

(No Model.)

J. P. NOYES.
BUTTON.

No. 313,017.

Patented Feb. 24, 1885.

Fig. 2.

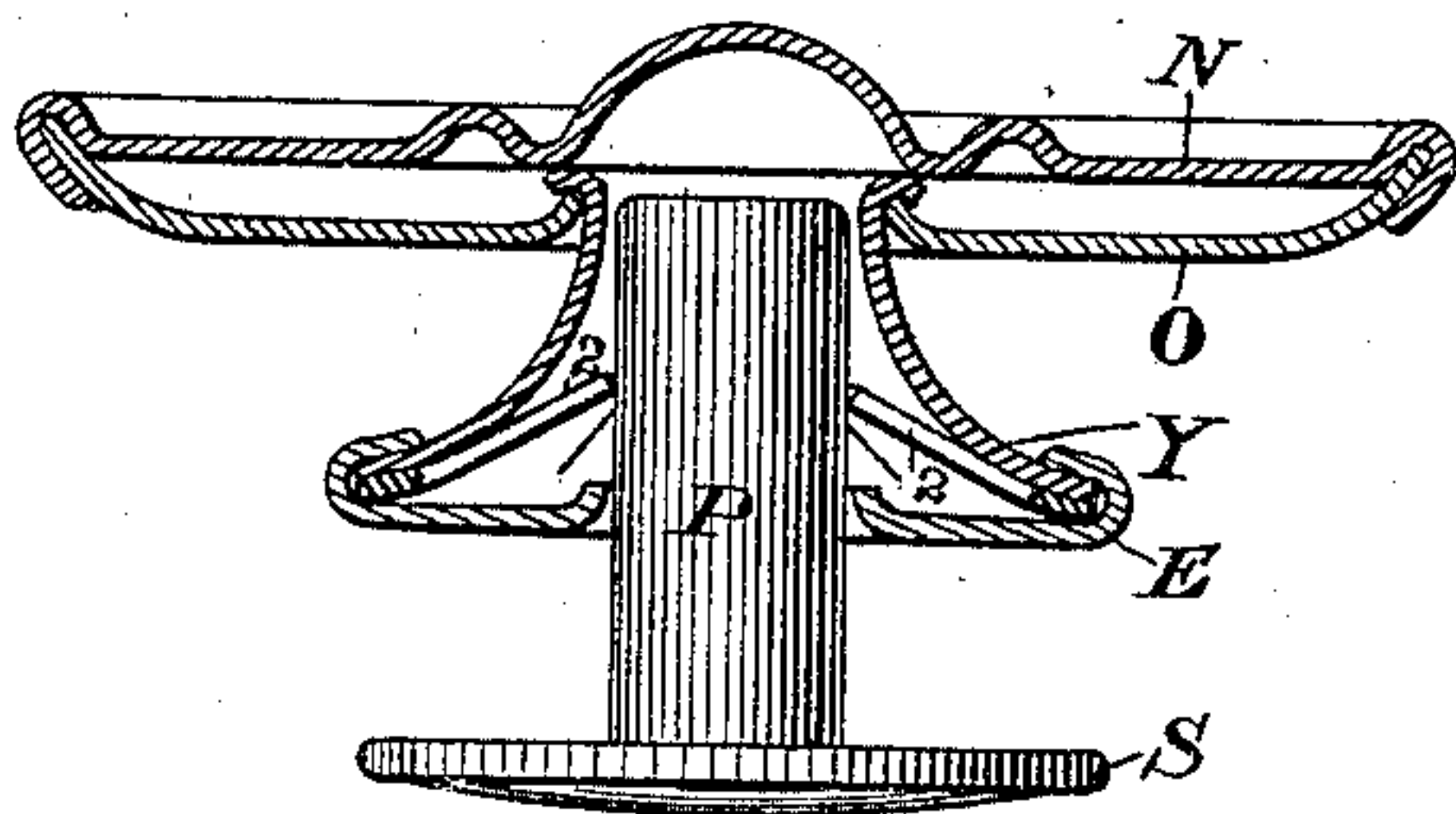


Fig. 4.

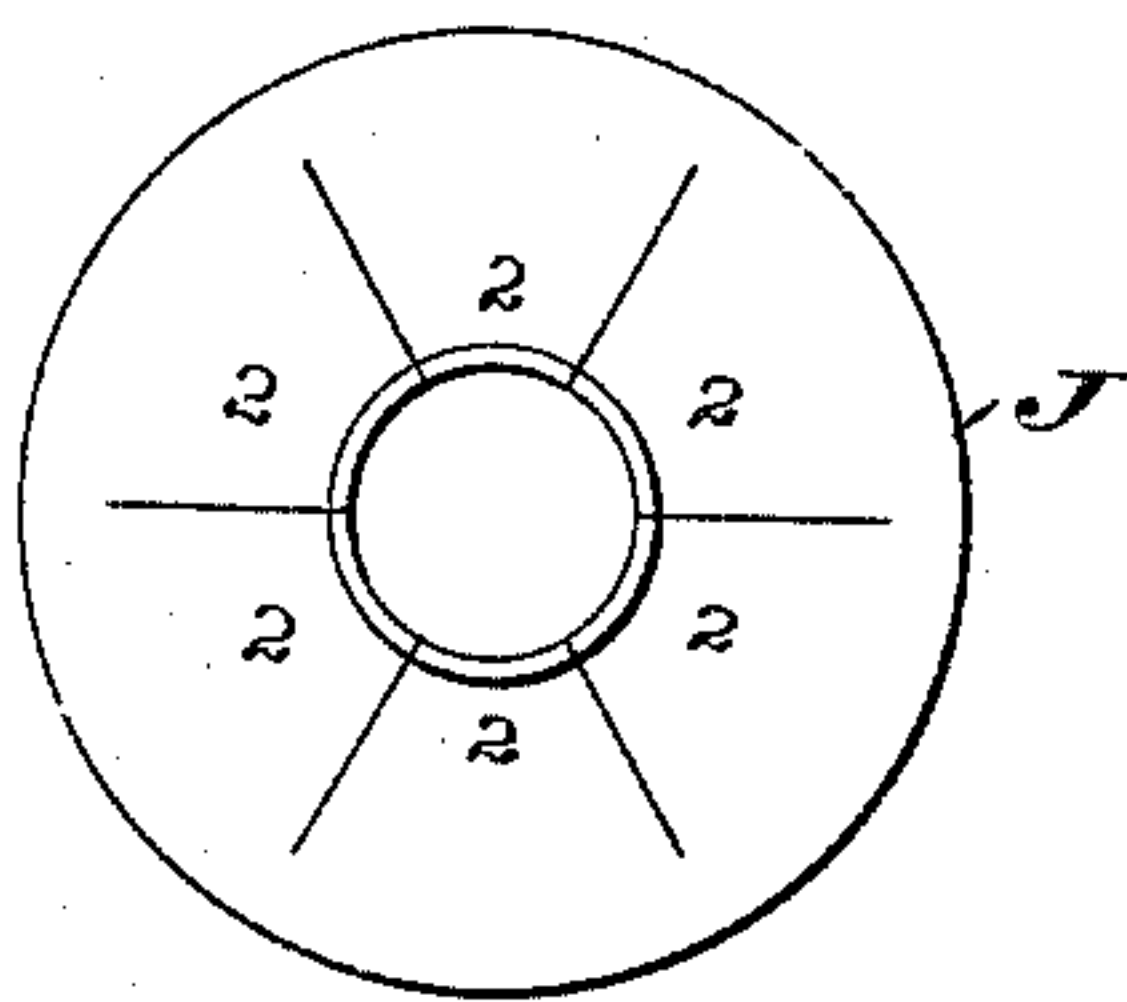


Fig. 1.

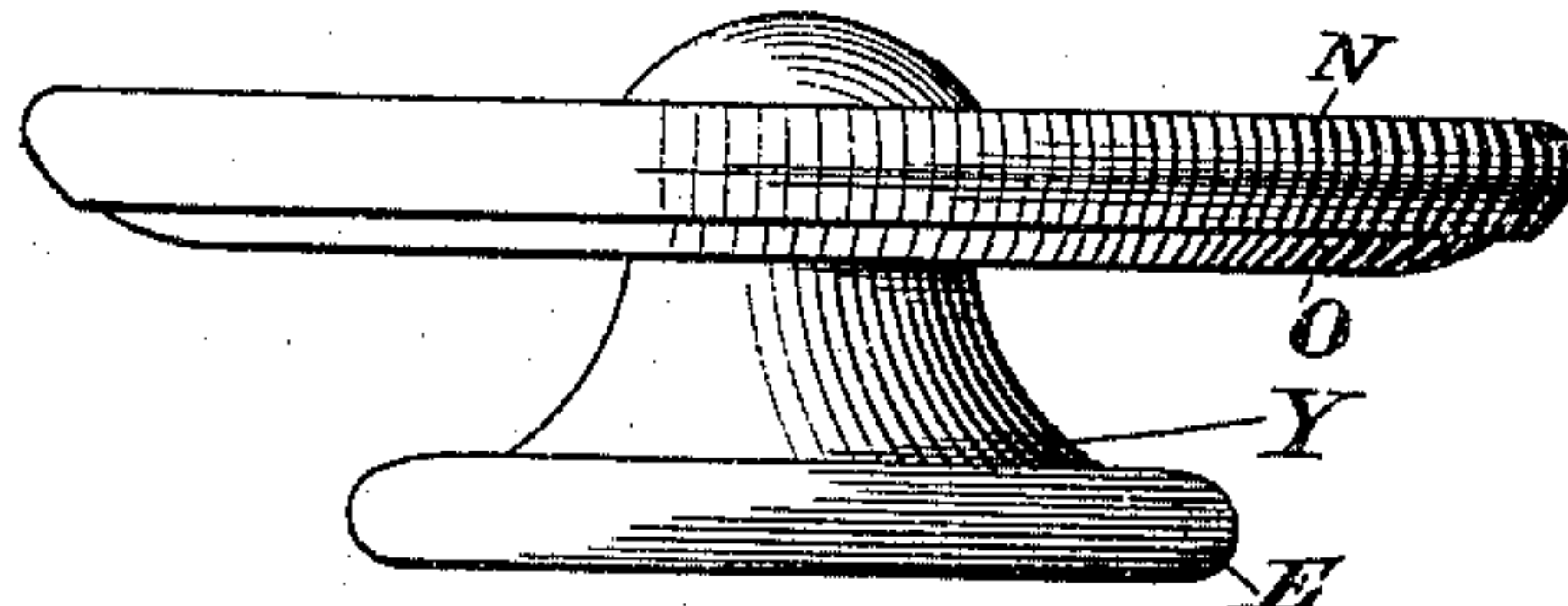
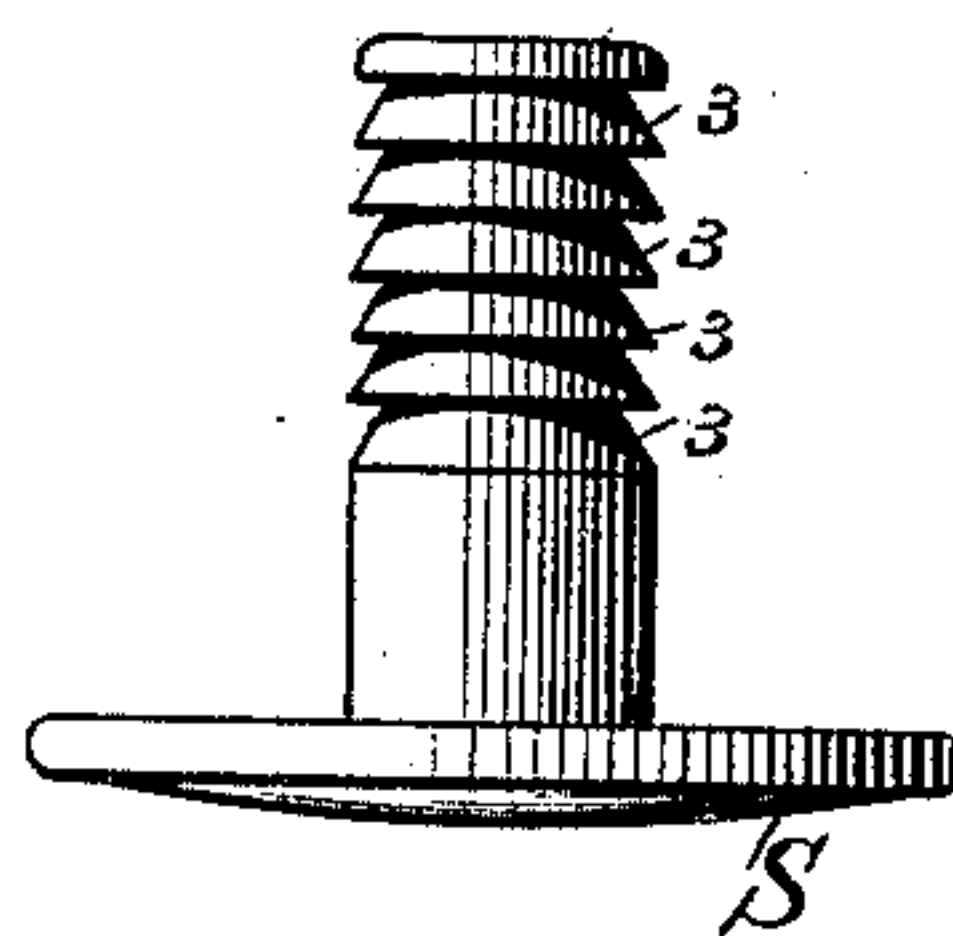


Fig. 5.



Fig. 3.



Attest:
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UNITED STATES PATENT OFFICE.

JOSEPH P. NOYES, OF BINGHAMTON, NEW YORK, ASSIGNOR TO JOSEPH P. NOYES & CO., OF SAME PLACE.

BUTTON.

SPECIFICATION forming part of Letters Patent No. 313,017, dated February 24, 1885.

Application filed July 30, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH P. NOYES, a citizen of the United States, residing in the city of Binghamton, county of Broome, and State of New York, have invented certain new and useful Improvements in Buttons, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

10 This invention relates to that class of buttons that are provided with mechanical means for securing them to garments. In buttons of this character as heretofore constructed it has been common to provide the button-head proper with means for engagement with the attaching-shank. This necessitated a button-head of considerable thickness, not required for its ordinary function of a holder, against which the button-hole impinges, and in such 20 buttons the neck thereof, upon which the button-hole bears, was consequently given lesser dimensions than would be most convenient in practice. By the present invention I am enabled to reduce the thickness of the button-head, and therefore to increase the length of the button-neck, whereby a button of the greatest utility of form is produced—that is, one providing a flat bearing-surface for that portion of the garment carrying the button-hole.

30 A practical embodiment of the present improvements is illustrated in the accompanying drawings, in which Figure 1 is a side elevation of the button and its neck; Fig. 2, a longitudinal sectional elevation of such a button, provided with an attaching-shank, the former being in sectional elevation and the latter in elevation. Fig. 3 represents one form of attaching-shank which may be used with this button. Fig. 4 is a plan view of the plate forming the holding spring-arms, of which Fig. 5 is an elevation.

45 In forming this button the piece N or outer plate of the button-head is shown as stamped out of sheet metal, and provided with a flange or rim that turns downward and inward to embrace the collet O; and between the slightly-flanged edge of a central hole formed in said collet and the inner surface of the plate N the upper end of the tubular neck Y is embraced, the end of such neck being suitably bent to form a receiving clamping-shoulder;

or the parts may be soldered together, or even drawn entirely from one piece of metal. As appears from the drawings the piece N and collet O are thus made to lie, practically, in parallel planes, and together form a very thin yet strong button-head. Of course the piece N may be of wood or any other suitable material, in which case the outer edge of the collet O might turn over or into said piece N. 60 So, too, the tubular neck Y might be simply attached to the collet O by suitable bends, and not bear against the plate or piece N. This tubular neck Y is flanged outwardly at its lower end for the double purpose of providing a suitable bearing area for the button upon the portions of the garment to which it is attached, and to form interiorly a suitable receptacle for the holding spring-arms 2. The shape of said receptacle is such that the spring-arms 2 take the form of a frustum of a cone, with its base bearing upon the plate E, which form admits of a better spring in less space than has been made in the flat or saucer form commonly required for the body of the button. Said spring-arms 2 are formed from a plate, J, (see Fig. 4,) perforated radially, to divide it into three or more such arms 2, (six being shown,) which arms are properly bent or swaged upwardly, as is seen in Fig. 5, so that their inner ends form an opening somewhat less in diameter than that of the attaching-shank P. This plate J is held within the tubular neck Y by means of a clamping-plate, E, the outer edge of which is flanged, so as to turn over and embrace the lower flange of said neck, and thus confine the plate J between itself and the said neck, the plate E being perforated centrally to admit the passage of the attaching-shank P. This shank 90 may be one having plane sides, as shown in Fig. 2, or provided with one or more seats, 3, as shown in Fig. 3, and will have a head or flange, S, to provide a surface between which and the lower part of the neck Y the fabric to which the button is to be attached may be securely clamped when the attaching-shank is forced home.

To attach this button to a fabric, it is only necessary to perforate a hole large enough for the passage of the shank P, and, having passed the same through the fabric, to force the but-

ton down onto said shank until the fabric is securely clamped between the plate E of the neck and the flange S of the shank. In this operation the spring-arms 2 will be spread apart as the shank P is pressed into the button, and when the limit of its movement has been reached the springs will prevent any movement in the contrary direction, and said button will therefore be securely fastened against all ordinary force tending to displace it, and, by reason of the large bearing-surface afforded for its nip upon the garment to which it is attached, liability of its being torn therefrom will be greatly lessened.

By providing the fastening-neck interiorly with the spring-arms 2, the bearing-surface of said neck remains intact, so as to afford a smooth bearing-surface for the button-hole.

The holding capacity of the spring-arms 2 is greatly aided, and a more secure fastening obtained, by forming the tubular neck Y with an upper end contracted, so as to snugly embrace the shank P, or by forming the central opening in the plate E of a size adapted to closely confine said shank P, or both. Thus bearing-points in addition to that afforded by the impingement of the spring-arms 2 are provided, and lateral movement of the shank is prevented; and in addition thereto the flanged upper end of the tubular shank is held to duty against the collet O, so as to securely confine the same and increase the strength of the parts.

Of course in a cheap class of buttons it is entirely unnecessary to provide the plate or piece N, as the collet when made sufficiently

strong will serve the purpose of a button-head; and the plate E may also be omitted and the plate J or spring-arms 2 be secured to the interior of the neck in any other suitable way.

What is claimed is—

1. A button having an unbroken tubular neck provided with a number of spring-arms, 2, secured within the interior of said neck and projecting upward therein, substantially as described.

2. The combination, with a button having an unbroken tubular neck provided interiorly with a number of spring arms projecting upward therein, of an attaching-shank, substantially as described.

3. A button composed of a suitable head, a tubular neck Y, spring-arms 2, secured within its interior, a plate, E, and a shank, P, substantially as described.

4. A button having a tubular neck provided interiorly with a number of spring-arms, and having a bottom plate, E, that embraces the shank P, substantially as described.

5. A button having a tubular neck provided interiorly with a number of spring-arms, and having an upper end contracted to embrace the shank P, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOSEPH P. NOYES.

Witnesses:

THOMAS J. WINANS,
NERI PINE.