Nov. 23, 1926. 1,608,046

R. W. STANLEY

PACKING CASE

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Fig. 1.

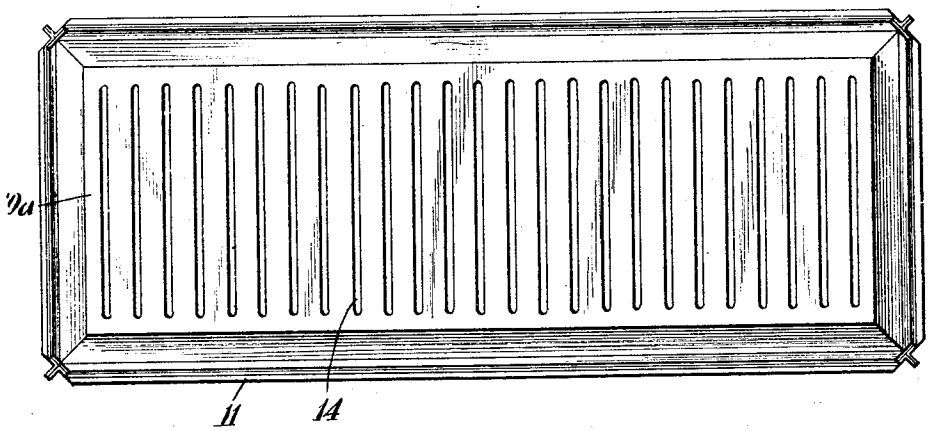


Fig. 2.

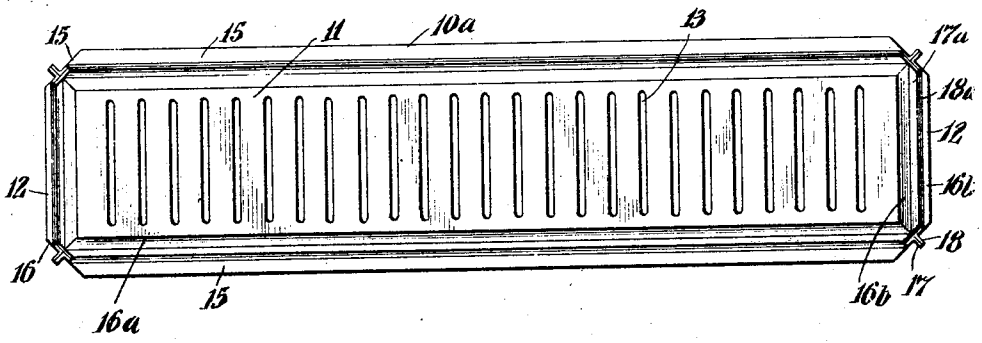
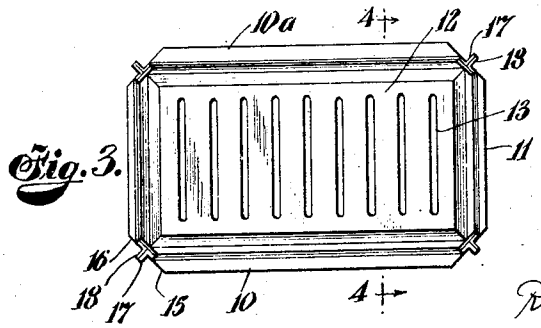


Fig. 3.



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Fig. 4.

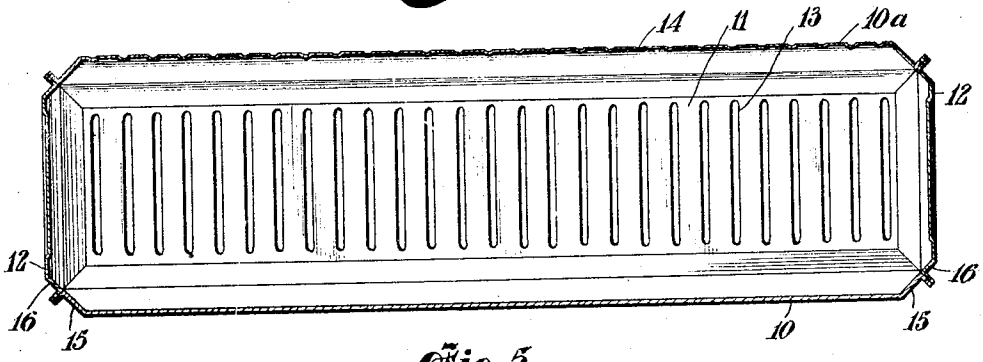


Fig. 5.



Fig. 6.

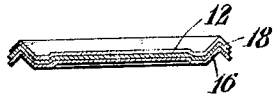


Fig. 7.

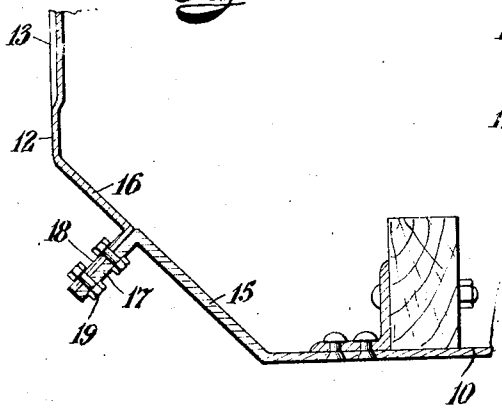
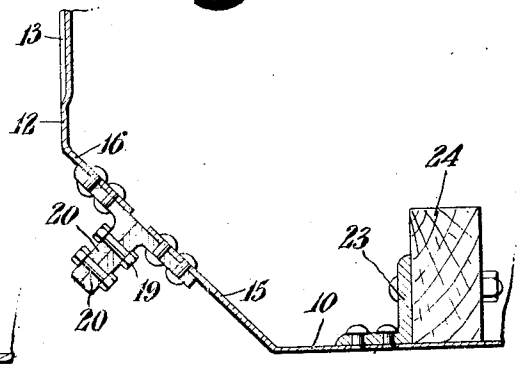


Fig. 8.



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UNITED STATES PATENT OFFICE.

ROBERT W. STANLEY, OF HOLYOKE, MASSACHUSETTS.

PACKING CASE.

Application filed June 30, 1926. Serial No. 119,774.

My invention relates to improvements in packing cases, and while my invention can be used for a packing case for commodities generally, it is particularly intended for the larger variety of packing cases, and by way of example I have in the accompanying specification and drawings described and shown it as applicable to knock-down automobiles, but as will appear, it can be used for other things. The larger packing cases, and particularly automobile packing cases, are necessarily made of good lumber, and they require a large quantity of lumber which must be rather heavy in order to withstand the rough usage to which the case is put. This makes it expensive, and more so when the fact is taken into consideration that the cases are ripped apart when once used and are not again usable. Moreover the lumber cases of this kind are bulky and of necessity rather thick, so that they add materially to the cost of freight in shipping.

My invention is intended to obviate these difficulties, and to produce a more economical packing case which can also be used to far greater advantage and more easily set up, as easily taken down, and repeatedly used. In carrying out this idea, I preferably make the packing case of metal, and construct it in such a way that all the fastenings are external and easily accessible, so that the case can be easily fastened together and readily taken apart. Moreover I construct and arrange the package so that the metal need not be very thick and yet will be exceptionally strong. In consonance with this idea I preferably have the bottom and top, sides and ends, united together through the medium of meeting flanges, which obviously must extend in different directions, and which act as external ribs or braces, giving great strength to the connected parts, and also facilitating easy fastening together and unfastening.

Another feature of my invention is that I dispose the fastenings so that they are within the planes of the adjacent flat portions of the packing case, and so offer no opposition to close packing and easy shipping. Furthermore, I arrange the meeting flanges in such a way that they afford convenient holds for hoisting hooks or the like, and dispose of them in such a manner that if the package lies on the best side for shipping and packing, these holds can be easily engaged, but otherwise the flanges or holds are disposed so as to be difficult of engagement, to the end that the handlers of freight will naturally pack the cases in the appropriate way for easy handling and for the easy engagement of hoisting machinery or tools with the aforesaid holds or flanges.

As a convenient means of disposing the flanges or holds and fastenings so that they will be out of the plane of the flat part of the packing case, I incline the corner portions of the flat sides so that the flanges can be made on such inclined portions, and thus will fall easily within the external planes of the flat parts of the case. This will appear more clearly from the description which follows.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar reference characters indicate corresponding parts in all the views.

Figure 1 is a plan view of a packing case showing my improvements.

Figure 2 is a side elevation thereof.

Figure 3 is an end view.

Figure 4 is a longitudinal section on the line 4—4 of Figure 3.

Figure 5 is a detail sectional view showing how parts of the packing case can be nested for packing and shipment.

Figure 6 is a view similar to Figure 5, illustrating one way of nesting the end parts of the case.

Figure 7 is an enlarged detail sectional view of a corner part of the packing case, and

Figure 8 is a view similar to Figure 7 but illustrating a modification.

By way of example I have illustrated a packing case embodying my invention and adapted for use in shipping knock down automobiles, but it will of course be understood that while the packing case is peculiarly adapted for this use, it can also be used for shipping other things.

The case is generally rectangular in shape having a flat bottom 10 and a corresponding flat top 10^a, vertical sides 11, and vertical ends 12, the sides and ends uniting the top and bottom as is usual in rectangular packages. The sides and ends are preferably corrugated as shown at 13 to enable comparatively light metal to be used and still have

the necessary stiffness, these parts being reinforced in this way because usually the cases are packed flatwise one on the other, and the vertical parts should be especially stiff; but if desired the other portions may be likewise corrugated as shown at 14 in Figure 4.

I find the most convenient and strongest way of uniting the parts is at the corners, and at the horizontal and vertical corners of the case. The method of securing the parts together will be best understood by reference to Figure 7. Here it will be seen the bottom 10, which is shown of a little thicker material than the sides 12, is inclined upward at the edges forming the angle 15, and the sides and ends are similarly inclined as shown at 16, the parts 15 and 16 having meeting outwardly extending flanges 17 and 18 which can be conveniently fastened by bolts 19 or the like. Thus it will be seen that the fastening is exceptionally strong, and that the flanges and their fastenings lie outside of the packing case but within the planes of the adjacent parts 10 and 12, so that they offer no obstruction to ready packing of the cases one on the other, or of packing them in close connection with other goods. The sides 12 have inclines 16^a corresponding to the inclines 16, and the sides and ends have corresponding inclines 16^b, while the flanges are common to all the meeting parts and are fastened as shown.

By reference to Figure 7 it will be observed that the incline 15 is longer than the incline 16 or 16^a, so that when the package is right side up, as for instance in Figure 2, grappling hooks or the like may be easily placed over the sides and ends and engaged with the lower flanges 17—18, thus affording a very convenient way of lifting the package, and naturally the handlers of freight soon learn this and pack the cases right side up to save themselves work. If they should pack the cases on edge, for instance, it will be seen that this, by reason of the shorter incline 16, will bring the lower edges of the flanges 17 and 18 so near the floor or ground that they can not be readily engaged by the hooks.

Obviously so far as the invention is concerned, the flanges might be at any point between the sides of the adjacent parts, so long as they lie within the plane of said parts, but the arrangement which I have described and shown is preferable.

It will be seen at once that this package can be easily set up or knocked down, and that when knocked down the tops and bottoms can be nested together, the sides nested, and the ends likewise nested, affording a convenient means of storing, packing, or shipping the case in knocked down condition.

Particular attention is called to the fact that in my improved structure all the corner edges of the packing case are inclined and the meeting fastening flanges lie within the planes of the next adjacent side. This not only affords a very firm and secure means of fastening and of rigidly bracing the structure, but it makes a package in which there is no waste space and one which is conducive therefore to low freight charges. Where a packing case, particularly for knock down automobiles, is internally flush to the very corners, this means a lot of waste space because the corners are never filled; but by having all the corner edges inclined as shown, no loss of containing space occurs, because the inclined parts, as stated, occupy what would be empty space in an ordinary form of container.

In Figure 8 I have shown that the meeting flanges for securing the parts together need not be integral with the said parts, and here flanges 20 and 21 in the form of angle irons are riveted or otherwise secured to the adjacent inclined parts 15 and 16 of the case and the effect is the same as already described.

In shipping automobiles or machinery, and in fact other things, it is often desirable to have abutments or blocks disposed in various interior parts of the packing case as a support or anchor for parts, as for instance an axle, crank shaft, or other portions of the machine. To this end I arrange angle irons 23 within the case and rivet them to the bottom at desired parts. Blocks 24 of wood or other material can be fastened to these angles, and answer the purpose of anchoring means for the mechanical or other parts as stated.

From the foregoing description it will be seen that I have produced a simple and strong packing case which can be easily stamped or otherwise shaped, which can be readily erected or knocked down, conveniently shipped in knocked down condition, and therefore capable of re-use many times. It will be further noticed that by reason of disposing of the external flanges so that they facilitate handling and hoisting of the package, I obviate what has heretofore been a great objection to metal packing cases, to wit, the fact that they cannot be readily handled because of the inability to get hold of them properly.

It will also be understood that this improved packing case may be made air tight and water-proof, or may be ventilated, that it may be given special shape, and that the internal anchorage block may be disposed and fastened in any convenient way without affecting the invention.

I claim:—

1. As an improved article of manufacture, a knock-down sheet metal container having the four edges of each blank side inclined and provided with a terminal outturned

flange whereby the tops and bottoms can be nested together, the sides nested, and the ends nested, the said flanges being disposed on the inclined parts so that when the box is set up the meeting flanges at the corner edges of the box will lie within the planes of the adjacent sides.

2. As an improved article of manufacture, a knock down flat sided packing case having all its corners inclined, external fastenings on said corners for uniting the parts together, said fastenings being disposed so as to lie within the planes of all the adjacent flat sides of the case.

3. As an improved article of manufacture, a knock down packing case having flat sides with abutting flanges meeting at all the corner edge portions of the case, said flanges being disposed so as to lie within the planes of all the adjacent sides of the case.

4. A generally rectangular packing case having flat sides with the adjacent corner portions of the sides inclined and provided with meeting flanges, the incline of one corner portion being longer than the incline of the corresponding meeting corner portion whereby the said meeting flanges are brought nearer to one side of the case than to the adjacent flat side.

In testimony whereof, I have signed my name to this specification this 29 day of June, 1926.

ROBERT W. STANLEY.