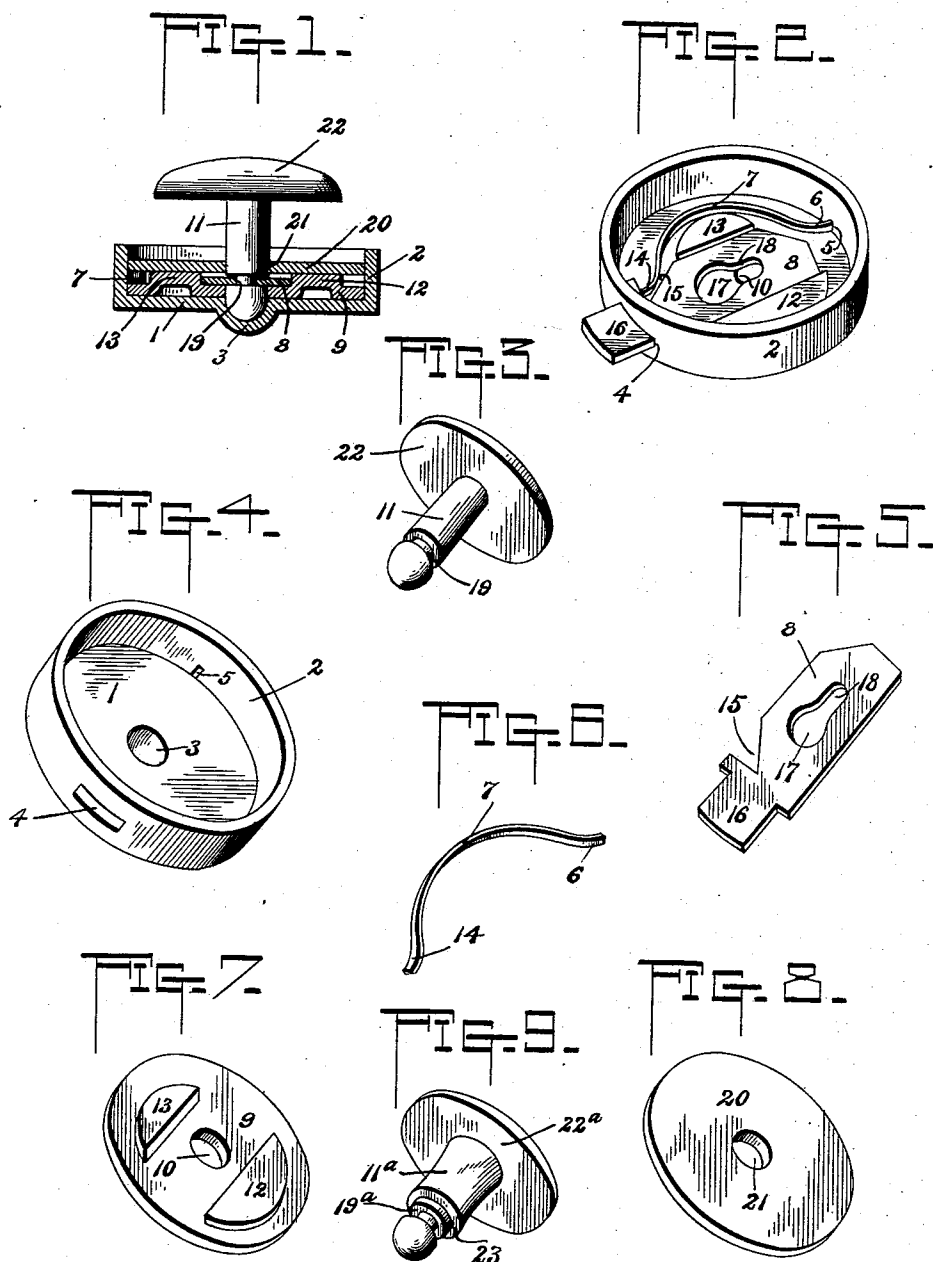


(No Model.)

F. B. WADELL.
SEPARABLE BUTTON.

No. 570,576.

Patented Nov. 3, 1896.



Witnesses

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SEPARABLE BUTTON.

SPECIFICATION forming part of Letters Patent No. 570,576, dated November 3, 1896.

Application filed March 20, 1896. Serial No. 584,153. (No model.)

To all whom it may concern:

Be it known that I, FRANK B. WADELL, a citizen of the United States, residing at Clinton, in the county of Henry and State of Missouri, have invented a new and useful Separable Button, of which the following is a specification.

This invention aims to provide a button which will admit of the parts being readily separable and quickly placed together at the desire of the user and which will secure the face and the back plates against accidental separation and loss after being properly placed together, thereby preserving the owner and user of this class of buttons from the vexation and annoyance occasioned by the back and face plates separating when not required.

The improvement consists, essentially, of a locking-plate slidably mounted in a chamber formed in one of the plates, in the particular means employed for directing the locking-plate in its sliding movements, in the particular construction and disposition of the spring for holding the plate in locked relation with the shank of the separable plate and for returning the locking-plate to a normal position when released after being pressed inward, and in certain details of construction and novel combinations of the parts, which hereinafter will be more particularly set forth and claimed.

For a full understanding of the merits and advantages of the invention reference is to be had to the accompanying drawings and the following description.

The improvement is susceptible of various changes in the form, proportion, and the minor details of construction without departing from the principle or sacrificing any of the advantages thereof, and to a full disclosure of the invention an adaptation thereof is shown in the accompanying drawings, in which—

Figure 1 is a vertical central section of a separable button constructed in accordance with the principles of this invention. Fig. 2 is a detail perspective view of the chambered plate provided with the locking devices, the covering-plate being removed. Fig. 3 is a detail view of the plate bearing the shank which is engaged by means of the locking devices. Fig. 4 is a detail perspective view of the cham-

bered plate having the covering-plate and the locking devices removed. Figs. 5, 6, 7, and 8 are detail views of the parts associated with the chambered plate. Fig. 9 shows a back-plate and shank to be used in connection with cuff and collar buttons.

Corresponding and like parts are designated in the following description and referred to in the several views of the drawings by the same reference-characters.

For shirt-studs, cuff and sleeve buttons, and for general use the locking devices may be applied to either the face or the back plate, but for the sake of simplicity of description and illustration the locking devices are referred to in connection with the face-plate, which is the one that is embellished when a portion of the button is to be exposed.

The face-plate 1 is provided with an annular rim 2 and a central depression 3. An opening 4 is formed in the rim 2, and a depression 5 is provided in the rim at a point about diametrically opposite to the opening 4, so as to receive the end 6 of the spring 7, by means of which the locking-plate 8 is held in and returned to a normal position when released after being pressed inward. A plate 9 is secured to the face-plate 1 within the rim 2 and has a central opening 10 to admit of the end of the shank 11 entering the depression 3, and is supplied with lugs 12 and 13 to give proper direction to the locking-plate 8 in its sliding or reciprocating movements. These lugs 12 and 13 may be provided in any convenient way and, as shown, are struck up from the body of the plate 9. The inner edges of the lugs are straight and parallel and engage with the edges of the locking-plate, so as to direct and guide the latter in its movements. The lug 13 is shorter than the lug 12 to admit of the free end 14 of the spring 7 entering a notch 15 in the edge of the locking-plate 8 near its front or outer end. The outer edge of the lug 13 curves to admit of the main portion of the spring 7 extending therearound, so that the opposite end of the spring may be about in the same line, so as to exert an end thrust against the locking-plate to hold its end 16 projected.

The locking-plate 8 is rectangular in form and is provided midway of its ends with an opening 17 to correspond with the opening 10

and depression 3 and with a slot 18, which communicates with the opening 17 and extends lengthwise of the said locking-plate. The opening 17 and the communicating slot 18 form a keyhole-shaped slot which receives the end of the shank 11 and interlocks therewith. An end portion of the locking-plate is reduced, as shown at 16, and projects through the opening 4, the shoulders at the base of the reduced end 16 limiting the outward movement of the locking-plate. When the plate is pressed inward by bearing upon the end 16, the opening 17 is brought in register with the opening 10 and the depression 3, thereby admitting of the end of the shank 11 passing through the registering openings 10 and 17 and entering the depression 3. After the pressure is removed the spring 7 will regain itself and move the locking-plate outward, thereby causing the slot 18 to receive the neck portion 19 of the shank and secure the latter from accidental displacement until pressure is again brought to bear upon the locking-plate at the desire of the user.

A covering-plate 20 is fitted within the rim 2 and is secured in place in any substantial way, either by soldering or by swaging, and this plate is prevented from crowding against the locking-plate by engaging with the lugs 12 and 13, which serve as stops to limit its inward movement. A central opening 21 in the plate 20 registers with the opening 10 and the depression 3 and admits of the end of the shank 11 passing into the depression 3 when the parts of the button are to be placed together. The space formed between the covering-plate 20 and the face-plate 1 constitutes the chamber in which are located the locking-plate and the spring, as previously explained.

The back-plate 22 is supplied with the shank 11 and is considerably smaller than the face-plate 1, and in some instances, as when the invention is applied to shirt-studs, this plate will occupy a position to the front; but the construction and relation of parts will be the same as that herein explained whether the plate 22 occupies a front or a rear position, as will be readily understood. The neck 19 is formed by grooving the shank 11 substantially as shown, and is intended to enter the slot 18 when the parts are assembled, so as to retain them in locked relation.

When it is required to couple the parts of the button, pressure is brought to bear upon the projecting end 16 of the locking-plate, and the latter is moved inward against the tension of the spring 7 until the opening 17 is brought in register with the openings 10 and 21 and the depression 3, after which the end of the shank 11 is thrust through the opening 21 and advanced until stopped by entering the depression 3, after which the locking-plate is released and is shot forward by the spring 7 regaining itself, and the slot 18 thereof, engaging with the neck 19 of the shank, will secure the latter in the locked po-

sition. When it is required to disconnect the parts, the locking-plate is moved inward until the openings register, when the plates comprising the button can be separated by pulling them apart.

When the invention is designed for cuff and collar buttons, the back 22^a, as shown in Fig. 9, has its shank 11^a expanded above the neck 19^a at 23, so as to overlap the covering-plate 20 and obtain an extended purchase thereon around the opening 21, thereby bracing and strengthening the parts of the button when coupled. This expanded portion 23 also forms a stop to limit the inward movement of the shank when thrusting it through the opening 21 of the covering-plate.

It will be understood that the sole function of the spring 7 is to actuate the locking-plate 8, so as to bring the slot 18 in register with the opening 21 in the covering-plate, whereby the locking-plate is held in engagement with the coupling end of the shank. The strain upon the parts of the button is sustained by the locking-plate, and the spring 7 in no wise receives any portion of the strain. Hence it is not liable to become broken or rendered inoperative.

Having thus described the invention, what is claimed as new is—

1. A two-part or separable button comprising a chambered plate having a central depression and having an opening in its rim and a depression in the said rim about diametrically opposite to the said opening, a locking-plate slidably mounted in the chamber and guided in its movements, and having an end portion to project through the said opening in the rim and formed in its edge with a notch, and having a keyhole-shaped slot, a spring having one end fitted in the depression of the rim and its opposite end entering the notch in the edge of the locking-plate, and a back-plate having a shank formed with a neck which is adapted to be engaged by the contracted portion of the keyhole-shaped slot in the said locking-plate, substantially in the manner set forth.

2. In a separable button, the combination of a plate having a rim, a second plate separate from the first plate and secured within its rim and having direction-lugs, a locking-plate slidably fitted between the direction-lugs and having an end portion operating through an opening in the said rim, and formed with a keyhole-shaped slot, a spring for holding the outer end of the locking-plate normally projected, a covering-plate having a central opening and secured within the said rim, and a plate bearing a shank having a neck portion which is adapted to be thrust through the opening of the covering-plate and be engaged with the locking-plate by entering the contracted portion of its keyhole-shaped slot, substantially as set forth.

3. The herein-described separable button, comprising a plate having a central depression and a rim, the latter formed with an

opening and a depression at about diametrically opposite points, a plate secured within the rim and having direction-lugs of unequal length, a locking-plate having a keyhole-shaped slot, an edge notch, and a reduced end portion, the latter operating through the opening in the said rim, a spring curving around the shorter of the direction-lugs and having one end entering the depression in the said rim and its opposite end fitted into the notch of the locking-plate, a covering-plate bearing against the direction-lugs and secured within the aforesaid rim, and having a central opening in register with a correspond-

ing opening in the lug-bearing plate and with the central depression in the first-mentioned plate, and a plate bearing a shank having a neck, which latter is adapted to be engaged by the contracted portion of the keyhole-shaped slot in the aforesaid locking-plate, substantially in the manner set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

FRANK B. WADELL.

Witnesses:

SAM A. MILTON,
J. R. WINTERS.