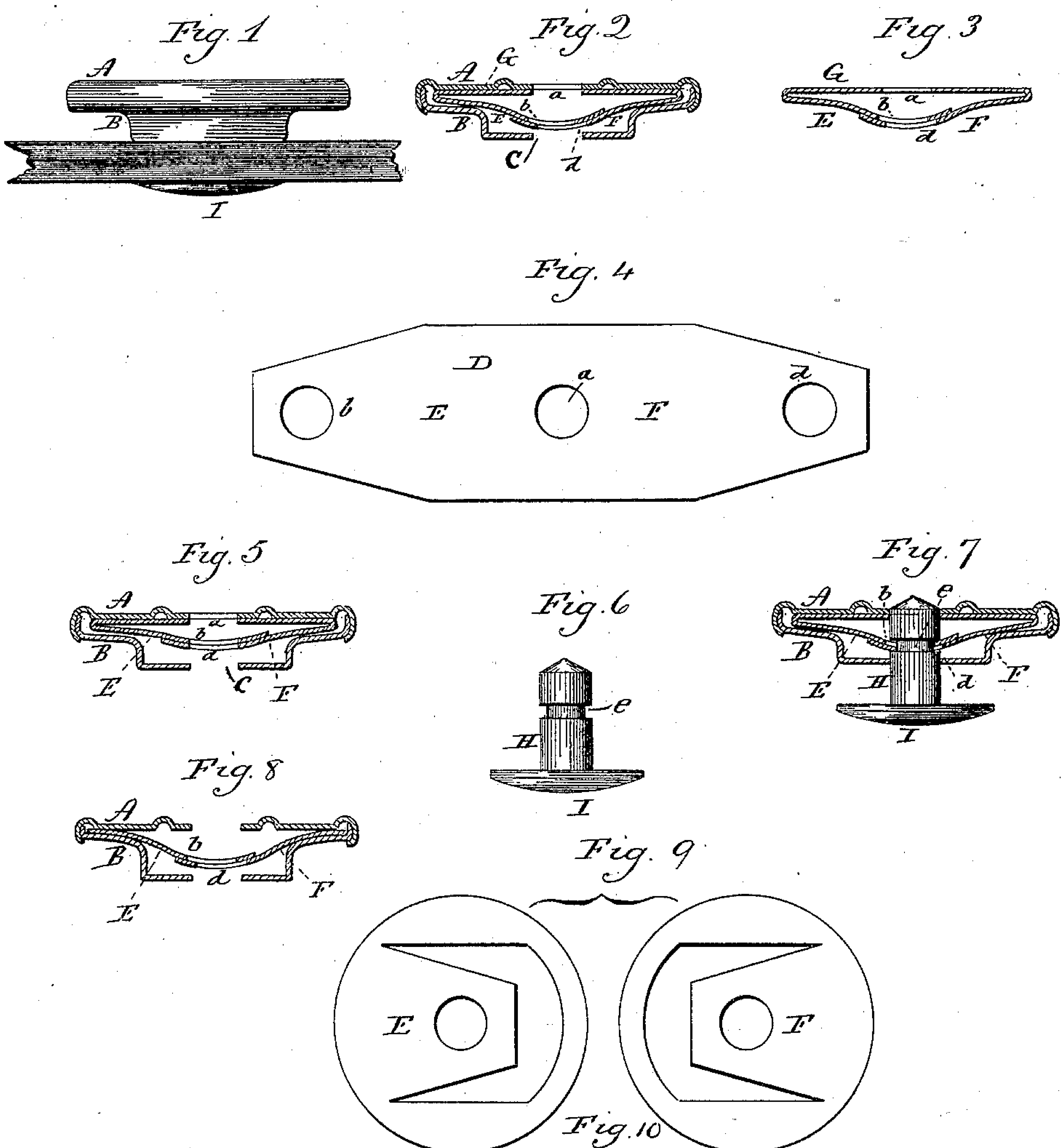
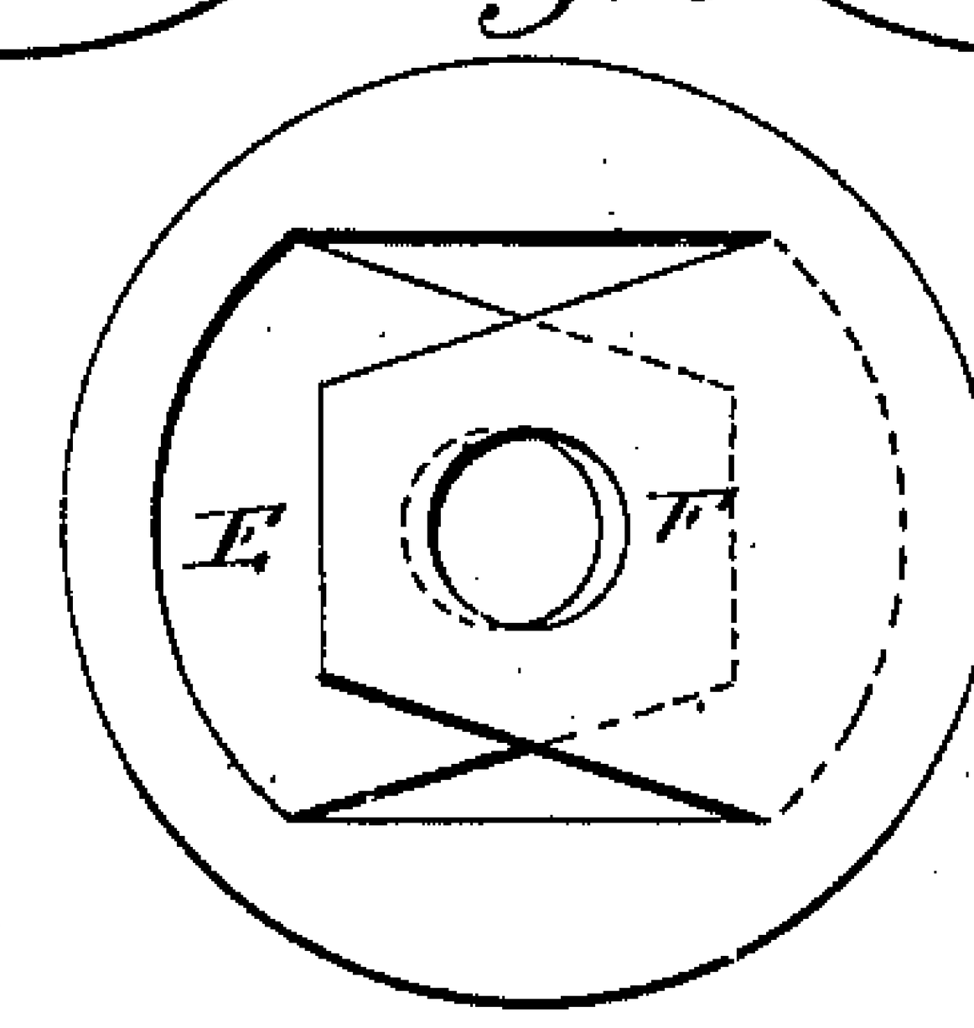
(No Model.)

C. A. BRYANT.

BUTTON.

No. 405,529. Patented June 18, 1889.





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UNITED STATES PATENT OFFICE.

CHARLES A. BRYANT, OF WAKEFIELD, MASSACHUSETTS.

BUTTON.

SPECIFICATION forming part of Letters Patent No. 405,529, dated June 18, 1889.

Application filed April 1, 1889. Serial No. 305,502. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. BRYANT, of Wakefield, in the county of Middlesex and State of Massachusetts, have invented a new Improvement in Buttons; 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 exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view of the button complete as attached to a garment; Fig. 2, central section through the button; Fig. 3, central section through the springs detached; Fig. 4, the blank from which the springs are made; Fig. 5, the same section as Fig. 2, showing the springs forced toward the front to bring the openings through the springs to register; Fig. 6, side view of the stud; Fig. 7, the stud as engaged with the springs; Fig. 8, modification in the formation of the springs; Figs. 9 and 10, other modifications in the formation of the springs.

This invention relates to an improvement in that class of buttons in which the button is constructed with a central opening from its back and has combined therewith a fastening-stud, the said stud being adapted to pass through from the rear side of the garment and so that the button compressed onto the stud will automatically engage with the stud and such as are commonly known as "bachelor's-buttons;" and the invention consists in the construction as hereinafter described, and particularly recited in the claims.

A represents the front of the button, and B the back, which are of the usual form, the front and back being made of disks and the edge of the one closed upon the edge of the other, and so as to form a chamber between the front and the back. The back is pierced at the center, as at C, corresponding to the diameter of the stud to which the button is to be attached, and preferably the front is pierced in like manner.

The fastening device is introduced into the chamber between the front and back. It is made from a strip of elastic sheet metal D, (see Fig. 4,) pierced to form an opening *a* at its center, and at each end with like openings *b d*, these openings all corresponding in diameter substantially to the diameter of the stud to which the button is to be attached. The two ends of this blank D, Fig. 4, are then turned toward each other to form springs E F. The said springs overlap each other at the center; but the bends are made so that the said perforations *b d* in the two ends do not quite reach each other—that is, so that they do not come into a position to quite coincide with the perforation in the center of the blank, as seen in Fig. 3. The ends are curved so as to normally stand distant from the body of the blank, as seen in Fig. 3, and so as to leave a space between the free ends of the two springs E F and the body G, as clearly seen in Fig. 3; but if the two springs E F be compressed toward the body, as seen in Fig. 5, the ends of the springs will be forced toward each other until the openings *b d* exactly register with each other. These springs are arranged between the front and back, so that the body G of the springs lies against the front, the springs curving toward the back, as seen in Fig. 2, and the springs are introduced before the front and back are closed. The closing of the front and back firmly secures the springs in place with their perforations or openings coinciding with the opening C through the back of the button.

The stud for securing the button is constructed as seen in Fig. 6, it having a shank H, corresponding in diameter to the openings *b d* in the spring, and is provided with a suitable head I. The shank is constructed with one or more annular grooves *e*, which in width correspond substantially to the combined thickness of the two springs at the perforations. The end of the shank is preferably made conical.

In applying the button the shank is first introduced through the garment, and then the button set upon the projecting end of the shank H, the said shank entering the button through the opening C in the back, and so that its conical or wedge-shaped end will press upon the springs through their opening, and so that force applied will compress the springs, as seen in Fig. 5, until the two openings *b d* through the springs register, when the stud will freely pass in through the

springs until the annular groove *e* of the stud arrives at the openings. Then left free, the springs return, and in so returning the opening of one draws away from the opening of the other and into the annular groove in the stud, as seen in Fig. 7, and thus will interlock with the stud, so as to prevent accidental separation.

This construction is extremely simple. The button is of the usual construction, so far as its exterior is concerned, and the springs make a firm grasp upon the stud, as the tendency of any strain upon the button to draw it from the stud only tends to draw the ends of the springs from each other and thereby contract the opening, which tendency simply draws the springs into a firmer grasp of the stud.

While I prefer to make the body G and the springs in a single piece, and so that the body forms the connection between the two springs, the springs may be otherwise applied, say, as seen in Fig. 8, in which the two springs are made separate from each other and each spring secured directly between the front and back without the intervention of the body; but there is the same overlapping of the ends of the spring and of the perforations through the two ends as in the first illustration; or the springs may be made from two disks, as seen in Fig. 9, of a diameter corresponding to the internal diameter of the button—one spring E cut from one disk and the other spring F cut from the other disk—and the two set together, as represented in Fig. 10, bringing the springs into the same relation to each other as in the first illustration.

From the foregoing it will be understood that I do not claim, broadly, a button provided with springs adapted to grasp the shank of a button, as such, I am aware, is not new; but,

What I do claim is—

1. The herein-described button consisting of a front and back united at their edges, but so as to leave a chamber between the two, combined with a pair of springs arranged in the said chamber, secured by their outer ends to said front and back, the said springs extending radially inward and inclined toward the back, their inner or free ends overlapping each other at the center, the said free ends and back constructed with openings corresponding to the shank to be introduced, the said openings in the springs overlapping each other at the center, and whereby as the said free ends are forced toward the front of the button the openings through the springs will be caused to register with each other, and a stud the shank of which is constructed with an annular groove and adapted to enter the back of the button and through the openings in the free ends of the springs, and engaged with said free ends by the reaction of the springs, substantially as described.

2. A button composed of a front A and a back B, the said front and back secured together at their outer edges, and so as to form a chamber between the two, the back constructed with an opening C at its center, combined with springs E F, made from elastic sheet metal and integral with the body G, which said body forms connection between the said two springs, the said springs arranged within the button, with the body G next the front of the button and so that the springs incline rearward toward the back of the button, the free ends of the springs overlapping each other at the center, and the said free ends constructed with openings corresponding to the shank of the stud to be introduced, the said openings overlapping each other in their normal condition, but so that when forced toward the front the said two openings will register the one with the other, and a stud the shank of which is constructed with an annular groove *e*, adapted to engage said springs, substantially as described.

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