No. 886,731. PATENTED MAY 5, 1908.

M. B. RYAN.

BUTTON FASTENER.

APPLICATION FILED JUNE 17, 1905.

Fig. 1.

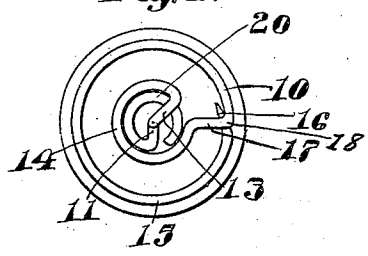


Fig. 2.

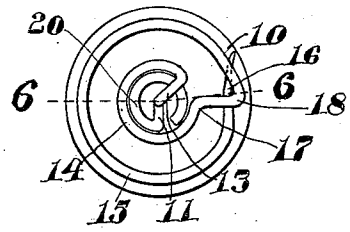


Fig. 3.

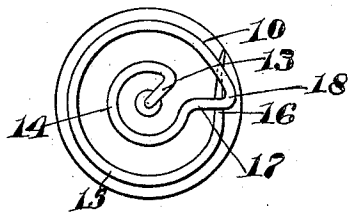


Fig. 4.

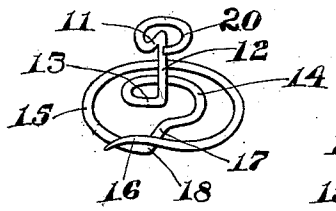


Fig. 6.

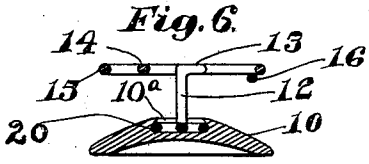
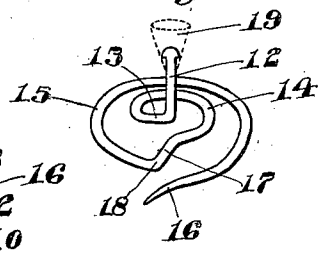


Fig. 5.



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BUTTON-FASTENER.

No. 886,731. Specification of Letters Patent. Patented May 5, 1908.

Application filed June 17, 1905. Serial No. 265,744.

To all whom it may concern:

Be it known that I, MICHAEL B. RYAN, a citizen of the United States, and a resident of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Button-Fasteners, of which the following is a specification.

My invention relates to an improvement in fasteners for buttons, studs and other like articles, my object being to provide a fastening which shall be simple, durable and capable of easy insertion and withdrawal, and which shall at the same time be perfectly secure against accidental removal or displacement. This result I accomplish by making the central portion of the foot of a smaller circle and consequently stiffer than the outer circular construction of the foot, and forming a well defined elbow in the outer circle to serve as means for locking the free insertible end of the foot.

To enable others to understand my invention, reference is had to the accompanying drawings in which,

Figure 1 represents a bottom plan view of a button provided with my improved fastening device; Fig. 2 is a similar bottom plan view showing another form of locking; Fig. 3 is a similar view showing a slight modification of the top of the shank; Fig. 4 is a detail perspective view of the foot, shank and coiled top of the fastening device shown at Fig. 2; Fig. 5 is a similar view but without the coiled top of the shank showing the foot unlocked; Fig. 6 is a sectional elevation on line 6—6 of Fig. 2.

In Figs. 1, 2, 4 and 5, the vertical shank 12 of the fastening device terminates in an open coil to form the head 20, which head is sprung into the central recess 10^a located on the underside of the button 10, as shown more clearly at Fig. 6. The taper sides of this recess, combined with outward spring of this head, will serve to make a firm connection between the two parts sufficiently strong so as to prevent accidental displacement, and to prevent turning, the head could be knurled or otherwise roughened.

13 is an offset or arm bent at right angles to the shank 12 and integral therewith, and 14 is a central curve lying in the same plane as the arm and practically surrounding the shank 12. At the termination of this central curve or ring is the straight arm 17 terminating in the elbow 18, and from this elbow begins the outer and larger circular portion 15 of the foot and terminating in the pointed free end 16 bent inwardly toward the shank and within the extreme outer point of the elbow 18 and normally lying in a plane below said elbow, as shown at Fig. 5.

The device is attached to a garment by first inserting the pointed free end 16 and rotating the same by means of the button 10 until the foot is located on one side of the cloth and the button on the opposite side thereof. It will, of course, be understood that, in thus inserting the wire foot, the point 16 is in the position shown at Fig. 5, viz: below and under the elbow 18, as before mentioned. When this winding in process is completed, a downward pressure on the button 10 will force the point 16 around the end of the elbow and cause it to rest on the upper side of said elbow as shown at Figs. 2, 3 and 4. In the views just mentioned, the extreme point of the free end of the foot projects beyond the circumference of the outer curve 15, but in practice I prefer that this extreme point lie within said curve so that, in rotating the attached button, there will be no possibility of its being accidentally detached.

The small curved portion 14 of the foot, together with the offset or arm 13, will form a stiff central washer-like support for the button, and the offset or arm 17 will also stiffen the outer curve of the foot as well as the inner curve. When the free end of the foot is locked, as before mentioned, the inner and outer curves will practically lie in the same plane, and no vertical or side strain can dislodge the point.

When I say that I prefer that the pointed free end of the outer curve lie within said curve when locked, I desire to convey the idea that such end may lie against the upper surface of said curve or project within the same as shown at Fig. 1.

The dotted cup-shaped construction 19 (Fig. 5) represents the means commonly used for attaching the shank to buttons by expanding said cup into a recess formed in the underside of the button. This same button attaching feature is also employed in Fig. 3.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. The button provided with the fastener herein described, consisting of a single piece of spring wire forming the shank of the but-

ton, then offset at 13 and bent around to form the central curve 14, which curve practically surrounds the shank, the outer curve 15 connected to said inner curve by the straight arm 17, elbow 18 formed at the junction of said arm 17 to serve as locking means for the free end of said outer curve, for the purpose set forth.

2. The button provided with the fastener herein described, consisting of a single piece of spring wire forming the shank having an open curved spring head for attaching it to the button, an offset or arm at the base of the shank, a curve projecting from said offset to form the central portion of the foot and practically surrounding the shank, an outer curve or circular construction of the foot having a free end adapted to enter a garment, said inner and outer curves joined by the straight arm 17, a projection at the junction of said arm 17 and said outer curve to form locking means for said free end, for the purpose set forth.

In testimony whereof I have affixed my signature, in presence of two witnesses.

MICHAEL B. RYAN.

Witnesses:
FRED. S. H. ORCUTT,
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