Jan. 16, 1951 W. T. CROSS 2,538,616

COLLAPSIBLE CONTAINERS SUCH AS SUITCASES, ATTACHÉ CASES OR LIKE TRAVELING CASES

Filed June 26, 1945 2 Sheets-Sheet 1

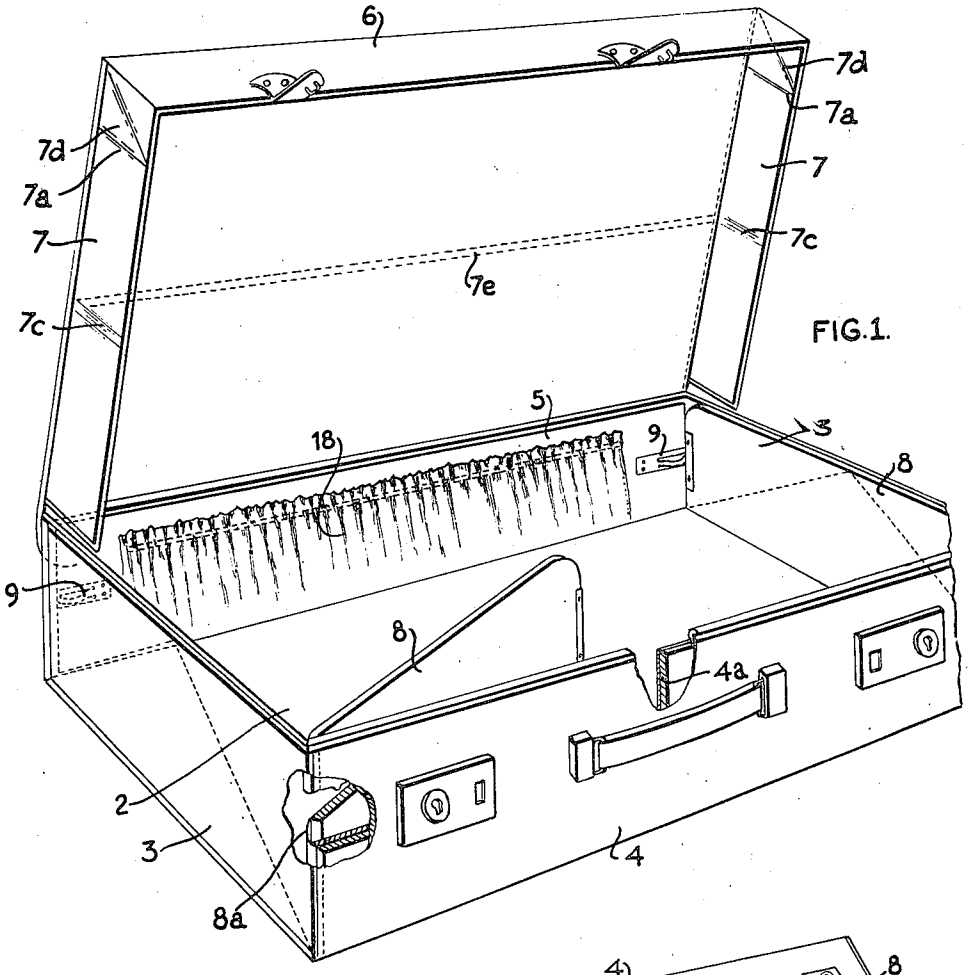



FIG.1.

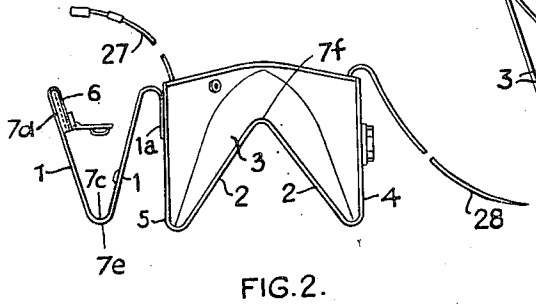



FIG.2.

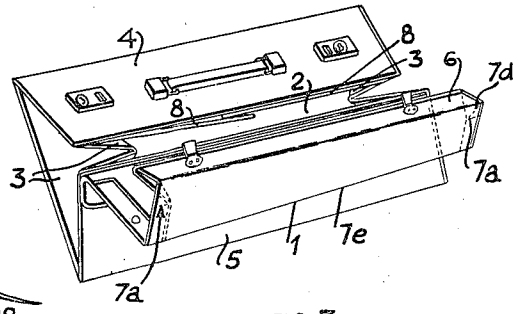



FIG.3.

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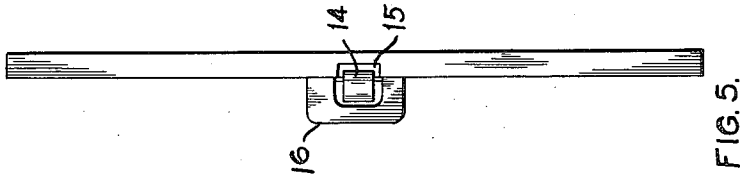



FIG. 5.

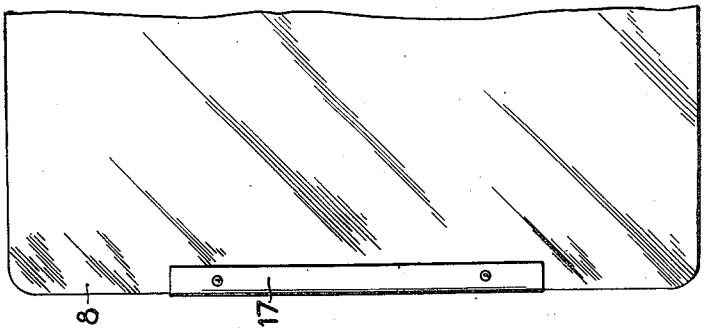



FIG. 7.




FIG. 8.

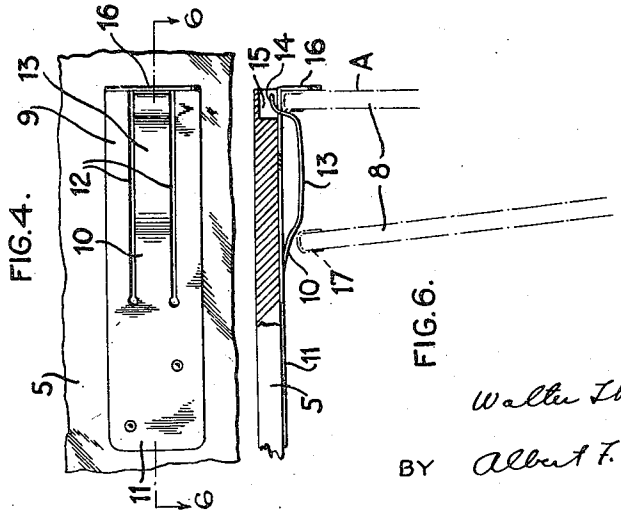



FIG. 4.

FIG. 6.

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2,538,616

## COLLAPSIBLE CONTAINERS SUCH AS SUITCASES, ATTACHÉ CASES, OR LIKE TRAVELING CASES

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1 Claim. (Cl. 190—43)

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The invention relates to fastening means for locking in position hinged rigid backing members for flexible end walls of a traveling case having rigid side walls and where said hinged members and said side walls form a rigid frame.

The object of the invention is to provide simple and cheaply constructed fastening means which incorporate yielding catches permitting the backing members to be swung into position backing said end walls; which will prevent the backing members from being forcibly urged against said flexible end walls each time they are brought into backing position or if the case is filled to or beyond its normal capacity; which will provide positive locking shoulders preventing accidental return of the backing members and which will permit of the yielding catches being manually pressed substantially flat against the side wall and without injurious contact therewith when the backing members are to be released for return.

The invention will now be described with reference to the constructional forms illustrated by way of example in the accompanying drawings, in which:

Fig. 1 is a perspective view of a collapsible suitcase equipped with one suitable form of locking means embodying the invention.

Fig. 2 and 3 are diagrammatic views of the suitcase in intermediate stages of collapsing.

Figs. 4 and 5 illustrate in front and end elevation respectively a part of the rear side wall of the suitcase with one of the locking means according to Fig. 1 shown on a larger scale.

Fig. 6 is a section on the line 6—6 of Fig. 4, and shows the way in which a backing member cooperates with the locking means.

Figs. 7 and 8 show in side elevation and plan respectively a part of the free end of the backing member and illustrate a reinforcing channel thereon.

The collapsible traveling case illustrated in the drawing is in general similar to that disclosed by my prior Patent No. 2,250,126 (the essential modification being the replacement of the turn-button fastening means thereof by the hereinafter described improved fastening means).

In the oblong rectangular suitcase shown in the drawings as wider than it is deep, the lid 1, sewn to the rear wall at 1a, the bottom 2 and the end walls or heads 3, 3 are formed of a flexible material such as hide, thin leather, material sold under the registered trade-mark Rexine, leathercloth, canvas or other suitable fabric or material

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and the front and rear walls 4 and 5 respectively of the frame 3, 3, 4 and 5 are formed of similar material preferably appropriately stiffened by attached pieces 4a of strawboard, fibre or plywood for example, or otherwise formed of a more or less stiff material such as strong leather, metal, wood or millboard of suitable thickness, the stiffening material being solid or perforate and covered in any suitable material as desired. The lid 1 is provided with a rim comprising flanges 6, 7, 7 which are arranged so as to be foldable to lie against the lid such as by each being joined thereto by a flexible hinge which can conveniently and advantageously be a foldable portion lying alongside the lines of junction of the bound edges of the lid and the staff flanges, the binding together of such edges usually being strengthened by sewing them together between a binding strip. The front flange 6 of the rim may be however in one piece with the flexible lid. Generally the side flanges 7, 7 will be arranged to fold under the front flange 6 at the front corners by means of the oblique folds 7d of the flexible side flanges 7, 7 or of flexible end portions 7a thereof in cases where it is desired to employ stiffened flanges.

Where a stiffened rim is employed, I transversely interrupt the stiffening of the side flanges 7, 7 so as to provide flexible hinges at 7c, 7c whereby the lid may be folded back on itself preferably inwards along the fold line 7e as shown in Fig. 2.

Similarly the flexible lid 1 and flexible bottom 2 may be stiffened on either side of medial longitudinal flexible hinge portions 7e, 7f Fig. 2, if so desired.

There may be cases however where it may not be desired to arrange the bottom 2 to fold back on itself and therefore it is to be understood that the present specification and the claim hereof include constructions having a stiffened bottom which is not capable of being doubled back on itself.

In constructing the container the flexible material forming or covering the bottom 2 and the unstiffened front and back sides 4, 5 together known as the body of the container, may be cut in one piece, the ends or heads 3, 3 being joined thereto by sewing a binding strip over the meeting edges.

The outer surface of the stiff front and rear walls 4 and 5 may be covered by a material which is similar or dissimilar to the material of which the flexible members of the suitcase are formed. The lid 1, the bottom 2 and the walls 3, 4 and 5

may be formed of a single piece of flexible material in which case the front and back walls 4, 5 are backed by or secured to rigid members which are preferably solid.

The flexible end walls 3 are adapted to be stiffened by backing members 8 which may be solid and are foldable from a position lying along an adjacent side or bottom of the container to a position lying against said flexible end walls 3. In the illustrated embodiment each backing member 8 is foldable about an axis lying in the angle between adjacent sides of the container, being joined along one shorter edge to the front stiffened wall 4, by a flexible hinge 8a so that it may be folded so as to rest against the stiff wall 4, in which case the backing member is in its inoperative position, or the backing member may be folded so as to rest against its corresponding flexible wall 3 in its operative position, in which it bears upon the flexible end wall 3 and its free end engages the stiff back wall 5, thereby erecting or spreading apart the adjacent sides to extend and erect and support the flexible end walls 3. As shown in the drawings, each stiff backing member 8 is substantially of the same depth as the flexible end wall.

Lining material may be attached to the walls, lid and bottom sides of the case, while the backing members may be separately covered with lining such as fabric and the lining may be utilised to form the flexible hinge 8a.

For the purpose of rigidly locking the backing members 8, 8 in operative position when the case is erected, the rear wall 5 according to the embodiment of the invention shown in Figs. 1 to 6 is provided with spring catches 9, one pertaining to each backing member 8. Each of these spring catches 9 comprises a resilient strip 10 of springy metal for example extending from a mounting plate 11 affixed to the inside surface of the wall 5 as for instance by riveting. The strip 10 is formed integrally with the plate 11, being struck therefrom by way of parallel slottings 12, and a portion of the strip 10 thus freed from the plane of the plate 11 is bent inwardly of the case at 13 so as to extend into the path of movement of the free edge of the backing member 8 and constitute a detent. A terminal portion 14 of the strip 10 is cranked so as to be located freely in a slot 15 in the wall 5, whilst a terminal portion of the plate 11 is turned inwardly to form a lug 16 which serves as an abutment between which and the spring detent 13 the backing member 8 can be locked in the operative position. From Fig. 6 it will be readily seen that in the course of bringing the backing member 8 into its locked position indicated at A, the free edge of the said member engages and depresses the spring detent 13 just prior to reaching the position A, the detent 13 being then overridden by the said free edge so as to be restored to the normal non-depressed position shown. When thus restored, the detent 13 holds the backing member 8 in the operative position shown at A, and further outward movement of the backing member is prevented by means of the stop lug 16. As shown on a larger scale in Figs. 7 and 8, the part of the free edge of the backing member 8 which engages the spring catch is provided with a reinforcement tipping or channel 17 formed for example of sheet metal.

When locked in erect position the four rigid members 4, 5, 8, 8, form a rigid frame which holds the flexible bottom 2 as well as the flexible end



walls 3, 3 of the case rigidly extended, and also the flexible lid 1 is held rigidly extended when the case is closed. If it is desired to collapse the case, the catches 9 are caused to release the backing members 8 in that for each catch the bend portion 13 of the strip 10 can be depressed manually as an initial operation, or the curvature of the portion 13 may be such as to permit of the depression merely by the pressure exerted by the backing member when initially urged in the collapsing direction. Upon the release of the backing members 8, the latter may then be turned inwards about their edges along which they are joined to the lid whereupon the lid can be brought down substantially flat upon the collapsed sides and can be folded about the collapsed front, back and end walls, or, if so desired, the lid 1 may be doubled back on itself and then folded down, or as is preferred both the lid and the bottom may be doubled back on themselves as shown in Fig. 2, so that the doubled back lid lies against the stiff side 5 and the doubled bottom lies between the opposite stiff sides. Owing to the compactness of the locking means 9 it will be seen that a fitted pocket 18 (Fig. 1) of ample length can be accommodated on the inside of the rear wall 5.

The usual co-operation of the lid and body of the container when this is closed is permitted, Fig. 1 showing by way of example how the front flange 6 of the rim and the front wall 4 of the suitcase is provided in the usual manner with an abreast pair of spring locks and carrier handle means. Additional fastening means e. g., of the press stud kind shown at 12, 13 in my aforesaid Patent No. 2,250,126 may be provided releasably to fasten the side flanges 7, 7 of the staff of the lid to the end walls 3, 3 of the suitcase.

Alternatively, one backing member may be hingedly mounted on the front wall 4 and the other backing member upon the back wall 5 of the suitcase. In such a case, the spring catches according to either of the foregoing embodiments may be simply arranged to function in the manner desired, being correspondingly disposed upon both front wall and back wall.

Means may be provided for retaining the case in the collapsed condition, as for example garment retaining straps 27, 28 secured to the insides of the sides 4, 5 of the case, these straps being wrapped round the outside of the collapsed case and secured to one another.

What I claim is:

Fastening means for locking in position hinged rigid backing members for flexible end walls of a traveling case having rigid side walls, said hinged members and said side walls forming a rigid frame, said means for each said backing member comprising an angle plate having a fixing limb secured to the inner face of one of said rigid side walls and an abutment limb positioned to lie adjacent one of said flexible end walls when in backing position, said fixing limb having a spring catch yieldable to the free edge of the backing member and arranged so that the backing member is retained between the catch and the abutment limb and is prevented by the latter from thrusting against said flexible wall in moving to its backing position, said spring catch consisting of a resilient yieldable strip having a bend portion providing a stop for positively locking the hinged backing member against return movement, said side wall having a recess in which said

locking bend is received when the catch yields to the backing member.

WALTER THOMAS CROSS.

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