

Oct. 25, 1949.

G. H. NORQUIST

2,485,644

PACKING CASE AND METHOD OF MAKING SAME

Filed Oct. 3, 1944

3 Sheets-Sheet 1

Fig. 1.

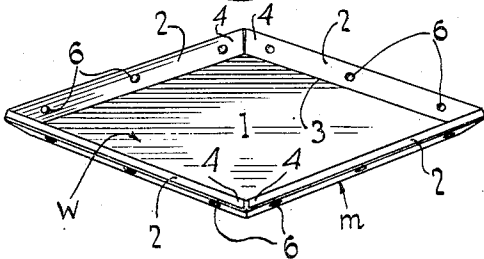


Fig. 3.

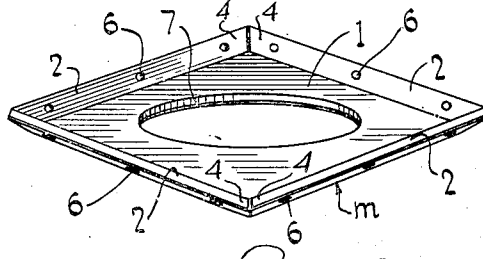


Fig. 4.

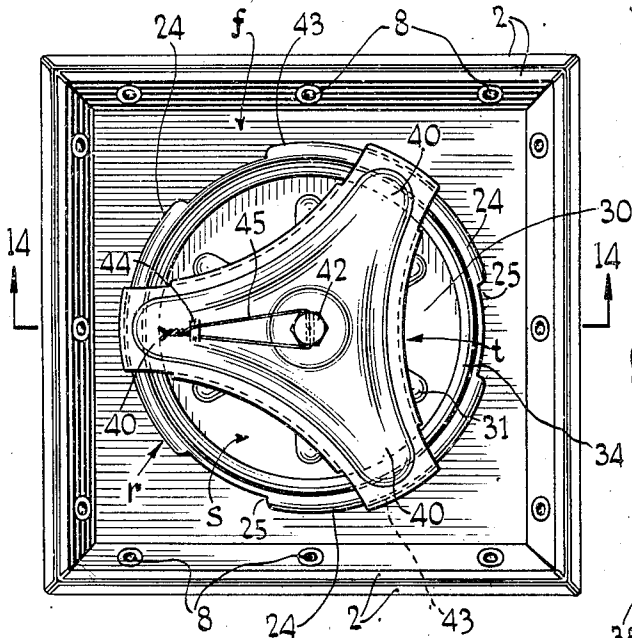


Fig. 2.

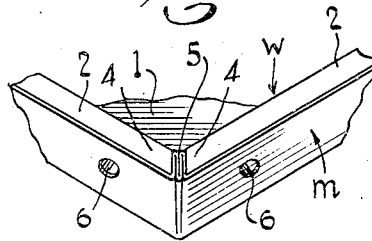


Fig. 8.

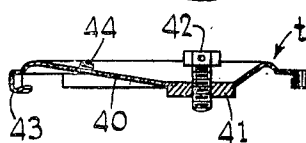


Fig. 7.

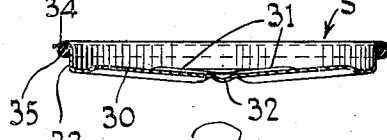


Fig. 5.

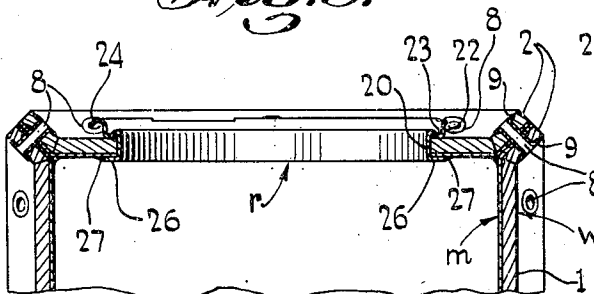
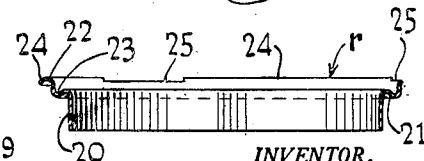


Fig. 6.



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3 Sheets-Sheet 2

Fig. 9.

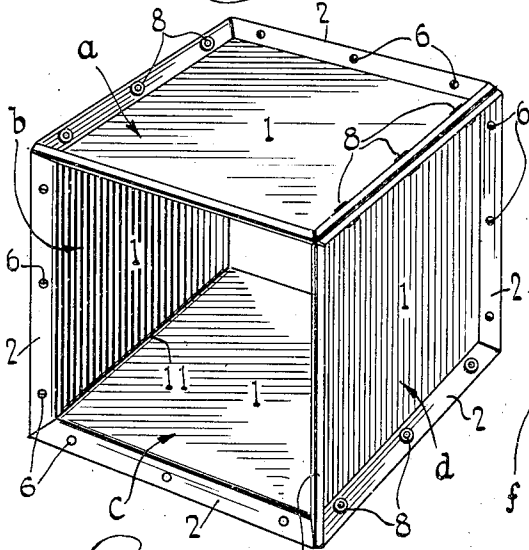


Fig. 10.

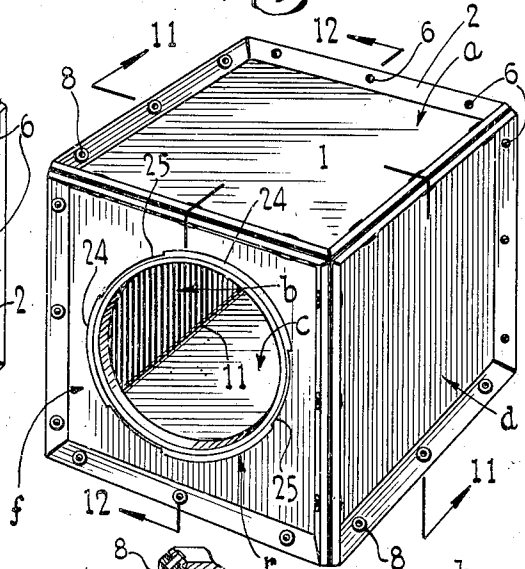


Fig. 11.

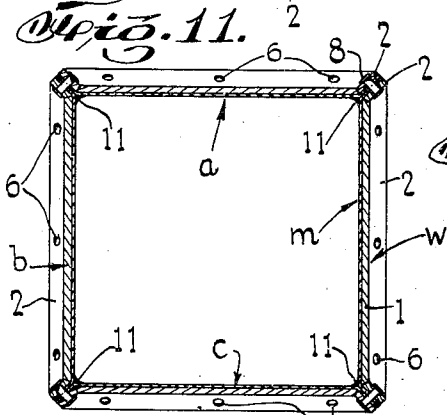


Fig. 12.

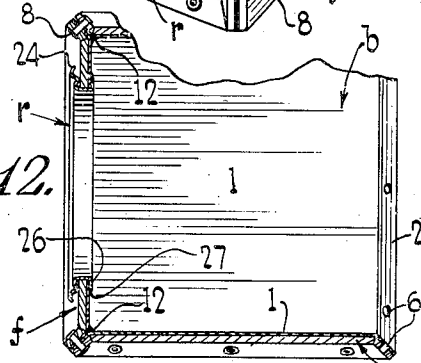


Fig. 14.

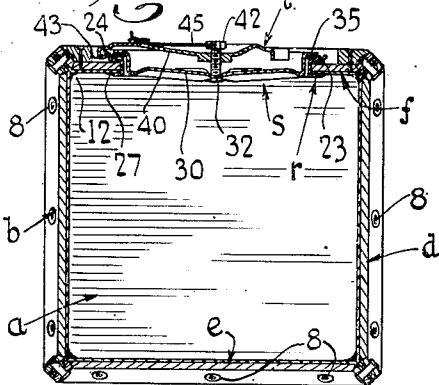
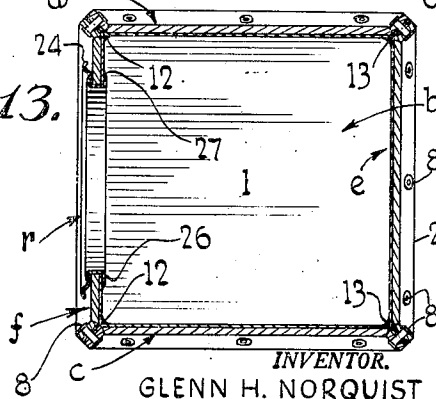


Fig. 13.



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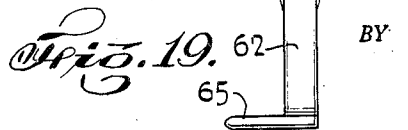
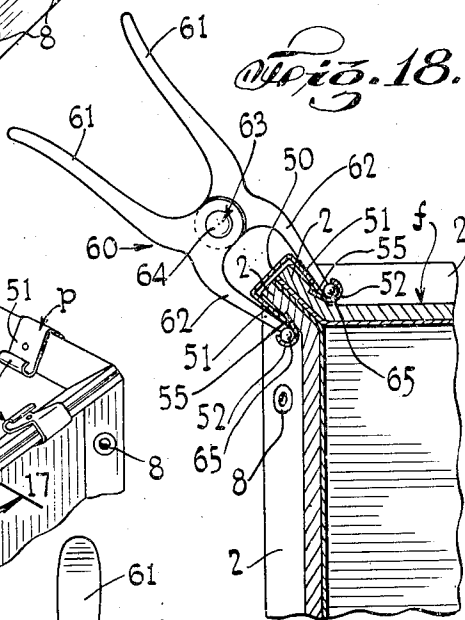
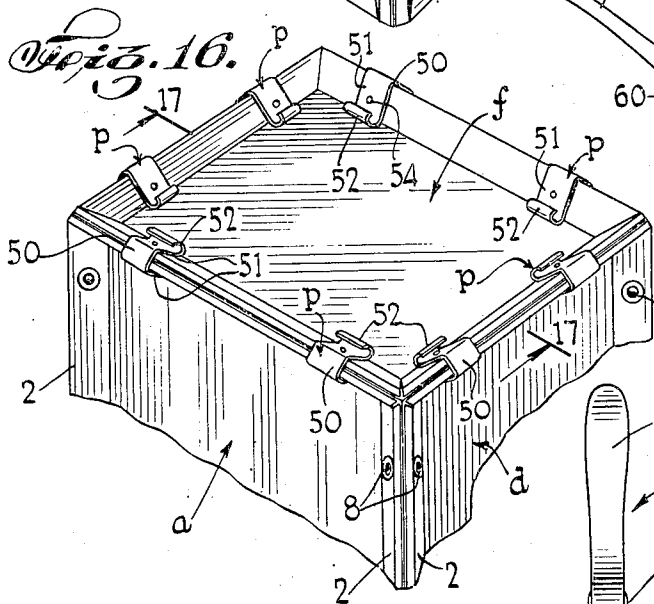
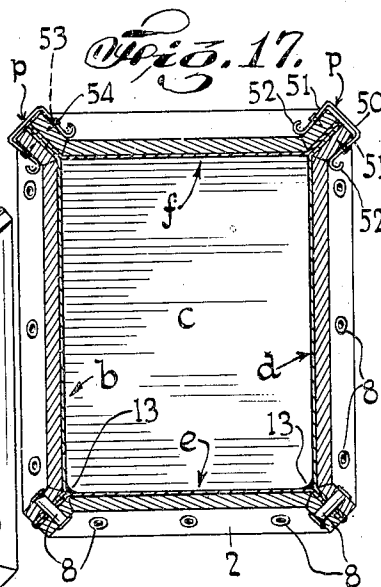
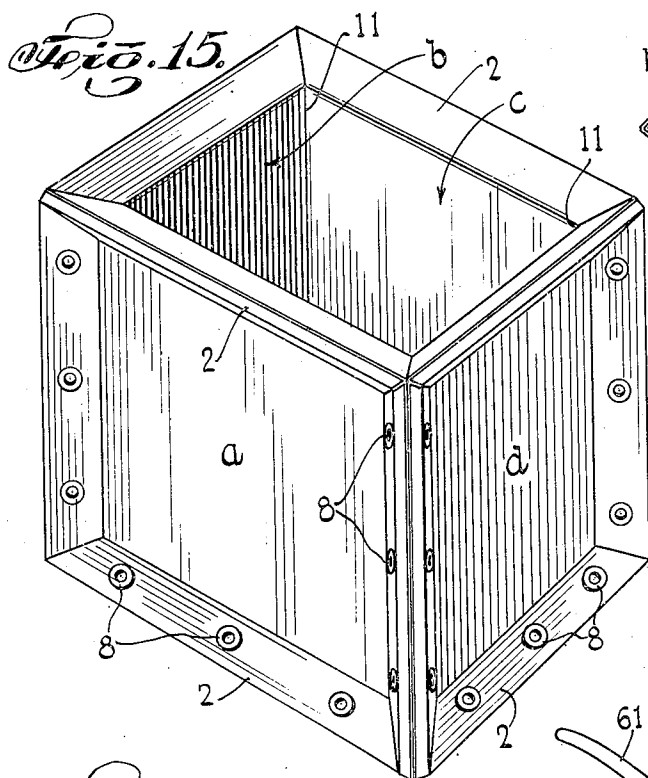
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PACKING CASE AND METHOD OF MAKING SAME

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3 Sheets-Sheet 3



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2,485,644

PACKING CASE AND METHOD OF MAKING SAME

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Application October 3, 1944, Serial No. 557,023

9 Claims. (Cl. 217-5)

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This invention relates to packing cases and method of making same, and more particularly to metal lined packing cases which are relatively light in weight, possess great strength and resistance to abuse, and which may be made hermetically sealed, the case being so designed and constructed as to permit high speed economical assembly thereof with a minimum use of materials and labor.

In accordance with this invention, the improved metal lined packing case is formed from a plurality of metal clad panels, each panel having a facing section and a rim extending around the facing section, the rim comprising flange sections extending at an angle of approximately 45° to the facing section. Each metal clad panel is formed from a base sheet of wood, plywood, fiberboard or other composition material having firmly cemented thereto a metal liner sheet of steel, copper, brass, aluminum, magnesium, or other strong liner material. Where a shipping case of great strength is desired, a plywood base sheet, comprising a plurality of thin layers of wood veneer cemented together by a resinous cement, may be advantageously employed.

In forming the packing case, the flanged panels are assembled so that the metal faces of adjacent flange sections are in face-to-face abutment, the adjacent pair of flanges being firmly secured together by headed eyelets, bolts, screws, or rivets. The interior corners of the case are soldered to further join the wall forming panels together in integral assembly.

In one form of the invention, the top wall panel has a cut out opening through which contents can be inserted and removed, a metal collar being crimped and soldered in position around the opening to provide a leak-tight fit around the opening cut in the top wall panel. A cover disc, which may be provided with a suitable gasket, seats on a shoulder formed in the collar, the cover being held in place by a metal spider which grips the flared flange of the collar. The spider is provided with an adjusting bolt threaded into the spider and which is adapted to press the metal cover in air-tight seating engagement with the shouldered seat formed on the metal collar. This type of container may be readily assembled by first riveting together the side wall forming panels to provide a tubular construction. The top wall panel, to which the cover seating collar has been previously secured, is then riveted to the assembled side wall panels and before the bottom forming panel has been applied. Thus all the interior corners of the side wall and top wall

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panels are readily accessible for soldering through the open bottom. The bottom wall panel may then be secured in position and the surrounding corners thereof soldered by the insertion of a soldering tool through the cover opening cut in the top wall panel. An air-tight packing case is thus provided having a removable cover held in air-tight position by the removable spider.

In another form of this invention, the side and bottom forming panels may be assembled together as an integral unit and the top wall panel removably held in position and thus forms the cover for the packing case. In assembling this type of construction, the side wall forming panels and the bottom wall panel may be riveted or secured together and the interior corners thereof soldered. Through the open top end of the case a sealing plastic may be applied to the metal faces of the top wall panel and the top wall panel placed in closed position. U-shaped spring clips may be used to firmly secure the flanges of the top wall panel to the adjacent flanges of the side wall panels to the case. The U-shaped spring clips are so constructed as to permit quick application and removal thereof to secure the top wall panel in air-tight position and permit ready removal of the top wall panel when access to the contents is desired.

An object of this invention is to provide an improved metal-lined packing case whose corners and side edges are provided with metal reinforcing ribs formed as an integral part of the sheet metal lining.

Another object of this invention is to provide an improved metal lined packing case having strengthened side edges and corners adapted to withstand severe use and abuse, and whose interior seams and corners are soldered to provide a hermetically sealed construction.

Another object of this invention is to provide an improved packing case formed from metal clad panels which possesses great strength and rigidity, and which will ably withstand the most severe abuse without damage to the case or contents.

Another object of this invention is to provide an improved method for forming and assembling metal lined packing cases in an economical and expeditious manner at high production speeds with a minimum use of labor and materials.

Other objects and advantages of this invention will become apparent as the disclosure proceeds.

Although the characteristic features of this invention will be particularly pointed out in the claims appended hereto, the invention itself, and

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the manner in which it may be carried out, may be better understood by referring to the following description taken in connection with the accompanying drawings forming a part hereof, in which

Fig. 1 is a perspective view of one of the metal clad panels which has been flanged and made ready for assembly into a packing case;

Fig. 2 is an enlarged fragmentary view of a corner portion of the panel, this figure illustrating particularly the corner reinforcing construction;

Fig. 3 is a perspective view of one of the flanged panels having a cover opening cut in the main section thereof;

Fig. 4 is an enlarged top plan view of the finished packing case showing a cover assembly associated with the top wall panel of the case;

Fig. 5 is an enlarged vertical cross-sectional view through the upper portion of the packing case showing the top wall panel secured to the side wall forming panels, the top wall panel having a metal collar attached thereto which provides a seat for the cover;

Fig. 6 is a cross-sectional view through the metal collar as it is formed prior to attachment to the top panel;

Fig. 7 is a cross-sectional view through the metal cover shown in Fig. 4;

Fig. 8 is a cross-sectional view through the spider shown in Fig. 4 which retains the cover seated upon the collar;

Fig. 9 illustrates the packing case at one stage of assembly and wherein four of the metal clad panels as illustrated in Fig. 1 have been secured together to provide a tubular construction to define the enclosing side walls of the packing case;

Fig. 10 is a perspective view of the packing case at a further advanced stage of assembly and wherein the top panel, with cover seating collar attached, has been secured to the side wall panels;

Fig. 11 is a horizontal cross-sectional view of a partially assembled packing case as it appears when viewed along line 11—11 of Fig. 10 after solder has been applied to the interior corner seams, thereby joining the side wall panels together in air-tight assembly;

Fig. 12 is a cross-sectional view of the partially assembled case as the same appears when viewed along line 12—12 of Fig. 10, particularly showing solder applied to the interior corner seams which join the top wall panel to the side wall panels of the case;

Fig. 13 is a cross-sectional view of the packing case after the bottom wall panel has been attached to the side wall panels and solder applied to the interior corner seams so as to join the bottom wall panel to the side wall panels in integral leakproof assembly;

Fig. 14 is a cross-sectional view through the fully assembled packing case with the metal cover and spider in position and as the same appears when viewed along line 14—14 of Fig. 4;

Fig. 15 is a perspective view of an open packing case assembled from metal clad panels of the type illustrated in Fig. 1, having four side wall panels and a bottom wall panel secured together in integral assembly;

Fig. 16 is a perspective view of the upper portion of the packing case shown in Fig. 15 having a top wall panel removably secured to the side wall panels by a plurality of removable spring clips;

Fig. 17 is a cross-sectional view of the packing case and attached cover as the same appears when viewed along the line 17—17 of Fig. 16;

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Fig. 18 illustrates a simple hand tool which may be used in applying the spring clips to and removing the spring clips from the flanges of the packing case; and

Fig. 19 is another side view of the hand tool.

Similar reference characters refer to similar parts throughout the several views of the drawings and specification.

The metal clad panel, as shown in Fig. 1, is designed to form the enclosing side wall panels, the bottom wall panel, and the top wall panel of the packing case. Each of these panels may be formed and shaped to the required size and comprise a base sheet *w* having a metal sheet *m* firmly and permanently cemented to one side thereof. The base sheet *w* may be advantageously formed from a plurality of superimposed thin layers of wood or veneer, which are firmly bonded together by a suitable cement. A base sheet *w* formed of plywood or veneer layers and bonded together by phenolic or urea compounds possess great strength and rigidity. It is understood however that the metal surfacing sheet *m* may be applied to a base sheet *w* formed of various fibrous materials best suited to the purpose for which the packing case is to be used.

The metal clad panels are so arranged that the metal sheet *m* forms the liner walls of the packing case and the base sheet forms the exterior wall surfaces thereof. A flat base sheet and a flat metal sheet are first bonded together and the flanges are then formed by cutting grooves 3 in the base sheet so that side flange sections 2 are formed which extend at approximately a 45° angle to the main or facing section 1. The corners of the base sheet are also notched out, but the metal sheet is uncut and unweakened at the corners, the corner section of the metal sheet being crimped and folded to provide an in-turned plural ply reinforcing rib 5, as shown in Fig. 2, which is wedged between the ends 4 of the flanged sections 2 of the base sheet. An unusually strong and sturdy corner construction is thus formed. Prior to flanging, spaced holes 6 may be punched in the flanged sections 2 thereof through which rivets or hollow eyelets may be inserted when the flanged panels are assembled into a packing case.

A plurality of flanged metal clad panels in the form shown in Fig. 1 are assembled together to form the side walls and the bottom wall of the packing case. The panel which forms the top wall of the packing case may be similar to the panel which forms the bottom wall thereof, except that a hole or opening 7 may be cut through the main section 1 of the top wall forming panel through which the contents may be inserted and removed. The opening 7 is formed to receive a cover seating collar *r*, as shown in Figs. 5 and 6. The collar *r*, as shown in Fig. 6, may be formed of heavy sheet metal comprising a tubular side wall portion 20 and an outwardly flared cover seating portion 21 from which extends an up-standing rim portion 22 and an outwardly flared rim portion 24. The seating portion 21 may be formed to provide a depressed annular pocket 23 into which the gasket 35 associated with the metal cover *s* may seat.

The collar *r* is attached to the top wall forming panel, as shown in Fig. 3, before this panel is secured to the enclosing side wall panels. The tubular side wall portion 20 of a collar *r* is so formed as to snugly telescope into the circular opening 7 of the top wall forming panel, with the undersurface of the cover seating portion 21 snugly seated against the surrounding outside

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portion of the main section 1 of the top panel, as more particularly illustrated in Fig. 5. The lower projecting end of the side wall portion 20 is then swaged outwardly as at 26 so as to snugly overlie the surrounding portions of the metal sheet *m*, which forms the liner for the top wall panel. A strip of solder 27 is then applied to firmly secure the swaged end portion 26 of the collar to the top wall panel liner sheet *w*, so as to provide an air-tight connection between the collar *r* and the main section 1 of the top wall panel, as shown more particularly in Fig. 5.

In assembling the packing case, a tubular body is first assembled from the requisite number of flanged panels of the type shown in Fig. 1. It will be appreciated that a packing case may be formed having any desired number of enclosing side walls. For the purpose of illustration, a packing case is illustrated in the accompanying drawings having four side walls only which are identified for convenience as side walls *a*, *b*, *c* and *d*. In assembling the tubular body, two of the side wall forming panels are placed in position with two of their adjacent flanged sections 2 overlapping one another and with their metal faces in abutment. The holes 6 punched through the flanges 2 thereof should then be in alignment. Hollow rivets or eyelets 8 are then driven through these aligned holes and the ends thereof headed over as at 9 to firmly clamp and hold the paired flanges of the two adjacent side wall panels together in rigid assembly. Additional flanged side wall forming panels are then added, the paired flanges being firmly secured together by rivets or hollow eyelets 8 until a tubular box body has been built up, as illustrated in Fig. 9.

In the next operation, the top wall panel designated *f*, and to which the cover seating collar *r* has been previously attached, is then secured to the side wall forming panels *a*, *b*, *c* and *d*, by inserting the rivets or eyelets 8 through the aligned openings 6 in their paired flanges 2, the ends 9 of the eyelets then being headed over, as shown in Fig. 10. It will be noted that the bottom wall panel has not been attached at this stage of the operation. The inner corner seams may be soldered together through the open bottom. Thus, as shown in Figs. 11 and 12, seams of solder 11 and 12 can be applied through the open bottom to the inner side wall and top wall corners, thereby sealing together the metal liner sheets at the inner corners of the side wall panels and the top wall panel. Some of the molten solder will seep between the contacting metal surfaces of the paired flange sections 2 to further secure the paired flange sections together in integral assembly. Since the bottom wall has not been applied, the soldering operation can be easily and expeditiously performed through the open bottom, assuring neat and thorough workmanship since the corner joints are readily accessible and clearly visible. An air-tight assembly can thus be readily obtained.

In the next operation, the bottom forming panel *e* is applied by securing the flange sections 2 thereof in corresponding paired relationship to the adjacent flange sections 2 of the corresponding side wall forming panels *a*, *b*, *c* and *d*. Rivets or eyelets 8 are inserted in the aligned opening 6 in these paired flanges, the ends of the eyelets being headed over as at 9. The inside corner joints defined between the bottom wall panel *e* and the adjacent side wall panels *a*, *b*, *c* and *d* may then be covered by seams of solder 13, as shown in Fig. 13, by inserting the soldering iron

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through the opening in the top wall panel *f*. The bottom joints are thus readily accessible for soldering, and with reasonable care, a neat job and an air-tight bottom construction can be readily attained. Some of the molten solder will seep between the contacting metal surfaces of the paired flange sections 2 of the bottom and side wall panels, thus further securing these flanges together in rigid, integral assembly.

The packing case, comprising the side wall panels *a*, *b*, *c* and *d*, the bottom panel *e* and the top panel *f* is relatively light in weight, is air-tight, and yet possesses tremendous strength. The paired flanges 2 form, in effect, a rigid framework for the case of great strength. The strength of this framework is further enhanced by the fact that the paired flanges present a double ply metal edging rim soldered together in face-to-face abutment. The corners of the framework also present metal ribs 5 which extend out in three directions and soldered together at their focal point. The corners of the packing case, where the greatest strain and abuse occurs, are thus multi-strengthened. The strength value of the multi ply metal in the framework is further enhanced by the protective and stiffening effect of the base sheet flanges in which the metal is encased.

The cover *s*, as shown in Figs. 4, 7 and 14, may be formed from a single piece of relatively heavy sheet metal, and comprises a main body section 30 having reinforcing ribs 31 formed therein which radiate from a depressed pocket 32 at the center of the main section 30. A rim 33 extends continuously around the main section 30, the rim 33 having a diameter which permits a portion of the rim 33 to snugly telescope into the side wall 20 of the collar *r*. The rim 33 terminates in an outwardly flared flange 34 of slightly curved shape to provide a pocket around the underside thereof into which a continuous gasket 35, formed of rubber or the like, may be securely clamped. When the cover *s* is in position, as shown in Fig. 14, the gasket 35 will snugly seat in the pocket 23 of the cover seating portion 21 of the collar *r*.

The cover *s* is held in case closing position by a spider *t* formed from heavy sheet metal and, as shown in Figs. 4, 8 and 14, may be formed with three wings 40 which may be depressed at the center of the spider. The end of each wing 40 is provided with a claw 43 which is adapted to seat under and engage the outwardly flared rim portion 24 of the collar *r*. The rim portion 24 may be cut away at spaced intervals, as at 25, so that the spider *t* may be rotated into a position where the claws 43 will no longer engage the rim portion 24, thereby permitting removal of the spider *t*. The spider *t* carries a threaded bolt 42 whose threaded shank extends through the center of the spider and through a threaded plate or nut 41 welded to the underside of the spider *t*. The bolt 42 is so arranged that the end thereof will seat in the pocket 32 of the cover *s* when the spider *t* is in cover locking position. It will thus be noted that when the spider *t* has been placed in position and its claws 43 swung to a position where they will interlock with the rim portions 24 of the collar *r*, the sealing bolt 42 can be manipulated so that the end thereof will press against the cover pocket 32 and press the gasket 35 in air-tight sealing engagement with the pocket 23 in the collar *r*. The cover assembly as thus constructed cannot be jarred loose and the packing case can thereby

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be sealed air-tight and yet the cover can be readily removed by simply manipulating the cover hold down bolt 42 and rotating the spider to removal position. A sealing wire 45 may also be provided, if desired, which may be inserted through a hole in the head of the bolt 42 and through holes in a lug 44 projecting from one of the wings 40 of the spider. The ends of the wire may be sealed together to provide a tamper proof seal.

There is illustrated in Figs. 15 to 18, inclusive, a packing case in which the side wall forming panels *a*, *b*, *c* and *d* and the bottom forming panel *e* are secured together as a unit by rivets or eyelets 8 which secure the paired flanges of the panels together. Seams of solder 11 and 13 are then applied to the interior joints formed between the side panels, and the side panels and bottom panel, to provide a leakproof construction. The top panel *f* is then used to provide a cover for the case.

To provide convenient access to the case or container, the cover panel *f* is preferably secured in position to the flanged side wall panels by means of U-shaped spring clips *p*, as illustrated more particularly in Figs. 16, 17, and 18. Each spring clip is generally U-shaped so as to present a base section 53, and a pair of resilient leg sections 51 having rolled ends 52 which form a partially closed tube. The base section of each clip has an inside width which closely approximates the thickness of paired panel flanges, which together form the top edge of the box. The clip is formed from strong spring steel and is so shaped that the leg sections 51 thereof must be sprung apart before the clip can be applied to the paired flanges. Each leg of the clip may be provided with a small hole 53 through which a small tack or nail 54 may be inserted and driven into the plywood. As a modification, an inwardly projecting tongue 55 may also be punched from one or both leg sections 51 which will dig into the base sheet portion of the flange section 2 and thereby hold the clip in position. By these means the clip is firmly secured to the paired flanges so that the clip will not be jarred loose or otherwise removed.

A convenient hand tool may be provided, as illustrated in Figs. 18 and 19, by means of which the spring clips *p* may be applied and removed to the paired flanges of the case. This hand tool comprises two tong elements 60, each having a handle portion 61 and a jaw portion 62, and fulcrum portion 63 therebetween. The fulcrum portion 63 of the tongs 60 overlap one another and are secured together by a hinge pin or stud 64 on which the tong elements may fulcrum. The jaws 62 of the tong elements are each provided with a laterally extending pin 65 so shaped that each pin may be readily inserted into the tubular formation formed by the rolled edge 52 of the clip leg 51. By squeezing the handle portions 61 of the tong elements together, the jaw portions 62 may be spread apart to any desired extent. The spring clip is initially so formed that the leg portions 51 thereof must be spread apart to permit application of the clip to the paired flanges of the case. When the jaw pins 65 have been telescoped into the open ended tubular portions 52 of the clip, the legs 51 of the clip may be spread apart by squeezing the handle portions 61 of the tool together, the jaw portions 62 may be spread apart a sufficient distance to permit the spring clip to be readily telescoped over the paired flanges of the case. When the squeezing pressure applied to the tool handle is released, the

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clip will close together to grip the paired flanges. The application of the tacks or nails 54 or the tongues 55 finally secures the clip and prevents removal thereof. Each of the spring clips may be easily removed by applying the hand tool to the clip, spreading the clip legs 51 apart by squeezing together the hand portions 61 of the tool sufficient to permit telescoping withdrawal of the spring clip from the paired flanges. The cover panel *f* of the box can then readily be removed and access to the contents attained.

Packing cases as above constructed are adapted for the packaging of heavy materials, which are subjected to extreme conditions of rough handling, moisture and temperature before the case reaches its point of destination. Great strength is to a large measure achieved by the reinforcing framework formed by the metal reinforced flanges and corners. The sheet metal lining further protects the contents from deterioration or damage. The case may be hermetically sealed to prevent the escape of any liquids, gases, or powdered materials contained in the packing case by the application of sealing plastic to the flange surfaces of the sheet metal which lie in contact, or by the application of weld or solder seams to the interior or outer corners of the case.

It is understood that various modes and methods of applying the principles of this invention may be employed, change being made in regard to details required by the particular application, and that changes and modifications in the form, construction and arrangement and combination of the several parts may be made and substituted for those herein shown and described without departing from the broad principles of this invention.

What is claimed is:

1. An improved packing case having the enclosing walls thereof formed from flanged metal clad panels, each of said panels comprising a fibrous base sheet cemented to a metal sheet and presenting a wall section and flange sections extending at an angle from said wall section, said flange sections being joined at each corner thereof by an unbroken corner section of the metal sheet folded to form a plural-ply reinforcing rib, the adjacent flange sections of adjacent panels being secured together in face-to-face abutment providing a reinforcing framework for said case.

2. An improved packing case having the walls thereof formed from flanged metal clad panels, each of said panels comprising a fibrous base sheet cemented to a metal sheet and presenting a wall section and flange sections extending at an angle of approximately 45° to the plane of said wall section, said flange sections being joined at the corners thereof by an unbroken corner section of the metal sheet folded to form a plural-ply metal reinforcing rib, the adjacent flange sections of adjacent panels being secured together in face-to-face abutment providing a reinforcing framework for said case.

3. An improved packing case having an interior metal liner and an outer body formed from laminated plywood, said case being formed from flanged metal clad panels each presenting a wall section and flange sections extending at an angle to said wall section, means securing adjacent flange sections of adjacent panels rigidly together in paired relationship with the metal faces of said flange sections in face-to-face abutment and encased between the outer plywood layers of said flange sections thereby forming a reinforcing framework for said case, each corner of said

framework having a plurality of plural ply metal ribs formed from corner sections of the metal liner radiating outwardly from the corner focal point and sandwiched between the adjacent plywood layers.

4. An improved packing case having an interior sheet metal liner and an outer body structure formed from a plurality of flanged panels, each of said panels being formed from a fibrous base sheet cemented to a pliable liner forming metal sheet, cut lines in said fibrous sheet defining a wall section and rim forming flange sections, the metal sheet having unbroken corner portions crimped into rib formations extending between the adjacent ends of the flange sections of the base sheet, means securing adjacent flange sections of adjacent panels rigidly together in paired relationship with the metal faces of said flange sections in face-to-face abutment and encased between the outer base sheets of said flange sections thereby forming a reinforcing framework extending along the side edges of said case.

5. An improved packing case having an interior sheet metal liner and an outer body structure assembled from flanged panels, each of said panels being formed from a plywood sheet cemented to a pliable liner forming metal sheet, cut lines in said fibrous sheet defining a wall section and rim forming flange sections, the metal sheet having unbroken corner portions crimped into ribbed formations extending between the adjacent ends of the flange sections of the base sheet, eyelets securing adjacent flange sections of adjacent panels rigidly together in paired relationship with the metal faces of said flange sections in face-to-face abutment and encased between the outer plywood layers of said flange sections thereby forming a reinforcing framework for said case, the corners of said reinforcing framework each presenting a plurality of said ribbed formations extending from the corner focal point, and solder seams joining the metal liner sheets of adjacent panels together to provide an air-tight construction.

6. The method of making a metal lined packing case from flanged metal clad side wall forming panels, a bottom wall panel and a top wall panel, each of said panels comprising a fibrous base sheet cemented to a metal sheet and presenting a wall section and flange sections extending at an angle of approximately 45° to the plane of the wall section and having inturned metal ribs at the corners, said top wall forming panel having an opening therein which is rimmed by a cover seating collar, the method which includes, riveting together adjacent flange sections of successive side wall forming panels together to form a tubular construction, riveting together the flange sections of the top wall forming panel and the adjacent flange sections of the side wall forming panels, applying solder to the interior ribbed corners and joints between adjacent side wall forming panels and the top wall panel by inserting the soldering iron through the open bottom of the construction as thus assembled, riveting the flange sections of the bottom wall panel to the adjacent flange sections of the side wall forming panels, applying solder through the opening in the top wall panel to the interior ribbed corners and joints between the bottom wall panel and adjacent side wall forming panels, said solder being applied in a manner to provide continuous and unbroken solder seams covering all the interior joints and ribbed corners of the case thereby to

provide a metal lined packing case of air-tight construction having a reinforcing framework defined by said paired flange sections.

7. The method of making a metal lined packing case from flanged metal clad side wall forming panels, a bottom wall panel and a top wall panel, each of said panels comprising a fibrous base sheet cemented to a metal sheet and presenting a wall section and flange sections extending at an angle of approximately 45° to the plane of the wall section and having inturned metal ribs at the corners thereof, said top wall forming panel having an opening therein which is rimmed by a cover seating collar, the method which includes, riveting together adjacent flange sections of the side wall forming panels and the adjacent flange sections of the top wall forming panel and the side wall forming panels, applying solder to the interior ribbed corners and joints between the adjacent side wall forming panels and top wall panel by inserting the soldering iron through the open bottom of the construction as thus assembled, riveting the flange sections of the bottom wall panel to the adjacent flange sections of the side wall forming panels, applying solder through the opening in the top wall panel to the interior ribbed corners and joints between the bottom wall panel and adjacent side wall forming panels, said solder being applied in a manner to provide continuous and unbroken solder seams covering the ribbed corners and joints between all the wall forming panels of the case thereby to provide a metal lined packing case of air-tight construction having a reinforcing framework defined by said paired flange sections.

8. An improved packing case having an interior metal liner and an outer body formed from fibrous material and presenting, wall forming sections and paired flange sections, said paired flange sections extending angularly outwardly from the wall forming sections of the case providing a reinforcing framework therefor, said paired flange sections having the metal flange portions thereof in face to face abutment and encased between the outer fibrous flange portions thereof, the adjacent metal flange portions of each wall forming section being joined at each corner thereof by an unbroken metal corner section folded to form an outwardly extending plural-ply reinforcing rib embedded between the adjacent ends of the fibrous flange portions of each wall forming section and with the plys forming the rib in face to face contact, each of said ribs radiating outwardly from the corner focal point.

9. An improved packing case having an interior metal liner and an outer body formed from laminated plywood and presenting, wall forming sections and paired flange sections extending angularly outwardly from the wall forming sections of the case providing a reinforcing framework therefor, said framework presenting paired flange sections having the metal flange portions thereof in face to face abutment and encased between the plywood flange portions thereof, the adjacent metal flange portions of each wall forming section being joined at each corner thereof by an unbroken metal corner section folded to form an outwardly extending plural ply reinforcing rib embedded between the adjacent ends of the plywood flange portions of each wall forming section and with the plys forming the rib in face to face contact, said case presenting three metal

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ribs at each corner radiating outwardly in three directions from the corner focal point.

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