J. F. DANIELS.

CLASP.

APPLICATION FILED APR. 2, 1914.

1,147,147.

Patented July 20, 1915.

2 SHEETS—SHEET 1.

Fig. 1.

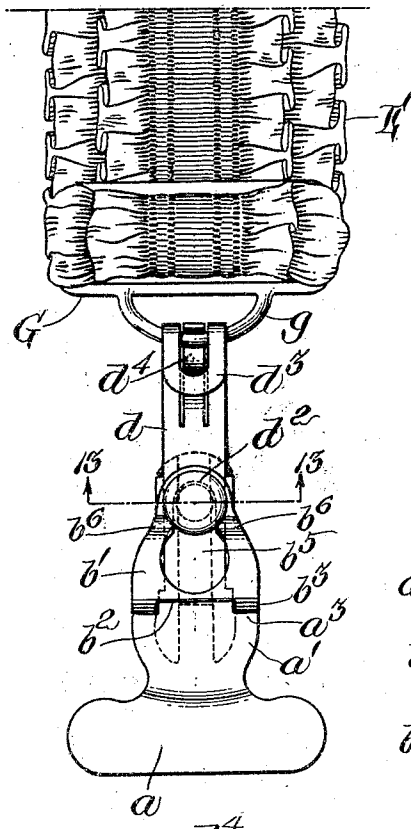


Fig 2.

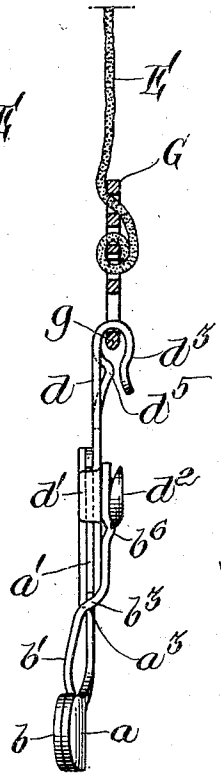


Fig. 3.

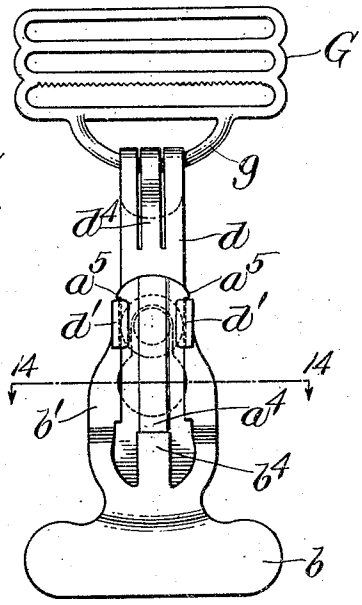


Fig. 5.

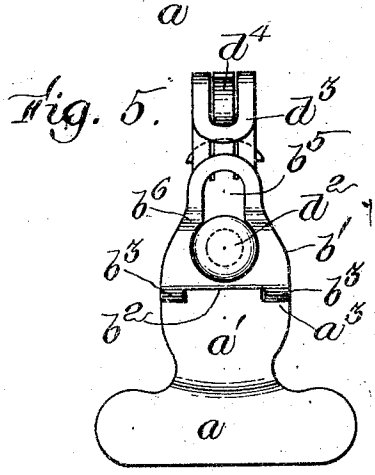


Fig. 4.

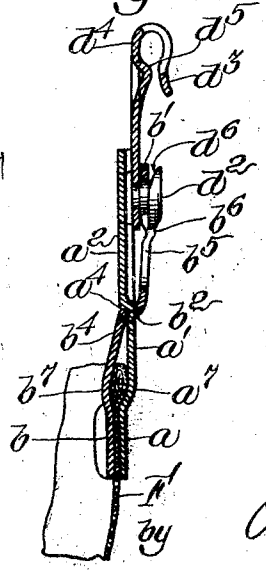
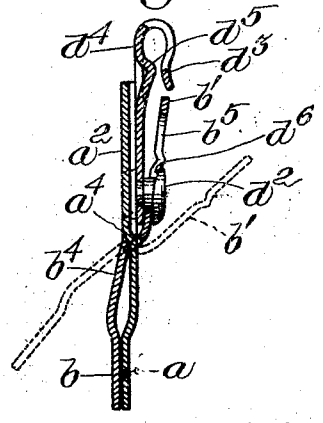


Fig. 6.



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2 SHEETS—SHEET 2.

Fig. 12.

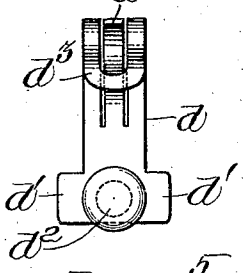

Fig. 7

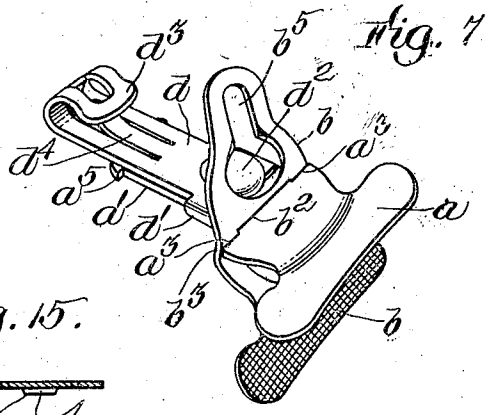

Fig. 11.

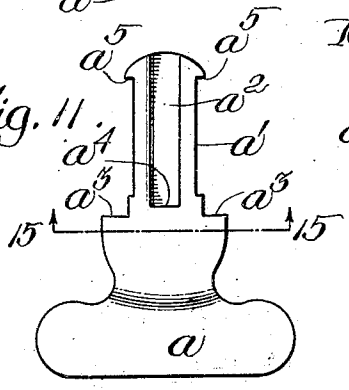

Fig. 15.

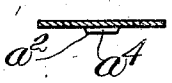

Fig. 13.

Fig. 14.

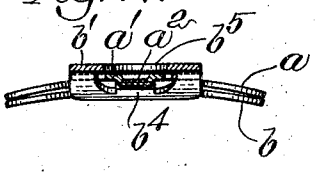

Fig. 10.

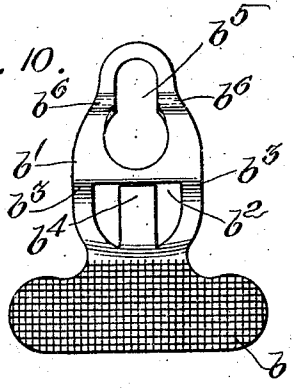

Fig. 8

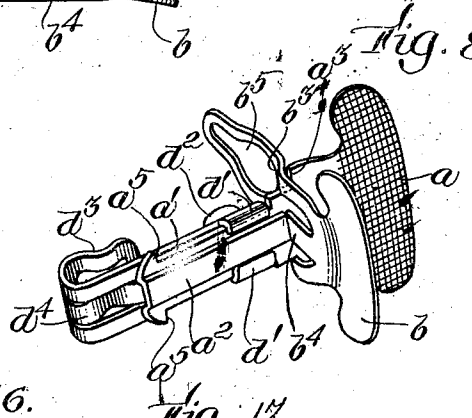

Fig. 9.

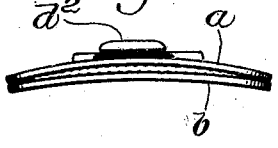

Fig. 16.

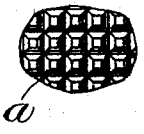

Fig. 17

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UNITED STATES PATENT OFFICE.

JOHN F. DANIELS, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR OF ONE-HALF TO RALPH M. WHITMAN, OF PROVIDENCE, RHODE ISLAND.

CLASP.

1,147,147. Specification of Letters Patent. Patented July 20, 1915.

Application filed April 2, 1914. Serial No. 828,991.

To all whom it may concern:

Be it known that I, JOHN F. DANIELS, a citizen of the United States, and resident of Providence, in the county of Providence and State of Rhode Island, have invented new and useful Improvements in Clasps, of which the following is a specification.

This invention relates to clasps, and while it may be used in clasps of many sorts and for many purposes, it is especially designed for the clasps of hose supporters.

The invention has to do chiefly with the novel and improved construction of the gripping jaws, the novel and improved construction of the interlocking devices for locking and unlocking the jaws, and the novel and improved pivotal connection between the jaws. These and other features of the invention will hereinafter be fully described and more particularly pointed out in the claims.

In the accompanying drawings which illustrate one embodiment of my invention, Figure 1 is a front view of a clasp containing the invention showing the parts in closed or clasped position; Fig. 2 is a side view of said clasp with the parts in the same position, showing the suspension buckle in section; Fig. 3 is a rear view of said clasp with the parts in the same position; Fig. 4 is a longitudinal, central section of said clasp with the parts in the same position; Fig. 5 is a front view of said clasp showing the gripping jaws in unlocked position; Fig. 6 is a longitudinal, central section of said clasp with the parts in unlocked position; Fig. 7 is a perspective view of said clasp showing the front side of the clasp with the parts in unclasped and open position; Fig. 8 is a perspective view of said clasp showing the rear side of the clasp with the parts in unclasped and open position; Fig. 9 is an end view of said clasp; Fig. 10 is an elevation of the inner or gripping surface of one of the jaw members; Fig. 11 is an elevation of the outer or rear side of the other jaw member; Fig. 12 is a front view of the shank member for supporting and locking the jaw members; Fig. 13 is a section on line 13—13 of Fig. 1; Fig. 14 is a section on line 14—14 of Fig. 3; Fig. 15 is a section on line 15—15 of Fig. 11; Fig. 16 is an enlarged fragmentary detail showing the preferred form of corrugations on the gripping surfaces of the jaw members; and Fig. 17 is an enlarged fragmentary detail showing a sectional view of the opposed gripping surfaces of the jaws.

Referring to the drawings, *a* is the gripping jaw of one of the two relatively movable jaw members, and *b* is the gripping jaw of the other member. Each jaw member is preferably made substantially in the form of a T, the gripping jaws *a* and *b* constituting the cross bars of the T, and the stems *a'* and *b'* constituting the stems of the T. Each gripping jaw is thus laterally elongated so as to afford a broad gripping area much less likely to tear or injure the fabric clasped between said jaws than with clasps where the whole strain is concentrated at a single point or within a small area. Said elongated gripping jaws are also preferably a little curved to conform to the curve of the thigh when the clasps are used on garters; and in order that a strong gripping action will be exerted throughout the whole length of the jaws, and the fabric held firmly at the ends of the jaws as well as at their center, it is desirable that the gripping surface of one of the jaws, as the jaw *a*, be curved a little more than the other (see Fig. 9) so that the lateral ends of the jaws will engage a little before their middle parts when the jaws are closed together. The jaw members, being made of slightly resilient sheet metal, will then yield to allow the middle parts to come together, affording a firm gripping action throughout their whole length. The gripping surfaces of the jaws are preferably corrugated, and the form of corrugations shown in Figs. 16 and 17, consisting of a series of truncated pyramids, is admirably adapted to produce a good holding surface without danger of damaging the fabric. Said blunted pyramidal corrugations will crowd between the threads of the fabric and firmly grip the fabric without cutting or tearing the threads.

The jaws *a* and *b* are pivoted together so that they will open and close freely, and it is desirable that the construction of the pivotal connection be such that the parts can be cheaply and rapidly stamped or punched out by dies, and conveniently and quickly assembled. To this end the stem *b'* of the jaw *b*, is provided with an aperture b^2, through which stem *a'* of jaw *a*, extends, and in which stem *a'* is fulcrumed. At each side of aperture b^2 the stem *b'* is provided

with offsets b^3, which engage shoulders a^3 at each side of the base of the stem a'. The stem a' is made with a longitudinal stiffening rib a^2 the end of which, a^4, serves as an abutment with which the end of tongue b^4 engages. The tongue b^4 is integral with jaw b, and extends across the aperture b^2 and cooperates with abutment a^4 to prevent the dislodgment of the stem a' from the aperture b^2, and the shoulders a^3 from the offsets b^3, but at the same time one jaw is permitted to swing freely on the other.

The jaws are supported on a shank d which is made with a pair of inturned guide flanges d', bent up from a blank of the shape shown in Fig. 12. The stem a' is slidably connected by said guide flanges d' to the shank d. Ears a^5 on the end of stem a' serve as stops to engage flanges d' and prevent the jaws from coming off from the shank d when the parts are extended as hereinafter described.

d^2 is a headed stud fixed to the front side of shank d and constitutes one of a pair of interlocking members for holding the jaws in closed position. The other interlocking member is carried by the jaw b and consists of the loop formed in b' by the key-hole aperture b^5. When the jaws are in shortened or contracted position on shank d, (see Figs. 5, 6, 7 and 8) the larger part of aperture b^5 will pass over the head of stud d^2. Thereupon by sliding the jaws outward to their extended position on shank d the narrower part of the loop formed by the smaller part of aperture b^5 in stem b', will engage the under side of the head of stud d^2 (see Figs. 1, 2, 4 and 13) and lock the jaws in closed position. The shank b' which constitutes one of said interlocking members is sufficiently resilient so as to effect a yielding pressure between the jaws, to compensate for variations in the thickness of the fabric F (Fig. 4) clamped between the jaws. Projections b^6 may be provided at each side of aperture b^5 to coöperate with stud d^2 and prevent the accidental disengagement of the lock when the clasp is in closed position. The central channel or rib a^2, on stem a', not only serves as a strengthening rib, but also as a filler to level up the depressed space between guide flanges d' (see especially Fig. 13), so that the flanges d' will not project unduly beyond the surface of the clasp as a whole, on the under side which is the side next to the body of the wearer.

The clasp is suspended from a buckle or similar fitting G, to which is secured a webbing or strap of elastic fabric or the like E, such as is ordinarily used in hose supporters. The buckle G is provided with a curved bar or bail g which is preferably rounded in cross section, and upon which is hung the shank d by means of a hook d^3 at its upper end. A central resilient tongue d^4 is struck from the material of the shank d, and is bent to form a detent d^5 partially closing the hook opening, and adapted yieldingly to hold the bail g in place in the hook d^3. The hook d^3 and bail g constitute a cast-off which may be readily assembled by merely inserting the bail g under the hook and pulling the members in opposite directions until the bail g snaps past the yielding detent d^5. To separate the cast-off members, the bail g may be pushed straight out from under the hook past the detent d^5, or more easily, the buckle G may be swung to a position at about right angles with the shank d, and then given a part turn or twist which will force the bail g over the yielding detent d^5. It will be observed that the hook d^3 is large enough to afford the bail g considerable play therein, and also to receive more than one bail g if it should be desired to attach the clasp to more thon one suspension strap E.

In use, the jaws are moved to shortened position on shank d and opened as shown in Figs. 7 and 8, and the edge of the stocking or other article F to be clasped, is inserted between them preferably with the hem or edge a little beyond the gripping surfaces of the jaws a and b, the jaws being bowed or curved outwardly a little for this purpose as best shown in Fig. 4 at b^7 and a^7. The jaws are then swung together and the larger part of aperture b^5 passes over the head of stud d^2. The jaws are then pulled outward to extended position on shank d to lock the end of the loop formed in stem b' by hole b^5, under the head of the stud d^2. The under side of the stud head may be beveled, as shown at d^6 (Figs. 4 and 6) to form a cam surface by which the sides of the loop in stem b' will be guided into locking position. The clasp may be again unlocked and opened to release the fabric, by sliding the jaws in the opposite direction, thereby disengaging the stem b' from the stud d^2.

The curves a^7 and b^7 in the stems just above the jaws a and b (Fig. 4) not only form a recess for the folded, hemmed or otherwise bunched, edge of the fabric F, to permit the jaws to close firmly upon the fabric below the hem or the like, but also perform an auxiliary gripping function in that they pinch the hem or the like between them.

I claim:

1. A clasp, comprising a shank having a pair of inturned guide flanges, a jaw member having a stem slidably connected to said shank by said guide flanges, a second jaw pivoted to swing on said first named jaw, a headed stud on said shank, and a loop on the swinging jaw formed with a key-hole aperture adapted to pass over the head of the stud when the jaws are moved to shortened position on the shank, and to engage said head and lock the jaws in closed position

when the jaws are moved to extended position on said shank.

2. A clasp, comprising a shank having a pair of inturned guide flanges, a jaw member having a stem slidably connected to said shank by said guide flanges, a second jaw pivoted to swing on said first named jaw, a headed stud on said shank, and a loop on the swinging jaw formed with a key-hole aperture adapted to pass over the head of the stud when the jaws are moved to shortened position on the shank, and to engage said head and lock the jaws in closed position when the jaws are moved to extended position on said shank, said loop having locking projections adapted yieldingly to engage the head of the stud to prevent the accidental disengagement of the loop from the stud when the clasp is in closed position.

3. In a clasp, a supporting shank, a pair of guide flanges, a jaw member having a stem slidably connected to said shank by said guide flanges, a second jaw member pivoted to swing on said first named jaw member, and a headed projection on said shank, said second named jaw member being provided with a recess adapted to pass by the head of said projection when the jaws are moved to shortened position on the shank, and to engage said head and lock the jaws in closed position when the jaws are closed and moved to extended position on said shank.

Signed by me at Boston, Massachusetts, this 30th day of March 1914.

JOHN F. DANIELS.

Witnesses:

ROBERT CUSHMAN,

FLORENCE A. COLLINS.