

April 5, 1932.

G. T. WALKER ET AL

1,852,037

LEVER FASTENER

Filed Jan. 30, 1931

2 Sheets-Sheet 1

Fig. 1.

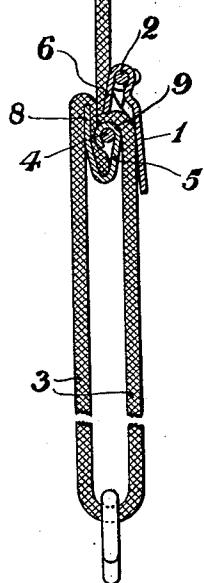


Fig. 2.

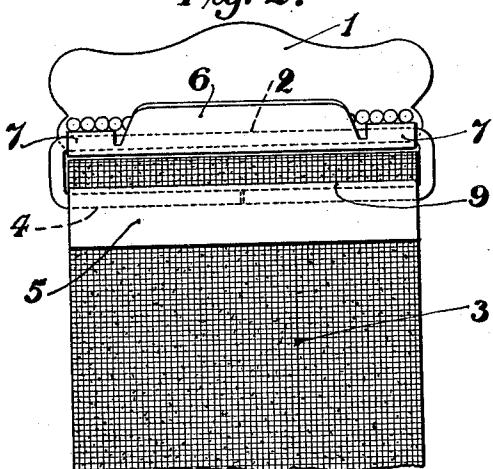


Fig. 4.

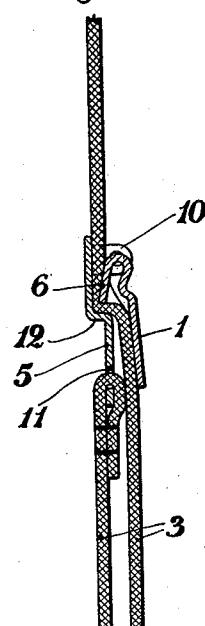
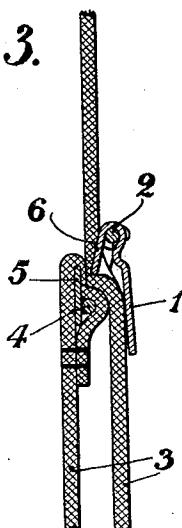


Fig. 3.



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Fig. 5.

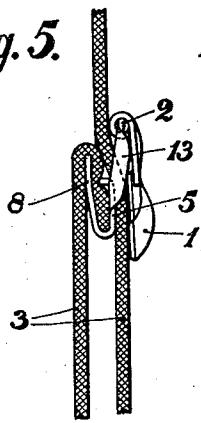


Fig. 6.

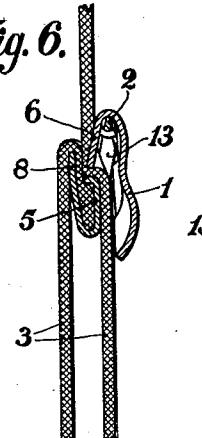


Fig. 7.

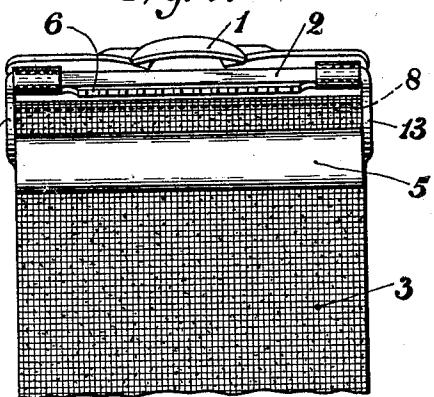


Fig. 8.

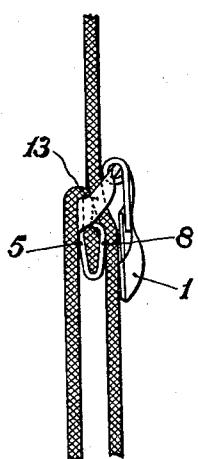
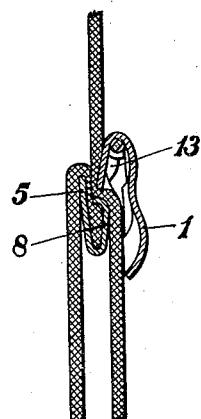


Fig. 9.



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# UNITED STATES PATENT OFFICE

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## LEVER FASTENER

Application filed January 30, 1931, Serial No. 512,364, and in Great Britain January 30, 1930.

This invention relates to lever fasteners for stocking suspender bands, brace webbing and other bands, straps and the like.

The object of the present invention is to provide an improved construction of lever fastener which enables a better grip to be obtained on the band or webbing and which gives a more attractive appearance to the suspender or other article to which it is applied when the suspender or article is displayed, for example in a show-room, shop window or the like, by causing the band or webbing to hang down vertically, with the main part of the band substantially in line with the lower loop portion of the same, instead of the loop end hanging out of line, as is the case where other fittings are used.

The invention consists in the provision of a lever having a pressure member or clamping bar the side or outer face of which is adapted to engage the main part of the band or webbing so that the operation of the lever forces the latter against an upstanding seating or support, the edge of the clamping bar or pressure member moving over, or co-operating with, a shouldered part or edge disposed adjacent the seating or support and serving to retain the lever in its operative or clamping position. The side or outer face of the pressure member or clamping bar is preferably flat, the seating or support against which the main part of the band is forced being likewise flat, or substantially flat, so that the said main part of the band follows more or less the plane of the said support, and by arranging the latter so that it lies substantially in line with the loop end of the band, the complete band or webbing is caused to hang vertically. At the same time a better grip is obtained on the band or webbing owing to the provision of the seating against which the main part of the band or webbing is clamped. In applying the invention to a fitting embodying a wire loop and a depending metal attachment plate, the latter may be curled around the lower bar of the loop to form the shoulder for co-operating with the edge of the pressure member of the lever, the lower part of the plate being bent rearwardly and upwards to extend above and behind the bottom bar

of the loop and constitute the upstanding support or seating against which the main part of the band is adapted to be clamped. The returned end of the band may be secured between the said upwardly-directed part of the plate and the front edge of the latter, which may be curled or folded over the bottom bar of the loop. If desired, an upwardly directed plate may be soldered to the bottom bar of the loop and the returned end of the band passed round the plate and bottom bar and secured by sewing. In another arrangement the lever may be hinged directly to a metal plate which provides the seating for the main part of the band, the said plate being suitably shaped or stamped up to provide the shouldered portion.

Figure 1 of the accompanying drawings represents a vertical section through a lever fastener constructed in accordance with this invention and shown applied to the band of a stocking suspender, illustrating the manner in which the main part of the band is clamped against the seating.

Figure 2 is a front view of the fitting, with the lever raised and the main part of the band disengaged, to show the seating and the shouldered edge with which the edge of the clamping bar of the lever co-operates.

Figure 3 illustrates a vertical section through a modified construction in which the seating is formed by a plate soldered to the bottom bar of the loop.

Figure 4 shows another construction which may be employed.

Figure 5 shows a side view of a further form of fitting.

Figure 6 represents a vertical section through same.

Figure 7 is a front view of the fitting shown in Figures 5 and 6 with the lever raised and the main part of the band disengaged.

Figures 8 and 9 represent respectively side and sectional views of another modified arrangement.

Referring to Figures 1 and 2 of the improved fitting the same comprises a lever 1 hinged to the top bar 2 of an elongated wire loop, the usual returned end of the suspender band 3 being secured to the bottom bar 4 of

the loop by means of a metal attachment plate 5. The lever 1 consists of a sheet metal front part having a turned-over upper edge disposed at an acute angle to the latter to form a narrow flat-sided clamping bar 6 which is adapted to engage the main part of the suspender band, the end portions of the bent-over part being divided and curled around the top bar 2 of the loop to constitute hinge-knuckles 7. The one edge 9 of the attachment plate 5 is firmly fixed to the bottom bar 4 of the loop by curling or folding it tightly around the same, the opposite end portion 8 of the said plate being bent rearwardly and upwards, so that it extends above and behind the bottom bar 4 of the loop, as illustrated. The returned end of the band 3 is inserted between this bent-up rear portion 8 and the curled-over edge 9 of the front part 20 of the plate 5, the said rear portion being then clenched or swedged down on to the band, so that it is firmly clamped between the same and the said curled-over edge. The returned end of the band is thus firmly secured to the loop, the said end being passed over the top of the swedged-down portion 8 and down at the back of the latter, which is thus covered and protected. The covered front face of the upper end of the said rear part 8 of the attachment plate forms a flat seating against which the main part of the band is adapted to be clamped by the lever, the said main part of the band passing between this seating and the lever, over the curled-over front edge 9 of the plate 5. This curled-over front edge, which is covered by the main part of the band, forms a shoulder with which the edge of the clamping bar 6 of the lever co-operates when the said lever is actuated.

The loop 2, 4, by which the lever 1 is carried is set forwardly at a small angle to the vertical, and when the lever is operated to clamp the main part of the band, after the latter has been adjusted, the flat outer face of the clamping bar 6 of the lever engages against the said main portion of the band and presses it back against the flat covered seating formed by the upper end of the part 50 8 of the plate. At the same time the edge of the clamping bar wipes over the shoulder formed by the curled-over front edge 9 of the said plate, the arrangement being such that the shoulder part serves to give a stiff movement to the lever, and as the latter moves over the dead-centre it is automatically retained by the shoulder in its clamping or operative position. When the lever is turned down in this manner the main part of the 60 band 3 is clamped firmly against the flat seating so that it is caused to lie in a plane substantially parallel thereto, in line with the lower loop-end of the band. The suspender thus hangs vertically when displayed, there- 65 by giving an improved appearance to the

same. The arrangement also enables a better grip to be obtained on the band which is clamped by the lever firmly against the covered seating, the upward pull on the band tending to draw the clamping bar 6 of the lever more closely against the band.

In the arrangement illustrated in Figure 3 of the drawings, the lever 1 is of the same construction and is hinged to the top bar 2 of a wire loop as above described. The flat seating against which the main part of the band 3 is clamped is, however, formed by a narrow plate 5 soldered to the bottom bar 4 of the loop and upstanding therefrom in the manner illustrated. The returned end of the band 3 is passed around this plate 5 and around the bottom bar of the loop and secured by sewing. The action of the fitting is the same as in the previous arrangement, the main part of the band being forced by the outer side of the clamping bar 6 of the lever against the flat covered seating, so that it lies in a plane parallel thereto, the edge of the clamping bar 6 moving over the shouldered part formed by the bottom bar 4 of the loop, which is covered by the main part of the band, so that it is retained by the shoulder in its operative position.

Instead of the lever 1 being hinged to a wire loop it may, as shown in Figure 4, be hinged directly to a metal plate 5 between ears 10 on the latter, the said plate having a slot 11 at its lower end through which the returned end of the suspender band 3 is passed, the said end being secured by sewing. The plate 5 is shouldered at 12, the shoulder, covered by the main part of the band, cooperating with the edge of the clamping bar 6 of the lever 1 and serving to retain the latter in its turned-down or operative position. The upper part of the plate 5, above the shoulder 12, is flat, and forms a seating against which the main part of the band 3 is pressed, the said band being engaged by the flat outer face of the clamping bar of the lever as the latter is moved down. Owing to the flat seating against which the main part of the band is clamped it is caused to hang down substantially in line with the lower loop end of the band, as in the previous arrangements.

Figures 5 to 7 show another arrangement in which the wire loop is dispensed with. In this arrangement the lever 1 is hinged to a bar 2 carried by upwardly-extending arms 13 which are integral with a metal plate 5 the lower portion 8 of which is bent rearwardly and upwards to form a flat seating against which the main part of the band 3 is clamped by the lever, the edge of the clamping bar 6 of the lever moving over the shoulder formed by the covered upper edge of the front part of the plate 5.

A somewhat similar type of fitting is illustrated in Figures 8 and 9, the lever 1 being mounted between arms 13 on a sheet metal

plate, as in the previous arrangement, but the lower portion 8 of the plate is bent forwardly instead of rearwardly and swedged down on to the band, the seating being formed by the 5 upper part 5 of the plate, which extends above the part 8 of the latter, as shown.

Although the fitting has been described in connection with the band of a stocking suspender it may be applied to other bands or 10 straps, or to brace webbing or the like.

Having fully described our invention, what we desire to claim and secure by Letters Patent is:—

1. A lever fastener for bands comprising a 15 wire loop, a plate attached to the lower bar of the loop and to which one end of the band is secured, said plate extending upwards above and rearwards of the said lower bar to form an upstanding seating, and a lever pivoted on the upper bar of the loop, said lever having a pressure member adapted to co-operate with the lower bar of the loop and to press the band against the upstanding seating.

25 2. A lever fastener for stocking suspender bands, brace webbing and other bands and the like, comprising a frame to which one end of the band is secured, said frame having a transverse shoulder at the front and an upstanding rear part adjacent to and extending above the shoulder to form a flat seating for the band or the like, in combination with a lever pivoted to the frame and provided with a pressure part having a flat side which is 30 adapted to engage the band or the like and maintain it closely against the upstanding seating after the edge of the said pressure part has moved over the shoulder, the said edge being presented downwards when the 35 lever is in its operative position.

3. A lever fastener for stocking suspender bands, brace webbing and other bands and the like, comprising a frame to which one end of the band is secured, said frame having a 45 transverse shoulder at the front and a flat upstanding seating adjacent to and extending above the shoulder, in combination with a lever mounted upon the frame and provided with a clamping part having a flat side which 50 is adapted to press the band against the seating, the edge of the clamping part being presented downwards when the lever is in its operative position and being adapted to co-operate with and move over the shoulder to 55 render the lever self-retaining in its fastening position.

4. A lever fastener for bands, comprising a plate bent to U-section forming spaced sides between which one end of the band is adapted 60 to be clamped, the rear side extending above the top of the front side, a lever supporting part carried by the said plate, and a lever mounted upon the said supporting part in spaced relation to the U-section plate to allow 65 of the main part of the band passing under

the lever and over the front side and upwardly extending part of the rear side of the U-section plate, said lever having a flat sided pressure member the edge of which is adapted to move rearwards over the top of the front side of the said plate, so that the flat side of the pressure member keeps the band pressed against the said upwardly extending part of the rear side of the said plate, the edge of the pressure member being presented downwards when the lever is in its operative position. 70 75

5. A lever fastener for bands comprising a plate to which the one end of the band is secured, said plate having a front shoulder and a flat set-back seating above the shoulder, a loop carried by said plate and through which the main part of the band passes, and a lever mounted upon the outer part of the loop, said lever being provided with a clamping part 80 having a flat side adapted to engage the band and press it against the set-back seating of the plate, the edge of the clamping part moving over the shoulder and being downwardly directed when the lever is in its clamping 85 or operative position. 90

6. A lever fastener for bands comprising a U-section frame having a front side whose upper edge is bent over rearwards to form a shoulder and a rear side extending above the 95 said shoulder to form a flat upstanding seating, one end of the band being adapted to be clamped between said front and rear sides, lever supporting means carried by the said frame, and a lever pivoted on said supporting means in spaced relation to the frame, said lever having a pressure member with a flat side adapted to maintain the main part of the band closely against the upstanding seating, the edge of the pressure member being presented downwards when the lever is 100 in its operative position. 105

7. A lever fastener for bands comprising a wire loop, a transverse metal plate bent to a U-shape between the sides of which one end 110 of the band can be clamped and the rear side of which is higher than the front side, said front side being curled over the lower bar of the loop to form a shoulder and the rear side forming a flat upstanding seating above the 115 said lower bar, in combination with a lever hinged upon the upper bar of the loop, said lever being provided with a clamping part having a flat side adapted to maintain the band closely against the upstanding seating, the edge of the clamping part co-operating 120 with the shoulder and being downwardly directed when the lever is in its fastening position. 125

8. A lever fastener for bands comprising a 130 wire loop, a plate attached to the lower bar of the loop and to which one end of the band is secured, said plate extending upwards above and rearwards of the said lower bar to form a flat upstanding seating, and a lever pivoted 135

on the upper bar of the loop, said lever having a flat sided pressure member adapted to engage the band and press it against the upstanding seating, the lower edge of the pressure member moving over the lower bar of the loop and being presented downwards when the lever is in its operative position.

9. A lever fastener for bands comprising a plate bent to form a horizontal shoulder at 10 the front and a flat upstanding part above the shoulder, means for attaching one end of the band to the plate, forwardly-extending ears on the upper part of the plate, and a lever pivoted between said ears, said lever being 15 provided with a clamping part having a flat side adapted to maintain the band closely against the upstanding part above the shoulder, the edge of the clamping part co-operating with the shoulder and being downwardly- 20 presented when the lever is in its fastening position.

In testimony whereof we have affixed our signatures.

GILBERT THOMAS WALKER.  
25 HERBERT HOWARD WOOD.

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