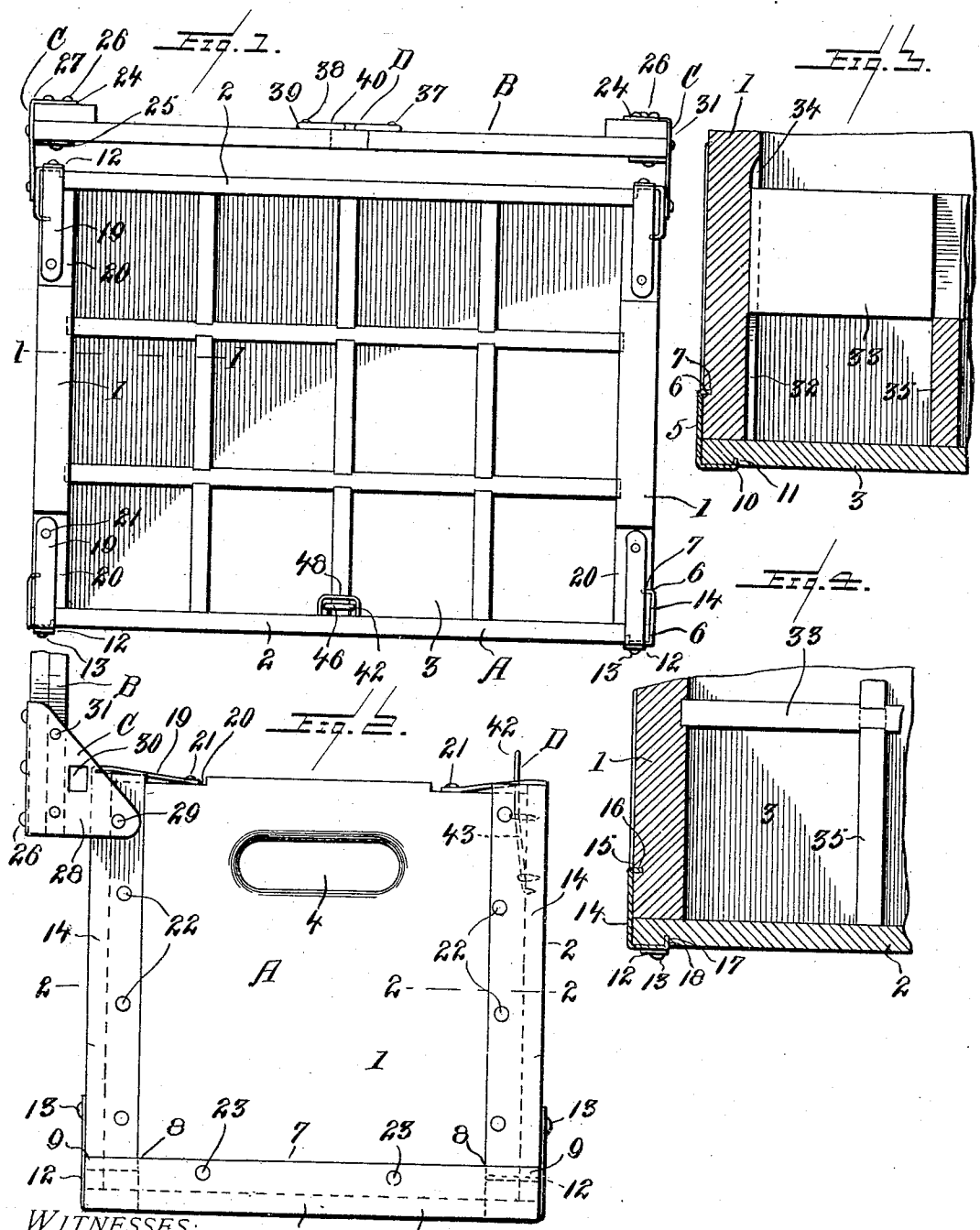


F. J. KRESS.
 BOX OR CASE.
 APPLICATION FILED AUG. 4, 1906.

939,272.

Patented Nov. 9, 1909.



WITNESSES:

Wm F Kress

Geo B Pitts

BY *Fig. 5*

INVENTOR

F. J. Kress

Wm F Kress

Attorney

UNITED STATES PATENT OFFICE.

FREDERICK J. KRESS, OF PITTSBURG, PENNSYLVANIA.

BOX OR CASE.

939,272.

Specification of Letters Patent.

Patented Nov. 9, 1909.

Application filed August 4, 1906. Serial No. 329,251.

To all whom it may concern:

Be it known that I, FREDERICK J. KRESS, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Boxes or Cases, of which the following is a specification.

My invention relates to boxes or cases for the use of bottlers, and other purposes, and has for its object to make the box separate to a certain extent or so that the entire box can be readily taken apart, or any portion of it replaced if broken. Such boxes or cases are subject to rough usage and parts of them are frequently broken and require to be replaced; this occurs especially in the instance of the sides (front and back) and of the bottom.

The invention also comprises improved means whereby the partitions which separate the bottles may be held in place.

With such objects in view the invention consists in the parts and combinations thereof hereinafter set forth and claimed.

In order to make the invention more clearly understood I have shown in the accompanying drawings means for carrying the same into practical effect, without limiting my improvements, in their useful applications, to the particular construction which I have illustrated for the purpose of explaining the invention.

In said drawings—Figure 1 is a plan view of a box or case embodying the invention, with the lid raised. Fig. 2 is an end view of the same. Fig. 3 is a vertical section of the lower portion of the box on line I of Fig. 1. Fig. 4 is a horizontal section of one end of the box on line 2—2 of Fig. 2. Fig. 5 is an end view of one of the lower corner stays.

Referring to the drawings, A indicates the body of the box or case and B the cover connected with the case by sheet metal hinges C, and adapted to be held in a closed position by the securing device D or other suitable means. The said body is composed of ends 1, 1, sides 2, 2, and a bottom 3.

To give solidity and strength to the box the ends are formed, preferably, of thick material, such as pieces of wood seven-eighths of an inch in thickness, and in these parts are formed hand holes 4 for lifting and transporting the box. The end pieces are thus made permanent in their character

under all ordinary conditions of usage, and relative to such end pieces the sides and bottom are removed and replaced as occasion requires, the connection between such other pieces and the ends being of a nature to allow the ready performance of these operations. The means of connection between the ends and the other parts are also of such character as to greatly strengthen the box, make it very durable and render the manufacture of the box inexpensive.

At each end lower corner of the box is arranged a right angled metal stay 5 formed along its upper edge with an inwardly turned flange 6 which engages in a horizontal groove 7 formed in the exterior surface of the end piece 1. This flange extends from one to the other of the side pieces 2 but does not engage either of said side pieces, the flange being cut across as indicated at 8, and the portion of the flange beyond said cuts being bent down as shown at 9 so as to lie flat against the end surfaces of the sides 2.

10 is a vertically extending flange along the edge of the lower portion of the stay 5, which fits in a corresponding groove 11 in the bottom surface of the bottom 3.

12, 12 indicate lugs or tongues which are continuations of the lower portion of the stay and are adapted to be bent upward around the front and back edges, respectively, of the bottom 3 and are secured by suitable means to the solid and thick end pieces 1. For thus securing the ends of the tongues 12 I prefer to employ the nails 13. It will be observed from the above construction that the bottom 3 may be readily removed in case it is damaged by drawing the nails 13 at either the front or the back of the box and bending down the corresponding tongues 12, whereupon the bottom piece may be slid along the flanges 10 and removed without disturbing any other part of the box, and a new bottom may be inserted by the reverse of these operations.

At each vertical corner of the box is applied a right angled metal stay 14 formed with an inturned flange 15 engaging a groove 16 in the outer face of the end piece, and formed with a flange 17 at its other edge to engage a corresponding groove 18 in the side piece 2. The stay 14 at its lower end abuts against the stay 5 and also receives the nail 13 and strengthens the engagement of said nail with the end piece 1.

At the upper end of the stay 14 is a tongue 19 which is a continuation of the side portion of the stay and is adapted to be bent down and over the top edge of the side piece 2 so as to inclose the same and keep it from vertical movement away from the bottom 3, against which the lower surface of the side piece abuts. The tongue 19 fits in a recess 20 formed in the top surface of the end piece 1 and is there suitably secured, as by a nail 21 driven down into the end piece. From this construction it results that either side piece can be readily removed in case of damage to the same, by drawing the nails 21 and bending up the tongues 19 which secure such damaged piece, and then removing the latter by sliding it upward along the flanges 17 of the stays 14, the side pieces having no connection with the bottom but being independent thereof.

The vertical corner stays 14 are permanently secured to the end pieces 1, 1 by nails 22, and the lower corner stays 5 are similarly secured to the end pieces by nails 23, but it will be understood that other means of fastening, such as screws, may be employed in place of the said nails 13, 21, 22 and 23.

The hinges C of the cover are preferably of such nature as to allow the cover to swing back from over the rear side piece so as to allow the removal and replacement of the latter as above described. The said hinges are formed of sheet metal cut and bent from a single flat blank so as to form a horizontal top flange 24 and a bottom flange 25 between which flanges the cover B is held and into which nails or screws 26 are driven in a vertical direction. Connected with the top flange 24 along the bent angle 27 is the vertical side piece 28 of the hinge of triangular shape and extending down on the outer sides of the ends 1 for a sufficient distance to cause the cover B to clear the rear side piece 1 when the cover is raised. At their lower ends the side pieces 28 of the two hinges are pivotally connected with the rear vertical stays 14 by horizontal transverse nails 29 driven through said stays and into the end pieces 1. The bottom flange 25 of the hinge is cut out of the middle portion of the side piece 28 and is bent inward along the angle 30, as seen in Fig. 5.

Before the cover is attached, or after its removal by drawing the nails 29, the box may be completely knocked down by withdrawing both of the side pieces 2 and the bottom 3 in the manner already described, and the box may be manufactured and shipped in this condition, and very simple and easily performed operations suffice to assemble the parts ready for use. When the box is to be repaired, as already described, the parts which are not removed preserve their arrangement and rigidity.

The side pieces 28 of the hinges are preferably secured to the cover by horizontal nails 31.

I prefer to provide the box thus constructed with interior partitions of the usual character, but such partitions are held in place only by the end pieces 1 and the bottom 3. For this purpose the interior faces of the ends 1 are formed with vertical grooves 32 in which fit the ends of the longitudinal partitions 33, which partitions are held down in place by the shoulders 34 at the upper ends of the grooves 32. The longitudinal partitions 33 interlock with the transverse partitions 35 in the usual manner and hold the latter down against the bottom 3 but without interlocking with said bottom, which is thus left free to be removed horizontally. Also the ends of the transverse partitions 35 do not interlock with the sides 2 but leave the latter free to slide vertically. The end pieces 1 and side pieces 2 having been united as already described the partitions are put in place from the bottom of the box, the ends of the longitudinal partitions sliding inward along the grooves 32 and the bottom 3 is then slid into place along the flanges 10.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. In a separable or knock-down box or case, the combination of the end pieces having horizontal corner stays permanently attached along their lower edges, the horizontally slidable grooved bottom, and suitable side pieces resting on and independent of the said bottom, the said corner stays having upwardly turned flanges which engage within the grooves of the bottom and having tongues 12 which are bent around the edges of the bottom and are attached at their extremities to the end pieces, substantially as set forth.

2. In a separable or knock-down box or case, the combination of the end pieces formed with the interior vertical grooves 32, the interior partitions engaging the said grooves by their ends, the horizontal bottom corner stays attached to the end pieces and having upwardly extending flanges and the horizontally slidable bottom having exterior grooves in which said flanges engage to permit the horizontal sliding of the bottom, the said partitions being confined between the bottom and the upper ends of the said grooves in the end pieces, substantially as set forth.

3. In a separable or knock-down box or case, the combination of end pieces, a slidable bottom piece extending to the ends of the case under the lower edges of the end pieces, independent of the latter, and having grooves on its under face parallel with the end pieces, side pieces resting on the bot-

5 tom piece, independent thereof, and having vertical grooves 18, vertical corner stays permanently attached to the end pieces and having flanges 17 engaging the grooves of the side pieces, and bottom corner stays also permanently attached to the end pieces and having upwardly extending flanges engaging the grooves of the bottom piece, substantially as set forth.

- 10 4. In a separable or knock-down box or case, the combination of end pieces, a horizontally slidable bottom piece extending to the ends of the case under the lower edges of the end pieces, independent of the latter, and having grooves on its under face parallel with the end pieces and removable by sliding forward or backward parallel with the end pieces, side pieces resting on the

bottom piece, independent thereof, and having vertical grooves, vertical corner stays permanently attached to the end pieces and having flanges engaging the grooves of the side pieces, and bottom corner stays also permanently attached to the end pieces and having upwardly extending flanges engaging the grooves of the bottom piece, said corner stays having tongues bent over the edges of the bottom and side pieces respectively and attached to the end pieces, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

FREDERICK J. KRESS.

Witnesses:

LUKE A. EGER,
JOHN G. QUINN.