M. F. BENCH.

FOLDING CRATE.

APPLICATION FILED MAY 1, 1919.

1,338,608. Patented Apr. 27, 1920.

2 SHEETS—SHEET 1.

FIG. 1.

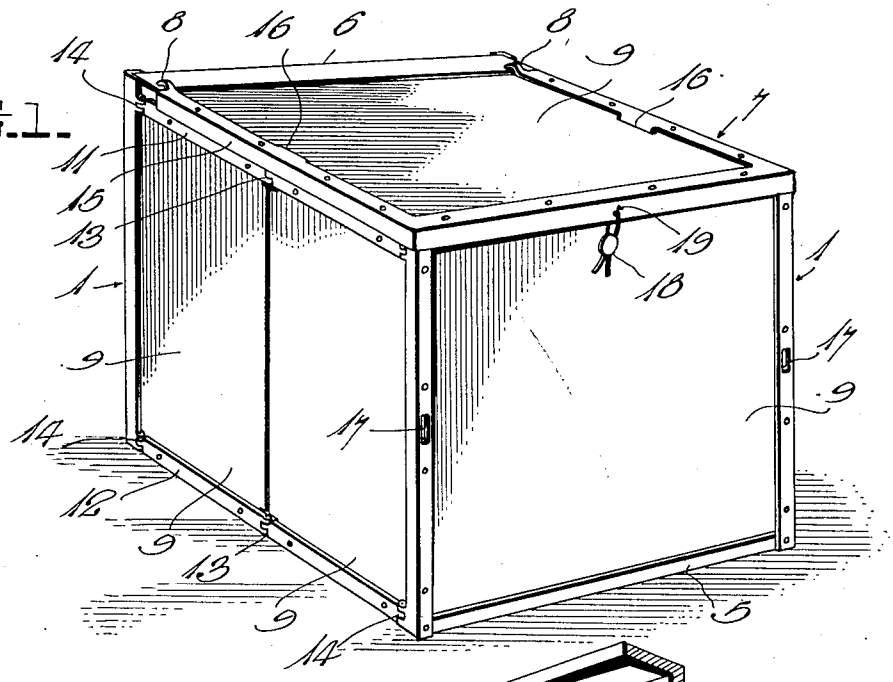


FIG. 6.

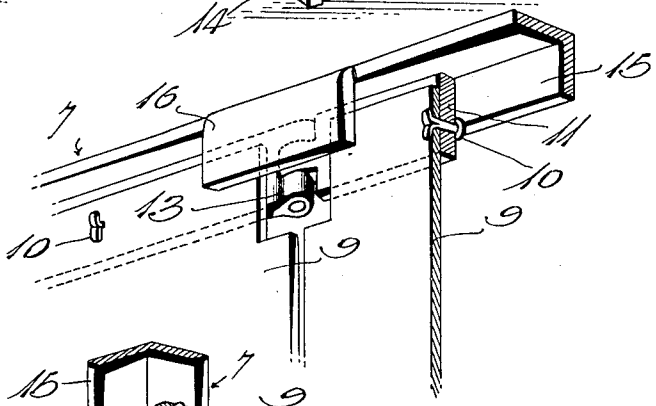
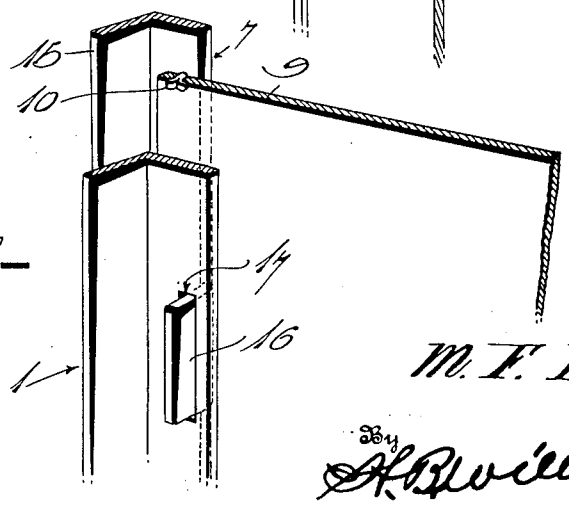


FIG. 7.



Inventor

M. F. Bench,

By Wilkinson & Co

Attorneys

M. F. BENCH.

FOLDING CRATE.

APPLICATION FILED MAY 1, 1919.

1,338,608.

Patented Apr. 27, 1920.

2 SHEETS—SHEET 2.

FIG. 2.

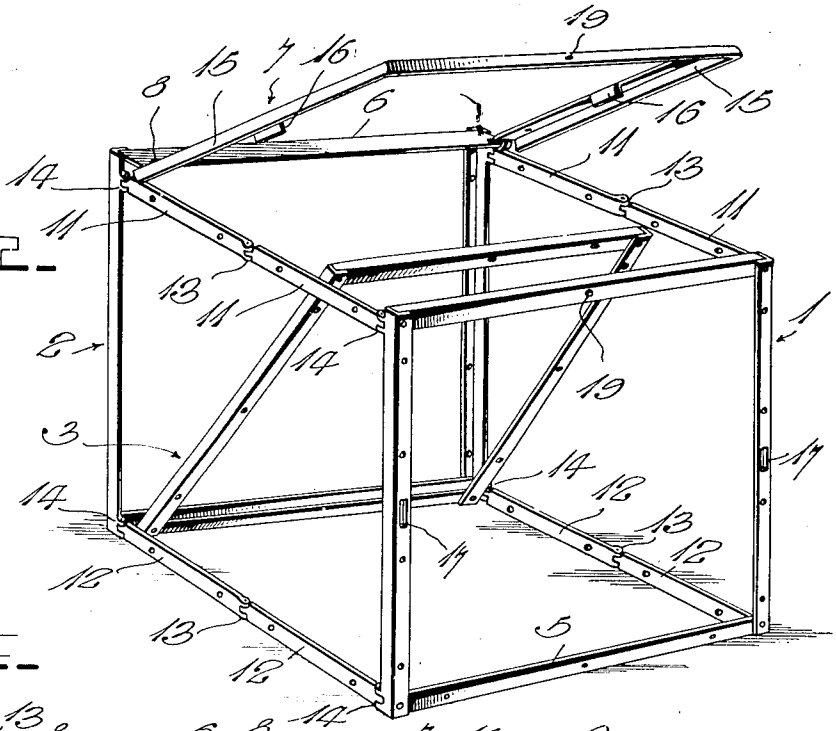
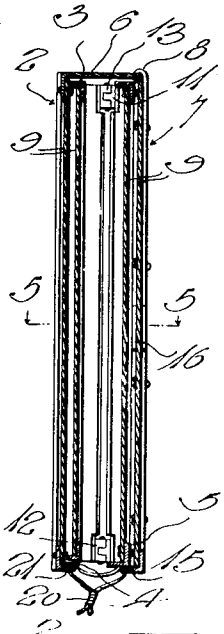


FIG. 4.



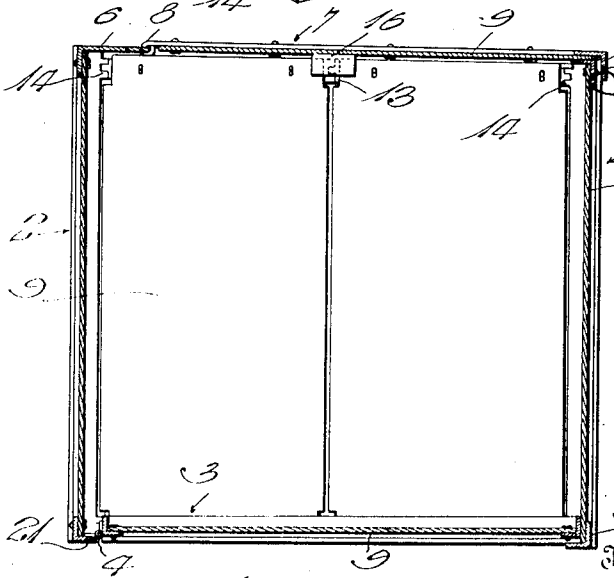
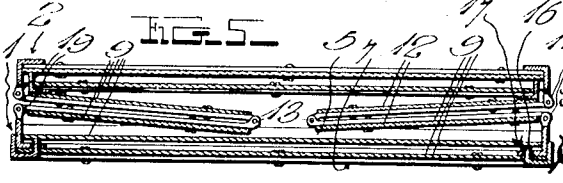


FIG. 3.

FIG. 5.



Inventor

M. F. Bench,

By

A. B. Williamson & Co

Attorneys

UNITED STATES PATENT OFFICE.

MARION FRANKLIN BENCH, OF CHILLICOTHE, MISSOURI.

FOLDING CRATE.

1,338,608. Specification of Letters Patent. Patented Apr. 27, 1920.

Application filed May 1, 1919. Serial No. 294,020.

To all whom it may concern:

Be it known that I, MARION F. BENCH, a citizen of the United States, residing at Chillicothe, in the county of Livingston and State of Missouri, have invented certain new and useful Improvements in Folding Crates; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates more particularly to folding crates intended primarily for use by bakers in shipping bread and the like. The crates commonly used for this purpose occupy a great deal of space for return shipment and when the crates are empty, the rough handling to which they are subjected, is very injurious, with the result that the crates are short lived.

The principal object of my invention is to overcome the difficulties above pointed out by the provision of a simple and inexpensive, yet an efficient and reliable crate constructed in a novel manner for folding compactly when not in use, thereby occupying little space during return shipment, and minimizing the danger of breakage.

A further object is to provide a folding crate embodying an angle iron frame structure to carry sides, top and bottom, of fiber board, cardboard, or the like, for renewal from time to time, to maintain the crate in a clean and sanitary condition.

With the foregoing in view, the invention resides in the novel construction and arrangement hereinafter described and claimed, reference being made to the accompanying drawings which form a part of this application.

Figure 1 is a perspective view of a crate constructed in accordance with my invention.

Fig. 2 is a perspective view of the frame structure.

Fig. 3 is a vertical section.

Fig. 4 is a sectional view showing the crate folded.

Fig. 5 is a horizontal section on the plane of line 5—5 of Fig. 4.

Fig. 6 is a perspective view showing the lugs and flanges to prevent inward and outward swinging of the sides of the crate.

Fig. 7 is a perspective detail illustrating the location of the aforesaid lugs when the crate is folded.

In the drawings above briefly described, a rectangular front frame 1 and a similar back frame 2 are shown, both formed of angle iron of any required proportions. A rectangular bottom frame 3 is hinged at 4 to the bottom bar of the back frame 2 and is normally folded downwardly upon the horizontal flange of the bar 5 at the lower end of frame 1, said frame 3 being also of angle iron construction. The top bar of frame 2 is provided with a forwardly projecting horizontal flange 6 and a top frame 7 is hinged thereto at 8. The frame 7 is formed of angle iron, like the other frames, this construction being used throughout in order that sheets of fiber board, cardboard or the like 9, may be carried by said frames to form therewith the front, back, sides, bottom and top of the crate. In all instances, the fiber board or the like 9 need not be secured in place, but in most cases it will be attached to the side bars of the several frames by split rivets or other fasteners 10.

Two sheets 9 are required for each side of the crate and the ends of said sheets are secured to upper and lower bars 11 and 12 respectively, both upper and lower bars being hinged to each other at 13 and hinged at 14 to the vertical edges of the frames 1 and 2. By this construction, the sides of the crate may fold inwardly as seen in Figs. 4 and 5, when the entire crate is folded. Normally, however, the depending flanges 15 of the top frame 7, and lugs 16 which depend from the inner edge of said frame, straddle the upper bars 11 and thus prevent swinging of the sides either inwardly or outwardly. (See Fig. 6.) The lugs 16 are receivable in slots 17 in the side bars of frame 1, when the crate is folded. (See more particularly Figs. 5 and 6.)

Fig. 1 discloses the crate set up in condition for use, with its top held in closed position by a suitable seal 18 passing through openings 19 in the top bar of frame 1 and the front bar of frame 7. In this condition, the filled crate is shipped and when emptied, said crate is folded for return shipment. The bottom frame 3 folds upwardly against the back frame 2 as seen in Figs. 2 and 4. The two-section sides of the crate then swing inwardly, allowing the front frame 1 to move bodily toward the rear frame 2; and said front frame, together with the bottom frame and the sides of the crate, are then

all located below the flange 6. The top frame 7 is now swung downwardly as illustrated in Fig. 4 and a wire or seal 20 may be passed through its opening 19 and through another opening 21 which is formed in the bottom bar of the back frame 2. The entire crate is thus held compactly folded for return shipment, will occupy little space during such shipment and will not be injured by rough handling. Whenever desirable, the old sheets 9 may be removed and new ones substituted, so that the crate may at all times be kept in a neat and sanitary condition.

From the foregoing, taken in connection with the accompanying drawings, it will be seen that although my invention is of extremely simple and inexpensive nature, it will be highly efficient and in every way desirable, and since good results may be obtained from the details disclosed, they may well be followed. I wish it understood, however, that within the scope of the invention as claimed, the numerous details may be varied as occasion may dictate, and the crate may be made in any required size.

I claim:

1. A folding crate comprising a front and a back movable bodily toward each other, a bottom hinged to said back for upward folding against the same, a forwardly extending flange on the upper end of said back, a pair of sides hinged to the edges of said front and back, each of said sides being formed of two sections hinged together on a vertical line for inward folding, and a top hinged to said flange, said sides, front and bottom being receivable under said flange when folded; said top being then foldable downwardly at the outer side of said front.

2. A structure as specified in claim 1, said top having depending flanges preventing outward swinging of said sides, and having depending lugs preventing inward swinging of said sides, said front having openings to receive said lugs when said top is downwardly folded.

3. A folding crate frame comprising rectangular front and back frames of angle iron movable bodily toward each other, upper and lower pairs of hingedly connected bars hinged to the vertical sides of said front and back frame for inward folding, a rectangular bottom frame of angle iron hinged to the bottom bar of said back frame for upward folding against the latter, a flange extending forwardly from the top bar of said back frame and adapted to receive thereunder the front and bottom frames and said pairs of bars when the crate is folded, and an angle iron top frame hinged to said flange and adapted to fold downwardly against the outer side of said front frame when the crate is folded.

4. A structure as specified in claim 3, the side flanges of said top frame normally engaging the upper pairs of bars to prevent outward swinging thereof, and lugs depending from the other flanges of said top frame to prevent inward folding of said bars, the vertical side bars of said front frame having openings to receive said lugs when said top frame is downwardly folded.

In testimony whereof I have hereunto set my hand.

MARION FRANKLIN BENCH.