May 8, 1928. 1,669,279

K. F. BERTHOLD

FASTENER

Filed Jan. 19. 1926

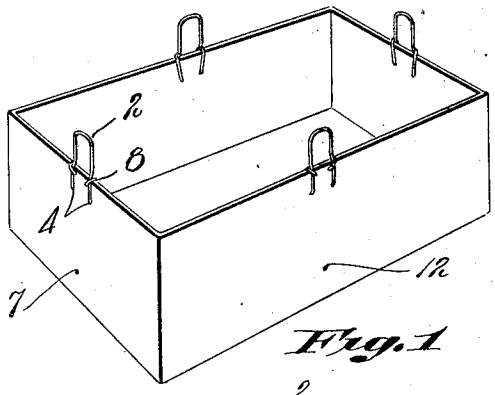


Fig. 1

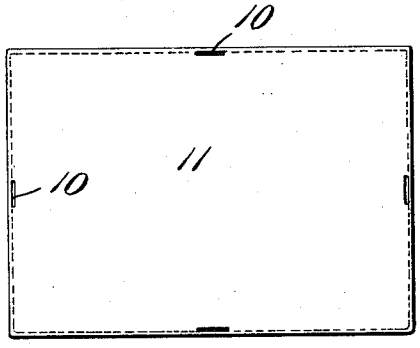


Fig. 2

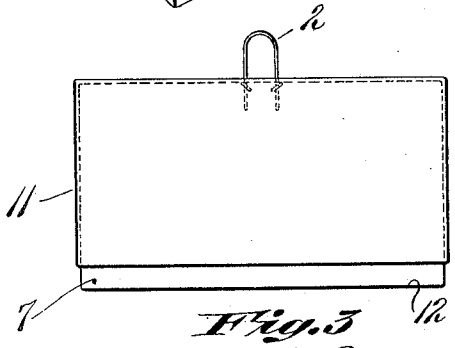


Fig. 3

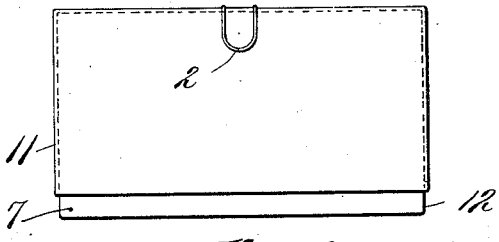


Fig. 4

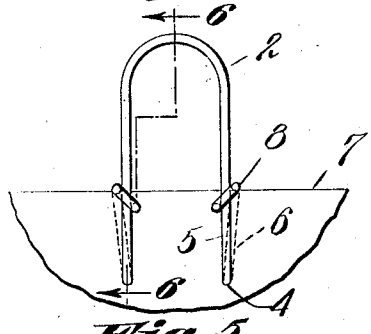


Fig. 5

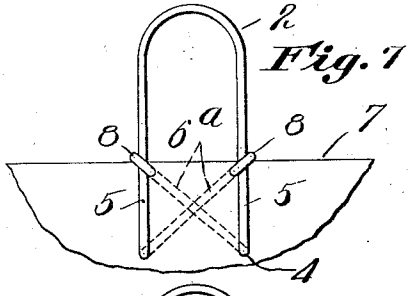


Fig. 7

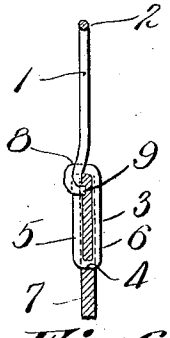


Fig. 6

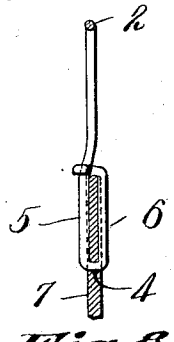


Fig. 8

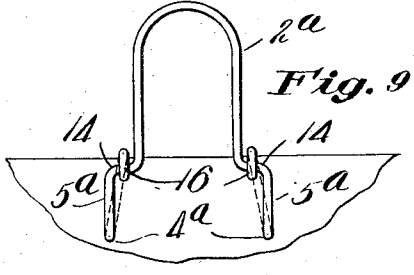


Fig. 9

Inventor
Kenneth F. Berthold,
by Roberts, Roberts & Cushman
his Attys.

Patented May 8, 1928. 1,669,279

UNITED STATES PATENT OFFICE.

KENNETH F. BERTHOLD, OF NORTH ATTLEBORO, MASSACHUSETTS, ASSIGNOR TO THE MASON BOX COMPANY, OF ATTLEBORO FALLS, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

FASTENER.

Application filed January 19, 1926. Serial No. 82,280.

This invention relates to fasteners suitable for securing the cover upon a pasteboard box, holding the flap of an envelope in closed position or detachably securing a series of papers, or cards to a pasteboard backing or the like. While this improved fastener is more particularly adapted to be secured permanently to a member of pasteboard such as a box, it may also be secured to fabric, leather, paper or similar materials.

The present invention contemplates the provision of a fastener of this type formed of a single piece of ductile wire, thus presenting the advantage of cheapness in manufacture and of facile assembly with the paper box or the like. A characteristic advantage of this fastener is the absence of sharp edges which are likely to cut the fingers of a user as is the case with conventional fasteners of sheet metal which are commonly used. A further advantage of this fastener is its adaptability to use with sealing wax for binding it in its closed position. Such a use of wax has not been practicable with the fasteners previously occurring in the art, since the sharp edges thereof would break the wax away. However wax may form a continuous layer surrounding the loop portion of the improved fastener and is thus adapted to hold it more firmly in place than would otherwise be feasible. Furthermore if it is desired to secure a tag to the box or other article provided with this fastener, the wire loop forms a convenient member for receiving a string for the attachment of the tag.

Another aspect of this invention concerns the specific arrangement of this type of fastener in relation to a pasteboard box and cover in order to hold these members together most effectively.

While the improved types of fasteners disclosed in this application are primarily intended to be used as means for holding the cover upon a pasteboard box and to avoid the necessity of wrapping and tying the same with string, in certain cases twine, binding tape or the like may be used in conjunction with these fasteners. With such an arrangement the twine may be passed through the wire loops of the fasteners and tied, the fasteners then being bent down to hold the twine firmly in place.

In the drawings:

Fig. 1 is a perspective view of a box with my improved fasteners secured thereto;

Fig. 2 is a plan view of a cover to be applied to the box shown in Fig. 1;

Fig. 3 is an end view of the box with the cover applied;

Fig. 4 is a similar view showing the wire fasteners folded over into operative position;

Fig. 5 is a detail elevation of one form of fastener;

Fig. 6 is a section on 6—6 of Fig. 5;

Fig. 7 is an elevation of a modified form of fastener;

Fig. 8 is a sectional view corresponding to Fig. 6 and showing a modification of the fastener on line 8—8 of Fig. 7; and

Fig. 9 is an elevation of another form of fastener.

According to the embodiments of my invention shown in the drawings, which disclose preferred forms thereof, a piece of wire 1 having been bent into a substantially U-shaped loop 2 has its ends inserted through openings 4 which are located near the margin of the end wall of the pasteboard box 12. These openings may be made by forcing the ends of the wire through the pasteboard or they may be perforated. Sections 5 and 6 of the wire adjoining these openings are bent back into firm engagement with the opposite sides of member 7 and the ends 8 of the wire are then brought over the outer edge of the pasteboard 7 or the like, and clinched about the adjoining portions of the loop 2, as illustrated more particularly in Figs. 5 and 6. The extreme ends 9 of the wire are slightly embedded in the cardboard 7, thus preventing the projection of any sharp edges which might cut the hand of a user or catch adjoining objects. During such bending and clinching of the wire, it is preferably brought into tight gripping relation with member 7.

Slots 10 are formed in the box cover 11, these slots being suitably disposed and dimensioned slidably to engage the U-shaped loops 2 which are inserted therein as illustrated for example in Fig. 3. The loop is then readily bent over to hold the cover of the box firmly in position.

Instead of forming the wire as described

above, I may secure the ends thereof in a manner illustrated more particularly in Fig. 7, wherein the wire has its terminal portions clinched about the U-shaped loop at the edge of the cardboard with the extremities of the wire lying substantially in the plane of the cardboard and within the loop to prevent them from scratching either the fingers of a user or adjoining objects.

Rather than bending the portions 6 of the wire back substantially parallel to the adjoining sections 5 as indicated in Fig. 5 these portions may be crossed as indicated at 6^a in Fig. 7 and then have their respective ends clinched about the opposite legs of the loop either in the manner shown in Fig. 6 or in Fig. 7. Crossing of the wire sections in this manner serves to stiffen the assembly and clinch the fastener somewhat more firmly.

Fig. 9 illustrates a slightly different form of the invention wherein the sections 5^a of the wire corresponding to the sections 5 of Fig. 6 may be formed with offsets or shoulders 14 so that the upstanding loop 2^a is narrower than the distance between the openings 4^a which receive the wire sections in the box end. The terminal portions 16 of the wire in this form of the invention are then clinched over the shoulders 14 with their extreme ends embedded in the surface of the cardboard.

Fasteners of the type herein disclosed are adapted to constitute the sole means for securing the cover upon a pasteboard box, thereby avoiding the expense and trouble of tying it in place. Although four fasteners are shown upon the box in the accompanying drawing, it is obvious that a greater or lesser number may be used, for example a pivoted lid upon a light container may be held in closed position by a single fastener. The fastener may be operatively engaged with the margin of a sheet of material as well as a slot therein, or with a piece of twine or tape, or with another suitably disposed wire loop. These fasteners are also adapted to be used in securing the flaps of envelopes in their sealed position and may also be used in analogous locations, such as securing a series of papers or cards to a cardboard back or the like. While I have shown the fastener secured to the marginal portion of a piece of cardboard, it is to be understood that by the forming of a pair of holes for the portions 8 of the wire, fasteners of this type may be secured intermediate the margins of a piece of cardboard, heavy paper, fabric, or the like.

I claim:

1. A fastener permanently secured to a sheet member and adapted to be detachably secured to another member, consisting of a single piece of ductile wire with loop portions adjacent its ends passing through holes in the sheet member, adjoining wire sections being bent into close abutting relation with the inner and outer surfaces of said sheet, its ends being bent back around wire portions upon the opposite side of the sheet, and an intermediate loop adapted to be bent into engagement with the second named member.

2. A fastener permanently secured to a box and adapted to be detachably secured to a cover for the box, consisting of a single piece of ductile wire with portions spaced from each of its ends passing through holes spaced from the margin of a wall of the box, adjoining wire sections being bent into close abutting relation with the inner and outer surface of said wall, its ends being bent over the edge of the wall and its extremities being embedded in the surface thereof, and an intermediate portion adapted to be bent into engagement with the cover for the box.

3. A fastener for permanent attachment to a box and detachable attachment to a cover telescoping over the box, comprising a single piece of ductile wire having its central portion looped to extend upwardly along the side of the box beyond its upper edge and its ends extending through said side, thence along the side and thence hooking into the plane of said side, whereby the fastener may be permanently attached to the box to extend through a slot in the cover and then fold over the cover.

4. A fastener for permanent attachment to a box and detachable attachment to a cover telescoping over the box, comprising a single piece of ductile wire having its central portion looped to extend upwardly along the side of the box beyond its upper edge and its ends extending through said side, thence upwardly along the side, with its free ends hooking over the upper edge of the box, whereby the fastener may be permanently attached to the box to extend through a slot in the cover and then fold over the cover.

Signed by me at Attleboro Falls, Massachusetts this 15th day of January 1926.

KENNETH F. BERTHOLD.