No. 682,541. Patented Sept. 10, 1901.

H. GARNIER.

STUD.

(Application filed May 15, 1901.)

(No Model.)

Fig. 1

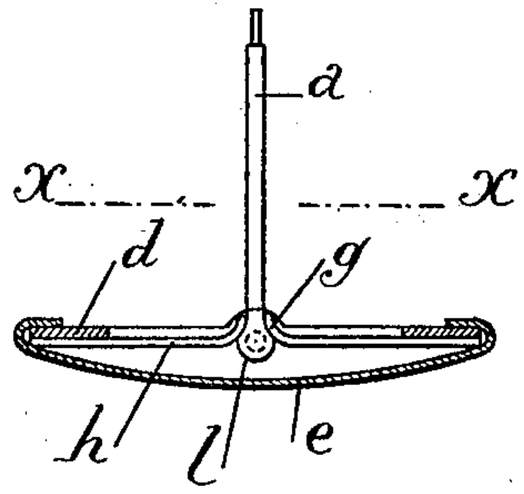
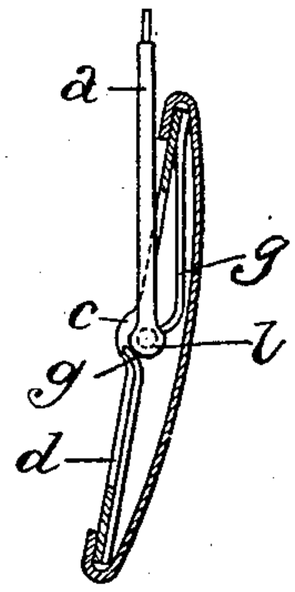


Fig. 2.



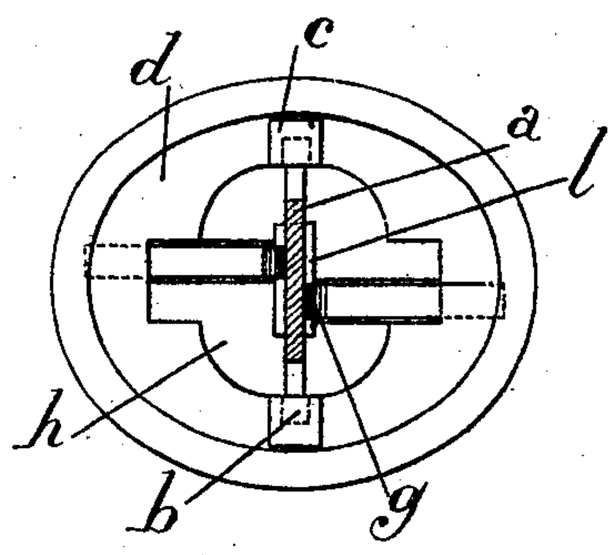


Fig. 3.

Fig. 4.

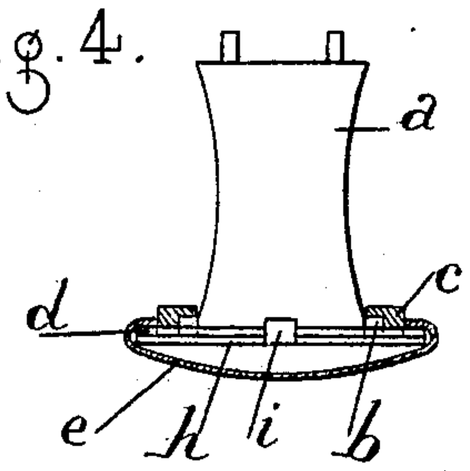
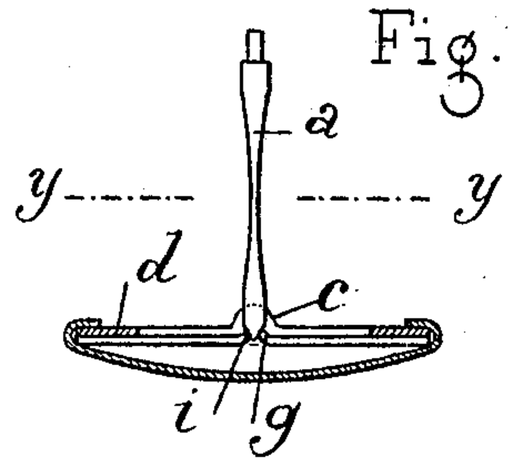


Fig. 5.



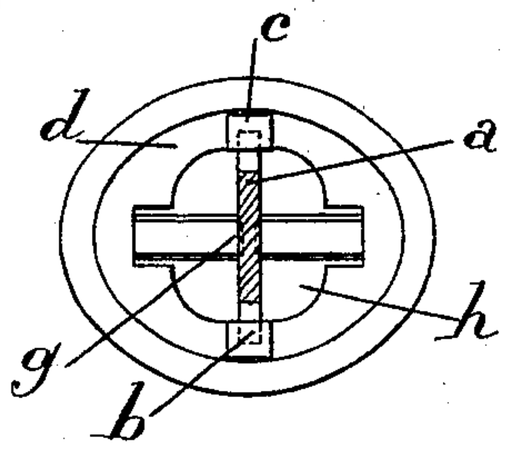


Fig. 6

Witnesses

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UNITED STATES PATENT OFFICE.

HONORÉ GARNIER, OF PARIS, FRANCE.

STUD.

SPECIFICATION forming part of Letters Patent No. 682,541, dated September 10, 1901.

Application filed May 15, 1901. Serial No. 60,329. (No model.)

To all whom it may concern:

Be it known that I, HONORÉ GARNIER, a citizen of the French Republic, residing at Paris, France, (whose post-office is 67 Bd. Beaumarchais, Paris, France,) have invented certain new and useful Improvements in Studs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in studs, and has for its object the production of a stud of improved form in which the foot is movably fixed to the stem in such a manner that it may be turned to each side of the stem, the foot being under the action of two springs, which always return it to its normal position after the stud is put in the shirt or other garment.

With this object in view the invention consists in the improved construction, arrangement, and combination of parts hereinafter fully described and afterward specifically claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures, in which—

Figure 1 represents a vertical sectional view of the foot of the stud with its stem attached. Fig. 2 represents a vertical sectional view of the same parts, the foot being turned to a position ready for introduction into the button-hole. Fig. 3 represents a top plan view of the foot of the stud with the stem in section on plane indicated by the line $x\,x$ of Fig. 1. Figs. 4 and 5 are front and edge views, respectively, of the foot of a modified construction, partly in section. Fig. 6 is a top plan view of the foot of the construction shown in Figs. 4 and 5, with the stem in section on the plane indicated by the line $y\,y$ of Fig. 5.

The stem a of the stud has on its inferior part two trunnions b, which are pivoted in bearings c in the covering-plate d of the foot. This plate is cut out in the middle, thus permitting the movement of two plate-springs g, one being on each side of the stem a, and the turning of the foot of the stud upon the stem, Fig. 2. These plate-springs g, cut out from a plate h, are bedded between the covering-plate d and the bottom plate e of the stud-foot, the plate e having its edge turned or flanged around the circumference of plate d, thus maintaining all parts of the foot together.

In the construction shown in Figs. 1 and 3 the springs g are not in line with each other. Their upper ends are bent and press on opposite sides of an enlargement or thickening l of the base of the stem concentric with the pivots b. This construction permits of the turning of the foot and stem with relation to each other to the position shown in Fig. 2, in which position one of the springs g is pressed downward into the space between the plate h and the bottom plate d, so that it presses outward, as shown in Fig. 2, while the other spring g, with its end resting on the concentric enlargement l of the stem, retains its normal position. The force of the under spring being unopposed by the outer spring will thus always tend to force the stem and foot into their normal positions perpendicular to each other, as shown in Fig. 1.

In the second form of construction (shown in Figs. 4, 5, and 6) the plate-springs g, being cut out from the plate h and lying on both sides of the stem, are placed opposite each other and their ends, slightly raised, are bedded in notches i at the inferior part of the stem in such a manner that as soon as the stem is lowered to one of the plate-springs the other spring does not work.

The foot of the stud can be made of any metal, the working is perfect, and the stud is easy to handle, because it takes its normal position after being put in the shirt or the like.

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

1. A stud of the class described, in which the foot of the stud takes always automatically its normal position after being put in the shirt, characterized by a stem, which is provided on its bottom part with an enlargement and an axis trunnioned in bearings on the covering-plate of the foot of the stud, substantially as described.

2. In a stud of the class described, the combination with the foot of the stud comprising a covering-plate and a bottom plate secured together, of a stem trunnioned in bearings on the covering-plate, an intermediate plate between the covering and bottom plates, and two springs cut from the intermediate plate and arranged to come into action as soon as the foot is turned against one side of the stem substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HONORÉ GARNIER.

Witnesses:
EMILE GRIMONT,
PAUL F. PAQUET.