

J. R. CROWDER & A. C. SANSBURY.

FOLDING CRATE.

APPLICATION FILED APR. 21, 1910.

1,008,700.

Patented Nov. 14, 1911.

3 SHEETS-SHEET 1

Fig. 1.

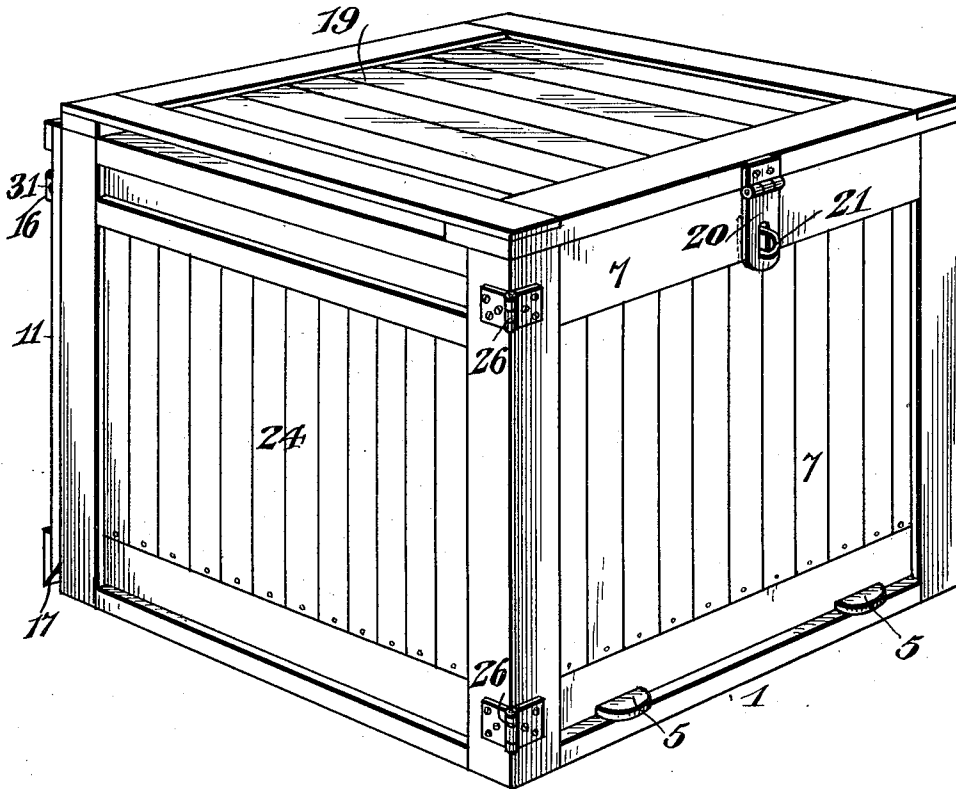


Fig. 4.



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3 SHEETS-SHEET 2.

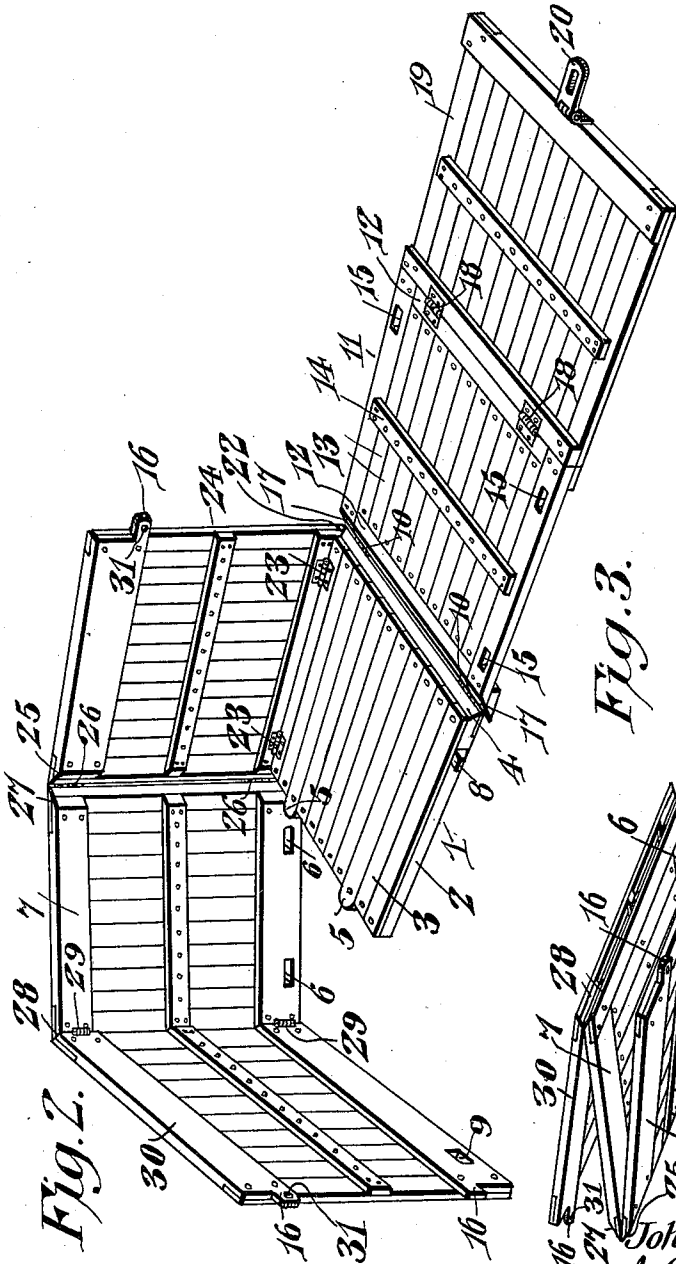
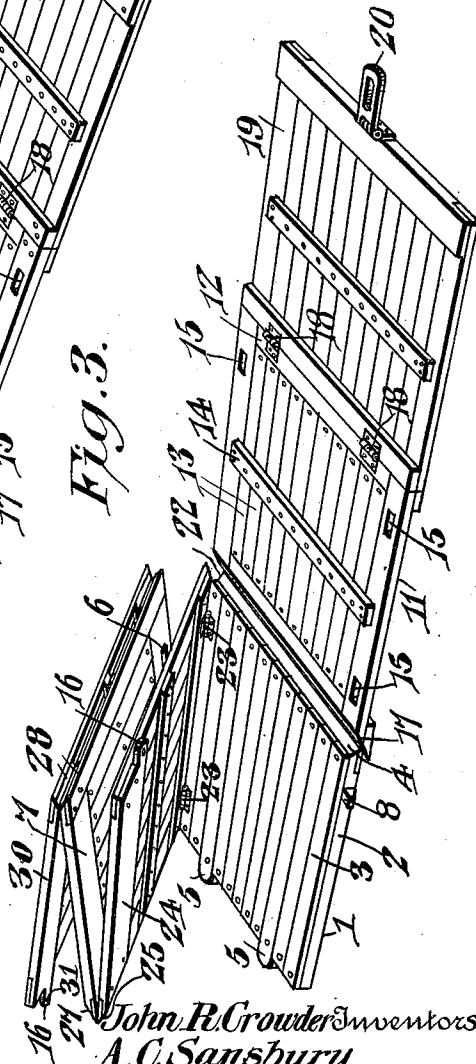


Fig. 2.

Fig. 3.



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3 SHEETS—SHEET 3.

Fig. 7.

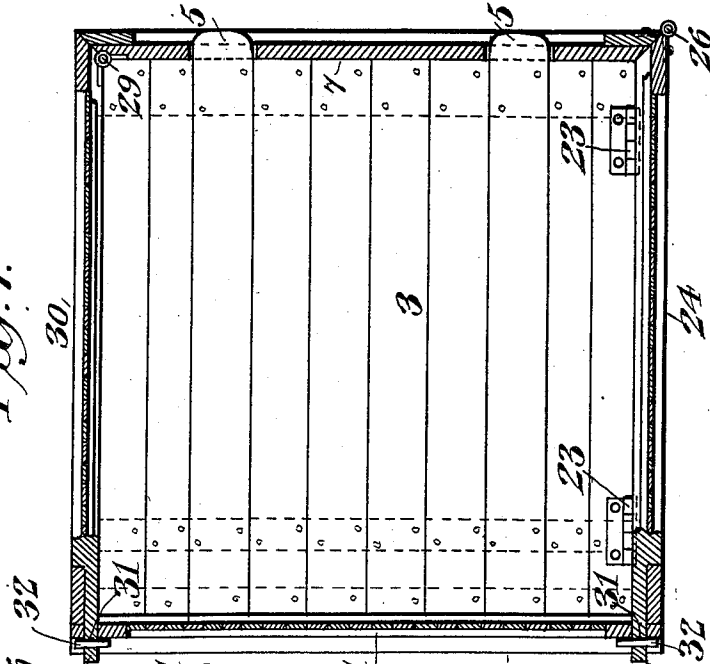


Fig. 6.

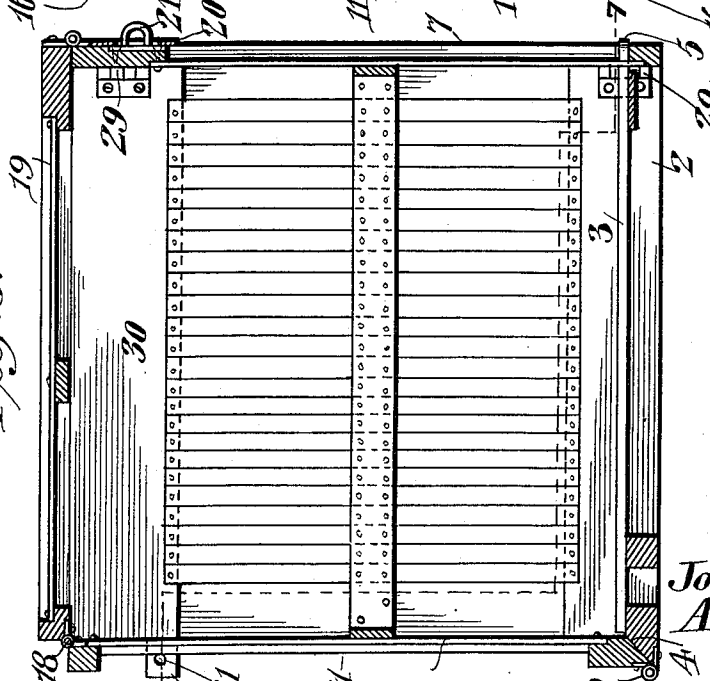
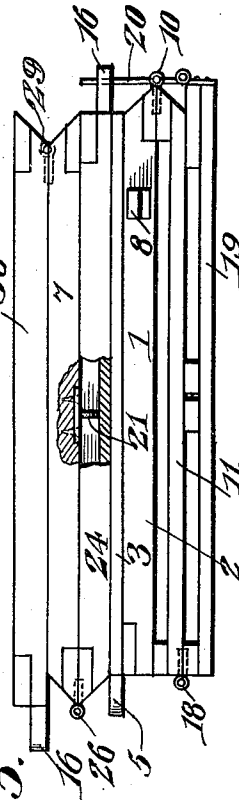


Fig. 5.



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UNITED STATES PATENT OFFICE.

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FOLDING CRATE.

1,008,700.

Specification of Letters Patent.

Patented Nov. 14, 1911.

Application filed April 21, 1910. Serial No. 556,769.

To all whom it may concern:

Be it known that we, JOHN R. CROWDER and ALBERT C. SANSBURY, citizens of the United States, residing at Louisville, in the
5 county of Jefferson and State of Kentucky, have invented a new and useful Folding Crate, of which the following is a specification.

Our invention relates to improvements
10 in folding crates in which bread may be shipped and protected from harmful influences, and which may be collapsed or folded into a small space to be returned to the bakery.

15 A further object of the invention is to provide a folding crate which may be readily manipulated by an unskilled person and which will be capable of being rapidly set up or folded, and which when set up for
20 use will be rigid so as to effectually withstand the hard usage incurred during transportation.

A crate embodying our invention is illustrated in the accompanying drawings, and
25 the invention consists in certain novel features of the same, which will be hereinafter first fully described and then particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of our crate showing it set up and ready for shipping. Fig. 2 is a perspective
30 view showing the crate partly collapsed. Fig. 3 is a similar view showing an advanced step in the process of folding the
35 crate prior to returning the same to the original consignor. Fig. 4 is an edge view of the crate in its collapsed or completely folded condition. Fig. 5 is a similar view
40 partly broken away and taken at a right angle to Fig. 4. Fig. 6 is a longitudinal vertical section of the crate in its set-up condition. Fig. 7 is a horizontal sectional view
taken on the line 7—7 of Fig. 6.

In carrying out our invention, we employ
45 a base 1 which may consist of a single board but is preferably composed of longitudinal and transverse beams or sills 2 and slats 3 secured upon the upper sides of the said
50 sills. The outer edge of one transverse sill is beveled, as shown at 4, and at the opposite side of the base, two or more of the slats 3 are extended, as shown at 5, to provide projecting points adapted to engage slots 6
in a side 7, as will be presently more fully

referred to. Adjacent the beveled side 4, 55 a lug 8 is provided on the base and projects laterally therefrom to engage a socket 9 in one of the sides to aid in maintaining the side and the base in their proper relation. To the beveled edge 4 of the base we secure, 60 by hinges 10, a side 11 which is composed of edge bars or sills 12, inner slats 13 secured to and extending between the upper and lower bars 12, and a central cross bar 14 secured to the side bars or sills of the side 65 and to the slats 13 whereby a rigid structure is provided. The side sills or bars 12 are provided with slots 15 adapted to receive the projections 16 extending from meeting sides of the crate whereby when the crate is set 70 up, the proper relative position of the several sides will be assured. The side 11 is provided with a beveled edge 17 so that it may readily fold against the base and form a miter joint therewith so that when the 75 crate is set up the said side 11 will extend upward from the base at a right angle thereto. The outer or upper edge of the side 11 is not beveled and hinges 18 are secured to the inner sides of the said edge to connect 80 to the said side 11 a top 19 which is similar in construction to the side and is adapted to fold over upon the edges of all the sides and thereby close the crate when the same is set up for use. The top is provided with 85 a hasp 20 adapted to fit over a staple 21 on the outer face of the side 7 and thereby provide a simple means of locking the crate through the use of an ordinary padlock, as will be readily understood. The side of the 90 base opposite that side carrying the lateral lug 8 is beveled, as shown at 22, and on the upper face of the base adjacent the said side or edge we secure hinges 23 by which a side 24 is secured to the base. The edge of 95 this side 24 adjacent the hinges is beveled to correspond to the bevel 22 of the base, so that when the crate is set up, this side 24 will bear against the base and will rise therefrom at a right angle thereto to be 100 firmly supported. The projection 16 is provided at the free edge of this side 24 which is similar in construction to the side 11 and has its edge opposite the single projection 16 beveled, as shown at 25, and to 105 the outer face of the said side, adjacent the said beveled edge of the same, we secure hinges 26 by which the side 7 is connected to

the said side 24. Both edges of this side 7 are beveled, as indicated at 27 and 28, whereby the said side may fold against the side 24 and, consequently, lie at right angles to the same and also against the square edge of the base and stand up at a right angle to the base, the slots 6 in the lower portion of the side 7 passing over the projections 5, as before stated. To the inner face of the side 7 adjacent the beveled edge 28 thereof we secure hinges 29 by which the said side is connected to a side 30 corresponding to the side 24 and provided at its free edge with two projections 16 adapted to extend through the slots 15 in the side 11, as will be readily understood. The upper projections 16 are provided with openings 31 through which pins 32 may be inserted after the projections have been passed through the slots 15 and thereby aid in holding the crate in its set-up position.

It is thought the use and advantages of our improved crate will be readily understood and appreciated from the foregoing description, taken in connection with the accompanying drawings. The several sides of the crate are of similar construction, and, as shown in the drawings, one of the sides is hinged to the base at one edge and at the opposite edge is hinged to the top, while the remaining three sides of the crate are attached to the base independently of the first-mentioned side and the top. In setting up the crate, the side 24 is swung up on the hinges 23 so as to extend upward at a right angle to the base and the sides 7 and 30 are then folded around the base so as to complete three sides of the compartment presented by the finished crate. This movement of the sides 7 and 30 will bring the slots 6 into engagement with the projections 5 at one side of the base and will also bring the socket 9 into engagement with the lug 8 so that the said sides will be maintained in their proper position relative to the base, while the crate is being set up. The side 11 is now swung upward toward the free edges of the sides 24 and 30, thereby bringing the slots 15 into engagement with the projections or points 16, so that the several sides will be assembled in their proper relation and the crate will be ready to receive bread or other merchandise after the pins 32 have been inserted through the openings 31 in the upper projections 16. After the crate has been filled, the top 19 is swung over upon the upper edges of all the sides and secured in place by means of a padlock inserted through the staple 21 and above the hasp 20. It will be observed that the central cross bars of the several sides serve to reinforce the same so that when the crate is set up, a very strong structure will be presented which will effectually resist hard knocks encountered during transportation

from point to point. The several projections on the base will prevent the sides 7 and 30, which are not permanently attached to the base, from shifting across the base so that the accurate fitting of the several sides to the base will be maintained. These several projections and the slots and sockets engaging the same also serve to support the sides so that they will not fall away from the base while the fourth side is swung up against the same to complete the closing of the crate and further reinforce the corners of the crate. The pins 32 are disposed at the side of the crate opposite from the hasp 20 and near the top, so that the tendency of the upper edges of the sides to fall away from each other will be positively prevented without placing excessive strain on the staple 21. When the crate has reached its destination and been relieved of its contents, it may be folded into a very small compass to be returned to the original shipper. To accomplish this result, the top and the side 11 are swung over to the position shown in Fig. 2, and the sides 30 and 7 are successively swung away from the base and around to a position back of the side 24, after which the said side 24 is folded down upon the base and the sides 7 and 30 successively folded upon the side 24, as will be readily understood on reference to Fig. 3. The top is then folded over upon the side 11 and the said side and top, as folded together, is swung under the base, bringing the parts into the positions shown in Figs. 4 and 5. A rope or other device may be passed around the folded crate to hold the parts together during the return shipment but this is not absolutely necessary as the crates will be piled up within the car and the confinement within the car and the weight of the superposed crates will serve to prevent unfolding of the parts and will keep the crates in their folded condition. It will be noted that separation and loss of the parts cannot readily occur inasmuch as the sides are connected to each other and to the base in two divisions and no one part or member of the crate is entirely removed from the crate in either the collapsed or set-up position of the same.

The advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while we have described the principle of operation of the invention, together with the device which we now consider to be the best embodiment thereof, we desire to have it understood that the device shown is merely illustrative, and that such changes may be made when desired as are within the scope of the claims appended hereto. In some of the claims, we have referred to the side 24 as the first side, sides 7 and 30 as the second and third sides, and side 11 as the fourth side.

Having thus described the invention, what we claim as new, and desire to secure by Letters Patent, is:—

1. A crate composed of a bottom member, 5
a side member and a cover member hinged together, with the edge of the side member remote from the top member hinged to the bottom member, and a series of side members hinged together in order with the edge 10
of one member of the series hinged to the bottom member at the edge of the latter next adjacent to the edge of the bottom member to which the first named side member is hinged, the bottom member having 15
projecting parts and the side members of the series having receptacles for the projecting parts of the bottom member.

2. A crate composed of a bottom member, a side member and a cover member hinged 20
together with the edge of the side member remote from the top member hinged to the bottom member and the edges of the side and bottom members where hinged together being each beveled, and a series of side members hinged together in order with the edge 25
of one member of the series hinged to the bottom member at the edge of the latter next adjacent to the edge of the bottom member to which the first named side member is hinged, 30
the said last named side members and the bottom member where hinged together being each beveled, the cover member and side member connecting it with the bottom member being foldable together and upon one face of the 35
bottom member, and the series of side members being foldable together and upon the other face of the bottom member.

3. A crate comprising a base having projections on two of its side edges, foldable 40
sides hinged to the remaining edges of the base, one of said sides being provided with slots near its edges, and foldable sides hinged to the other side which is hinged to the base and provided with means for engaging the 45
projections on the base, and projections on the free edges of the said foldable sides adapted to engage the slots in the first-mentioned side.

4. A crate comprising a base having projections on two meeting edges, a side member hinged to one other edge of the base and 50
provided with slots near its side edges, a top hinged to said side member at the edge opposite the connection of the same with the base, 55
a side member hinged to the fourth side of the base and provided on one edge with a projection adapted to pass through a slot in the first-mentioned side member, a pair of foldably connected side members hinged to 60
the last-mentioned side member and provided with openings to engage the projections on the base, one of said foldably-connected members having a free edge and projections on said edge to pass through slots 65
in the first mentioned side member, and

fastenings adapted to be inserted through the projections on the side members.

5. A crate comprising a bottom member, a side member and a cover member hinged together, with the edge of the side member 70
remote from the top member hinged to the bottom member, and a series of side members hinged together in order with one end member of the series hinged to the bottom member at the edge next adjacent to the 75
edge of the bottom member to which the first named side member is hinged, the terminal edges of the series of side members being provided with projecting parts, and the corresponding edges of the first named 80
side member being provided with receptacles for said projecting parts.

6. A crate comprising a rectangular base, a rectangular side member hinged at one edge to one of the edges of the base, a second 85
and a third rectangular side member hinged together and at the edge of one of the side members remote to that hinged to the other in turn hinged to the edge of the first named side member at right angles to the 90
edge hinged to the base, and a fourth side member hinged at one edge to the base at right angles to the hinged connection of the first named side member therewith, the several side members and the base where hinged 95
together being beveled, the first, second and third side members being foldable in reverse order one upon the other and against one face of the base, and the fourth side member being foldable against the opposite 100
face of the base, said base and side members being provided with respective projecting parts and receptacles for said projecting parts, and a cover hinged to the edge of the 105
fourth side member remote to that hinged to the base and foldable with the said member against the corresponding face of the base.

7. A crate comprising a rectangular base, a rectangular side member hinged at one 110
edge to one of the edges of the base, a second and third rectangular side member hinged together and at the edge of one of the side members remote to that hinged to the other in turn hinged to the edge of the first named 115
side member at right angles to the edge hinged to the base, and a fourth side member hinged at one edge to the base at right angles to the hinged connection of the first named side member therewith, the first, second 120
and third side members being foldable in reverse order one upon the other and against one face of the base, and the fourth side member being foldable against the opposite face of the base, and a cover hinged 125
to the edge of the fourth side member remote to that hinged to the base and foldable with the said side member against the corresponding face of the base, the base being provided on the free edges with projecting members, 130

the terminal edges of the first and third sides being also provided with projecting members, and the bottom portions of the second and third side members and the side
5 portions of the fourth side member being provided with receptacles for the projecting parts of the bottom and other side members.

In testimony, that we claim the foregoing

as our own, we have hereto affixed our signatures in the presence of two witnesses.

JOHN R. CROWDER.
ALBERT C. SANBURY.

Witnesses:

E. RIEKE,
GEO. A. GOERING.

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