April 19, 1932. D. A. BRADLEY 1,855,007

FASTENER FOR BANDS AND THE LIKE

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Fig. 4.

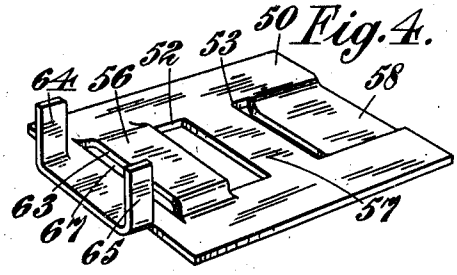


Fig. 5.

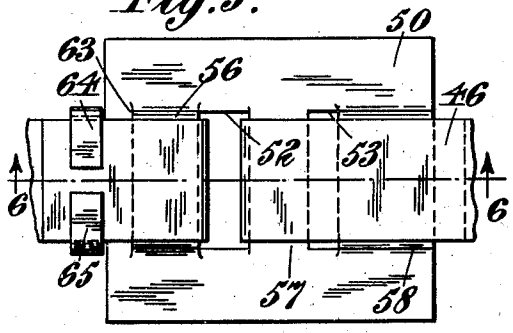


Fig. 6.

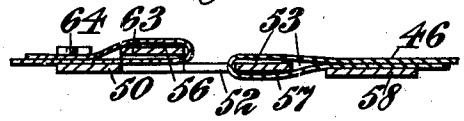


Fig. 1.

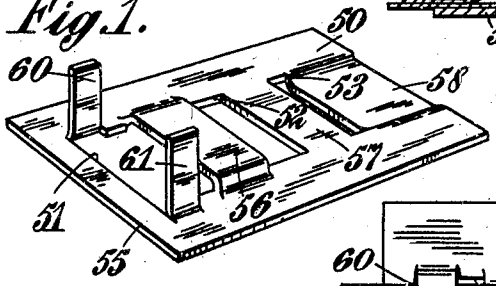


Fig. 2.

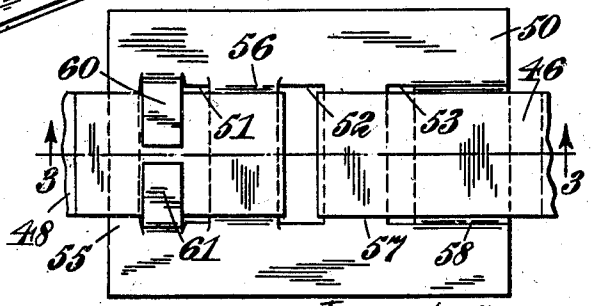
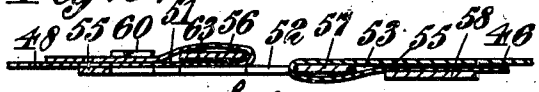


Fig. 3.



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Fig. 7.

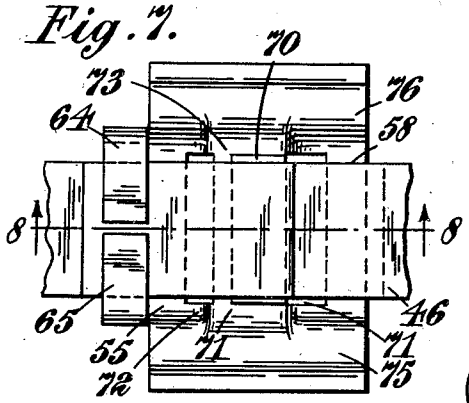


Fig. 15.

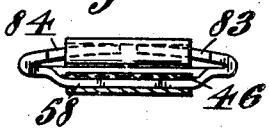


Fig. 13.

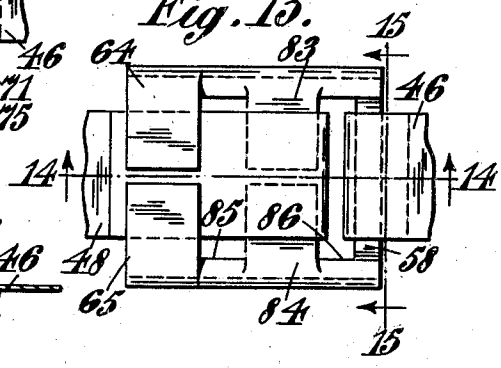


Fig. 8.

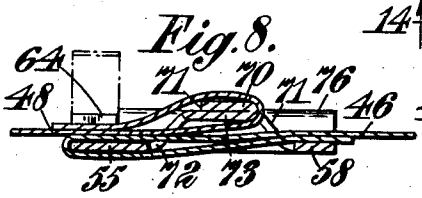


Fig. 9.

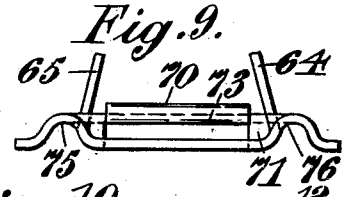


Fig. 14.

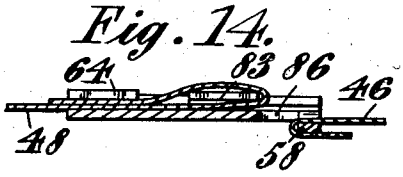


Fig. 10.

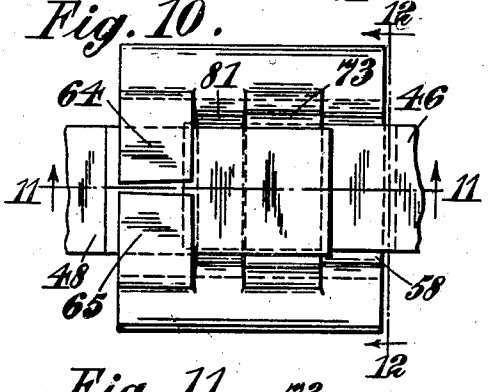


Fig. 11.

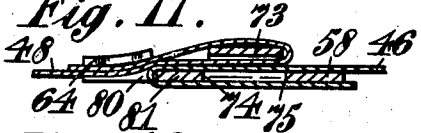


Fig. 12.



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Patented Apr. 19, 1932 1,855,007

UNITED STATES PATENT OFFICE

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FASTENER FOR BANDS AND THE LIKE

Application filed November 13, 1931, Serial No. 574,901, and in Great Britain November 20, 1930.

This invention relates to fasteners or seals for securing together the ends of a band, of the type wherein a sheet or plate has attachment means to which one end portion of the band can be attached, a part constituting an anchor about which the second end portion of the band can be folded on itself, and one or more lugs on the plate adapted to be folded over the folded second end portion of the band for securing it to the anchor.

The present invention has for one of its objects to provide an improved construction of fastener or seal of the type described which shall be more convenient in use than those proposed heretofore when employed for fastening the ends of a band at the side of a box or other package surrounded by the band. The term "band" used in this construction and in the claims is intended to include not only a flexible strip of metal, a strap, and the like, but also wire.

According to the invention there is provided a fastener of the type described, characterized in that said anchor lies out of the plane of the plate and also is situated laterally of the said attachment means in the direction of length of the band. This construction has the advantage that after one end of the band has been secured to the fastener at one part, e. g. end, thereof, the second end of the band can be secured to the fastener at another part of it, e. g. at or towards the other end thereof.

Conveniently, the said attachment means has the form of a transverse bar about which one end of the band can be folded, and the anchor constituted by a second transverse bar lies parallel therewith and spaced away therefrom.

According to a feature of the invention the anchor is cut from and pressed out of the plane of the plate so as to leave an aperture at one side thereof, through which aperture an end of the band may be threaded, with or without a second aperture spaced away from the first mentioned aperture through which the second end of the band may be threaded.

Preferably, the anchor is formed as a bar lying transversely of the plate, and has at each side of it a slot or slit through which the said second end portion of the band can be threaded prior to being folded about the bar.

According to another feature of the invention two lugs are provided one at each end of a slot situated at that side of the anchor towards which the second end portion of the band is folded back on itself, which two lugs serve to secure the second end portion of the band in its folded position.

Other features of the invention relating to the construction and arrangement of the said attachment means will be described hereinafter and pointed out in the claims.

Several embodiments of the invention are diagrammatically illustrated by way of example in the accompanying drawings, wherein:—

Figures 1, 2 and 3 respectively show one form of fastener in perspective, plan and longitudinal section taken on the line 3—3 in Figure 2;

Figures 4, 5 and 6 respectively show another form of fastener in perspective, plan and longitudinal section taken on the line 6—6 in Figure 5;

Figures 7, 8 and 9 respectively shown another form of fastener in plan, end elevation and longitudinal section taken on the line 8—8 in Figure 7;

Figures 10, 11 and 12 respectively show another form of fastener in plan, longitudinal section taken on the line 11—11 in Figure 10 and transverse section taken on the line 12—12 in Figure 10; and

Figures 13, 14 and 15 respectively show a further form of fastener in plan, longitudinal section taken on the line 14—14 in Figure 13 and transverse section taken on the line 15—15 in Figure 13.

Like reference characters designate like or similar parts in all the views.

Referring first to Figures 1 to 3, the fastener or seal is made from a rectangular blank 50, preferably of metal, as long and as wide as the finished fastener. This blank has three parallel slots 51, 52, 53 spaced apart to provide four parallel bars 55, 56, 57, 58 extending transversely of the direction

of length of the plate, two bars 55, 58 being situated at the ends of the plate, and two middle bars 56, 57, each constituting an anchor, being situated between the two end bars.

The end slot 51 has at its ends two lugs 60, 61 constituted by material removed from the slot, and the adjacent anchor 56 is pressed up out of the plane of the plate to lie at the side thereof at which the lugs 60, 61 are situated. The second anchor 57 preferably lies in the plane of the plate, while the bar 58 at the other end of the plate is preferably pressed downwards to lie out of the plane of the plate at the opposite side thereof to the first mentioned anchor, as shown in Figure 3. This construction facilitates threading two end portions 46, 48 of a band each under one of the anchors and folding each end on itself around the allotted anchor, as shown in Figures 2 and 3. The longitudinal side portions of the plate and the end bar 55 may lie all in the same plane. Alternatively, the said side portions may be channeled, as described hereinafter with reference to Figures 7 to 9. The edge of the anchor 56 adjacent said lugs 60, 61 constitutes a shoulder 63 against which the overlapping end portion 48 of the band folded about the anchor is clamped by the lugs 60, 61 when they are folded down over the overlapping end. The lugs 60, 61 merely serve to hold the folded band in position about the anchor and are not intended to press any portion of the band into the slot 51 across which the overlapping end portion 48 of the band lies.

If desired, the anchor 57 may lie outside the plane of the plate and at the opposite side thereof from the anchor 56 so as to facilitate threading the band around the anchor 56. An end portion 46 of the band may be attached to the anchor 57 by threading its end down through the middle slot 52 and up through the end slot 53, so that overlapping portions of the band lie on the adjacent end bar 58 of the plate.

Instead of forming the lugs 60, 61 of material removed to make the slot 51, as shown in Figures 4, 5 and 6 the blank may have near one end two straight cuts made from each lateral edge towards the opposite edge to form two lugs 64, 65 at one end of the fastener adjacent the anchor 56. These lateral lugs 64, 65 when folded over the overlapping end of the band will meet or nearly meet at the longitudinal centre line of the fastener, as shown in Figure 5, and clamp the folded end of the band against the shoulder 63 provided by the anchor 56. In this construction a narrow slit 67 may take the place of the slot 51 having lugs 60, 61 at its ends. In this construction of fastener the end portion 46 of the band can be secured in position in the same manner as described above with reference to Figures 1–3.

Referring now to Figures 7 to 9, the fastener comprises two end lugs 64, 65 similar to those shown in Figures 4 to 6, which, when folded over the band meet or nearly meet at the longitudinal centre line of the fastener. A third transverse lug 70 folded about a line lying at right angles to the said centre line is situated with its free end edge 71 towards the lugs 64, 65. This third lug 70 is formed by stamping material out of the body portion of the plate to form a rectangular aperture or slot 71, and folding the removed material constituting the lug over towards the lugs 64, 65. A second transverse slot 72 is formed in the plate between the lug 70 and the lugs 64, 65. The material 73 of the plate-body between the two slots 71 and 72 which is overlain by the lug 70 is pressed out of the plane of the body portion so as to elevate the lug 70 and provide a passage-way under it for accommodating both end portions 46, 48 of the band and making the surface of the plate still more irregular. The longitudinal marginal portions 75, 76 are of channel or U-shape section, for the purpose of lending increased rigidity to the fastener and for providing shoulders or abutments at its ends for positioning the fastener in a recess in a machine used for securing the fastener in position on the band. As shown most clearly in Figure 8, the end portion 46 of the band may extend completely along the fastener and have its end folded around the bar 55 with its free end lying above the bar 58. The end portion 48 of the band is passed through the slots 72, 71 and after being folded about the anchor constituted by the parts 70, 73 is folded back on itself and secured in position by the lugs 64, 65 which press it down upon a part of the end portion 46.

Referring now to Figures 10, 11 and 12 the lugs 64, 65 lie at one extreme end of the fastener and are constituted by material removed from the plate-body to provide an open-sided transverse slot or recess 80 bounded at one side by a transverse bar 81. An anchor constituted by a transverse bar 73 raised out of the plane of the plate-body lies at the side of the bar 81 remote from the end recess 80, which anchor 73 is formed by making two transverse slits in the plate, one at each side thereof, as shown respectively at 74 and 75. The end portion 46 of the band may be threaded below the anchor 73 through the slits 75, 74 and folded around the bar 81, its free end being placed either below or above the transverse bar 58 at the end of the fastener remote from the slot 80. Alternatively, the end portion 46 may be passed through only the slit 75 and folded around the bar 58. The end portion 48 is threaded through the slits 74 and 75 and

folded around the anchor 73, its free end being secured in position by the lugs 64, 65 which press the folded band against the adjacent edge of the bar 81. The clip or fastener is reinforced by folding each longitudinal marginal portion of the plate back on itself, as shown in Figure 12.

The fastener shown in Figures 13, 14 and 15 comprises an anchor constituted by two lugs 83, 84 arranged opposite one another at or near the middle of the plate and having slots 85 and 86 at the sides thereof. A bar 58 at one end of the plate constitutes an anchor for one end portion 46 of the band and at the other end of the plate two lugs 64, 65, which have been folded through 180°, serve to hold in position the second end portion 48 of the band which has been folded back on itself around the anchor 83, 84. As shown most clearly in Figure 15, the longitudinal edges of the plate are constituted by sheet material of double thickness folded on itself, whereby the rigidity of the fastener is enhanced. Further in this construction, the anchor 58 lies at one side of the general plane of the fastener and the anchor 83, 84 at the opposite side thereof, whereby the threading of the end portions of the band into position is facilitated.

Various modifications may be made in the details of construction described above without departing from the invention.

I claim:—

1. A fastener of the character described, wherein a plate has attachment means to which one end portion of a band can be attached, a part constituting an anchor about which the second end portion of the band can be folded on itself, which anchor lies out of the plane of the plate and also is situated laterally of said attachment means in the direction of length of the band, and at least one lug adapted to be folded over the folded second end portion of the band for securing it to the anchor.

2. A fastener of the character described, wherein a plate has an aperture through which to thread one end of the band, an anchor which is cut from and pressed out of the plane of the plate so as to leave at one side thereof a second aperture which is spaced away from the first mentioned aperture, and at least one lug adapted to be folded over at the side of said anchor.

3. A fastener of the character described, wherein a plate has two parallel slots dividing it into three parallel parts whereof a middle part constitutes an anchor lying out of the plane of the plate, about which anchor an end portion of the band is to be folded, and lugs situated at one side of the anchor and towards opposite edges of the plate, which lugs are adapted to be folded down on to the folded end portion of the band.

4. A fastener of the character described, wherein a plate has two parallel slots dividing it into three parallel parts whereof a middle part constitutes an anchor lying out of the plane of the plate, about which anchor an end portion of the band is to be folded, and two lugs situated adjacent the ends of one of the other parts, which lugs are adapted to be folded down on to that part.

5. A fastener of the character described, wherein a plate has two parallel slots dividing it into three parallel parts whereof a middle part constitutes an anchor lying out of the plane of the plate, and one of the other parts constitutes a bar on one end of the plate, about which bar one end portion of the band threaded in one direction below the anchor is to be folded, and about which anchor the second end portion threaded in the opposite direction below the anchor is to be folded, and two lugs situated at opposite ends of said bar and adapted to be folded down on the overlapping end portions of the band on said bar.

6. A fastener of the character described, wherein a plate has two parallel slots dividing it into three parallel parts whereof a middle part constitutes an anchor lying out of the plane of the plate, about which anchor an end portion of the band is to be folded, and lugs situated at one side of the anchor and towards opposite edges of the plate, which lugs are adapted to be folded down on to the folded end portion of the band, the longitudinal marginal portions of which plate lying transversely of the anchor are reinforced.

7. A fastener of the character described, wherein a plate has two parallel slots dividing it into three parallel parts whereof a middle part constitutes an anchor lying out of the plane of the plate, about which anchor an end portion of the band is to be folded, and two lugs situated adjacent the ends of one of the other parts, which lugs are adapted to be folded down on to that part, the longitudinal marginal portions of which plate lying transversely of the anchor are of channel section.

8. A fastener of the character described, wherein a plate has two parallel slots dividing it into three parallel parts whereof a middle part constitutes an anchor lying out of the plane of the plate, about which anchor an end portion of the band is to be folded, and lugs situated at one side of the anchor and towards opposite edges of the plate, which lugs are adapted to be folded down on to the folded end portion of the band, the material removed to form one of said slots being folded over to lie on said anchor.

9. A bale-band fastener wherein a plate has two transverse parallel slots between its ends providing in it a middle bar and two end bars of different width, which middle bar constitutes an anchor lying out of the plane of the plate, the material removed to

form one of said slots being folded over to lie on said anchor, and marginal portions of the plate at the ends of the wider end bar being cut to form lugs adapted to be folded over on to that end bar, the remainder of the marginal portions of the plate lying transversely of the bars being of U section.

In testimony whereof I affix my signature.

DANIEL AMBROSE BRADLEY.