

H. J. McINTYRE.
FASTENER.

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1,210,337.

Patented Dec. 26, 1916.

Fig. 1.

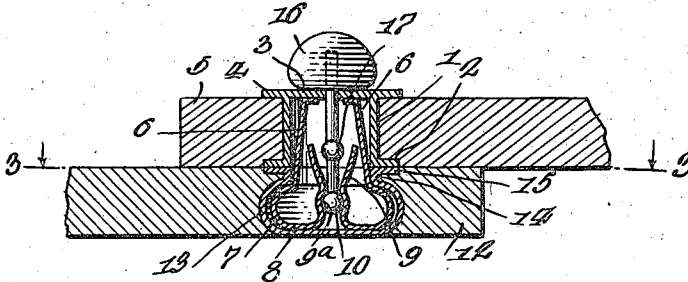


Fig. 2.

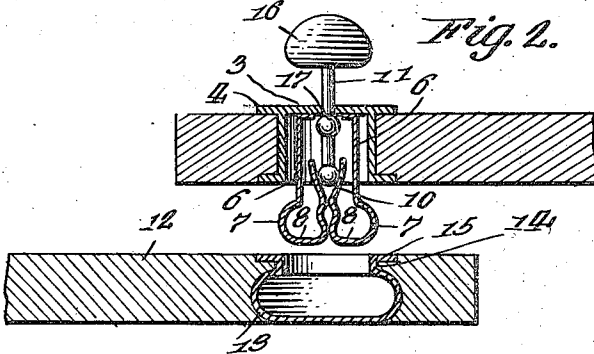


Fig. 3.

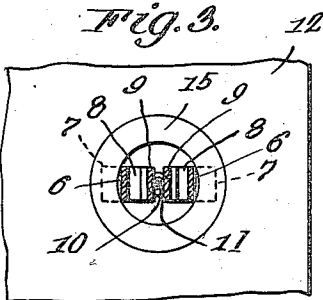
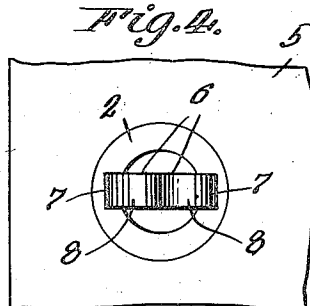


Fig. 4.



WITNESSES

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FASTENER.

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To all whom it may concern:

Be it known that I, HUGH J. McINTYRE, a citizen of Canada, residing at Winnipeg, Manitoba, Canada, have invented certain new and useful Improvements in Fasteners, of which the following is a specification.

This invention relates to fasteners, and more particularly to a fastener of the snap variety specially adapted for use in connection with shoes, gloves, and similar articles of clothing.

One of the main objects of the invention is to provide a fastener of the character stated of simple construction and operation which can be produced at relatively small cost.

A further object is to provide a clasp having means for positively securing the elements of the same in engagement.

Further objects will appear from the detailed description.

In the drawings: Figure 1 is a vertical central sectional view of the invention in closed position, Fig. 2 is the same in open position, Fig. 3 is a section on line 3-3 of Fig. 1, Fig. 4 is an underneath view of the head member of the clasp.

In the ordinary type of snap clasp now commonly in use great difficulty is often experienced due to the fact that the clasp members easily pull apart when subjected to tension. In order to prevent this I provide means which renders it impossible for the head member of the clasp to contract sufficiently to pull out of the socket.

In my device I provide a cylindrical casing 1 which may be stamped and formed from sheet metal. This casing is provided at its lower end with an outwardly directed annular flange 2. The upper end of the casing is closed by an integral disk 3 and is provided with a flange 4 similar to flange 2. This casing is tightly secured through the upper flap 5 of the glove or shoe.

I secure in the casing 1 two diametrically opposite spring clasp members 6. The upper end of each of these members is turned inward at right angles and is firmly secured by soldering or other suitable means. Near its lower end the member 6 is bent outward to form an approximately semi-circular head 7. The member is then turned inward as at 8 and upward to provide an upwardly and outwardly directed tongue 9. The tongue 9 is bent, in its intermediate portion, to form an arcuate recess 9^a. The two recesses 9^a of the tongues 9 cooperate to receive a ball

10 secured on the lower end of a rod 11 slidably mounted through an aperture at the center of the disk 3. The outwardly turned upper portions of the tongues form a downwardly converging guide-way for directing the ball 10 into the recesses 9^a when the rod 11 is depressed.

In the lower flap 12 I secure a suitable socket. This socket has an enlarged body portion 13 which is formed with an approximately semi-circular peripheral channel, and is provided with a reduced neck 14 and an upper annular flange 15. This socket is adapted to receive the semi-circular lower portions of the two spring members 6 of the snap head.

On the upper end of the rod 11 I secure a button like knob 16. By grasping this knob the rod may be easily raised so as to withdraw the ball 10 from between the tongues 9 of the members of the head. The upward movement of the rod is positively limited by a bead 17 secured thereon. When the rod is raised into its uppermost position, the ball 10 is raised so as to permit the two members 6 to move inward thus contracting the head sufficiently to permit of its easy insertion into, or withdrawal from, the socket. This is clearly shown in Fig. 2 of the drawings. By inserting the head into the socket and depressing the rod 11 so as to force the ball 10 into the recesses 9^a, the clasp is locked in operative position. The ball 10 forces the lower portions 7 of the head member 6 apart so that they extend into the annular channel of the socket, and acts to positively prevent inward movement of these members. With the rod in the position shown in Fig. 1 it is impossible to open the clasp. By raising the rod the clasp may be easily opened, as in Fig. 2.

With the clasp in closed position and the rod 11 depressed, as shown in Fig. 1 of the drawings, the heads 7 of the clasp members 6 are forced into the annular channel or groove of socket 13. In this position the upper edge or shoulder of each head engages under the annular shoulder formed adjacent the top of the socket by the restricted neck 14, and the lower horizontal portion 8 of each head fits tightly against the flat bottom of the socket. By this means relative movement of the two clasp members, the socket 13 and casing 1, in either direction is positively prevented. In addition, the engagement of the horizontal por-

tions 8 of the heads with the bottom of the socket provides reinforcing means for the head. If the casing 1 be subjected to outward pull or tension the heads 7 cannot possibly move inward so as to pull out of the socket without being folded or pushed inward and upward to the top of the casing. To do this would necessitate bending or buckling of the heads. This buckling of the heads is effectually prevented by the engagement of the horizontal portions 8 of the heads with the bottom of the socket, as, for the head to buckle, it would be necessary for these horizontal portions of the heads to bend downward in order to permit the tongues 9 of the heads to fold upward and outward. The ball 10 serves to effectually prevent movement of the securing heads 7 toward each other, and the engagement of the horizontal portions 8 of the heads with the bottom of the socket prevents bending or buckling of the heads, while the engagement of the heads with the bottom of the socket and the annular shoulder adjacent the top of the socket serves to prevent relative movement between the two clasp members. By constructing the clasp in this manner the securing elements may be made of relatively light material which may be quickly and easily bent into the desired shape, thus rendering it possible to manufacture the clasp at relatively low cost, as well as providing a clasp of simple construction and high efficiency.

By providing a shoe with a series of properly spaced clasps of this character, the shoe may be quickly and easily fastened or unfastened without the use of a button hook or similar instrument, while giving the appearance of an ordinary button shoe. Due to the means for positively locking the clasp there is no danger of the shoe becoming undone. This clasp is also of great value for gloves and similar articles in which a clasp is apt to be subjected to strain or tension.

There may be slight changes made in the construction and arrangement of the various parts of my invention without departing from the field and scope of the same, and I intend to include all such variations, as fall within the scope of the appended claims, in this application in which the preferred form only of my invention is disclosed.

What I claim is:

1. In fasteners, the combination of a socket having a reduced neck portion and an

enlarged body portion provided with an inner annular channel of approximately semi-circular cross section, a cylindrical casing positioned above said socket, two diametrically opposite spring clasp members secured at their upper ends to said casing and each bent, at its lower end, to provide an integral approximately semi-circular head adapted to fit snugly into the channel of said socket, and a rod slidably mounted in the casing between the said clasp members and provided on its inner end with a member adapted to engage the heads of said clasp members so as to force the same apart when the rod is depressed.

2. In fasteners, the combination of a socket having an inner annular shoulder adjacent its upper end, a casing diametrically opposite spring clasp members secured in said casing at their upper ends and each provided, at its lower end, with a head of a height corresponding to the distance between the said annular shoulder and the bottom of said socket, and a member operable within the casing and adapted, when depressed, to force the heads of said clasp members apart whereby said heads are secured between the annular shoulder and the bottom of said socket and in engagement therewith.

3. In fasteners, the combination of a socket having an inner annular shoulder, a flat bottom, and an annular channel intermediate said shoulder and bottom; a casing positioned above said socket; depending spring clasp members secured in said casing and adapted to fit into said socket, each of said members being bent at its lower portion to provide a head adapted to fit into the channel of the socket, a horizontal inwardly directed portion contiguous with said head and adapted to engage the bottom of the socket when the head is in operative position within said socket, and an upwardly and outwardly directed tongue contiguous with said horizontal portion and provided with an arcuate recess intermediate its ends; and a rod slidable in said casing between the said clasp members and provided with a ball adapted to engage between the tongues of the clasp members so as to force said heads apart.

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

HUGH J. McINTYRE.

Witnesses:

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