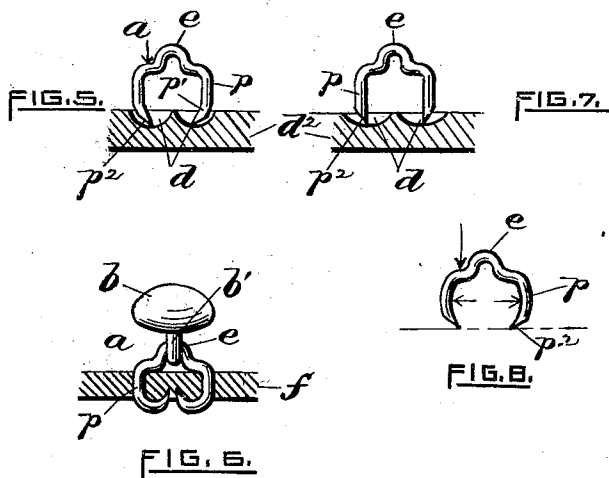
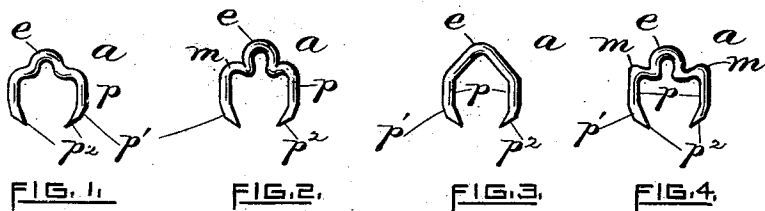


(No Model.)

G. W. PRENTICE.
BUTTON FASTENER.

No. 506,860.

Patented Oct. 17, 1893.



WITNESSES.

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UNITED STATES PATENT OFFICE.

GEORGE W. PRENTICE, OF PROVIDENCE, RHODE ISLAND.

BUTTON-FASTENER.

SPECIFICATION forming part of Letters Patent No. 506,860, dated October 17, 1893.

Application filed March 3, 1891. Serial No. 383,558. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. PRENTICE, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Two-Prong Fasteners for Buttons, &c.; 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.

Heretofore in the manufacture of two-prong staples, especially such as are used for attaching buttons, &c., to articles of wearing apparel, it has been usual to make the prongs parallel with each other throughout their length. Sometimes the free or entering ends of the prongs are cut off at an angle obliquely in order to render them more readily insertible; again the prongs have been reduced to sharp penetrating ends by swaging. An objection to such former staple fasteners is that in the setting operation the pressure on the prongs, upon the latter's engagement with the setting-die after passing through the fabric or material, acts to distend them laterally or outwardly against the inner sides of the guide-tube, thereby necessitating additional power to overcome the resistance due to such lateral pressure. Such outward distension of the prongs at the same time distorts and enlarges the openings first made in the fabric by the prong-points, the result being that the holding capacity of the fastener when thus attached to the fabric is greatly lessened.

The object I have in view in my present invention is to produce a fastener devoid of the objections just referred to; to that end my invention consists essentially of a two-prong staple having a head or arch portion arranged to receive eye-shank buttons and having the lower portion of the penetrating prongs bent inward or inclined toward one another. By means of this arrangement of the prongs the latter are more easily deflected and bent inwardly; the prongs are prevented from spreading or bending outwardly; the fabric or material is not punctured to so great an extent, and the pressure or power neces-

sary to attach the fastener or staple is less than heretofore required.

In the accompanying sheet of drawings, 55 Figures 1, 2, 3 and 4, represent front elevations, enlarged, of my improved two-prong fastener, showing modified forms of the head or arch portions. Fig. 5 is a similar view of the fastener the ends of the bent prongs being in engagement with the setting die preparatory to clinching them; Fig. 6 shows a button attached to the fabric or material by means of my improved staple. Fig. 7 shows a staple provided with two parallel prongs as heretofore made, the prongs being in contact with the setting-die, and Fig. 8 shows the tendency of such parallel prongs to spread outwardly upon applying pressure, as in attaching them to the fabric.

My improved staple fastener is indicated by *a*, the same having two legs or prongs *p* united at the top by a bent arch or head provided with a center loop *e* arranged to receive an eye-shank button *b*. The lower portion of the prongs, say for about one-third to one-fourth of their length, are bent at an angle inwardly toward each other, as at *p'*; the extreme ends *p²* of the prongs are sharpened, substantially as common, so as to penetrate the fabric more readily.

A well-known form of staple is represented in Fig. 7; this also is provided with a looped head *e* adapted to receive an eye-shank button. The prongs *p* are parallel throughout, the ends *p²* being arranged to engage the cavity of a setting-die *d*. The prongs of this staple are very liable to spread out laterally during the attaching operation, see arrows, Fig. 8, thereby distending and tearing the adjacent portions of the fabric, and obviously impairing its holding capacity.

By employing my improved fasteners *a* the die *d* may be made somewhat narrower; the prongs *p*, by means of the inwardly bent or deflected portions *p'* will, upon applying pressure as in attaching the fastener, readily penetrate the fabric and become clinched thereunder, the said previously bent portions of the prongs serving as a guide during the attaching operation; by reason of this improvement the prongs are prevented from spreading out laterally, to the injury of the fabric and staple.

In machines or implements used for attaching two-prong staples it is a common practice to employ removable tubes containing a series of "threaded" or combined buttons and fasteners; such tubes serve to guide the fasteners in their passage through it in a longitudinal direction and prevent them from turning around or becoming displaced. When the common two-prong fastener is used there is a liability, as before stated, that the prongs will spread out laterally while the fastener is passing from the mouth of the tube after engaging the setting-die, it being understood that the fastener is for the time being unsupported in a lateral direction. When my improved fastener *a* is employed the whole downward strain or pressure used in setting it is not borne directly by straight prongs as common, or as in the prongs shown by Fig. 7, but the line of pressure is deflected to the bent portions *p'*, which latter then bend toward each other, the pressure thus far being much less than is required in the former case; the maximum pressure being only necessary to finally set or clinch the prongs.

I claim—

1. The two-prong fastener substantially as hereinbefore described, consisting of a bent head or table portion adapted to receive an eye-shank button and two parallel puncturing prongs or legs extending downwardly from the ends of the head and having the lower or clinching portions of the prongs bent or inclined toward each other.

2. The two-prong fastener *a* of wire substantially as described, the same consisting of a suitable head or table portion bent to form a loop *e* adapted to receive an eye-shank button and two parallel downwardly extending puncturing prongs *p* integral with the head, the lower or clinching portions *p'* of the prongs being bent inwardly or toward each other and terminating in sharpened ends, substantially as and for the purpose set forth.

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

GEORGE W. PRENTICE.

Witnesses:

CHARLES HANNIGAN,
F. A. SMITH, Jr.