No. 632,225. Patented Aug. 29, 1899.

N. CRANE.

FASTENER OR CLASP.

(Application filed Sept. 29, 1898.)

(No Model.)

FIG. 1.

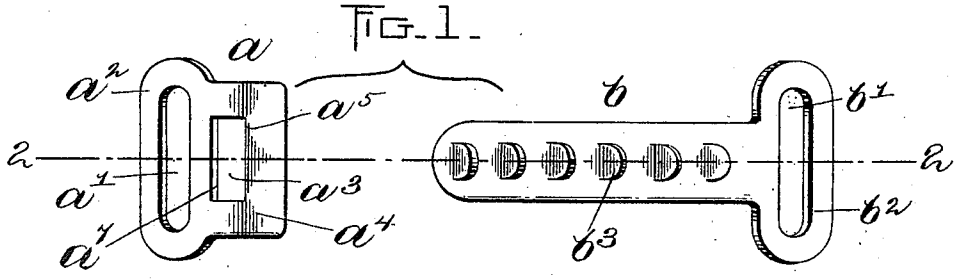


FIG. 2.

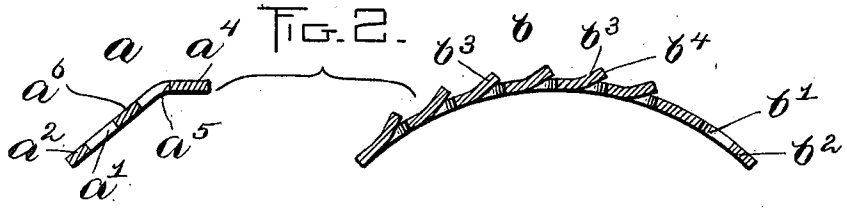


FIG. 3.

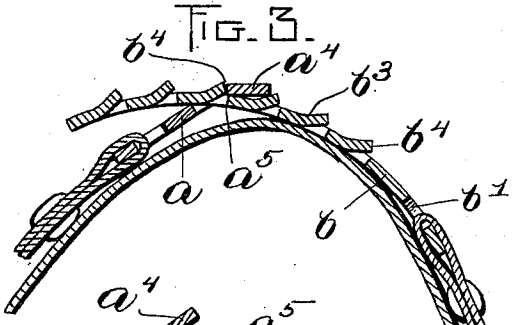


FIG. 4.

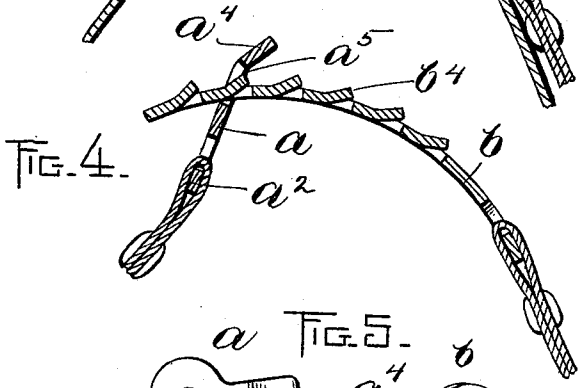
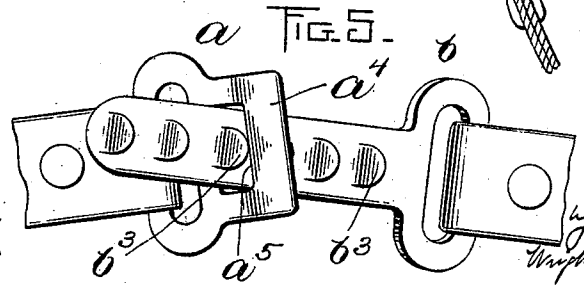


FIG. 5.



WITNESSES:
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

NEWTON CRANE, OF NEWTON, MASSACHUSETTS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE CRANE BUCKLE COMPANY, OF PORTLAND, MAINE.

FASTENER OR CLASP.

SPECIFICATION forming part of Letters Patent No. 632,225, dated August 29, 1899.

Application filed September 29, 1898. Serial No. 692,195. (No model.)

To all whom it may concern:

Be it known that I, NEWTON CRANE, of Newton, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Fasteners or Clasps, of which the following is a specification.

This invention relates to clasps or fasteners primarily designed for use on overshoes, yet adapted for use for other purposes; and the invention has for its object to improve and simplify the construction of the same to the end that the clasp or fastener may be composed of but two parts and each part made of sheet metal by means of suitable punches and dies and in such manner as to obviate the requirement of machine-work of an expensive character and also obviate assembling the parts; and to these ends the invention consists of a fastener or clasp possessing certain structural peculiarities, all as illustrated upon the drawings, described in the following specification, and pointed out in the appended claims.

Reference is to be had to the accompanying drawings, and to the letters and figures marked thereon, forming a part of this specification, the same letters and figures designating the same parts or features, as the case may be, wherever they occur.

Of the drawings, Figure 1 shows in plan view the two members of my improved clasp or fastener. Fig. 2 represents a sectional view of the same, taken on the line 2 2 of Fig. 1. Fig. 3 represents a longitudinal section of the clasp or fastener, the parts or members thereof being in engagement. Fig. 4 represents a longitudinal section of the same, the members being in the positions occupied during their disengagement. Fig. 5 represents one of the members rocked to one side relatively to the other member.

On the drawings, *a b* indicate the two members of my improved clasp or fastener, which are adapted to be secured or attached to the flaps of an overshoe or to the edges of a garment or other article.

The member *a* is herein shown as being made of thin sheet metal and is provided with an aperture a', forming a rear cross-bar a^2, around which the end of the flap of an overshoe may be passed or secured, it being understood, of course, that this feature of the fastener is immaterial, and the member may be formed in any desirable way to provide for its attachment to the overshoe or other article. The said member is further provided with a front aperture a^3, forming a front cross-bar a^4, with a transverse engaging edge a^5, and an intermediate cross-bar or portion a^6, with an edge a^7. The front end of the plate or the cross-bar a^4 is bent downward at an inclination to the body thereof, as shown in Fig. 2, the line of the bend being coincident with the edge a^5. The transverse bend or angle thus given to the apertured plate coincident with the engaging edge a^5 results in turning said engaging edge obliquely to the position it occupied previous to thus bending the plate, and when so turned said engaging edge occupies a position to better engage and hold onto the engaging portions of the other member of the clasp or fastener.

The member *b* consists of a curved strip of sheet metal laterally extended at its rear end and perforated at b' to provide a cross-bar b^2, by means of which it may be attached to the overshoe. This member may likewise be formed in any suitable way to provide for its attachment, and hence the aperture and cross-bar do not constitute an important feature of the present invention.

The elongated strip *b* is formed with a number of tongues or lips b^3, cut from the body of the strip, as will be described, each tongue or lip projecting beyond the plane of the strip—as, for instance, they may be extended upwardly and rearwardly—and said tongues or lips constitute engaging portions, and they are all arranged at regular intervals. Each tongue or lip is curved or semicircular and has an operative engaging end b^4, against which the engaging edge a^5 abuts, although the parts may be turned so that the lower edge of said end b^4 will be engaged by the engaging edge a^5. The said tongues or lips are each formed by a transverse curved slit 2, cut in the body of the strip, and the parts or portions so cut projected outwardly beyond the

plane of the strip. The tongues or lips are thus cut from the body of the strip between its edges and preferably occupy a position substantially midway the width of the strip, thereby leaving the edges of the strip unbroken.

In width the member b is sufficient to pass freely through the aperture a^3 of the member a, and the aperture is likewise adequate to permit of the passage therethrough of the lips or tongues b^3 when the member a is at an angle of substantially ninety degrees to the member b.

By referring to Fig. 3 it will be seen that when the member b is passed through the aperture in the member a and the parts are brought into operative position the cross-bar a^4 and the under portion a^6 will engage the upper and under surfaces of the said member b and the engaging edge a^5 will engage the end of one of the lips or tongues b^3.

The tension of the flaps of the overshoe on the ends of the members will cause the engaging edges a^5 and b^4 to remain positively locked together and the edge a^7 to press firmly against the under concave surface of the member b.

When it is desired to engage the members, the member b is passed through the aperture a^3 of the part a, while the latter is held at an angle thereto, and the member a is then pressed down into the position illustrated in Fig. 3, whereupon it impinges upon the upper and under sides of the member b, and the engaging edge a^5 engages one of the engaging portions b^4, and while the members remain in this position and as long as there is a strain upon them the parts will remain in engagement.

To disengage the members, the front end of the member a is lifted and turned back until it is at the proper angle to the member b, as shown in Fig. 4, and the member a is then thrust bodily downward until it rests upon the transverse edge a^7 of the portion a^6, (or else the member b is lifted into that position,) whereupon the member b will by reason of the strain upon it immediately slide through the aperture a^3.

From the foregoing description it will be seen that both members of the fastener may be made of sheet metal of any desired thickness, and said members may be easily and at a slight cost died out and no other tools than ordinary dies and punches required, and no assembling of the parts is required.

The bending of the member a provides a sharp engaging edge without the necessity of cutting away a portion thereof, and the formation of the tongues or lips by cutting them from the body of the strip provides a series of engaging portions which may be projected beyond the plane of the strip to form teeth of any desired size or pitch irrespective of the initial thickness of the strip. The strain upon the teeth is substantially directly against their ends in their longitudinal planes, so that there is no danger of bending the lips or tongues under a sudden severe pressure.

By forming the member b with tongues or lips which are rounded the two members are adapted to have an augmented lateral or rocking movement relatively to each other (see Fig. 5) and are also prevented from catching in the fabric of the garments of the wearer. Moreover, by rounding the tongues they may be greater in length and inclined at a less angle, whereby the disengagement of the member a will be rendered easier.

Having thus explained the nature of the invention and described a way of constructing and using the same, though without attempting to set forth all of the forms in which it may be made or all of the modes of its use, I declare that what I claim is—

1. A clasp or fastener comprising two independent rigid complemental members, each adapted for attachment to the parts to be secured together, one of said members having an aperture with an engaging edge, and the other member having an elongated portion or strip adapted to enter said aperture, and having tongues or lips cut from the body thereof which project beyond the plane of the strip and whose ends constitute engaging portions for the engaging edge of the aforesaid member, substantially as described.

2. A clasp or fastener comprising two independent rigid complemental members, each adapted for attachment to the parts to be secured together, one of said members having an aperture with an engaging edge, and the other member having an elongated portion or strip adapted to enter said aperture, and having tongues or lips cut from the body thereof which project beyond the plane of the strip and whose ends constitute engaging portions for the engaging edge of the aforesaid member, said tongues being rounded on the engaging ends, substantially as described.

3. A clasp or fastener comprising two independent rigid complemental members, each adapted for attachment to the parts to be secured together, one of said members having an aperture with an engaging edge, and the other member having an elongated portion or strip adapted to enter said aperture and having tongues or lips cut from the body thereof between its edges which project beyond the plane of the strip and whose ends constitute engaging portions for the engaging edge of the aforesaid member, substantially as described.

4. A clasp or fastener comprising two independent rigid complemental members, each adapted for attachment to the parts to be secured together, one of said members having an aperture with an engaging edge, and having a transverse bend or angle coincident with said engaging edge as described, and the other member having an elongated portion or strip adapted to enter said aperture, curved in the direction of its length, and having engaging portions projecting beyond the plane of the strip for the engagement of the en-

gaging edge of the aforesaid member, substantially as described.

5. A clasp or fastener comprising two independent rigid complemental members of which one is apertured to receive the other whereby the walls of the aperture engage both faces of said other member, the second said member having a plurality of tongues or lips cut from the body thereof and projecting from its surface whereby their ends engage one of the walls of the said aperture in the said first-mentioned member, said parts being constructed as thus described whereby they are held in engagement when they approach parallelism and are detachable when they approach a right angle to each other.

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

NEWTON CRANE.

Witnesses:
MARCUS B. MAY,
C. C. STECHER.