

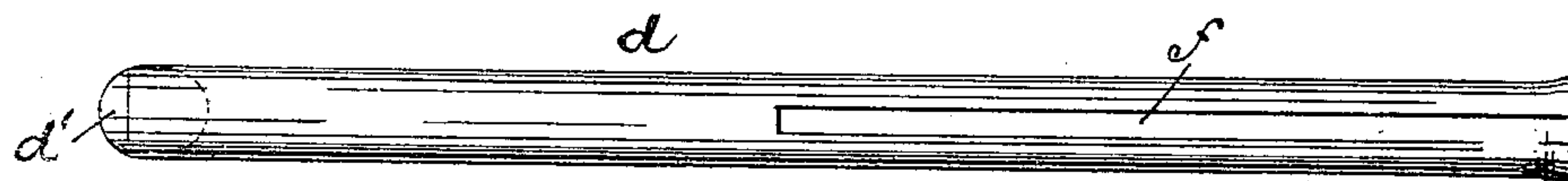
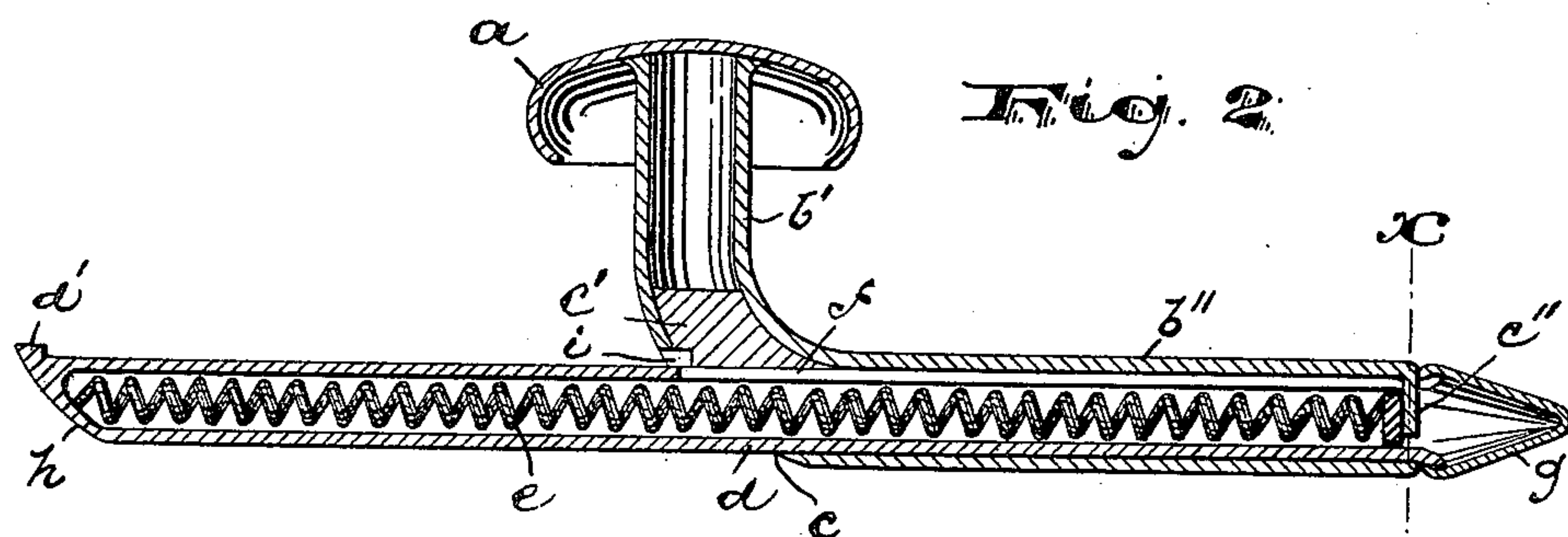
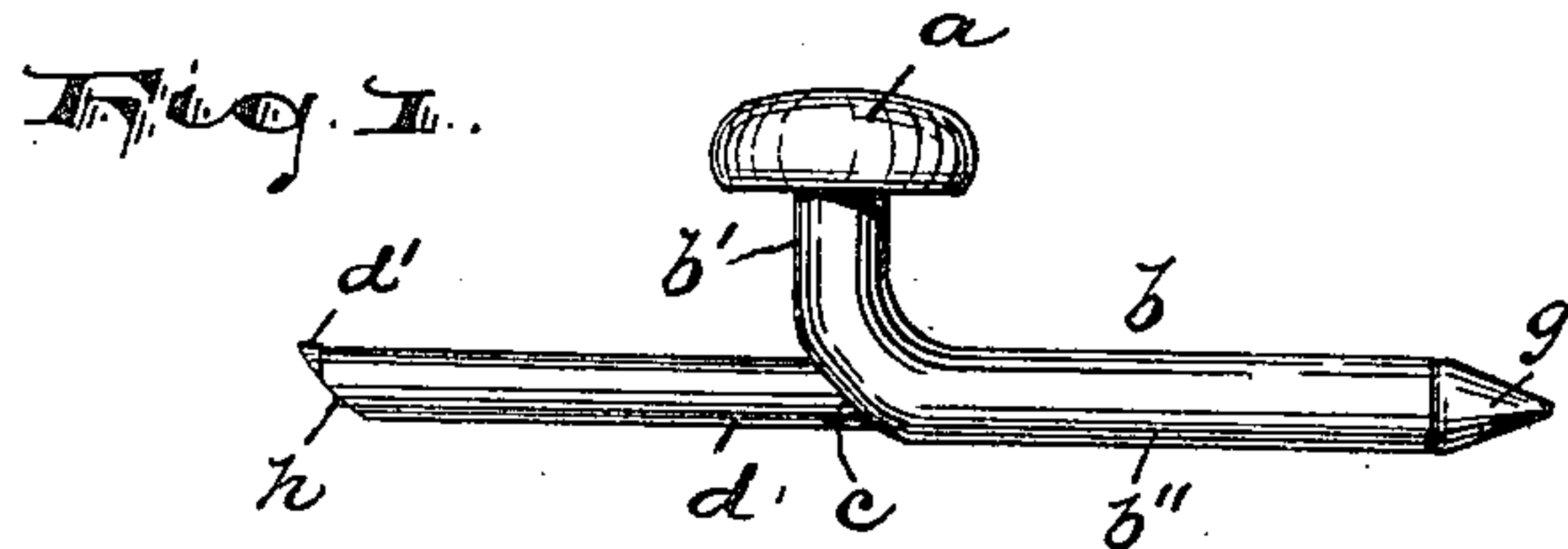
No. 667,631.

Patented Feb. 5, 1901.

H. M. LARTER.
BUTTON OR STUD.

(Application filed Sept. 10, 1898.)

(No Model.)



WITNESSES:

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UNITED STATES PATENT OFFICE.

HALSEY M. LARTER, OF NEWARK, NEW JERSEY, ASSIGNOR OF TWO-THIRDS
TO FREDERICK H. LARTER AND HARRY C. LARTER, OF SAME PLACE.

BUTTON OR STUD.

SPECIFICATION forming part of Letters Patent No. 667,631, dated February 5, 1901.

Application filed September 10, 1898. Serial No. 690,673. (No model.)

To all whom it may concern:

Be it known that I, HALSEY M. LARTER, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Buttons or 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to that class of buttons or studs represented by the one shown in my prior patent dated December 13, 1898, No. 616,057, the objects of the said invention being to reduce the cost of construction, to facilitate manufacture, to secure a more durable, simple, and effective structure, to enable the cross-head or foot adapted to lie inside the shirt-front to be more centrally disposed in its relation to the post of the button, and thus avoid the objections due to a short projection of the cross-head at one side of the post heretofore made necessary because of the use of a short spring required by the common construction, and to secure other advantages and results, some of which may be referred to hereinafter in connection with the description of the working parts.

The invention consists in the improved button or stud, in the spring-back therefor, and in the arrangements and combinations of parts, all substantially as will be hereinafter set forth and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the several views, Figure 1 is a side elevation of my improved button. Fig. 2 is a longitudinal section of the same on an enlarged scale. Fig. 3 is a transverse section at line *x*, Fig. 2; and Fig. 4 is a plan of a certain plunger or piston.

In said drawings, *a* indicates the head of the button, adapted to lie outside of the shirt-front and be ornamented, set with jewels, or given a plain finish in any ordinary manner common in jewelry.

The shank *b* of the button consists of a piece of metal tubing extending perpendicularly backward from the head *a* for a suitable distance to form a post *b'*, and being bent at right angles to itself to form one arm or barrel *b''* of the cross-head of the button, which cross-head lies against the inner surface of the garment and holds the stud in place. The head of the button is soldered or otherwise fastened to the end of the post *b'*, and the arm or barrel *b''* lies parallel to the shirt-front, as will be understood, the bend in the shank being curved or rounded to facilitate its passage through the buttonhole or eyelet. In the said arm or barrel *b''* of the tubular shank is arranged a plunger *d*, which works telescopically within said barrel. The said plunger is considerably longer than the barrel formed by the arm *b''* and projects therefrom at its opposite ends, the amount of normal projection from the bend in the shank being sufficient to form the other arm of the cross-head, of which the barrel is one arm. The said barrel is open at its forward or free extremity and is perforated at the rounded angle, as at *c*, in line with the bore of the barrel to permit of the outpassage of said piston or plunger *d*, as will be understood upon examination of Fig. 2.

In my prior application I described a shank which was of a solid wire bored out at its opposite ends after being bent, as herein shown, one boring reducing the weight of the post or shorter arm of the shank and the other boring forming the barrel. In the present case I secure substantially the same strength by using the tubular shank and a filler *c'*, of solid wire, which fits closely within the chamber or bore of the shank and is of a length sufficient to lie in and fill the curved or rounded bend. I thus secure by means of the filler increased strength at the rounding and avoid the skill, care, and expense required in boring, as heretofore. Inasmuch as the shank is bent after the introduction of said filler *c'*, the latter is firmly held in place in the rounded bend, and after the bending is accomplished the end of the filler may be bored through in perforating the side of the shank near the rounded bend to allow the outpassage of the plunger at *c*, as has been described. The said plunger

d is tubular and has a spiral spring e , arranged therein, which normally draws the forward or handled end of the plunger back into the barrel.

5 The plunger d is tubular to receive what may be termed the "rearward" part of the spring e , which spring thus lies normally partly in the arm or barrel b'' and projects out therefrom into the projecting part of the
10 plunger forming the movable member of the cross-head. Said spring thus serves to return the handled or knobbed end of the plunger into the barrel, and inasmuch as the spring, lying as it does in both the barrel and nor-
15 mally projecting part of the plunger, may be made longer than by prior constructions, the distance of movement of the plunger and the normal projections of the plunger can be cor-
20 respondingly increased, so that the projection of the barrel at one side of the post and the projection of the plunger at the opposite side will be about of equal length. By this con-
25 struction the cross-head cannot be drawn through the slotted buttonhole of the shirt because of the length of the movable arm of the cross-head, and the improved button can be used equally as well with oblong button-
30 holes as with round eyelets. The side of the plunger toward the head a is slotted longitudinally, as at f , and at the projecting end of the barrel I form an integral lip c'' , which is bent inward or toward the longitudinal axis of the barrel, as shown in Figs. 2 and 3. This lip serves as a stop or, more particularly, as
35 an end bearing for the spiral spring e and is of a width suited to enter the longitudinal slot f of the plunger or piston, the said slot extending out to the forward extremity of the plunger, as shown in Fig. 4, to permit the in-
40 sertion of said lip when assembling the parts.

In the construction disclosed in the case above referred to I have shown and described a block which was inserted in the end of the barrel and held therein by a pin or screw. By
45 my preferred construction I avoid the trouble and expense of fitting the parts and the cost of metal employed in the same and also the danger or liability of the dropping out of the pin from its bearings, resulting in disassocia-
50 tion of parts.

The forward end of the tubular plunger is provided with a conical finger-cap g , the edge of said cap being turned over the flaring extremity of the barrel, as shown in Fig. 2.
55 The opposite end of the tubular plunger is closed to provide an interior bearing for the spring e , either by filling said tube with solder, inserting a block of metal therein and holding it in place by any suitable means, or
60 by swaging the tube, so as to force the metal thereof toward the axial center, and thus form the desired bearing. The end thus closed is at its outside beveled or rounded, as at h , (shown in Figs. 1 and 3,) and conforms in out-
65 line to the convex surfaces at the bend in the shank. At the beveled or rounded extremity the plunger is provided at the end of the

bevel farthest from the shank with a stop pro-
jection d' , adapted to enter a small recess i in the shank, the said projection engaging 70 the inner wall of the recess, and thus limiting positively the movement of the plunger against the pressure of the spring and preventing undue pressure being exerted upon the lip c'' and guarding said lip c'' from in- 75 jury.

Having thus described the invention, what I claim as new is—

1. The herein-described stud or button comprising a recessed shank formed of a piece of 80 metal tubing bent at right angles and having the bend rounded to facilitate passage through a buttonhole, a head fastened to one end of said shank, a solid filler arranged inside at the bend and a tubular plunger in the other 85 end, the shank and filler being perforated at the bend to provide an outpassage for said plunger, an integral lip bent radially inward at the free end of the arm in which the plunger lies and the plunger being longitudinally 90 slotted to receive said lip, a spiral spring lying in said plunger and bearing at one end against said lip and at the other end against the closed end of the plunger, a conical cap at the forward end of the plunger and a stop 95 projection d' , at the rear end adapted to enter a recess i , in the shank and engage the filler to limit the forward movement of the plunger, substantially as set forth.

2. In a stud or button, the combination with 100 a head a , and shank b , having a tubular arm b'' , parallel to the said head and open at both ends, of an integral lip c'' , at one extremity of said arm and bent inward to lie across the bore of said arm, a hollow plunger sliding in 105 the said arm and projecting therefrom at both ends and being slotted to receive said lip c'' , a spiral spring arranged in said plunger and bearing at one end against said lip and at the other against the closed end of the plunger, 110 an outwardly-projecting stop at said closed end of the plunger and means on the shank for engaging said stop and limiting the forward movement of the plunger, substantially as set forth. 115

3. In a stud or button, the combination with a head a , of a hollow shank b , bent at right angles to form an arm or barrel b'' , and post 120 b' , said shank being round at the bend, a filler c' , arranged in the shank at said bend, and a longitudinally-slotted hollow plunger d , sliding in the arm or barrel, which arm or barrel is parallel to the plane of the head, said shank and filler being perforated at the bend to allow a sliding movement of the plun- 125 ger and said arm or barrel having, at the end opposite said bend, an integral lip projecting inward through said slot in the plunger, and a spring arranged within the plunger and the arm or barrel b'' , and at one end bearing 130 against the end wall within the interior of the plunger and at the other end bearing against the said lip, a finger-piece at the forward end of the plunger for drawing it forward, and a

stop *d'*, at the rear end to engage the shank and limit the forward movement, substantially as set forth.

4. The improved stud or button comprising
5 a tubular shank bent at right angles, provided with a head at one end perforated at the bend, and forming a tubular arm or barrel
10 *b''*, at the other end, substantially parallel with the head, the said tubular arm or barrel
15 *b''*, being open at the end opposite the perforation at the bend of the shank, an inserted filling-piece independent of the tubular shank and bent in conformity to the bend of said shank and fitting the interior thereof, a plunger
20 *d*, lying in said tubular arm or barrel and having its forward end provided with a knob or finger-piece and its opposite end beveled to fit the bend of the shank and means for retaining the plunger within the tubular arm or barrel, substantially as set forth.

5. In a stud or button, the combination with the tubular shank, *b*, bent at right angles to

itself with a rounded bend and having a filler
c', inserted in said bend, said shank being
perforated at the bend in line with the bore 25
of that portion of the shank lying inside the
garment, of a plunger sliding in the barrel
thus formed and having its rear end beveled
and rounded to conform to the rounded outer
surface at the bend in the shank and having 30
a stop adapted to enter a recess in said shank
when the plunger is drawn forward and limit
the movement so that the end of the plunger
shall lie flush with the surface of the shank
and close the perforation therein, substan- 35
tially as set forth.

In testimony that I claim the foregoing I
have hereunto set my hand this 26th day of
July, 1898.

HALSEY M. LARTER.

Witnesses:

CHARLES H. PELL,
RUSSELL M. EVERETT.