

H. LINK.
BUTTON.

No. 93,726.

Patented Aug. 17, 1869.

Fig. 3.

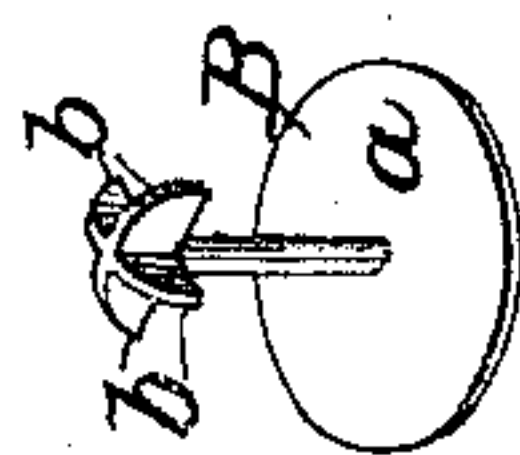


Fig. 2.

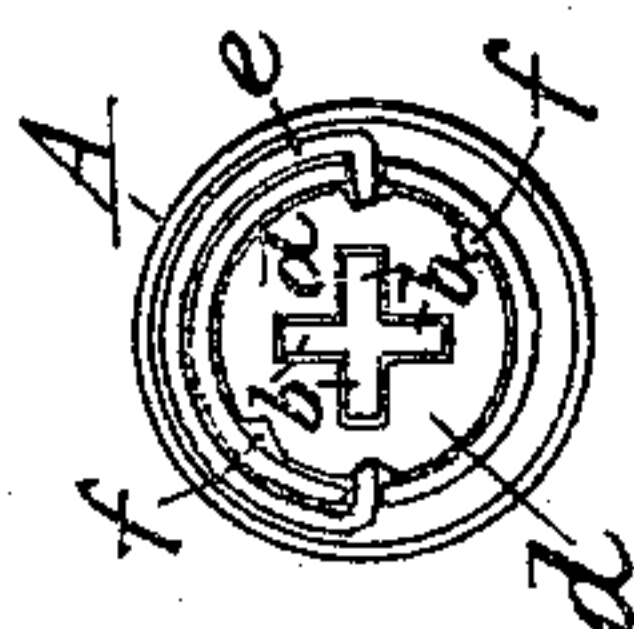
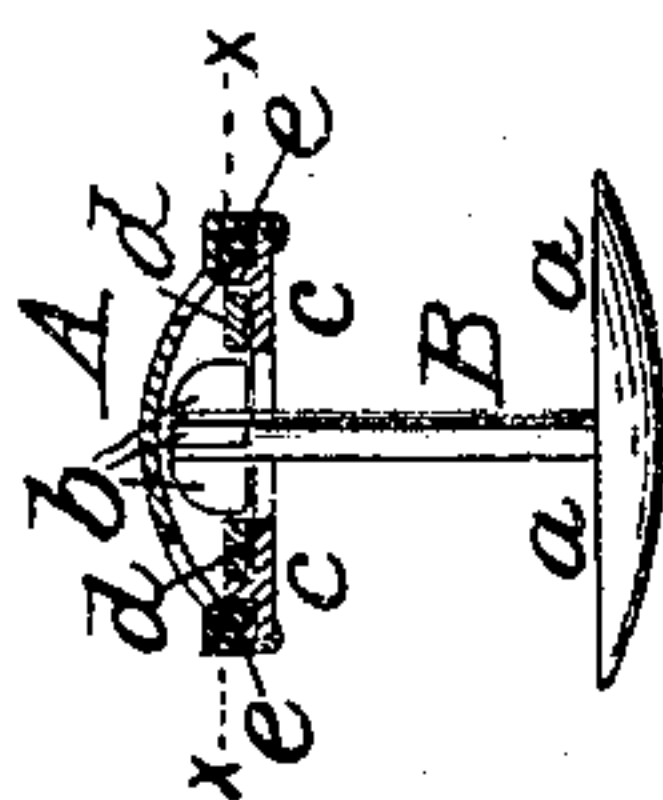


Fig. 1.



Witnesses
C. Raettig
Hinchman

Inventor:
H. Link.

per Munn & Co.
Attorneys.

UNITED STATES PATENT OFFICE.

HENRY LINK, OF LITTLE FALLS, NEW YORK.

IMPROVEMENT IN BUTTONS.

Specification forming part of Letters Patent No. 93,726, dated August 17, 1869.

To all whom it may concern:

Be it known that I, HENRY LINK, of Little Falls, in the county of Herkimer and State of New York, have invented a new and Improved Button and Stud; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a central section of my improved button. Fig. 2 is a horizontal section of the same, taken on the plane of the line *x x*, Fig. 1. Fig. 3 is a perspective view of the button-shank.

Similar letters of reference indicate corresponding parts.

This invention relates to an improvement in the method of connecting the shank of a button or stud to the head or body of the same, so that the latter cannot fall off spontaneously, while it may be removed at will without difficulty. Buttons of this class have been made in a variety of ways, but have generally been found impracticable, owing, chiefly, to their complicated construction and the liability of the parts to become disconnected spontaneously. An example of this is found in the application for a patent of F. I. Palmer, rejected July 13, 1866. In this case the under surface or back of the button is concavo-convex, and provided with a rectangular opening for the admission of the head of the shank of corresponding shape. Within the button, and resting upon the back, is a small disk having an elevated center, and provided with depressions which are adapted to fit over corresponding projections formed upon the back. A spiral spring resting at one end against the raised upper surface or top of the button, and with its opposite end upon the center of the plate, serves to hold the latter engaged with the depressions upon the back.

The operation of locking this button is as follows: The head of the shank is passed through the back, and raises the interior plate against the tension of the spiral spring until said plate clears the depressions upon the back. It is then revolved one-quarter round, together with the shank, until the head of the latter is at right angles to the opening in the back, when the spring is released and forces the plate into position over the next depres-

sions in the back. This construction is objectionable, because the top of the button must always be raised a sufficient distance to enable the plate to clear the depressions in the back, and as the change of fashion may require a flat button it is evident that there would not be sufficient space between the top and back to accommodate this movement. If by accident the spring should be depressed, as by a sudden blow upon the shank, the recoil would be liable to turn the plate sufficiently to allow the shank to fall out.

By my invention I propose to obviate these objections; and to this end I construct the button with a perfectly flat back and a top of any preferred shape. Within the button a flat plate is arranged, having central openings for the admission of the arms of the shank, which openings correspond in shape to those in the back—generally X-shaped. Upon one side of the plate a flat semicircular spring is attached to the interior of the button in any preferred manner, with its free ends adapted to engage with notches formed in the periphery of the plate to hold the latter locked in the required position. When the head of the shank is introduced through the back, it is arrested by coming in contact with the top. In this position the arms will clear the back but not the interior plate, which latter is turned with the shank until the arms rest upon that portion of the back between the openings, in which position the ends of the spring engage with the notches in the plate, securely holding the same in place, and with it the shank. By this construction an accidental blow upon the shank will have no effect whatever upon the spring, and cannot, therefore, disconnect the parts. Moreover, the depth of the button can be changed as fashion may dictate, because the arms upon the shank can be readily changed, being made either very wide or only of a width corresponding to the thickness of the plate. The top of the button in all cases forms a firm bearing for the end of the shank, and prevents its being casually displaced.

A in the drawings represents the hollow head or body of a button or stud made of sheet metal or other suitable material. B is the shank or pin. The same has a shoulder, *a*, at its lower end, and four (or more or less) arms, *b b*, projecting horizontally from its upper end. The bottom *c* of the head A is perforated, the

aperture being so shaped that the arms *b* can fit through it. Within the head *A* is placed, upon the bottom *c*, a plate, *d*, which has an aperture corresponding to that in the bottom *c*. The edge of the plate *d* is notched, so that the ends of a spring or springs, *e*, can be fitted into the notches to hold the plate *d* stationary, as shown in Fig. 2. Before the shank is locked to the head, the aperture of the plate *d* is exactly in line with that of the bottom *c*. The end of the pin *B*, carrying the arms *b*, can then be inserted in the head, as shown in Fig. 1, when the arms will clear the plate *c*, but not the plate *d*, as shown. The pin *B* is then turned, whereby the plate *d* is also turned until the ends of the spring *e* fit into the notches *f*. The arms of the aperture of *d* will then be at angles of about forty-five degrees to those through the plate *c*, and the pin is therefore locked to the head by the spring *e*. It cannot become loose spontaneously, and the head

can consequently not drop off and be lost. When the head is to be removed, the pin must be turned until the arms *b* are again in line with the apertures of the plate *c*. When to be thus turned, sufficient force must be applied to overcome the pressure of the spring. The spring may, however, if desired, be dispensed with.

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

The flat notched plate *c* and the flat curved spring *e*, constructed as described, and arranged to operate in connection with the flat-backed button and the arms *b* of the shank, in the manner herein described, for the purpose specified.

HENRY LINK.

Witnesses:

JOHN UHLE,
S. H. DE CAMP.