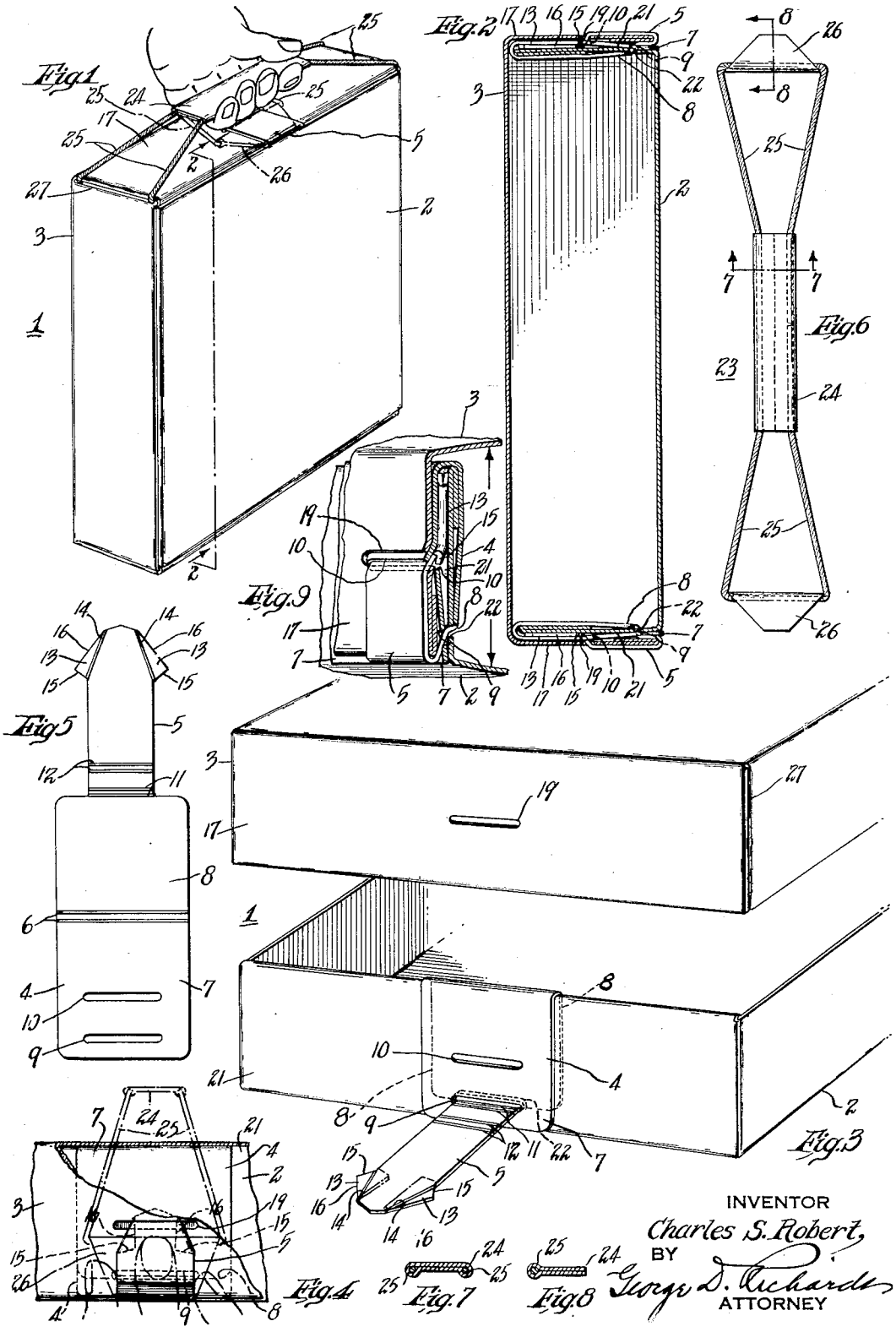
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LOCK FASTENER AND HANDLE FOR BOXES

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LOCK FASTENER AND HANDLE FOR BOXES

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This invention relates, generally, to boxes and similar articles; and the invention has reference, more particularly, to a novel fastening means for boxes and to a novel form of handle for carrying boxes and the like.

Heretofore, it has been generally necessary for department stores, clothiers and other merchants in boxing suits of clothes and other articles, to use twine or preferably tape to retain box covers in place in order to prevent accidental or unauthorized opening and consequent loss or pilferage of the box contents, as during delivery.

The principal object of the present invention is to provide a novel non-metallic fastener which may be readily applied to boxes of the paper board or similar types, the said fastener being adapted to be easily and quickly manipulated to retain a box cover in place without the use of twine or tape, and having locking means for positively locking the box cover to the body of the box, it being impossible to open the box after the fastener has been applied without first rupturing the fastener locking means, the ruptured locking means providing a simple test for detecting pilferage.

Another object of the present invention lies in the provision of a novel fastener of the above character which is of simple, sturdy construction, the said fastener comprising essentially a substantially rectangular body portion having a tongue extending from one end thereof, the said tongue being provided with locking projections at the free end portion thereof, the said fastener being adapted to be manufactured cheaply in large quantities.

Still another object of the present invention is to provide a novel handle which may be quickly and easily applied to boxes of the one piece or two piece automatic collapsible or set-up type and to similar types and which enables the easy carrying of the box.

Other objects of this invention, not at this time more particularly enumerated, will be clearly understood from the following detailed description of the same.

The invention is clearly illustrated in the accompanying drawing, in which:

Fig. 1 is a perspective view of a two piece automatic box equipped with the novel fasteners of the present invention, the said box being illustrated as carried by the novel handle of this invention.

Fig. 2 is an enlarged sectional view taken substantially along line 2—2 of Fig. 1 looking in the direction of the arrows.

Fig. 3 is a fragmentary perspective view illustrating the manner of attaching the fastener to the box and also shows the box cover section about to be applied to the body section of the box.

Fig. 4 is a fragmentary view with parts broken away illustrating the manner of engaging the fastener.

Fig. 5 is a plan view of the fastener in unfolded or developed form.

Fig. 6 is a plan view of the box handle.

Fig. 7 is a sectional view taken along line 7—7 of Fig. 6 looking in the direction of the arrows.

Fig. 8 is a sectional view taken along line 8—8 of Fig. 6 looking in the direction of the arrows; and

Fig. 9 is a fragmentary perspective view illustrating the operation of the fastener.

Similar characters of reference are employed in all of the above described views to indicate corresponding parts.

Referring now to said drawing, the reference numeral 1 designates a box made of paper board, cardboard or similar material. Box 1 comprises a body section 2 and a removable cover section 3. The box 1 is illustrated as of the two piece collapsible or set-up type, but it is to be understood that the novel fastener of this invention may as readily be applied to any type of paper board, cardboard or similar box or container having either a removable cover section or a cover section hingedly connected to the body section of the box.

As especially illustrated in Fig. 5, the novel fastener of this invention comprises a single piece of paper board, cardboard or other material of the shape shown. If desired, this fastener may be made of a better quality of material than the material of box 1 without substantially increasing the cost of the fastener. By thus making the fastener of better and stronger material than the cardboard box itself, the unauthorized opening of the box will effect a tearing or distortion of the box itself which may be readily detected, as will further appear. This novel fastener has a substantially rectangular body portion 4 and a tongue 5 projecting centrally from one end of the body portion 4.

The body portion 4 is transversely scored or creased at 6 near the midpoint of the length thereof, thereby dividing this body portion into two tabs, a front tab 7 and a back tab 8, which tabs are adapted to be folded into overlying relation with respect to one another, the scores or crease 6 providing for such folding. The front tab 7 is provided with two transversely extend-

ing, spaced slots or perforations 9 and 10. The slot 9 is located near the free end of front tab 7, whereas the slot 10 is located intermediate slot 9 and the crease 6. Front tab 7 is made somewhat longer than back or rear tab 8 so that the distance from the center of crease 6 to the free end of tab 8, i. e. the end having the tongue 5 thereon, is substantially equal to the distance from the center of crease 6 to the slot 9. The tabs 7 and 8 are made of the above proportions so that when these tabs are folded into overlying relation with respect to one another, the tongue 5 may be readily inserted through slot 9, as illustrated in Fig. 3.

The tongue 5 is of lesser width than the body portion 4 of the fastener and is preferably provided with two creases or sets of transverse scores 11 and 12. The scores 11 are positioned immediately adjacent the free end of back tab 8 and the scores 12 are spaced outwardly somewhat along the tab from scores 11. The outer end portion of tab 5 is provided with locking projections 13 at the opposite side edges of this tab. Inclined scores or creases 14 serve to separate or define locking projections 13 from the main portion of tab 5. The locking projections 13 preferably have upwardly and outwardly inclined lower edges 15 and upwardly and inwardly inclined upper edges 16.

It has been found from experimentation that for the most satisfactory results in use, it is desirable that the inclined lower edges 15 of the locking projections 13, should make an acute angle of approximately forty degrees with an imaginary transverse line extending across the tongue 5, as will appear from an inspection of Fig. 5. Also, the inclination of the creases or scores 14, with respect to such imaginary transverse line, should equal in magnitude to substantially one-half of the total obtuse angle extending between the imaginary transverse line and the inclined lower edges 15. Locking projections 13 are disposed symmetrically with respect to the central axis of the tongue 5.

In manufacturing the novel fastener of this invention, the transverse slot 9 may be made of a length substantially equal to that of tongue 5, in which event the locking projections 13 must be folded along creases 14 flat against the main portion of the tongue before they can be passed through the slot 9 in use. If desired, the slot 9 can be made of such increased length as to accommodate the locking projections without the necessity of folding these projections against the tongue 5. The slot 10 should be of a length substantially equal to the width of tongue 5 so as to accommodate this tongue in a manner to be hereafter described.

In order to adapt the two piece box 1 to receive the novel fastener of this invention, it is merely necessary to provide each of the end walls 17 of the cover section 3 with a transverse slot 19 of substantially the same length as slot 10 of the fastener. The slot 19 is preferably located midway of the width of the end wall 17, and this slot is positioned at a distance downwardly from the top of cover section 3 which is substantially equal to the distance of slot 10 from the crease 6 of the fastener. This downward distance should be somewhat greater than the length of the locking portion of tongue 5. Likewise, the end walls 21 of the body section 2 of the box are each provided with a transverse slot 22 of a length equal to the length of fastener slot 9, and which is positioned substantially centrally of the width of such end wall. The vertical distance of each slot 22 from the upper edge of the body 2 is substantially equal to the distance of slot 9 from the crease 6 of the fastener.

In applying the fastener to the box 1, it is merely necessary to fold the front tab 7 (see Fig. 5) upwardly and into overlying relation to the back tab 8, the fold taking place along the crease 6. Preferably the forward face of the fastener shown in Fig. 5, is the rough or unfinished surface of the material, whereas the rear face is the finished surface thereof, so that when the front tab 7 is folded over onto back tab 8, the finished surfaces of the fastener will be exposed. The fastener is now inverted so that the tongue 5 will project downwardly and this tongue is then inserted through slot 22 from the inside of body section 2 (see Fig. 3). If the slot 22 is of the same length as the main portion of tongue 5, it will be necessary to fold locking projections 13 flat against this tongue before the tongue can be inserted through slot 22. Tongue 5 is pulled forwardly through slot 22 until the lower end portion of the back tab 8 stops such movement. The free locking end portion of tongue 5 having the locking projections 13 thereof is then passed through slot 9 of front tab 7, the assembly being as illustrated in Fig. 3. The fastener is now fixed upon the body section 2 of the box and will remain in place until ready for use. The box may be collapsed, if desired, with the fastener remaining in place thereon.

When it is desired to close the box, the cover section 3 is inserted over the body section 2 and is pressed downwardly, causing slot 19 of the cover section to register within slot 10 of the fastener. During the downward movement of the cover 3, the tongue 5 will be bent at the crease 11 so as to lie flat against the lower portion of the front tab 7. To fasten and lock cover section 3 to the body section 2, it is now merely necessary to first fold the locking projections 13 against the main portion of the tongue 5, as shown in dot and dash lines in Fig. 3. This will be easy as these locking projections have usually already been folded once against the main portion of the tongue in passing the tongue through slots 22 and 9. The tongue 5 is then turned upwardly, the crease at 12 enabling the tongue to be readily folded around the lower edge of wall 17. The free locking end portion of the tongue 5 having the locking projections thereon is then passed through slot 19 of the cover section and through the now aligned slot 10 of the fastener in the manner illustrated in Fig. 4.

After passing through slot 10, the locking end portion of the tongue 5 will slide upwardly between the outer surface of wall 21 of the box body section and the inner surface of tab 7, as especially illustrated in Figs. 2 and 9. If there is sufficient play or looseness between the outer surface of wall 21 and the inner surface of front tab 7, the locking projections 13 will unfold and assume their flat, outwardly projecting, normal positions, as especially shown in Fig. 2. On the other hand, if there is not sufficient space or freedom between the end wall 13 and tab 7 for this natural unfolding of the locking projections to take place, these locking projections will unfold somewhat, as especially illustrated in Fig. 9, and will nevertheless serve, by engaging the lower edge of slot 19, to lock the cover section 3 to the body section 2 and this lock cannot be broken, unless either the locking projections 13 are torn off or else the cover 3 itself is torn in the region

of slot 19. In this way, tampering with the box can be readily detected.

It is desired to point out that even if the locking projections 13 are not provided on the tongue 5, this tongue will nevertheless serve to retain the cover section 3 upon the body section 2, owing to the gripping engagement of the upper edge of slot 10 upon the outer surface of the tongue and the opposed gripping engagement of the lower edge of slot 19 upon the inner surface of the tongue. This opposed gripping engagement of the upper and lower edges of slots 10 and 19, respectively, upon the tongue is, in effect, a binding or clamping action, which serves to bind the tongue therebetween so that the tongue is held against slipping out and serves to positively retain the cover section upon the body section independently of the locking projections 13. These locking projections 13 are provided largely for the purpose of preventing the manual removal of the tongue locking end portion without first rupturing either some part of the tongue or the material of the box itself. If desired, the novel fastener may be made of a stronger material than the material of the box, for example, this fastener may be cloth covered, in which case, the locking projections 13 will produce rips or tears in the cover section 3 when the box is opened, thus disclosing the fact that the box has been opened.

It will be apparent that the novel fastener of this invention may be as readily applied to the side walls of the box as to the end walls thereof, and may be applied to boxes having hinge covers as well as those with separate covers. In the event that a positive lock is not required, the locking projections 13 may be omitted from the fastener, in which case, although the tongue will still serve to retain the box in closed condition as long as desired, yet the tongue may be manually withdrawn without injuring the tongue or box. To manually remove the tongue in such case, it is merely necessary to pull outwardly in the direction of the length of the box upon the tongue so that it will slide outwardly through slots 9 and 10.

The novel handle 23 of this invention consists of a rectangular hand piece or grip-portion 24 which is preferably made of paper board or cardboard folded upon itself and glued, as especially shown in Fig. 7. Two spaced runs of a cord or other tension element 25, is enclosed within the folds of the hand piece 24. The runs of the cord 25 project in the form of loops beyond the ends of hand piece 24, the bights of which loops are held within the folds of trapezoidal shaped two-ply tongue members 26, the plys of which tongue members are glued together, as especially shown in Fig. 8. In using the handle 23, the trapezoidal shaped tongue members 26 are inserted into slits 27, see Figs. 1 and 3, provided at the ends of the cover sections of boxes of the collapsible or set-up type. After thus inserting the tongue members 26, the box may be readily carried about by grasping the hand piece 24, as shown in Fig. 1.

If desired, the novel fasteners of this invention may be employed for attaching the handle of this invention to a box. Thus, before inserting the tongues 5 through cover section slots 19, the tongue members 26 of the handle may be placed under the tongues 5 as illustrated in dot and dash lines in Figs. 1 and 4. The insertion of the tongues 5 thereafter into slots 19 serves to retain the tongue members 26 in place, thus enabling the box to be carried in an upright position. This manner of attaching the handle 23 is especially suitable for boxes of the type ordinarily used by the millinery trade.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, as defined by the following claims it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

What is claimed is:

1. In combination, a box having a body section and a cover section provided with slots in the walls thereof and a fastener for securing said box in closed condition, said fastener comprising a body portion having slots therein, said body portion being mounted upon the wall of the box body section, said body portion having a tongue provided thereon for projecting outwardly through a slot in said body section wall, said tongue being adapted to extend around the lower edge portion of the wall of the box cover section and upwardly for insertion through slots in the wall of said cover section and in said fastener body portion, to thereby secure said cover section to said body section.

2. In combination, a box having a body section and a cover section provided with slots in the walls thereof and a fastener for securing said box in closed condition, said fastener comprising a body portion having slots therein, said body portion being mounted upon the wall of the box body section, said body portion having a tongue provided thereon for projecting outwardly through a slot in said body section wall, said tongue being adapted to extend around the lower edge portion of the wall of the box cover section and upwardly for insertion through slots in the wall of said cover section and in said fastener body portion, to thereby secure said cover section to said body section, said tongue having its free end portion provided with a locking projection thereon for locking said tongue within the slots of said cover section wall and said fastener body portion.

3. In combination, a box having a body section and a cover section adapted to be telescoped over said body section to close said box, said body section having a slot in the lower part of a wall thereof, said cover section also having a slot in a wall thereof, the slot of said cover section wall being above the slot of said body section wall when said box is closed, a fastener, said fastener having a body portion providing a front tab overlying the outer surface of the slotted wall of said body section, said front tab having a pair of spaced slots therein, and a back tab overlying the inner surface of said slotted body section wall, a tongue provided on said back tab, said tongue being arranged to extend through the slot of said body section wall and through a slot of said front tab, said tongue being adapted to be inserted inwardly through the slot of said cover section wall when the same is closed upon said body section and also through the other slot of said front tab.

4. In a box, a box body section having a slot in the wall thereof, a cover section adapted to close upon said body section and also having a slot in the wall thereof, the slot of said cover section wall being disposed above the slot of said body section wall when said box is closed, and a fastener, said fastener having a body portion provided with a pair of slots therein and a tongue formed on one end of said body portion, said fastener body portion being arranged to extend up the outer surface of said box body section

wall, over the upper edge of said wall and down the inner surface thereof, the tongue of said fastener projecting outwardly through the slot in said body section wall and through one slot in said fastener body portion, said tongue being adapted to be inserted through the slot of said cover section and through the other slot of said fastener body portion to thereby fasten said box in closed condition.

5. In a box, a box body section having a slot in the lower portion of the wall thereof, a cover section adapted to close upon said body section and also having a slot in the wall thereof approximately midway of the height of the wall, the slot of said cover section wall being disposed above the slot of said body section wall when said box is closed, and a fastener, said fastener having a body portion consisting of a front tab provided with a pair of spaced slots therein and a back tab connected to said front tab, said back tab having a tongue formed on the free end thereof, said fastener front tab being arranged to overlie the outer surface of said box body section wall, while said back tab overlies the inner surface of said wall, the tongue of said fastener projecting outwardly through the slot in said body section wall and through one slot in said front tab, said tongue being adapted to be inserted through the slot of said cover section and through the other slot of said front tab, to thereby fasten said box in closed condition, and locking projections formed on the free end portion of said tongue for preventing the removal of said tongue once the same has been inserted into locking position.

6. A fastener for boxes and the like comprising a flat substantially rectangular body portion, said body portion being transversely scored near the center of the length thereof, thereby forming two connected tabs, one of said tabs having a pair of spaced similar transverse apertures therein and the other of said tabs having a tongue projecting therefrom for insertion through both of said transverse apertures.

7. A fastener for boxes and the like comprising a flat substantially rectangular body portion, said body portion being transversely scored near the center of the length thereof, thereby forming two connected tabs, one of said tabs having a pair of spaced transverse apertures therein and the other of said tabs having a tongue projecting therefrom, said tongue having locking projections formed on the sides thereof adjacent the free end of said tongue, and scores separating said locking projections from the main portion of said tongue.

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