(No Model.)

J. R. MACMILLAN.

CLASP.

No. 426,672. Patented Apr. 29, 1890.

Fig. 1.

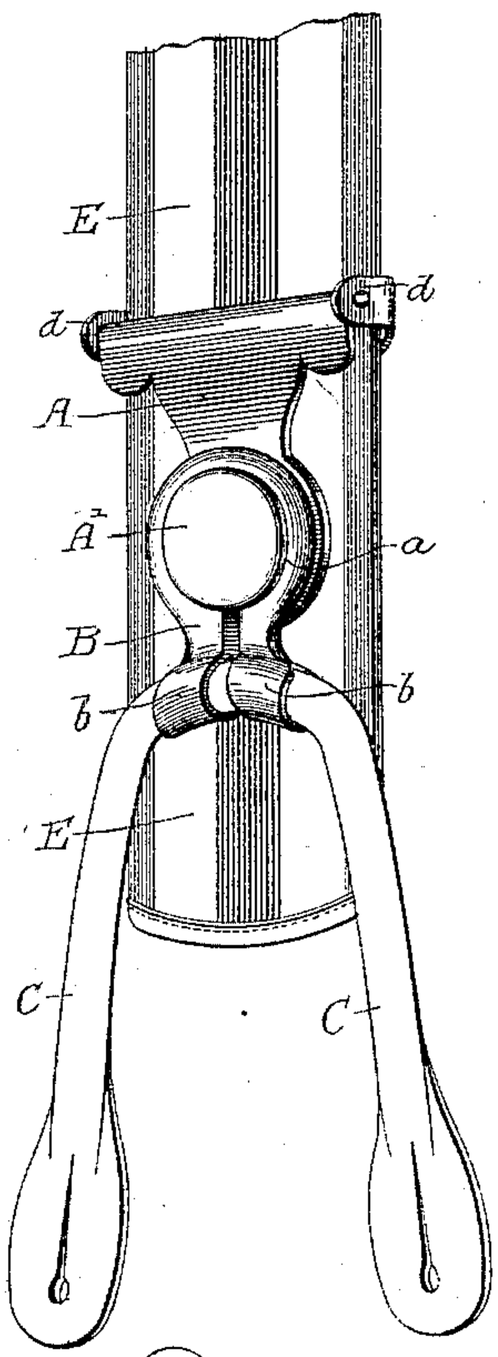


Fig. 2.

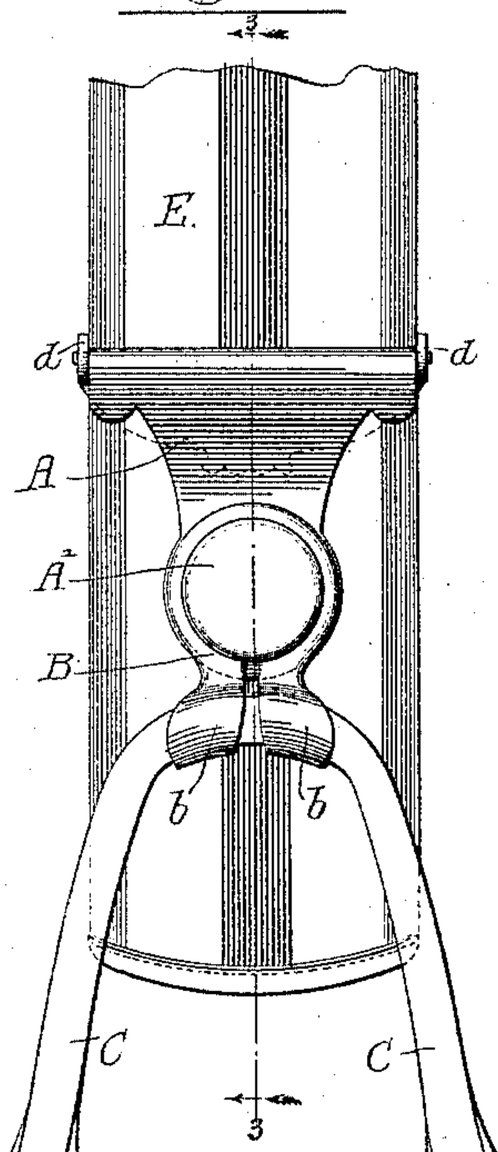


Fig. 3

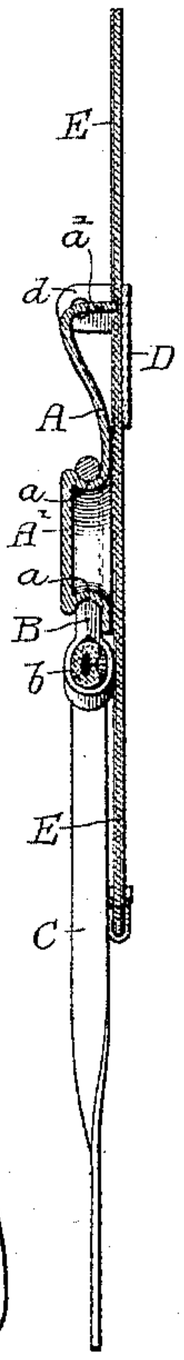


Fig. 4.

Fig. 5.

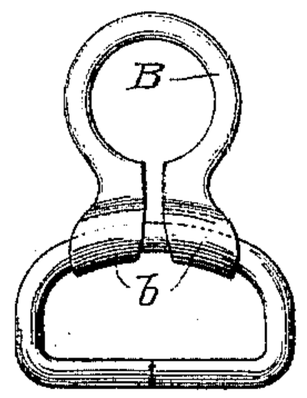


Fig. 6.

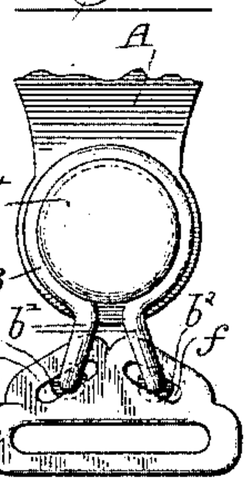


Fig. 7.

Fig. 8.

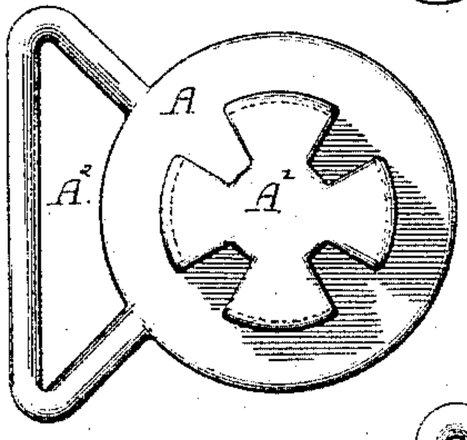
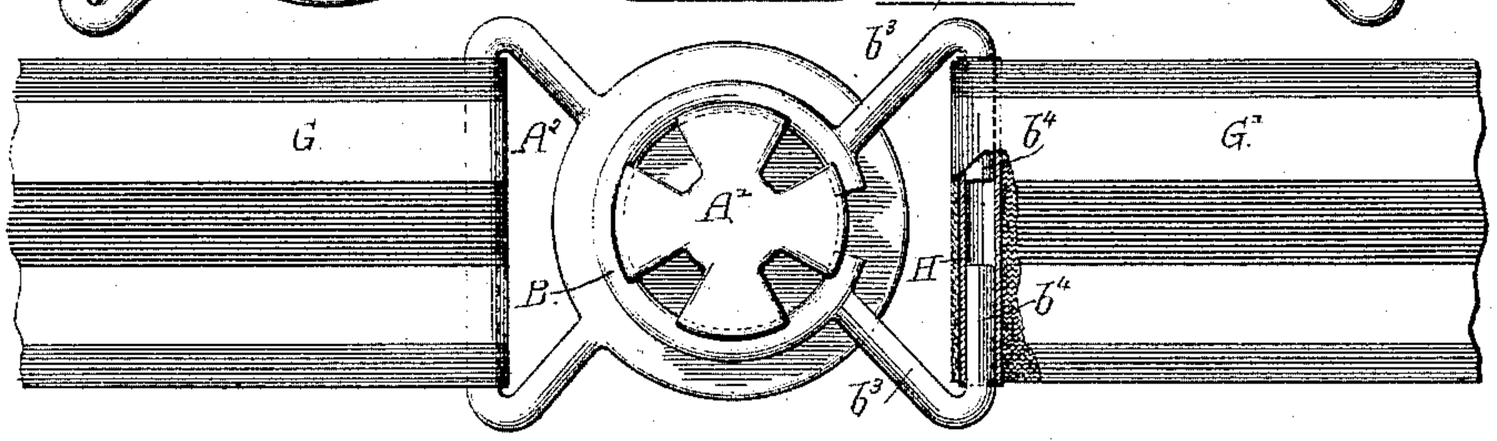


Fig. 9.



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UNITED STATES PATENT OFFICE.

JAMES ROBERT MACMILLAN, OF CHICAGO, ILLINOIS.

CLASP.

SPECIFICATION forming part of Letters Patent No. 426,672, dated April 29, 1890.

Application filed April 27, 1889. Serial No. 308,831. (No model.)

To all whom it may concern:

Be it known that I, JAMES ROBERT MACMILLAN, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Clasps; and I do hereby declare that the following is a full, clear, and exact description of the invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to an improved clasp or buckle adapted for use upon suspenders, belts, and for other similar uses where it is desired to connect two parts or straps in such manner that they can be easily and quickly connected with and disconnected from each other.

The invention consists in the matters hereinafter described, and pointed out in the appended claims.

In the accompanying drawings, illustrating the invention, Figure 1 is a perspective view of a suspender-clasp embodying the invention. Fig. 2 is a face view thereof. Fig. 3 is a central vertical section thereof. Figs. 4 and 5 show in face view the parts of the clasp when separated from each other. Fig. 6 illustrates in face view another form of the clasp. Fig. 7 shows in face view a clasp for belts also embodying the invention. Figs. 8 and 9 show the parts of the clasp illustrated in Fig. 7 detached from each other.

As illustrated in Figs. 1 to 5, A is a plate having a broad flat circular projection or stud A′ on its face, which projection or stud is provided in its side edge with a shallow annular groove or recess *a*. B indicates the other part of the clasp, which consists of an open ring adapted to encircle the stud A′ and rest in the groove thereof. Said ring is made of spring metal, or metal having some degree of resiliency, and is made to normally fit within or clasp the groove *a* of the stud A′. Said ring, in the particular form thereof shown in Figs. 1 to 5, is provided adjacent to its open end with loops or eyes *b b*, through which may be inserted a ring or the loop of a strap or cord, to which the said part B is connected.

In the application of the device to a suspender, as illustrated, the lower round strap C of the suspender may be inserted through said eyes or loops *b b* in the manner illustrated. The plate A is shown as having its upper margin bent inwardly to form a flange *a*′, which is serrated at its edge and pivoted to lugs *d d* upon a plate D, between which plate and the flange *a*′ the strap E of the suspender passes, so that the upper part of said plate A, together with the plate D, forms an adjustable strap-holding device of well-known and familiar construction.

The parts A and B of the clasp, constructed as above described, are connected with and disconnected from each other by expansion of the ring B to allow the same to pass over the enlarged part or head of the stud A′ outside of the groove *a* therein, the ring being adapted to yield to allow such expansion thereof by reason of being disconnected at one point, in the manner illustrated. In connecting the parts of the buckle the ring B is placed over or against the stud A′ and pressed or forced against the same until the head of the stud expands and enters the ring and the latter becomes engaged with the groove of the stud. In disconnecting the parts the ring B is held by its projecting ends and the thumb or finger pressed upon the stud, so as to force the same from the ring, or the two parts of the buckle may be taken in the hands and bent or flexed until the ring is carried out of engagement with the stud. The ring will commonly be made relatively thin and flexible, so that its engagement and disengagement in the manner described may be easily effected.

As far as the general purposes of my invention are concerned the parts of the clasp containing the stud and ring may be connected in any desired manner with the straps or other objects to be detachably connected; but the particular construction illustrated, by which a ring or loop is engaged with eyes upon the ends of the ring, is of especial advantage and constitutes a further and separate improvement, it being entirely obvious that when strain is brought upon the parts of the clasp thus constructed the loop engaged with the eyes *b b* (in the instance illustrated the strap C) will tend to draw together the adja-

cent ends of the ring, and thus clamp the same against the stud A′. It follows, therefore, that any strain coming upon the parts of the clasp thus constructed will tend to tighten the grip of the ring upon the stud, so that the greater the strain tending to separate the parts the more strongly will they be held from detachment. In a clasp thus constructed, therefore, the ring B may be made relatively light and thin to admit of its easy engagement with and disengagement from the stud, while at the same time the parts will be firmly and strongly engaged when strain or tension is brought upon the parts of the clasp.

The construction in which a metal ring or loop is engaged with the eyes *b b* in place of the strap C is shown in Fig. 5, the operation in both cases obviously being the same.

The results produced by the construction above described may be produced by many other different forms of connection between the ring part of the clasp and the object to which the same is attached. In Fig. 6, for instance, I have shown a clasp consisting of a plate A, having a stud A′, made in the same manner as before described. The ring B in this instance has its ends bent outwardly to form arms *b′ b′*, which are engaged at their ends with inclined slots *f f* in a metal plate F, which plate is provided with a slotted portion or flat loop F′ for engagement with a strap, or is otherwise adapted for connection with the part to which the ring is connected.

The inclined slots *f f* are both sloped inwardly and upwardly or toward the body of the ring, so that when strain is brought upon the plate F, tending to draw it away from the stud, the end parts of the arms *b′* engaged with the said slots are drawn toward each other, thereby tending to close the ring and clasp the same tightly in the groove of the stud. The ends of the said arms *b′* are shown as being held in engagement with the slots *f f* by being bent at right angles to pass through the slots and having heads b^2 at the rear surface of the plate to prevent their disengagement therefrom.

In Figs. 7, 8, and 9 is shown a clasp adapted more especially for a belt, but containing the same general features of construction hereinbefore described. In this instance a plate A is employed provided with a stud A′, said plate in this instance having a loop A^2 at one side thereof to engage one end G of the belt. The open ring B, for engagement with the stud, is provided near its severed ends with two radially-arranged arms b^3 b^3, the end portions b^4 of which are bent inwardly in alignment with each other and engage the ends of a hollow sleeve or tube H, in the manner clearly shown in Fig. 9. The opposite end G′ of the belt is secured to the ring by passing around said tube H. In the operation of the clasp thus constructed tension of the belt acting upon the tube H, acts to draw together the adjacent ends of the open ring B, the ends b^4 of the arms b^3 sliding inwardly within the said tube H as the ring is tightened around the stud. It is obviously not essential that the stud A′ should in every instance be circular and provided with a flat top in the manner illustrated in Figs. 1 to 6; but any suitable form of projection upon the plate A may be employed to afford an annular groove with which the ring part of the clasp may engage. In said Figs. 7 and 8, for instance, the stud A′ is shown as consisting of a projection of ornamental shape having four separate parts engaging the ring.

The stud A′ is herein shown as stamped or pressed up from the plate A; but such stud may be otherwise formed or constructed, as may be found convenient or desirable.

The construction illustrated is of especial advantage for clasps used for suspenders and other similar purposes, for the reason that the ring part of the clasp is adapted to swing or rotate about the stud, thereby providing a hinged or pivotal connection, such as has heretofore been provided in suspender-buckles, by means of a separate pivotal joint in order to allow the upper suspender-strap to adjust itself with reference to the lower or branched strap.

I claim as my invention—

1. A clasp or buckle comprising a plate provided with a projection or stud having a peripheral groove or depression, an open or expansible ring adapted to engage said groove, and a loop having an oppositely-inclined or V-shaped part or surface engaging the adjacent ends of said open ring and adapted to draw the same together and clamp the open ring against the stud when strain is brought upon the parts.

2. A clasp or buckle comprising a plate provided with a projection or stud having a peripheral groove or depression, an open ring adapted to engage said groove, said ring being provided with eyes at its adjacent ends, and a flexible loop engaged with said eyes, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

JAMES ROBERT MACMILLAN.

Witnesses:
C. CLARENCE POOLE,
HARRY COBB KENNEDY.