April 14, 1964 F. A. HOFFMAN ETAL 3,128,853

CARRYING CASE

Filed Oct. 20, 1961 6 Sheets-Sheet 1

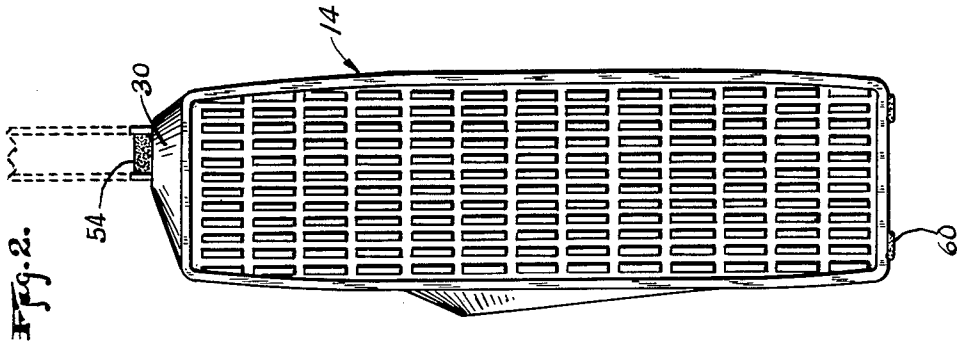


Fig. 2.

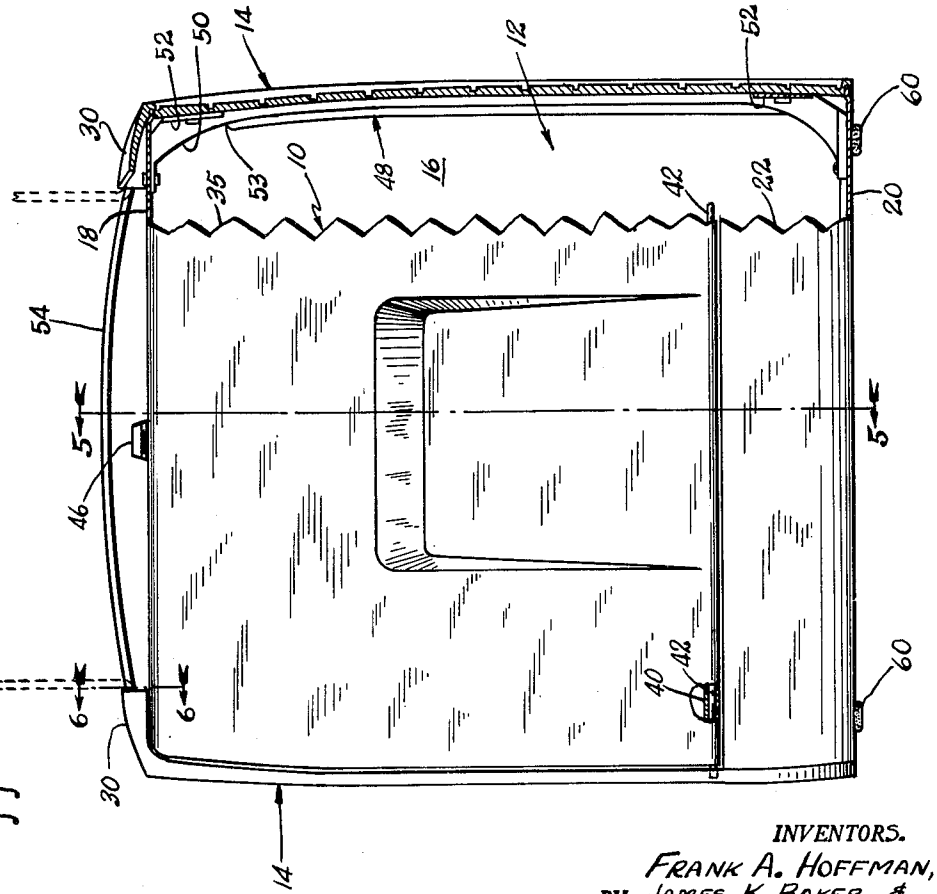


Fig. 1.

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April 14, 1964 F. A. HOFFMAN ETAL 3,128,853

CARRYING CASE

Filed Oct. 20, 1961 6 Sheets-Sheet 2

Fig. 3.

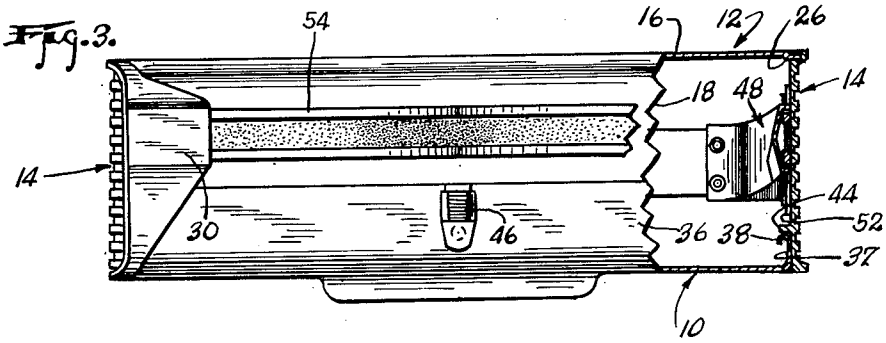


Fig. 4.

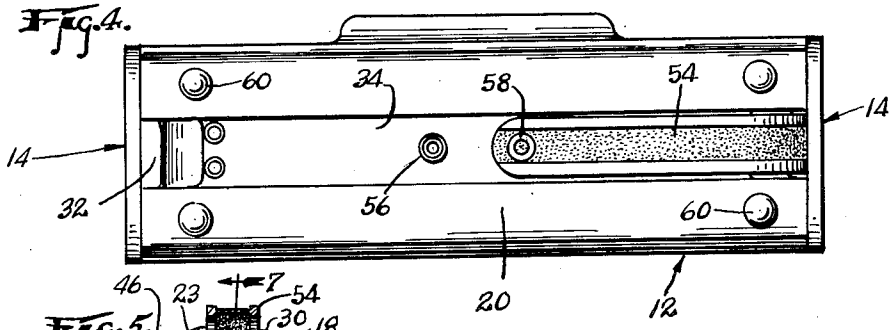


Fig. 5.

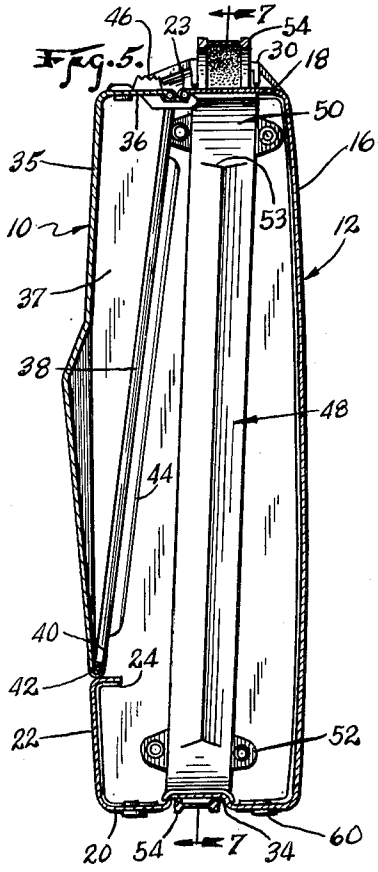
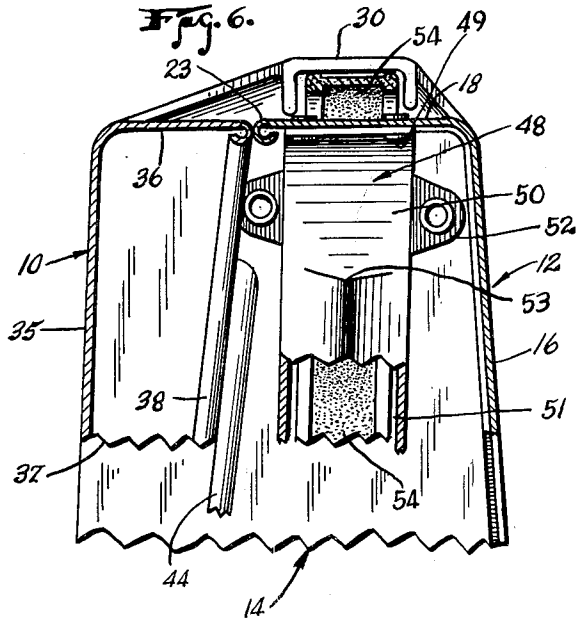


Fig. 6.



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CARRYING CASE

Filed Oct. 20, 1961 6 Sheets-Sheet 3

Fig. 7.

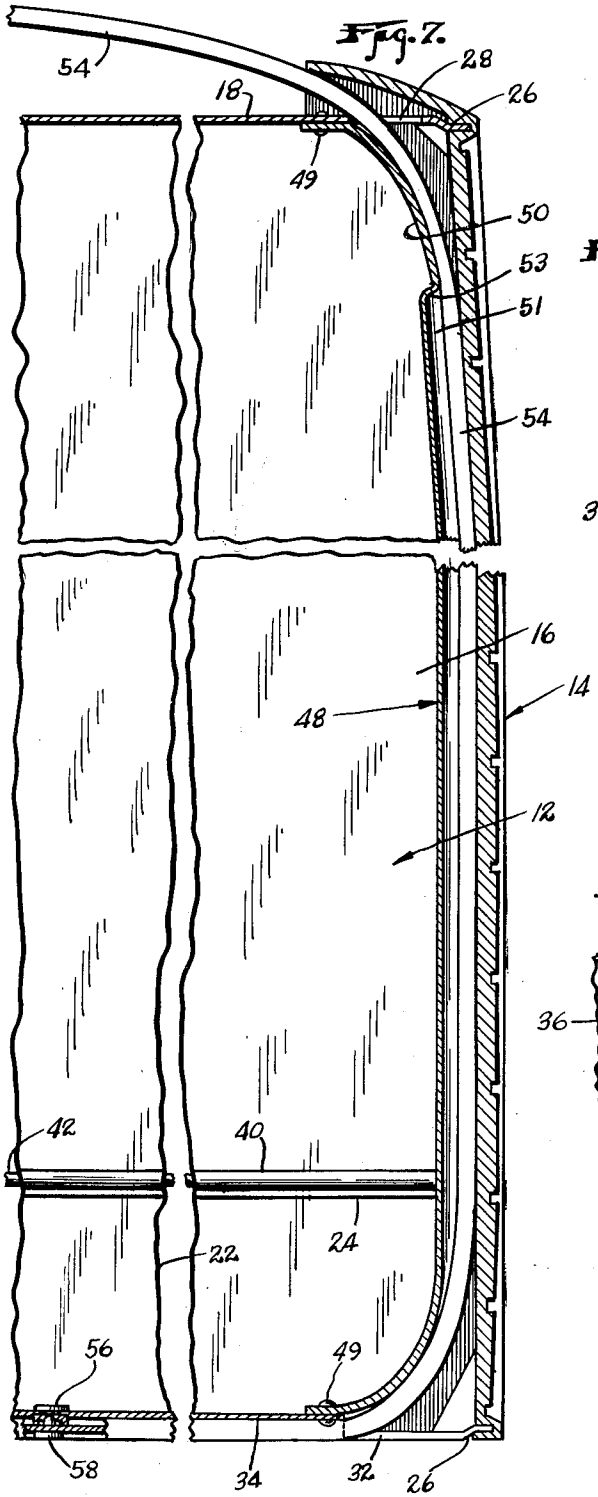


Fig. 8.

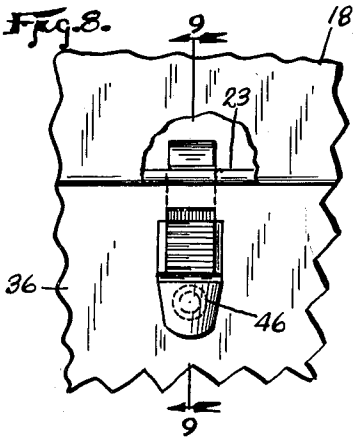
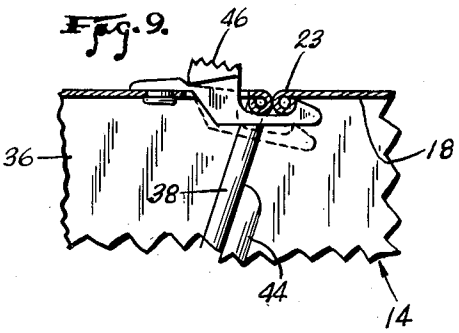


Fig. 9.



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April 14, 1964 F. A. HOFFMAN ETAL 3,128,853

CARRYING CASE

Filed Oct. 20, 1961 6 Sheets-Sheet 4

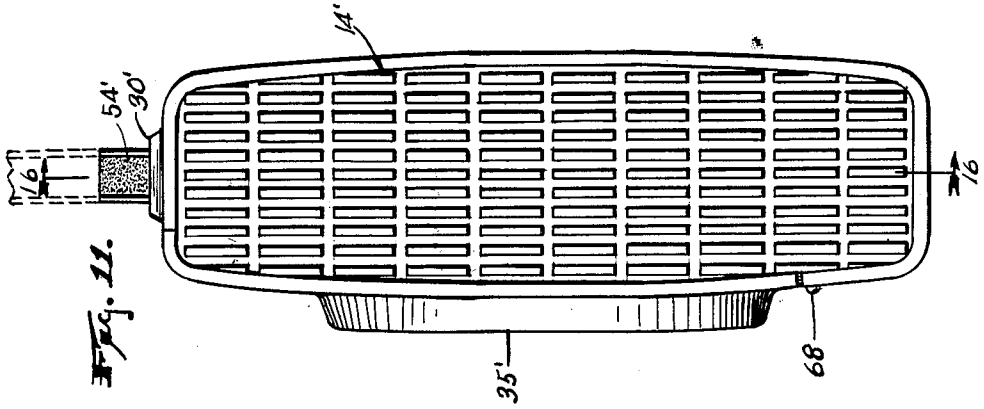


Fig. 11.

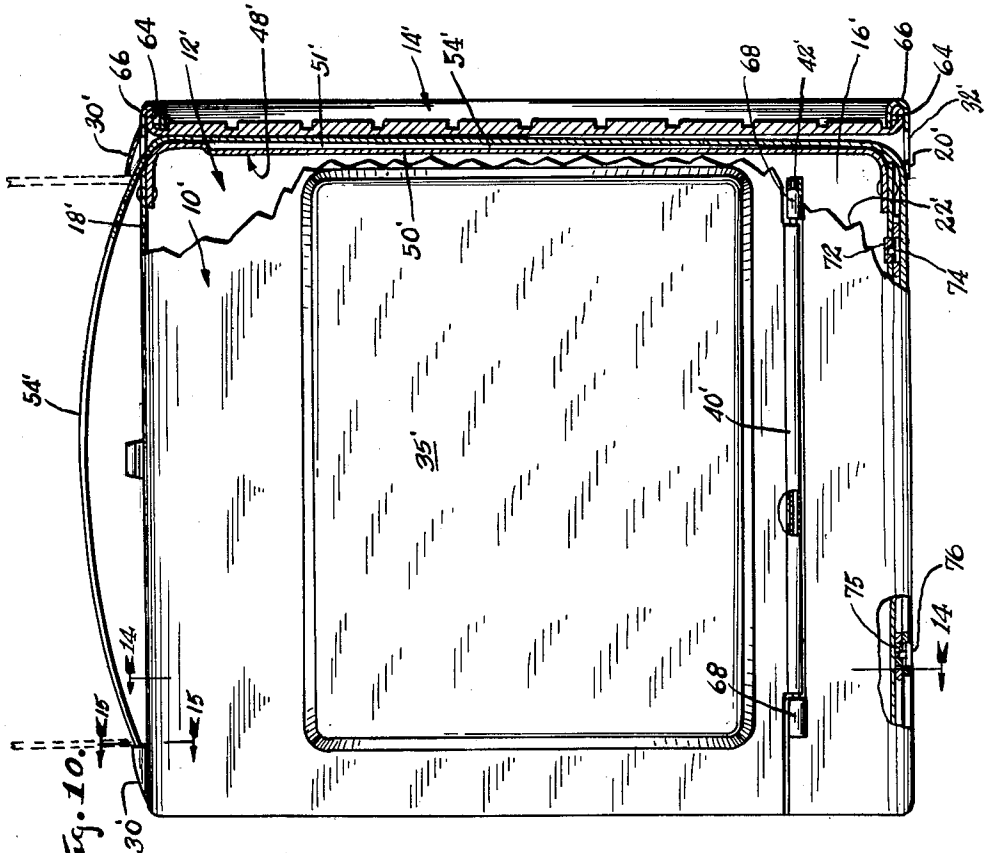


Fig. 10.

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CARRYING CASE

Filed Oct. 20, 1961 6 Sheets-Sheet 5

Fig. 12.

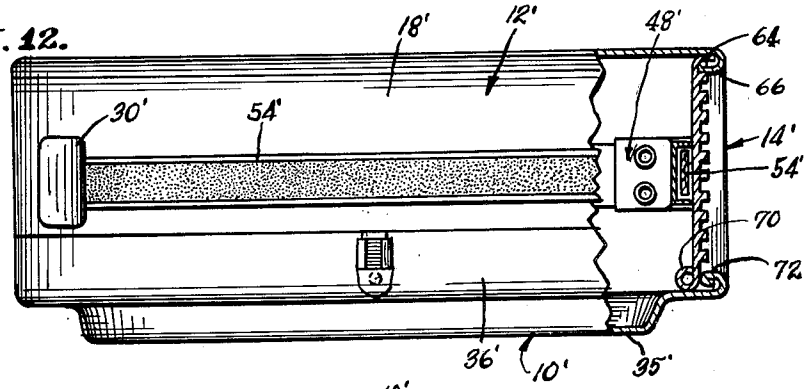


Fig. 13.

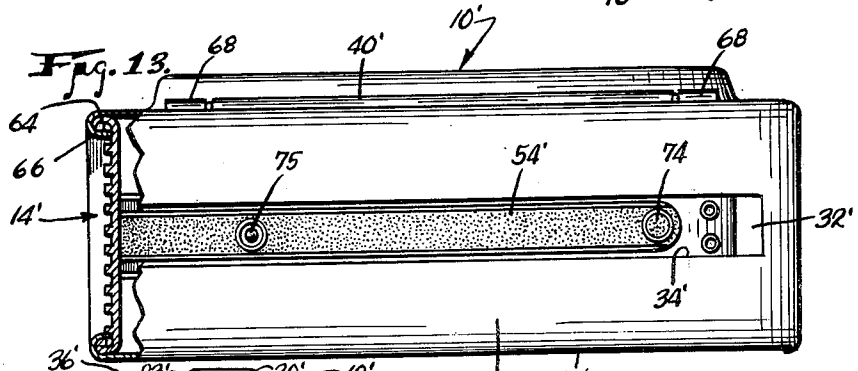


Fig. 14.

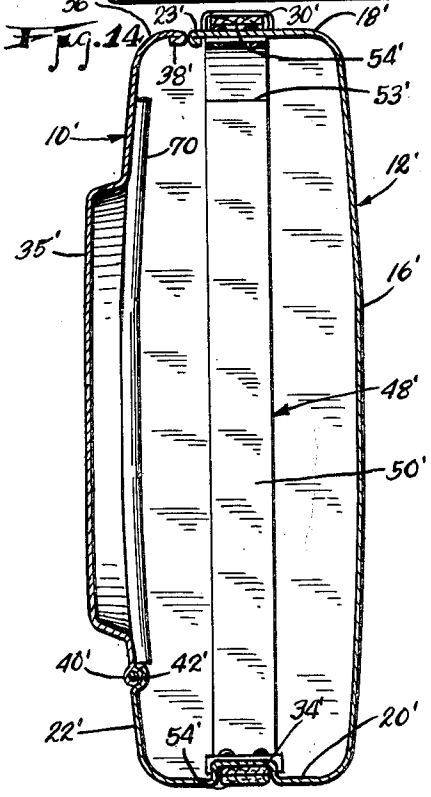
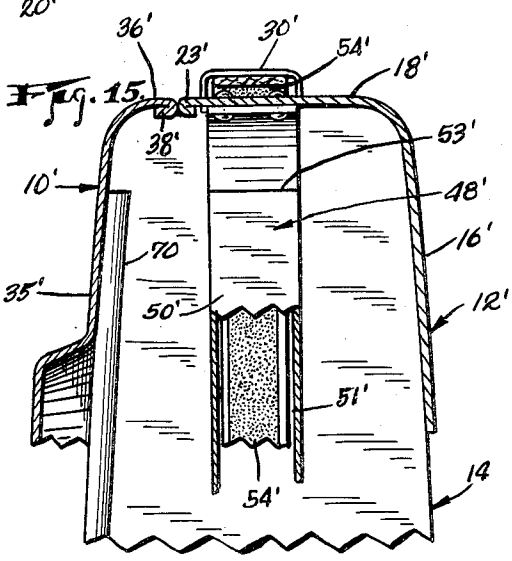


Fig. 15.



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April 14, 1964 F. A. HOFFMAN ETAL 3,128,853

CARRYING CASE

Filed Oct. 20, 1961 6 Sheets-Sheet 6

Fig. 16.

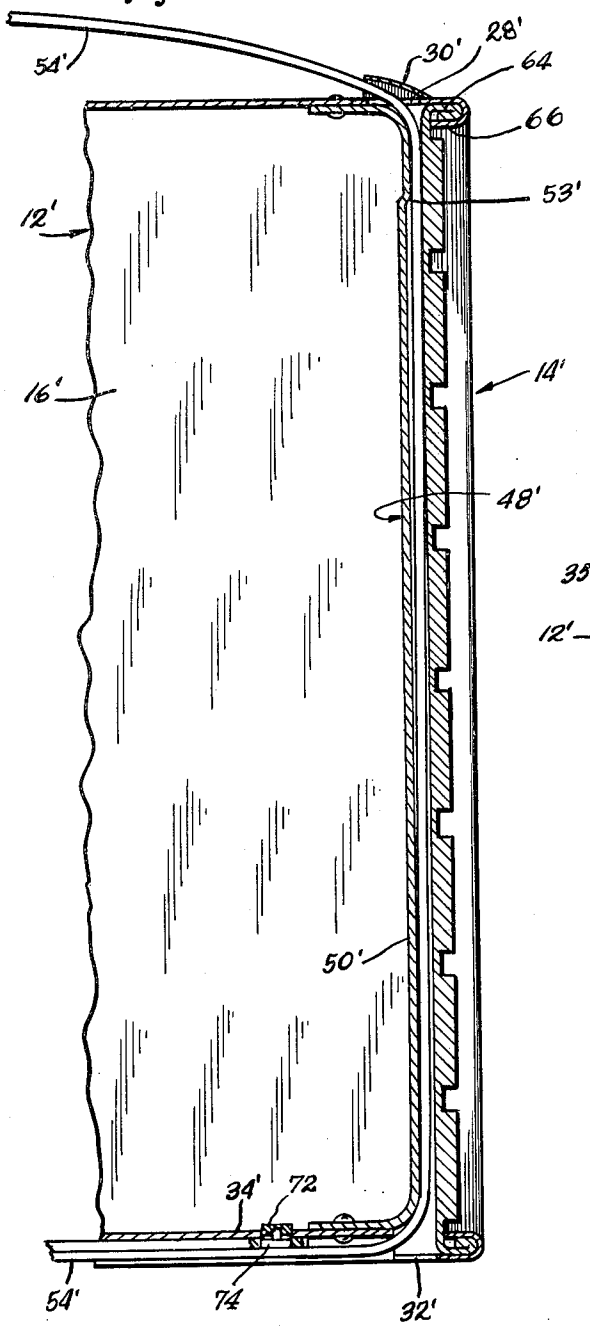
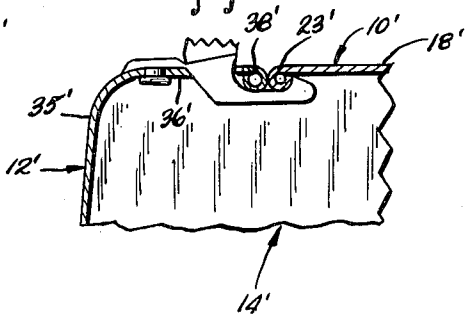


Fig. 17.



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3,128,853

CARRYING CASE

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Filed Oct. 20, 1961, Ser. No. 146,488
9 Claims. (Cl. 190—41)

This invention relates to a carrying case, and has for its object the provision of a carrying case of attractive appearance which can be easily and economically manufactured largely from inexpensive sheet-metal, which can be carried by carrying means easily adjustable for use as a hand grip and a shoulder strap, which will be sturdy and durable in use, and which can be easily opened for ready access to the contents carried therein and releasably locked in closed position.

In carrying out the invention in its preferred form, there is provided a case having interconnected and opposed front and rear, top and bottom, and side walls, said top wall being pivotally mounted on the case for swinging movement between open and closed positions and provided with lock means for releasably locking it in its closed position. A pair of opposed guides are mounted within the case and are desirably provided with portions generally parallel with, and spaced closely adjacent to, the case side walls to form therewith a pair of opposed elongated passages for the reception of an elongated carrying strap. Said strap is slidably carried in said passages with its intermediate portion projecting outwardly through openings in the front case wall and its ends projecting outwardly through openings in the rear case wall and releasably connected thereto. In this manner, the strap is adjustable between a retracted position in which its ends are connected to the rear case wall and its intermediate portion forms a hand grip and an extended position in which its intermediate portion forms a shoulder strap and its ends are releasably retained in said passages.

Other objects and features of the invention will become more apparent from the detailed description which follows and from the accompanying drawings, in which:

FIG. 1 is a top plan view of a carrying case embodying the invention with portions thereof broken away, and showing the carrying strap in full lines in its hand grip position and in dotted lines in its shoulder strap position;

FIG. 2 is a side elevation of the carrying case shown in FIG. 1;

FIG. 3 is a front elevation of the carrying case shown in FIG. 1, but with portions thereof being broken away;

FIG. 4 is a rear elevation of the case shown in FIG. 1, and showing one end of the carrying strap secured to said case;

FIG. 5 is a vertical section taken on the line 5—5 of FIG. 1;

FIG. 6 is an enlarged fragmentary vertical section taken on the line 6—6 of FIG. 1;

FIG. 7 is an enlarged fragmentary horizontal section taken on the line 7—7 of FIG. 5;

FIG. 8 is an enlarged fragmentary view of a portion of the front of the case and showing the locking means therefor;

FIG. 9 is a vertical section taken on the line 9—9 of FIG. 8;

FIG. 10 is a top plan view of a modified form of the carrying case shown in FIG. 1 with portions thereof being broken away, and showing the carrying strap in full lines in its hand grip position and dotted lines in its shoulder strap position;

FIG. 11 is a side elevation of the carrying case shown in FIG. 10;

FIG. 12 is a front elevation of the carrying case shown in FIG. 10, but with portions thereof being broken away;

FIG. 13 is a rear elevation of the carrying case shown in FIG. 10, but with portions thereof being broken away, and showing one end of the carrying strap secured to the case;

FIG. 14 is a vertical section taken on the line 14—14 of FIG. 10;

FIG. 15 is an enlarged fragmentary vertical section taken on the line 15—15 of FIG. 10;

FIG. 16 is an enlarged fragmentary horizotnal section taken on the line 16—16 of FIG. 11; and

FIG. 17 is an enlarged vertical section showing the locking means for locking the case in closed position.

The embodiment of our invention illustrated in FIGS. 1–9 comprises a pair of sheet-metal shells 10 and 12 operatively interconnected to each other and to a pair of side panels 14. As shown, the shell 12 is bent in a manner to form the case bottom wall 16, the lower portion 18 of the case front wall, the case rear wall 20, and the rearwardly disposed portion 22 of the case top wall. As shown in FIG. 5, the end of the shell portion 18 is provided with an inwardly rolled bead 23, and the rearwardly disposed portion 22 of the case top wall is provided with an inwardly projecting flange 24.

The lateral edges of the shell 12 are offset, as at 26, and are bindingly retained in grooves formed in the inwardly presented faces of the side panels 14, which side panels constitute the side walls of the case. For reasons that will become more apparent hereinafter, the portion 18 of the shell 12 is provided with openings 28 adjacent each of its lateral edges and the side panels 14 have hoods 30 extending laterally inwardly over said openings. The rear wall portion 20 of the shell 12 is also provided with openings 32 adjacent each of its lateral edges, and said rear wall portion is deformed inwardly to provide a channel 34 extending transversely across the rear case wall between the openings 32.

As shown in FIG. 5, the shell 10 is bent to form the forward portion 35 of the top case wall, the upper portion 36 of the front case wall, and a pair of downwardly extending side stretches 37. Conveniently, said upper front wall portion 36 and the side stretches 37 are provided with inwardly rolled beads 38. A transversely extending rolled bead 40 is formed in the shell portion 35 at its rearward edge and carries a transversely extending rod 42 which projects outwardly from the lateral edges of the shell 10 for reception in aligned openings formed in the inwardly presented faces of the side panels 14 to swingably mount the shell 10 on the case and permit said shell to be swung between an open position generally normal to the bottom case wall 16 and a closed position in which the shell beads 38 and 23 are in abutting relation. Conveniently, each of the side panels 14 is provided with an inwardly projecting shoulder 44 against which the beads 38 on the side stretches 37 of the shell 10 are received when said shell is in its closed position. A latch mechanism 46 is mounted on the front wall portion 36 of the shell 10 and is receivable under the bead 23 on the shell portion 18 for releasably locking the shells 10 and 12 in case-closed position.

As is best illustrated in FIGS. 5–7, a pair of guides 48, conveniently formed as sheet-metal stampings, are mounted within the extent of the shell 12. Each of said guides comprises an outwardly open channel 50 having pairs of outwardly extending ears 52 which are rigidly connected to the adjacent side panels 14. The guides 48 are curved at their ends and are rigidly fastened, as at 49, to the portions 18 and 20 of the shell 12 laterally inwardly from the openings 28 and 32, respectively. As shown in FIG. 7, the webs of the guide channels 50 are generally parallel with, and spaced closely adjacent to, the inwardly pre-

sented faces of the side panels 14 to form therewith elongated passages 51 extending along the opposite sides of the case, the hoods 30 forming passage extensions outside the extent of the front case wall. Conveniently, each of the channels 50 is offset outwardly, as at 53, to form a stricture in each of the passages 51.

An elongated carrying strap 54 is carried in the passages 51 and is adjustable between a retracted hand grip position and an extended shoulder strap position. In its retracted hand grip position, the strap 54 is carried in the passages 51 with its ends projecting through the openings 32 in the shell 12 and rigidly secured to the rear case wall 20, as by cooperative fastening snaps 56 and 58 mounted on said rear wall and strap ends, respectively. In this retracted position, the intermediate portion of said strap extends forwardly through the openings 28 between the passages defined by the side panel hoods 30 and the portion 18 of the shell 12 in a position such that it may be gripped in the manner of a conventional hand grip. The strap is adjustable into an extended shoulder strap position in which its intermediate portion is disposed well away from the front case wall. To accomplish such extension, the snaps 58 on the strap 54 are merely released from their cooperative snaps 56, and the strap is pulled away from the front case wall with its ends sliding in the passages 51. As shown in FIG. 7, the snaps 58 on the strap 54 project outwardly from said strap and thus abut the passage strictures 53 to prevent said strap from pulling completely out of the case. To retract the strap it is merely necessary to slide the strap ends in the passages 51 toward the rear case wall 20, and the curved portions of the guides 48 will guide the ends of the strap back outwardly through the openings 32 in order that their snaps 58 may be received in the snaps 56 on the shell 12. The inwardly extending channel 34 formed in the rear case wall 20 permits the strap 54, in its retracted position, to be carried generally inwardly from the plane of said rear wall in order that the case may be set in a generally upright position. Conveniently, outwardly projecting feet 60 may also be mounted in said rear wall 20 to further enhance the stability of the case when it is in such an upright position.

The modified embodiment of our case illustrated in FIGS. 10–17 also comprises a pair of sheet-metal shells 10′ and 12′ operatively interconnected to each other and to a pair of side panels 14′. As shown in FIG. 14, the shell 12′ is bent in a manner to form the bottom case wall 16′, the lower portion 18′ of the front case wall, the rear case wall 20′, and the rearwardly disposed portion 22′ of the top case wall. The transversely extending edge of the shell portion 18′ is provided with an inwardly rolled bead 23′ extending thereacross.

As shown in the drawings, each of the side panels 14′ has an outwardly projecting finger 64 within the extent of the shell 12′, and the lateral edges of said shell are crimped over said finger, as at 66, to rigidly connect said shell side panels 14′. A pair of openings 28′ are formed in the shell portion 18′ laterally inwardly from the panels 14′, and a pair of hoods 30′ are mounted on the shell portion 18′ to extend over said openings. A pair of openings 32′ are also formed in the rear case wall 20′ adjacent the side panels 14′, and said rear case wall is offset inwardly, as at 34′, between the openings 32′ to define an inwardly offset channel extending transversely across the rear case wall.

As is best shown in FIG. 14, the shell 10′ is bent to form a forward top wall portion 35′ continuous with a downwardly bent portion 36′ forming the top portion of the front case wall, the shell portion 36′ having a transversely extending inwardly rolled bead 38′ adapted to abut the bead 23′ when the case is in its closed position. The rear edge of the shell portion 35′ is rolled, as at 40′, for the reception of a transversely extending rod 42′ having its ends swingably carried in a pair of rolled flanges 68 formed in the forward edge of the portion 22′ of the shell 12′ and disposed in axial alignment with the roll 40′ formed in the shell 10′. In this manner, the shell 10′ is swingable between a case-open position in which it is generally normal to the bottom case wall 16′ and a case-closed position in which its bead 38′ abuts the bead 23′ on the shell 12′. As shown in FIG. 12, each of the side panels 14′ has an inwardly rolled bead 70 within the extent of the shell 10′ abutting the inner face of said shell when the case is closed, and the lateral edges of said shell are provided with inwardly rolled beads 72 which abut the outer face of the side panels 14′ when the case is closed.

Mounted on the portions 18′ and 20′ of the shell 12′ adjacent each of the lateral edges are a pair of guides 48′ having their ends curved inwardly and mounted on the front and rear portions 18′ and 20′ of said shell. Each of the guides 48′ has an outwardly open channel 50′ whose web is generally parallel with, and spaced closely adjacent to, the inwardly presented face of the adjacent side panel 14′ whereby the pair of guides form elongated passages 51′ extending along the opposite sides of the case. The channels 50′ are outwardly offset, as at 53′, adjacent the case front wall to form strictures in the passages 51′.

An elongated strap 54′ is carried in the passages 51′ and is adjustable between a retracted hand grip position and an extended shoulder strap position. In its retracted hand grip position, the strap 54′ is carried in the passages 51′ with its ends projecting through the openings 32′ in the shell 12′ and rigidly secured together and to the rear wall of said shell. As shown, one end of the strap 54′ is provided with a snap 74 lockingly engageable with a snap 72 mounted on the rear case wall 20′. The end of the strap 54′ provided with the snap 74 is also provided with a snap 75 lockingly engageable with a snap 76 mounted on the opposite end of said strap. Thus, the snap 74 may be locked with the snap 72 and the snap 76 may be fastened to the snap 75 to releasably connect the strap 54′ to the case in a retracted position with its intermediate portion extending forwardly through the slots 28′ between the hoods 30′ and the portion 18′ of the shell 12′ in a position such that said intermediate portion may be gripped in the manner of a conventional hand grip. By disconnecting the snaps 74 and 72 and 76 and 75, the strap 54′ may be slid outwardly in the passages 51′ into its extended shoulder strap position in which the intermediate portion of said strap is well spaced from the front case wall, the snaps 74 and 76 engaging the offsets 53′ and preventing the strap from pulling out of the case. Conversely, to retract the strap to its hand grip position, the ends of the strap are merely slid in the passages 51′ to enable the snaps 74 and 76 to be fastened to the corresponding snaps 72 and 75, respectively.

We claim:

1. A carrying case, comprising interconnected opposed front and rear, top and bottom, and side walls, said top wall being pivotally mounted on said case for swinging movement between open and closed positions, lock means for releasably locking said case in closed position, a pair of opposed rigid guides fixedly mounted within said case and having channels generally parallel with and spaced closely adjacent to said side walls to form therewith a pair of passages extending along the length of said side walls, and an elongated flexible strap slidably carried in said passages with its intermediate portion projecting outwardly through openings formed in the front case wall and its ends projecting outwardly through openings formed in the rear case wall and releasably connected to said rear case wall whereby said strap is adjustable between a retracted hand grip position with its ends connected to the case and an extended shoulder strap position with its ends retained in said passages.

2. A carrying case as set forth in claim 1 in which said strap has outwardly projecting fastening means adjacent each of its ends for releasably connecting it to said case rear wall, and said passages have strictures adjacent the

front case wall against which said fastening means abut to retain the strap ends in said passages when said strap is in said shoulder strap position.

3. A carrying case as set forth in claim 2 in which the fastening means adjacent one end of said strap is releasably connected to the rear case wall, and the fastening means adjacent the opposite end of said strap is releasably connected to said adjacent one end of said strap.

4. A carrying case as set forth in claim 1 in which each of said guides has channel-shaped cross-section and is curved at each of its ends to abut the opposed inner faces of the front and rear case walls laterally inwardly from the openings formed therein.

5. A carrying case as set forth in claim 1 in which said bottom, rear, and portions of the top and front case walls are formed by a first sheet-metal shell, said case side walls are formed from a pair of side panels connected to said first shell, and the remaining portions of said top and front case walls are formed by a second sheet-metal shell pivotally connected to said pair of side panels, said pair of side panels being rigidly connected to said first shell by outwardly projecting offset tongues on said first shell bindingly received in mating grooves formed in said side panels and by said pair of guides being rigidly secured to said side panels and first shell.

6. A carrying case as set forth in claim 5 in which said second shell has inwardly projecting side stretches engageable with inwardly extending projections formed on said side panels when said case is in closed position, said second shell being connected to said side panels by a transversely extending rod mounted on said second shell and swingably carried in aligned openings formed in said

side panels for movement of said second shell between case-open and closed positions.

7. A carrying case as set forth in claim 1 in which said bottom, rear, and portions of the top and front case walls are formed by a first sheet-metal shell, said case side walls are formed from a pair of side panels connected to said first shell, and the remaining portions of said top and front case walls are formed by a second sheet-metal shell pivotally connected to said first shell along the top case wall, said side panels having outwardly projecting flanges within the extent of said first shell and inwardly rolled beads within the extent of said second shell with the margins of said first shell being crimped around said flanges and the lateral margins of said second shell having rolled beads received against the outer faces of said side panels when the case is in closed position.

8. A carrying case as set forth in claim 1 with the addition that a pair of hoods project outwardly from the front case wall over said openings formed therein to form extensions of said pair of passages.

9. A carrying case as set forth in claim 8 in which said hoods are integral extensions of said case side walls.

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