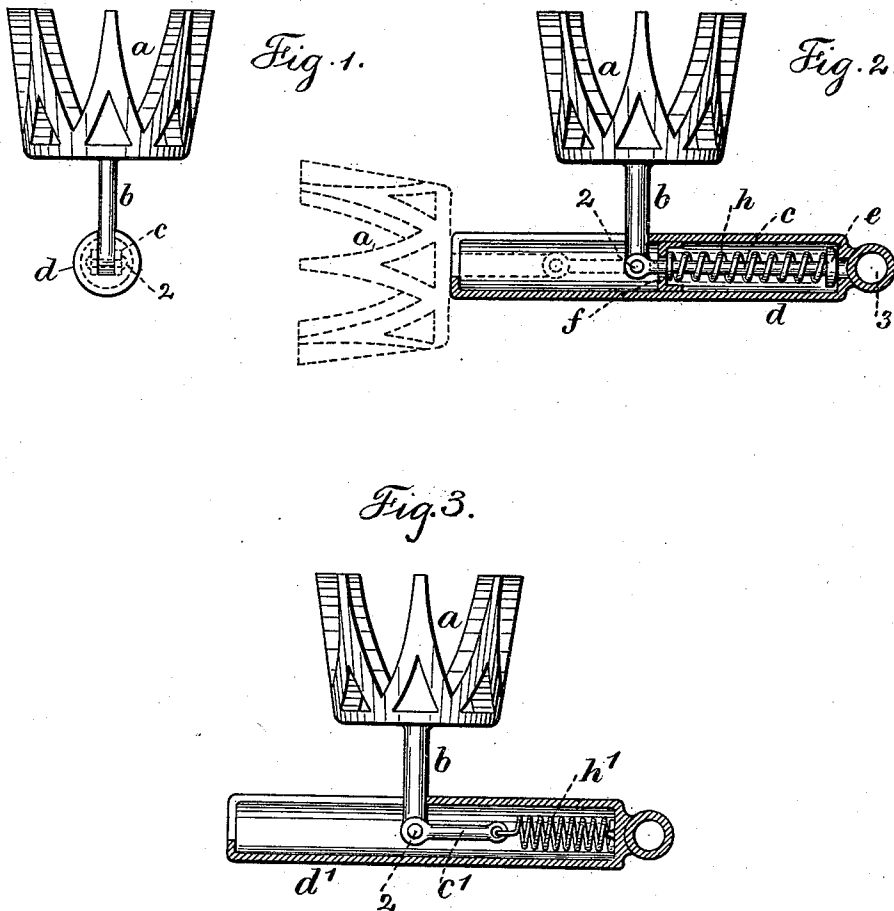


(No Model.)

M. E. OPPENHEIMER.
SHIRT STUD.

No. 473,336.

Patented Apr. 19, 1892.



Witnesses:
J. Stait
Chas. N. Smith

Inventor:
Milton E. Oppenheimer
per *Lemuel W. Torrell* atty.

UNITED STATES PATENT OFFICE.

MILTON E. OPPENHEIMER, OF NEW YORK, N. Y.

SHIRT-STUD.

SPECIFICATION forming part of Letters Patent No. 473,336, dated April 19, 1892.

Application filed September 29, 1891. Serial No. 407,161. (No model.)

To all whom it may concern:

Be it known that I, MILTON E. OPPENHEIMER, a citizen of the United States, residing in the city, county, and State of New York, have invented a new and useful Improvement in Shirt-Studs, of which the following is a specification.

My invention relates to a shirt-stud wherein the two main parts are pivoted together and adapted to be moved in opposite directions and swung on their pivot, so that in one position said parts are in line and the back part can be inserted through the eyelet-holes of a shirt and in the other position, after insertion in the shirt, said parts are swung at right angles, so as to be held in place in and connected to the shirt. I employ a skeleton setting, adapted to hold a precious stone or some other desirable form of ornamental head for the stud, and I connect therewith a post. This post is pivoted in and to the part that forms the back of the stud, which part is preferably of tubular form and slotted longitudinally to provide for the movement of the pivoted parts in bringing them into line or at right angles. I prefer a form of construction wherein the back is made of a slotted tubular body and contains a longitudinally-movable stem to which the post is pivoted and which stem passes through a collar in the tubular back and has a head at its inner end and between the collar and head, and around the stem is a helical spring to retract the stem. The post and stem are at right angles to each other when in a normal position, and are to be moved in opposite directions and swung into line when it is desired to insert the stud into the shirt or to remove it therefrom.

In the drawings, Figure 1 is an elevation and Fig. 2 a longitudinal section and partial elevation at right angles to Fig. 1 of my improvement in a normal condition, the dotted lines showing the stud as ready for insertion in the shirt. Fig. 3 illustrates a modification of my invention.

The shirt-stud is shown upon a greatly-enlarged scale.

a represents the skeleton setting or head to the stud; *b*, the post connected therewith. The post *b* is pivoted at 2 to one end of a stem *c*, that is movable longitudinally and centrally within the slotted tubular body *d*,

which forms the back of the stud, and the inner end of the stem *c* has a head *e* fitting within the tubular back *d*. The post *b* can be moved in the slot of the tubular back *d* and the stem to which it is pivoted is drawn along with it lengthwise of the back *d*. *f* represents a collar, fastened in said tubular back, and the stem *c* passes through the collar and around said stem. Between the head *e* and collar *f* is a helical spring *h*, which acts to retract the stem and its pivot to near the head *f* and nearly midway between the ends of the tubular back *d* and with the post *b* at right angles to the cylinder *d*. This is the position that the stud occupies normally or after being inserted into a shirt.

To remove the stud from or insert it into the shirt, the setting or head and the tubular back are grasped in the fingers and pulled in opposite directions, and the setting or head and its post are swung around into line with the tubular back until the post passes into the slotted tubular back and the setting rests upon and is held against the end of the back by the expansive action of the spring. In this position the stud can be readily inserted into or removed from the shirt, and this is facilitated by the knob or eye 3, that I have shown and prefer to employ at one end of the tubular back *d*.

The post of the setting may be pivoted at 2 to a short stem *c'*, Fig. 3, and the helical spring *h'* be fastened at one end to the tubular back *d'* and at the other end to the short stem, the spring contracting to the normal position and being extended when the setting and post are brought into line with the cylinder-back.

In my improvement the post *b* passes into the back *d*, and the pivotal connection to the stem being within the tubular back *d* does not come into contact with the fabric, and the tubular back is slotted at the end and along one side, so as to allow for the end movement of the tubular back. Hence the smooth tubular back can be easily inserted through the button or eyelet hole, and the post *b* is sufficiently short for the tubular back to be brought closely up against the under side of the fabric when the tubular back is moved to a right angle to the post, and the pivotal connection still remains within the tubular back when

the latter is drawn away from the ornamental head *a* sufficient for the end of the tubular back to move clear of the two or more thicknesses of fabric around the post *b*, and
5 the pivotal connection within the slotted tubular back serves to limit the movement of the tubular back upon the post both laterally and longitudinally, so that the parts cannot be separated and the spring cannot be unduly
10 strained.

I claim as my invention—

The combination, with the tubular back

slotted at one side and end, of the stud head and post, the latter passing through the slot of the tubular back, a stem and helical spring, 15 and a joint between the stem and the post, such joint, stem, and spring being within the tubular back, substantially as set forth.

Signed by me this 24th day of September, A. D. 1891.

MILTON E. OPPENHEIMER.

Witnesses:

GEO. T. PINCKNEY,

HAROLD SERRELL.