L. TOWNE.

STUDS AND BUTTONS.

No. 188,267. Patented March 13, 1877.

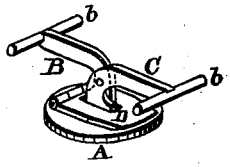

FIG. 1.

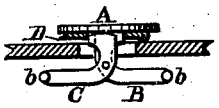

FIG. 2.

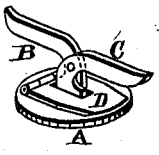

FIG. 3.

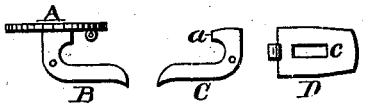

FIG. 4.

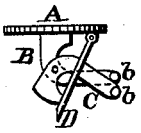

FIG. 5.

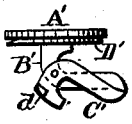

FIG. 6.

FIG. 7.

FIG. 8.

WITNESSES.

John D. Thurston

J. C. B. Woods

INVENTOR.

Lucien Towne

UNITED STATES PATENT OFFICE.

LAURISTON TOWNE, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN STUDS AND BUTTONS.

Specification forming part of Letters Patent No. **188,267**, dated March 13, 1877; application filed January 5, 1877.

To all whom it may concern:

Be it known that I, LAURISTON TOWNE, of the city and county of Providence, in the State of Rhode Island, have invented certain new and useful Improvements in Studs and Buttons; and I do hereby declare that the following specification, taken in connection with the drawings furnished and forming a part of the same, is a true, clear, and complete description thereof.

Buttons or studs embodying the main feature of my invention may be adapted for use with slitted button-holes, or with circular holes or eyelets; but another feature thereof is of value only on buttons or studs which are capable of use with slitted button-holes.

My said improvements relate to that class of studs or buttons which embody two L-shaped arms, which are changeable in their positions with relation to each other.

My invention consists, mainly, in the combination, in a button or stud, of a rigid L-shaped arm, and an L-shaped arm pivoted to the rigid arm, and a locking-plate which secures the pivoted arm in its proper position when inserted in a button-hole, and which will release said arm and permit it to move alongside the rigid arm, so that both may be entered into the button-hole, or freely withdrawn therefrom.

My invention further consists in the combination, with arms which are changeable in their positions with relation to each other, of lateral bars or plates attached to said arms, whereby the stud or button may readily be inserted in a slitted button-hole, the arms changed in position, and the button secured in the hole by means of the arms and bars.

To more particularly describe my invention I will refer to the accompanying drawings, in which—

Figure 1 represents a button in perspective embodying the several features of my invention. Fig. 2 represents the same, partly in side view and partly in central section, as if occupying a slitted button-hole. Fig. 3 represents, in perspective, a similar button, suitable for use with a circular button-hole or eyelet. Fig. 4 represents, separately, the several parts of the button shown in Fig. 3. Fig. 5 represents, in side view, the button shown in Figs. 1 and 2, with its arms in position, ready for insertion in a button-hole. Fig. 6 represents, in side view, a button of slightly different construction, embodying the main feature of my invention. Figs. 7 and 8 represent, respectively, the locking-plate and the pivoted arm of the button shown in Fig. 6.

A denotes the front or head of the button. It may be of any desired form, and ornamented in any style. If it be arranged for a stone or other setting, it should either have a solid back or a cross-plate of sufficient size to mount the arms and plate thereon. B denotes a rigid L-shaped arm, which is soldered or otherwise secured to the rear side of the head A. The length of the short portion of the arm may be varied according to the uses intended, and to adapt it for use with a thin or a thick fabric. The length of the long portion of the arm may also be varied to any desired extent. C denotes a second L-shaped arm, which is a counterpart of the rigid arm, and it is pivoted to the rigid arm so that its long portion may be moved alongside of and parallel with the long portion of the rigid arm, as shown in Figs. 5 and 6. When in this position the short portions of the arms are nearly in line with each other, as shown.

The arm C at its base has a locking surface or shoulder, as at *a*, which, when the stud is inserted as for use, lies closely adjacent to the rear surface of the button. The position and form of this locking-shoulder may be varied, according to the character of the locking-plate employed therewith, as will be hereafter described. When intended for use with slitted button-holes, both arms are provided with lateral bars or plates, as shown at *b*, Figs. 1, 2, and 5; but when desired for circular holes no bars are required.

D denotes the form of locking-plate which, as I believe, is best adapted for use in connection with arms of the character described. It is hinged at one end to the button beneath the rigid arm, and its joint is parallel with the pivot which unites the two arms, and therefore the plate can be moved in a line corresponding to that in which the pivoted arm may be moved. This plate has a central longitudinal slot, as at *c*, which is sufficiently wide to embrace the two arms at their bases,

and of sufficient length to allow the plate to swing freely rearward from the button, past the pivot, and partially over the long portion of the rigid arm, so as to allow the long portion of the pivoted arm to lie alongside of the corresponding portion of the rigid arm, as illustrated in Fig. 5.

Whether the stud be adapted for use with a slitted or a circular hole, the rigid and pivoted arms and the locking-plate will be substantially of the same character, and will cooperate in like manner, and when arranged for insertion the parts will occupy positions as illustrated in Fig. 5, and when inserted and locked they will occupy the positions illustrated in Figs. 1, 2, and 3, the latter being adapted for an eyelet.

It will be seen that when adapted for use with eyelets the hole need be only large enough to admit both arms when in position, as shown in Fig. 6, and that when adapted for slitted holes the slit need be no longer than about three-quarters of the length of the lateral bars *b*, because when the two bars are side by side one end thereof may be first inserted, after which, on movement in the slit, the other end will freely enter. The button is then turned half around, and the arm set as shown in Fig. 2, which secures the button in its hole. The eyelets may be much larger, and the slitted holes much longer, than has been indicated without endangering the loss of the button by detachment. The long arms and the lateral bars render the displacement of the button practically impossible except through special manipulation.

The locking of the pivoted arm is effected by the abutment of the outer end of the slot *c* with the end surface of the locking-shoulder *a* when the locking-plate is laid closely against the back of the button. The outer end of the locking-plate is beveled, so as to afford a recess for the insertion of a finger-nail between the plate and the adjacent rear surface of the stud, whereby the plate may be moved backward for releasing the pivoted arm, and permitting the stud to be withdrawn from the button-hole or eyelet.

While it is essential that the pivoted arm should have a locking-shoulder, and that the locking-plate should engage therewith, it is not essential that the shoulder should be of any particular form, or located in any precise position on the arm, provided always that when against the back of the stud the plate shall so engage with the shoulder as to lock the arm in its extended position, and that said plate, when raised, shall release the pivoted arm and permit it to move freely on its pivot. In Figs. 6, 7, and 8 I illustrate one of several variations in construction which I have tested. The head of the stud at A′ and the rigid arm B′ are precisely as previously described in connection with Fig. 3. The pivoted arm C′ differs only from the arm C of Fig. 3 in the location and form of the locking-shoulder, which is shown at *d*, Figs. 6 and 8. In this instance it projects laterally from the base of the arm, instead of being beneath the long portion of the arm and parallel therewith.

The locking-plate D′ also differs in form and construction from that previously described. Like that, it lies flatly against the rear surface of the stud when the pivoted arm is locked, and, like that, it, on being slightly lifted, releases the arm. Instead of having a hinged joint, its movement is possible by reason of its having a spring capacity, riveted at one point to the stud. As shown in Fig. 7, it is nearly circular in form. It has no slot like that previously described, but is slotted slightly, so that the base of the rigid arm may assist the rivet in securing the plate in its proper position. In lieu of the slot previously described, this plate has an inwardly-projecting finger, as at *d′*, the rear side of which engages with or abuts against the front side of the lateral locking-shoulder *d*, in like manner as the end of the slot *c* abuts against the shoulder *a*. The front edge of the finger *d′* is beveled toward the back of the stud, so as to afford a space into which the rear side of the shoulder *d* may enter. This rear side of the shoulder *d* has a knife-edge, which enables it to pass beneath the finger and lift the plate when the pivoted arm is moved away from the rigid arm, and when said shoulder has passed the finger the plate falls and locks the arm. The free end of this locking-plate is beveled like plate D, for the insertion of a finger-nail when the arm is to be released.

The hinged plate D is deemed by me preferable to the spring-plate, because, on referring to Fig. 5, it will be seen that the plate protects the fabric from frictional contact with the base of the pivoted arm when the stud is inserted or withdrawn, while, as will be seen in Fig. 6, the spring-plate can perform no such protecting function.

It is to be distinctly understood that I do not limit my invention to any precise construction of either of the several parts in the combination which constitutes the main feature of my invention.

I am well aware that a rigid L-shaped arm has been heretofore employed in combination with a similar arm attached to a plate and hinged to the stud; also, that two L-shaped arms pivoted to a standard or post have been employed in combination with a hinged locking-plate, having its joint in a line at right angles to the pivot in the post, and that L-shaped arms have been employed in various other combinations.

The distinguishing feature in my invention is the L-shaped arm pivoted to a rigid one, and in combining therewith a locking-plate which is capable of more or less movement in the same direction, in which the pivoted arm can be moved.

Compared with studs heretofore made, having L-shaped arms, mine are as simple in construction as any, and simpler than many—are

inexpensive, strong, and durable, and as secure as the best against loss by accidental detachment from the garment with which they are worn. My studs are preferable to any others of this general class of which I am cognizant, in that they can be used with a smaller eyelet, and can be made with a minimum of space between the rear of the stud and the arms, which is a feature of considerable practical value, because the stud or button is thereby maintained in a position parallel with the surface of the fabric with which it is worn.

It is also to be understood that I am well aware that the lateral bars *b* may be profitably employed on arms of any form and construction, provided that the arms are changeable in position with relation to each other, and therefore I do not limit the second feature of my invention to those bars in combination with a rigid and a pivoted arm; nor do I limit myself to any particular form of bar or plate, because I am well aware that it is only necessary that each arm shall have a laterally-extended portion, which will serve to prevent the passage of the arm through a slitted button-hole, except when placed in proper position for that purpose.

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

1. In a stud or button, the combination, with a rigid L-shaped arm, of an L-shaped arm pivoted to the rigid arm, and a locking-plate, substantially as described.

2. In a stud or button, the combination, with arms which are changeable in position with relation to each other, of a lateral bar or plate on each arm, substantially as described.

LAURISTON TOWNE.

Witnesses:

JOHN D. THURSTON,

J. C. B. WOODS.