

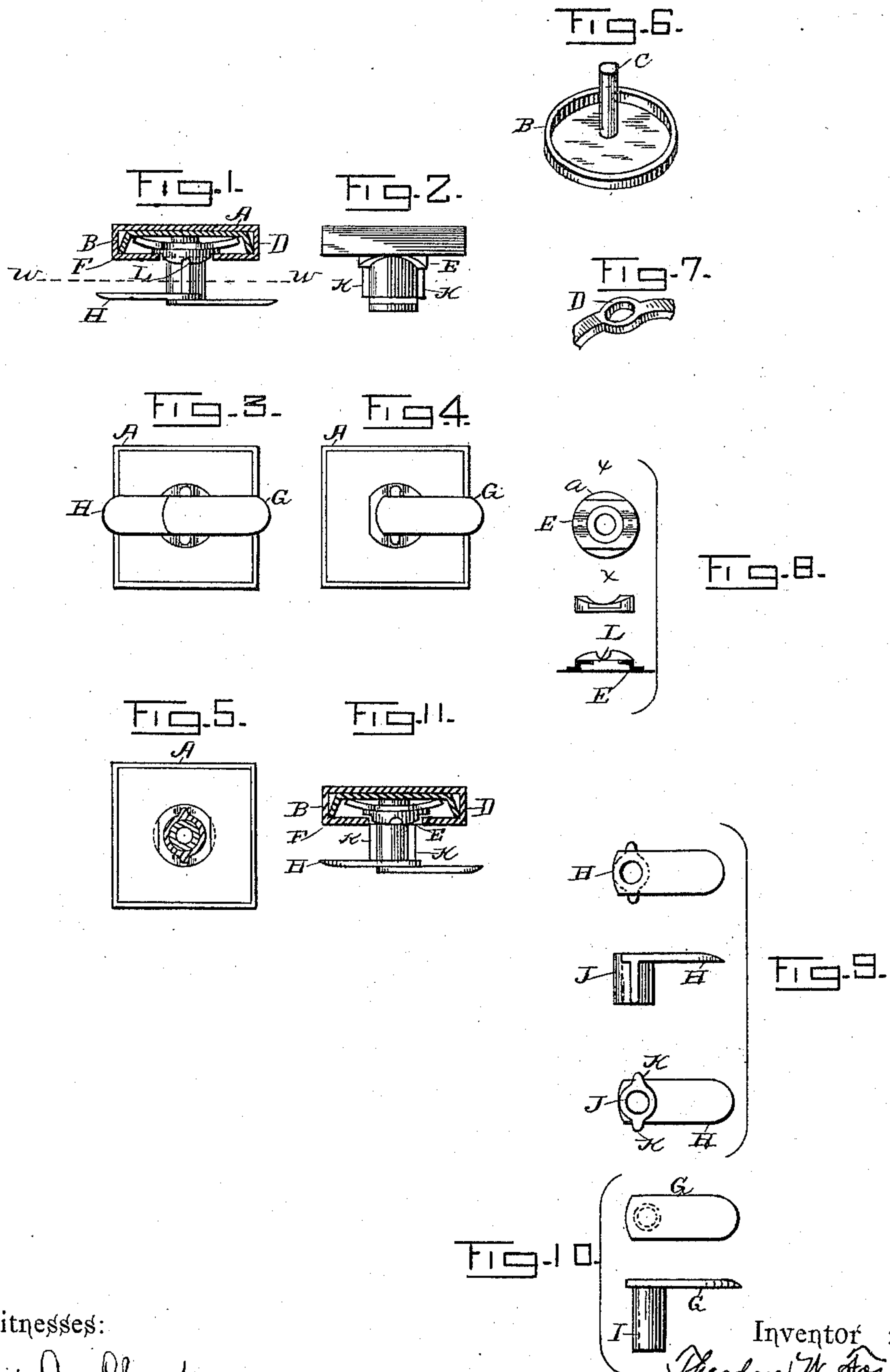
(No Model.)

T. W. FOSTER.

BUTTON OR STUD.

No. 330,390.

Patented Nov. 17, 1885.



Witnesses:

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# UNITED STATES PATENT OFFICE.

THEODORE W. FOSTER, OF PROVIDENCE, RHODE ISLAND.

## BUTTON OR STUD.

SPECIFICATION forming part of Letters Patent No. 330,390, dated November 17, 1885.

Application filed August 3, 1885. Serial No. 173,324. (No model.)

*To all whom it may concern:*

Be it known that I, THEODORE W. FOSTER, of Providence, in the State of Rhode Island, have invented a new and useful Button or Stud; and I do hereby declare that the following specification, taken in connection with the drawings making a part of the same, is a full, clear, and exact description thereof.

Figure 1 is an elevation of my improved button with top in vertical section and arms spread. Fig. 2 is another view of the same with arms closed. Figs. 3 and 4 are views of the back of the button with arms open and closed, respectively. Fig. 5 is a back view showing cross-section of post on line W W. Fig. 6 is a perspective view of inner plate and post. Fig. 7 is the spring. Fig. 8 shows top and side views of the locking device. Fig. 9 shows top, side, and bottom views of the movable arm. Fig. 10 shows top and side views of stationary arm. Fig. 11 is an elevation with top in vertical section, showing position of parts before reaching the locking-point.

The object of my invention is to produce a button or stud which shall be simple in its construction, easily and cheaply made, and at the same time more satisfactory in operation than those now in use; and it consists in the construction and arrangement of the several parts, as hereinafter described.

In the drawings, A is the top or front of the button; B, the middle plate, which is soldered to the back plate, or otherwise retained in place, as may be most convenient in manufacture, and has attached thereto a post or pin, C. Across the middle plate, B, and surrounding the post C, is a flat spring, D, slightly concave upon its under side. Resting upon the spring D, and also surrounding the post C, is a locking-disk, E. The disk E has two straight parallel flanges, *a a*, and is provided upon its upper surface with two indentations, L L, opposite each other.

F is a back plate, having at its center a suitable slot, which allows it to shut over the flanges *a a* of the locking device E, and both holds it in place and prevents it from turning.

G is a stationary arm, to which is attached at its rear end a hollow tube or sleeve, I.

H is a movable arm, to which is also attached a tube or sleeve, J, larger in diameter

than the sleeve I, and which is provided upon either side with wings K K. After the back plate, F, has been placed in position as described, the hollow tube J of the arm H is placed upon the post C, the ends of the wings K K resting in the indentations L L of the locking-disk E. The hollow tube I of the arm G is next placed upon the post C, passing through the larger tube J of the arm H. The back plate, F, and the middle plate, B, are secured together by means of solder, or in any other desired way, and hold in place the spring D and the locking-disk E, which need not be otherwise secured. After the movable arm H has been placed in position as described, a small drop of solder is dropped into the hollow tube I of the arm G, which, after the said arm G has been placed in position as described, is softened by the action of heat from a blow-pipe and caused to run down the post C and thus secure and make stationary the arm G.

Having described the several parts of my invention, I will now proceed to describe its operation, commencing with the arms G and H in the position shown in Fig. 4, in which position they are easily introduced into and passed through the button-hole. The introduction of the arms being accomplished, the front or top of the button is taken between the thumb and first two fingers of the hand, and may be turned in either direction. During the exertion of the pressure described the wings K K are in contact with the sides of the button-hole, and offer a sufficient resistance to retain the arm H in its position. In order to spread the arms by turning the front A in this manner the locking device E must move around under the ends of the wings K K, which rest in the indentations L L therein. To accomplish this, sufficient force is exerted to overcome the resistance of the spring D, which results in sufficiently depressing the locking device E to allow its passage, as described, until the arms have reached a position where they point in opposite directions, when the ends of the wings K K will again, through the action of the spring D, find a resting-place in the indentations L L. When it is desired to remove it, the operation of turning the front or head A half around is



repeated, when the two arms will be brought back to their former position by the same operation of the several parts, as already described.

5 What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a button, the combination of the stationary arm G, attached to the post C, the movable arm H, having wings K K, and the  
10 spring-actuated locking device E, the whole constructed and operating in the manner substantially as described, for the purposes specified.

2. In a button or stud, the combination,  
15 with the middle plate, B, having the post C, of the spring-actuated locking device E, an arm, as G, fixed to the post C, and a movable

arm, as H, having means, substantially as described, for engagement with the spring-actuated locking device, as set forth. 20

3. In a button or stud, the combination of part B, having post C, and part F, having central opening, the fixed arm G, and the movable arm H, having means, substantially  
25 as described, for being held in a set position, with the spring-actuated locking device E, having means, substantially as described, for engaging the arm H, and parallel flanges *a a*, for holding part E in part F, substantially as and for the purpose set forth.

THEODORE W. FOSTER.

Witnesses:

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