

W. MALCHOW.
FOLDING CRATE.
APPLICATION FILED DEC. 28, 1910.

1,017,573.

Patented Feb. 13, 1912.

2 SHEETS—SHEET 1.

Fig 1

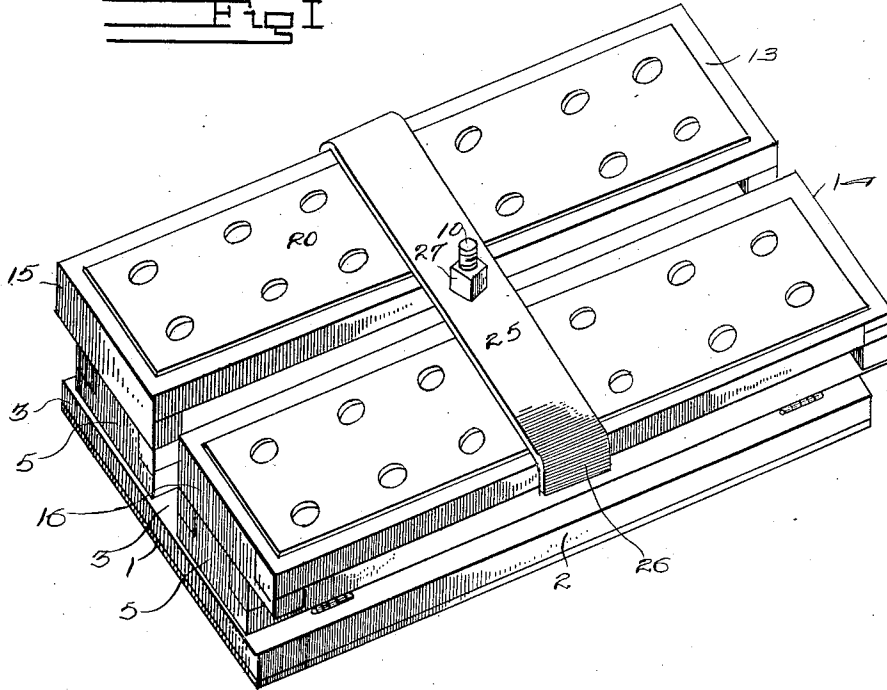


Fig 2

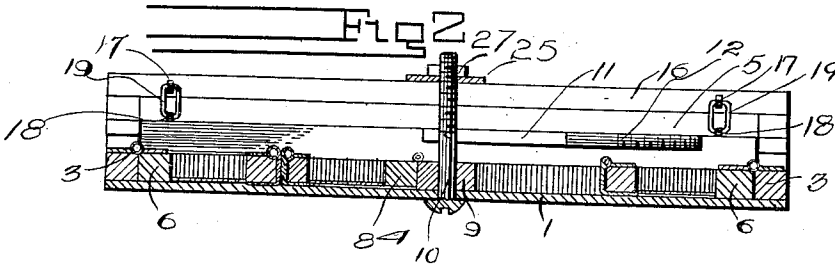
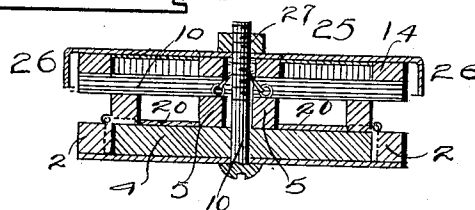


Fig 3



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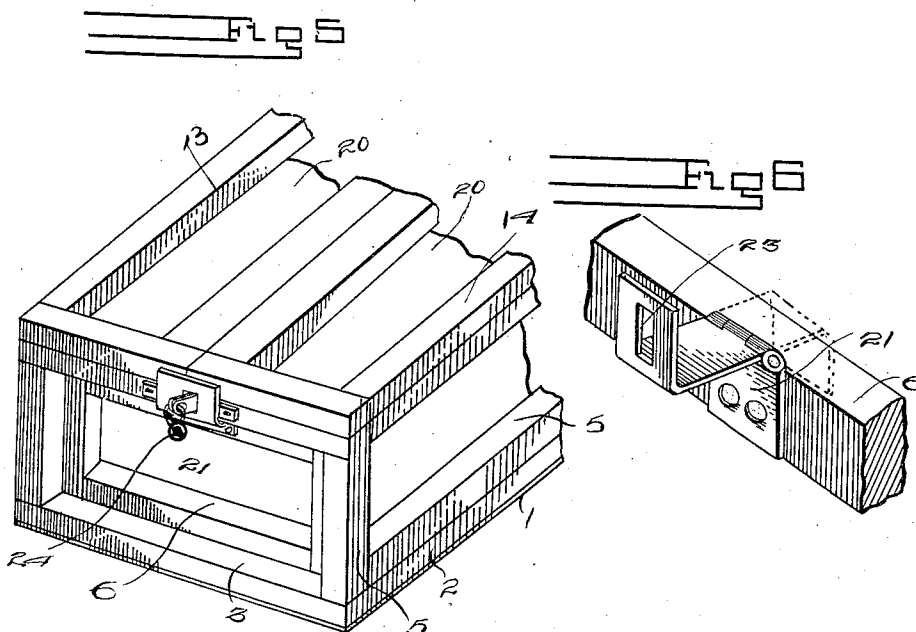
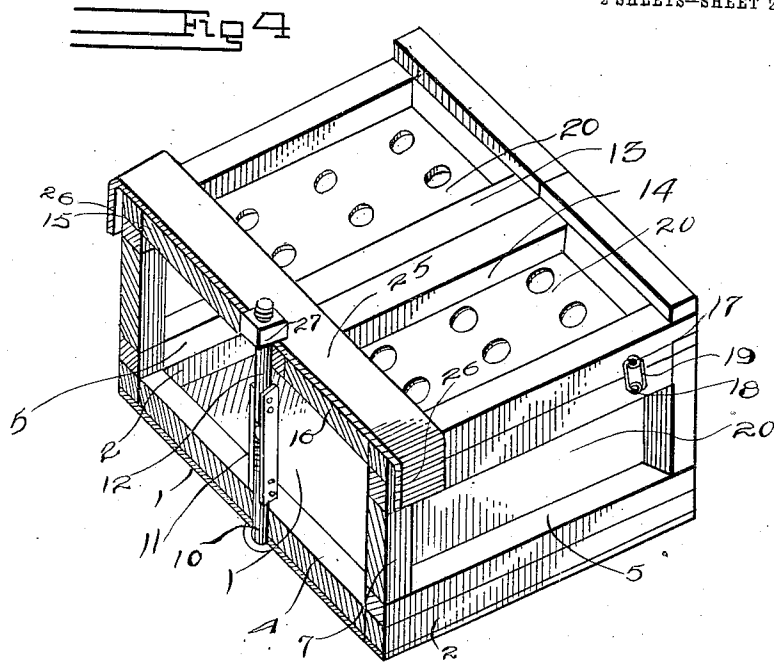
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2 SHEETS--SHEET 2.



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UNITED STATES PATENT OFFICE.

WILLIAM MALCHOW, OF NATOMA, KANSAS.

FOLDING CRATE.

1,017,573.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM MALCHOW, a citizen of the United States, residing at Natoma, in the county of Osborne and State of Kansas, have invented certain new and useful Improvements in Folding Crates, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to folding crates and the principal object of the same is to provide a crate which can be folded up into a compact package so that the same can be shipped conveniently.

15 Another object of the invention is to provide a novel type of bolt which holds the crate in either a set-up or folded position, and which comprises a plurality of parts hinged together so that the bolt will not protrude too far when the crate is in folded position.

Referring to the accompanying drawings: Figure 1 is a perspective view of the crate in a folded position. Fig. 2 is a longitudinal sectional view through the folded crate. Fig. 3 is a transverse sectional view through the folded crate. Fig. 4 is a perspective view of the crate in set-up position, the crate being shown in section to show the construction of the securing bolt. Fig. 5 is an enlarged fragmentary view of one of the rear walls and shows a hasp, which secures the end in position. Fig. 6 is an enlarged fragmentary view showing the construction of the hasp.

Referring to the accompanying drawings by numerals, it will be seen that the improved crate comprises a bottom 1 around the edge of which there are secured the bottom side bars 2 and the bottom end bars 3. A center bar 4 is also secured to the bottom and braces the bottom of the crate intermediate its length. The side walls 5 and end walls 6 are rectangular in shape and the side walls 5 are provided with center bracing bars 7. The side walls are hinged to the bottom side bars by any desired type of hinges, which are secured to the inner side of the side walls and side bars so that the side walls can open to vertical position and can close to a horizontal position. The bottom end bars are positioned so that the end walls will be positioned a short distance from the ends of the crate. A partition 8 is hinged to the center bar 4 so that it may either rest upon the bottom of the crate or may be raised to a verti-

cal position. An opening 9 is formed through the bottom of the crate and through the center bar 4 to permit the passage of a bolt 10 which is provided with a transverse opening through which a pin passes to pivotally secure a pair of side plates 11 to the bolt. A threaded rod 12 is rigidly secured to the other ends of the side plates 11 so that when the crate is in a set-up position the end of the rod 12 will extend above the top of the crate. It should be noted that when the securing bolt is moved from the position shown in Fig. 2 to the position shown in Fig. 4 that the side plate 11 will tightly grip the bolt 10 and through its frictional engagement with the threads of the bolt hold the securing device in an upright position while the crate is being set up. The top of the crate comprises a pair of longitudinal sections 13 and 14, which are similar to the side walls and which are also provided with the counter bracing bars 15 and 16. The top sections are each provided near its ends with the staples 17 and each side wall is provided with a staple 18 which is connected with the staple 17 by rings 19 so that the top sections have a very free movement and can either be folded upon the tops of the end walls and center partition, or may be folded back upon the side walls.

The walls, cover sections, and partition are all provided with a web 20 which is provided with a number of openings through which air can be admitted to the interior of the crate so that when vegetables are being shipped a free circulation of air will be permitted and the vegetables will thus be prevented from spoiling. If desired, however, this web may be dispensed with and any other desired type of wall may be used, such, for instance, as a solid strip of veneering. The end walls are each provided with a hasp 21 which is hinged to the outer side and which may be either turned to lie flat upon the inner side of the wall when the crate is in a folded position or may be brought up against the ends of the top members. When the crate is in a set-up position, the cleats 22 have their ends extending through the slot 23 in the hasp where they are secured into place by a leaded wire 24 or by any suitable type of padlock.

In order to set up this crate the end walls and the center partition are raised to a vertical position and the top members are then folded down upon the upper edge of the

walls and partition and the hasps placed upon the cleats where they are secured by locks. When the crate is in a set-up position the threaded end of the rod 12 protrudes through a set of registering notches in the edges of the top members and a plate 25 is placed upon the protruding ends. The ends 26 of the plate are bent at right angles to the major portion and extend down the sides of the crate to brace the crate. The nut 27 is threaded upon the end of the rod 12 and holds the plate 25 in position. When it is desired to fold the crate, the plate is removed and the hasps removed from the ends of the cleats, the cover members are then turned back upon the side walls and the end walls and center partition folded down upon the bottom of the crate, the hasps being turned in upon the walls so that their inner ends are positioned between the end walls and the bottom of the crate. The rod 12 is turned down upon the end walls as shown in Fig. 2 and the side walls are folded down upon the end walls and center partition thus bringing the crate in the position shown in Fig. 1. The plate 25 is then placed upon the protruding end of the bolt 10 and the securing nut 27 threaded upon

the end of the bolt. The crate is now in a folded position and is ready to be shipped or placed in a store room.

From the above description it will be noted that there is provided a crate which can be readily folded or set up and which when in folded position forms a very compact mass, and not only takes up a small amount of space but is in no danger of being injured.

What I claim is:

A folding crate and a device for holding said crate in either folded or set up position, comprising a threaded bolt, plates pivotally mounted upon said bolt, a threaded rod rigidly secured between the outer ends of said plates, and a securing nut adapted to be mounted upon said bolt and rod, said plates when moved to a vertical position having a frictional engagement with the threads of said bolt to retain said rod in a vertical position.

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

WILLIAM MALCHOW.

Witnesses:

CHRIST KRUSE,
ERNEST REINER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."