(No Model.)

J. H. WALKER.

BUTTON.

No. 310,102. Patented Dec. 30, 1884.

Fig. 1

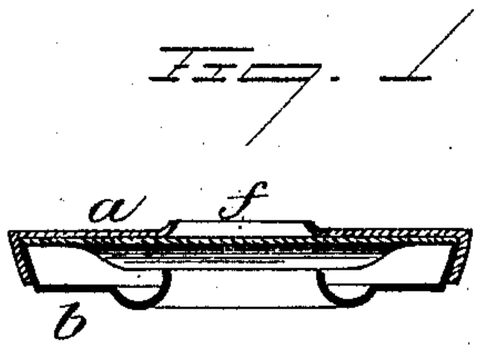


Fig. 2

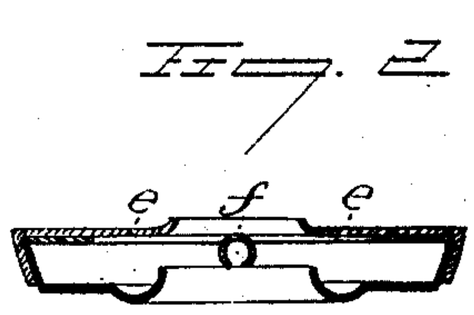


Fig. 3

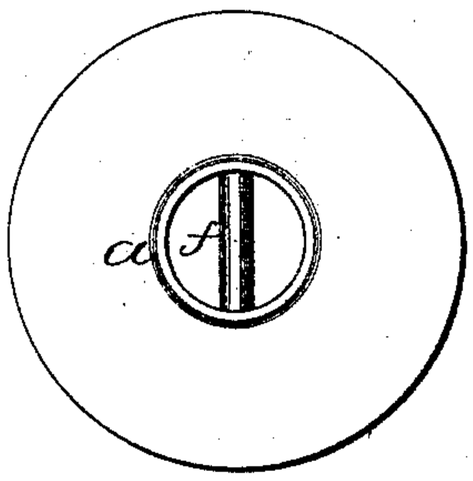


Fig. 4

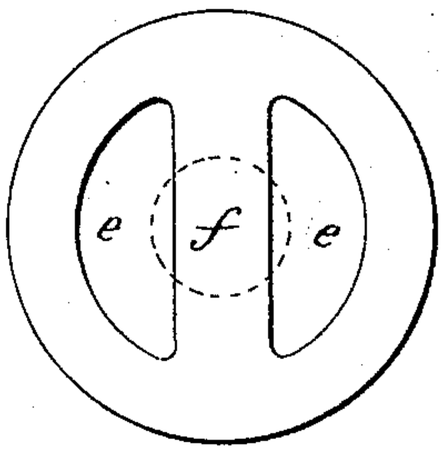


Fig. 5

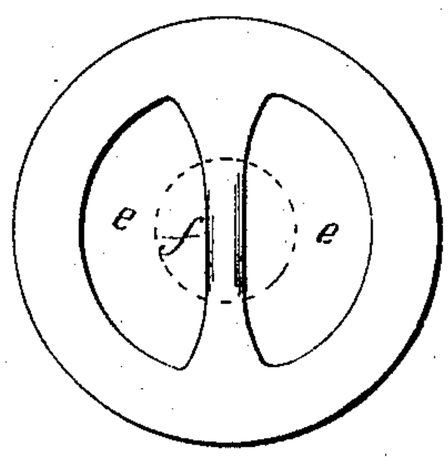


Fig. 6

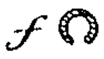


Fig. 7

Fig. 8

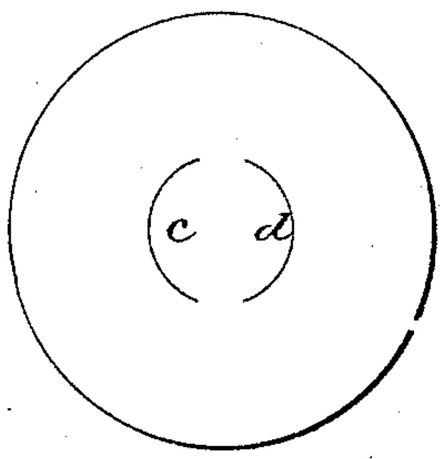


Fig. 9

Fig. 10

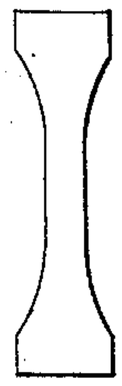
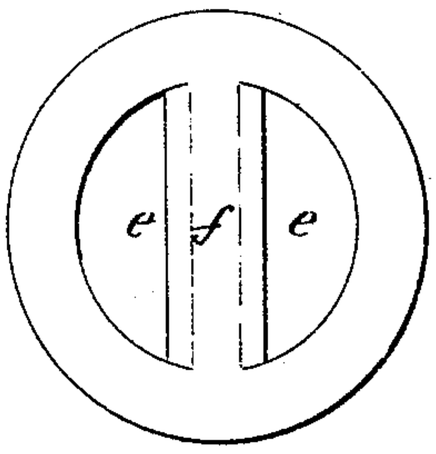


Fig. 11



Witnesses.
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Jos. C. Earle

John H. Walker
Inventor
By atty
Jos. C. Earle

UNITED STATES PATENT OFFICE.

JOHN H. WALKER, OF WATERBURY, CONNECTICUT, ASSIGNOR TO THE PLATT BROTHERS & COMPANY, OF SAME PLACE.

BUTTON.

SPECIFICATION forming part of Letters Patent No. 310,102, dated December 30, 1884.

Application filed October 27, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. WALKER, of Waterbury, in the county of New Haven and State of Connecticut, 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 section of the button, showing a side view of the bar; Fig. 2, a section at right angles to Fig. 1, showing a transverse section of the bar; Fig. 3, a face view of the button; Fig. 4, the bar-disk as cut preparatory to bending; Fig. 5, the bar-disk, showing a top view of the bar as bent, inner dotted circle indicating the central opening through the button; Fig. 6, a transverse central section of the bar as bent; Fig. 7, a modification of the same; Fig. 8, a face view, and Fig. 9 transverse section, illustrating the previous methods of forming the bar; Fig. 10, a modification of the bar-piece; Fig. 11, a modification in the cut of the bar-piece.

This invention relates to an improvement in that class of buttons commonly called "suspender" or "pantaloon" buttons, and to that particular division of this class in which a bar is arranged across the central opening in the button, and over which the stitches are taken, in contradistinction to that class of buttons in which several perforations are made through the center, through which the stitches are taken, this class being commonly called "bar-buttons."

The button, in its usual construction, consists of a front, *a*, and a back, *b*. These two parts are made of cup shape, and so as to set one within the other. The flange of the front is closed upon the flange of the back, and so as to secure the two parts firmly together. The bar in some cases is made from a piece of wire extending across the opening and secured between the front and back, the wire standing diametrically across the opening, and so that in securing the button the stitches are taken over the bar. In other cases the bar is formed in a disk of sheet metal in diameter corresponding to the internal diameter of the button, and as seen in Fig. 8. At the center two semicircular slits are cut, as shown in Fig. 8, the diameter corresponding substantially to the diameter of the central opening through the button. The ends of these slits do not quite meet each other, but leave a space between in width substantially the diameter of the bar to be produced, leaving two tongues, *c d*, one each side the center. These tongues are then bent downward, as seen in Fig. 9, into inverted-U shape, and so as to produce a rounded upper surface. The disk form of the bar-piece is preferable over the wire because of its certain central location, so as to bring the bar diametrically across the opening in the button.

When made as shown in Figs. 8 and 9, the operation of bending the tongues *c d* downward to form the rounded bar distresses the metal at the junction of the central part of the bar with the surrounding portion to such an extent as to frequently crack or break the metal at that point, and in any case more or less roughness will occur at the junction of the bar with the surrounding portion. In a patent granted to me September 16, 1884, No. 305,362, I have overcome this difficulty by making the bar from sheet metal and cutting a notch in the two edges of the blank, and near each end, but so that the notches will come between the two thicknesses of the metal, leaving tongues between the said notches similar to the tongues *c d* of Fig. 8. These tongues bent down form a bar substantially like the bar Fig. 8; but cutting the notches prevents the distress of the metal in turning the tongues downward.

My present invention is an improvement upon the invention patented to me as aforesaid, the object being to avoid the cutting of the notches in the sides of the bar-piece; and it consists in the construction of the bar-piece, as more fully hereinafter described, and particularly recited in the claim.

For the reasons before stated, I prefer to make the bar-piece in the form of a circular disk corresponding in diameter to the internal diameter of the button, and as seen in Fig. 4. In this disk I cut away the portion *e* each

side the center, leaving a bar, *f*, diametrically across the disk, the length of the bar being considerably more than the diameter of the hole through the front and back of the button, the hole in the button being indicated by the inner dotted circle. The width of the bar is such that it may be bent into tubular shape, as seen in Fig. 6, or into inverted-U shape, as seen in Fig. 7. By preference the bending of the edges of the bar into these shapes is made, as seen in Fig. 5, from the center toward each end, dying out into the flat surface at the ends of the bar, but so that the bent tubular or U-shaped portion of the bar extends considerably beyond the inner edge of the opening through the front and back and into the space between the front and back, as seen in Fig. 1, and so that the bar may take a bearing upon the inside of the back at the edge of the hole, as seen in Fig. 1, which gives a firm support for the bar, and carries the termination of the bar so far into the space between the front and back that none of the roughness of the edge of the metal comes in contact with the thread. The bar across the opening has its sides substantially parallel with each other, and if bent into cylindrical shape, Fig. 6, which I prefer, the bar has the same appearance and effect as if made from wire.

While I prefer to make the bar in disk form, it may be made from a flat strip, in width sufficient to form the rounded central portion, as seen in Fig. 10, the sides being bent the same as described for the bar in the disk, the two ends located between the front and back of the button, and so as to retain the bar diametrically across the opening. The bar-piece is introduced, say, into the back, as seen in Fig. 1, then the front placed over the bar-piece and back and closed in the usual manner of closing the front and back, and as in my patent before mentioned. In case the bar is bent into tubular form, as seen in Fig. 6, it may be arranged either side up between the front and back, as the edges of the metal so nearly meet that the bar across the center forms substantially a cylindrical shape, and the edges are so protected by each other as to prevent any possible injury to or cutting of the thread.

Instead of bending from the center toward each end and dying out, as thus far described, the disk may be cut as seen in Fig. 11, which is the same as in Fig. 4, except that in each side of the bar, at its extreme ends, a cut is made inward, and then the edges of the bar turned downward—say on the broken line—to form a cylindrical or U-shaped bar, taking its bearing between the front and back, the same as in the previous illustrations, the extreme ends or roughness of the bar being carried so far outside the inner edge of the hole through the button that it is beyond possible contact with the thread.

I claim—

A button comprising the front *a*, back *b*, and the intermediate bar or disk having rounded central portion which extends across the opening in the button, and approximately flat end portions, substantially as described.

JOHN H. WALKER.

Witnesses:
JOHN W. WEBSTER,
NOAH B. WELTON.