button, (hereinafter called the "button upper part,") with the cloth folded around it, around the lower part of the button, (hereinafter called the "button lower part,") or around the rim of the mold, respectively. The apparatus for making this button is shown in the accompanying drawings, in which—

Figure 1 represents a section through the apparatus with the cover-plate open; Fig. 2, an elevation, of which Fig. 1 is a section; Fig. 3, a section of the apparatus, Fig. 1, slightly modified, showing the apparatus closed in the process of forming the button; Fig. 4, a plan view of Fig. 2; Fig. 5, a section showing a modification of the apparatus shown in Fig. 1; and Fig. 6, an elevation of the same.

As in the American Letters Patent No. 350,211, the sleeve E of the apparatus can be turned on the core C, which is provided with a foot-plate, and on which core the sleeve moves upward and downward, according to the turning of the core in the one or the other direction. This is accomplished by a screw-shaped slot, *e*, in which the stationary pin D

is inserted. The cover B, which when in a closed position can be fastened by a pin, *o*, rests on the sleeve E, which latter can also be constructed in such a way as to allow the placing in it of separate parts for the making of different-sized buttons.

In place of the spindle found in the cover of Letters Patent No. 350,211, a stamp, S, is provided in the present apparatus, the downward movement of which stamp is caused by a spring, *s*. The upper end of the stem of this stamp S is provided with a cross-bar, *r*, (shown clearly in Fig. 2,) which rests in the two circular-shaped ways. (Clearly shown.) These ways unite at the top in a horizontal portion, upon which the pin *r* may rest, while upon rotation the pin *r* drops down those ways by the action of the spring *s*.

The core C contains a separate turnable head, C', for the purpose of protecting the stuff drawn over the button upper part, while the sleeve and core turn against each other. This turnable head C' rotates, as shown, being held in position by a wire or rod traversing a slot in the exterior cylindrical surface of the same, which wire may be withdrawn from the outside, so as to allow the removal of the head C' when desired.

For the purpose of making a button with this hand apparatus, the cloth and button upper part are introduced into the sleeve E and the button lower part, *n*, is placed on the stamp S. This done, the cover is closed and locked by the pin O. Now the sleeve on the core is turned so far that the rim of the cloth *i* is folded on the beveled rim *g'* of the cover toward its center. If now the stamp S is turned a little, so as to move the cross-pin *r* upon the slanting ways *r'*, then the spiral spring *s* will drive the stamp downward and press the lower part, *n*, into the upper part, *m*, whereby the rim of the cloth rests between the upper and lower parts, as shown in Fig. 3. Once more the sleeve is turned, whereby the pin D runs through the remaining part of the slot *e*, by which the core is moved in the sleeve in such a manner that, correspondingly with the slackening or moving back of the stamp S, the rim of the button upper part is turned over by the resistance offered by the beveled rim *g'*. It is obvious that the pressure of the

stamp S on the button lower part must be a yielding one—*i. e.*, the stamp must be able to retrograde somewhat in performing the last-described lifting of the core C, by which the rim of the button upper part is turned over. The manipulations having been executed in the described manner, the finished button can be taken out of the apparatus after opening the cover.

In order to limit the first revolution of the sleeve and stamp which effects the folding of the cloth on the beveled rim  $g'$ , and in order to prevent the core from advancing too far and thus preventing a bending of the rim of  $m$ , a lever,  $z z'$ , can be fixed on the sleeve, as is shown in Figs. 5 and 6, whose arm covers the end part of the slot by continually pressing the arm  $z$  against the sleeve by a spring fastened under the other arm,  $z'$ . The screw D, which moves in the slot, is fastened in the core C in this case, instead of outside, and the length of the lever-arm  $z$  is of such size that in moving the screw-head against the end of the arm by the corresponding advancing of the core a bending over of the cloth rim correctly takes place. If now, by a pressure on the lever-arm  $z'$ , the end  $z$  is raised, then the further rotation of the sleeve against the core can take place, by which rotation the upper and lower parts of the button are joined, as now the arm  $z$  opens the way, or, rather, opens the end of the slot  $e$  for the screw D.

In place of having the above-described second change of sleeve and core executed by a corresponding extension of the screw-shaped slot a contrivance like that indicated by dots in Fig. 3 can be used, by which at the first rotation of the sleeve, which effects the folding of the cloth rim  $i$ , the pin D immediately reaches the end of the screw-shaped slot, while the bending of the rim of the button upper part over the lower part—that is, the real connection of these parts—is accomplished by a corresponding raising of the head C, which is placed in the core, by a screw-bolt,  $w$ , being provided in the core below this head, which bolt can be screwed into the core by turning the plate  $w'$ , which is connected with it, whereby a pressure is exerted on the top piece,  $C'$ , which is followed by a bending of the rim of the button upper part, as will be easily understood.

I do not in this application claim the sub-

ject-matter shown herein and claimed in my applications, Serial Nos. 269,671 and 269,675, filed simultaneously herewith.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with the movable cover of a button-making machine, of a button-forming stamp carried by the cover, a retaining device, as described, for temporarily holding the stamp in its elevated position, an operating-spring whereby the stamp is thrust downward when released, and an operating-handle, all substantially as and for the purpose set forth.

2. The combination, in a button-forming machine, of a movable cover containing a button-forming stamp driven by a spring and a pin attached to the stem and resting in ways, whereby the upward movement of the stamp is caused by the sliding of the pin in the ways, substantially as described.

3. The combination, in a button-forming machine, of a base, a screw centrally mounted thereon, a surrounding sleeve engaging with said screw and carrying the button-forming core upon its upper end, a second sleeve surrounding said first sleeve and adapted to move vertically thereon, a cover containing button-forming mechanism mounted upon said sleeve, and a handle for operating said button-forming mechanism, substantially as described.

4. The combination of the core C, the sleeve E, the cover B, pivoted upon the sleeve E and locked thereon in operation, the button-forming plunger S, driven by a spring,  $s$ , and raised by a pin,  $r$ , traveling in the slot  $r'$ , substantially as described.

5. The combination of the base  $w'$ , carrying screw  $w$ , the part C, screwing upon the screw  $w$ , the pin D, suitably supported upon the part C, the sleeve E, having slot  $e$ , and the cover B, pivoted on the sleeve E and carrying the button-forming mechanism operated by the handle S, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CARL AUGUST PFENNING.

Witnesses:

CARL KRÜGER,  
F. J. FALKENBACH.