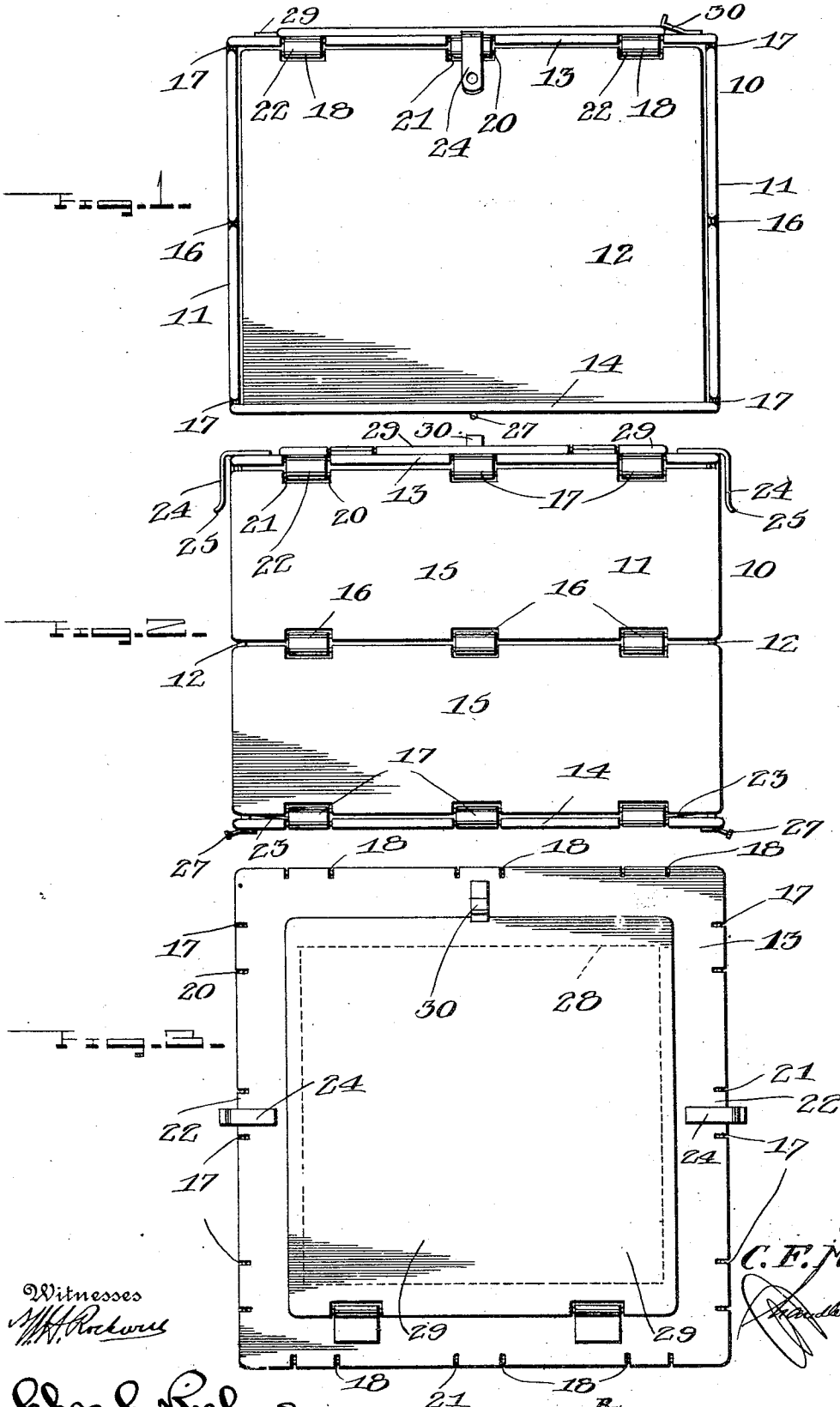


C. F. MIESEN.
FOLDING GRATE.
APPLICATION FILED JULY 31, 1911.

Patented Mar. 11, 1913.

2 SHEETS-SHEET 1.

1,055,482.



Witnesses
W. H. Richards

Chas. L. Richardson.

Inventor
C. F. Miesen

Handwritten signature

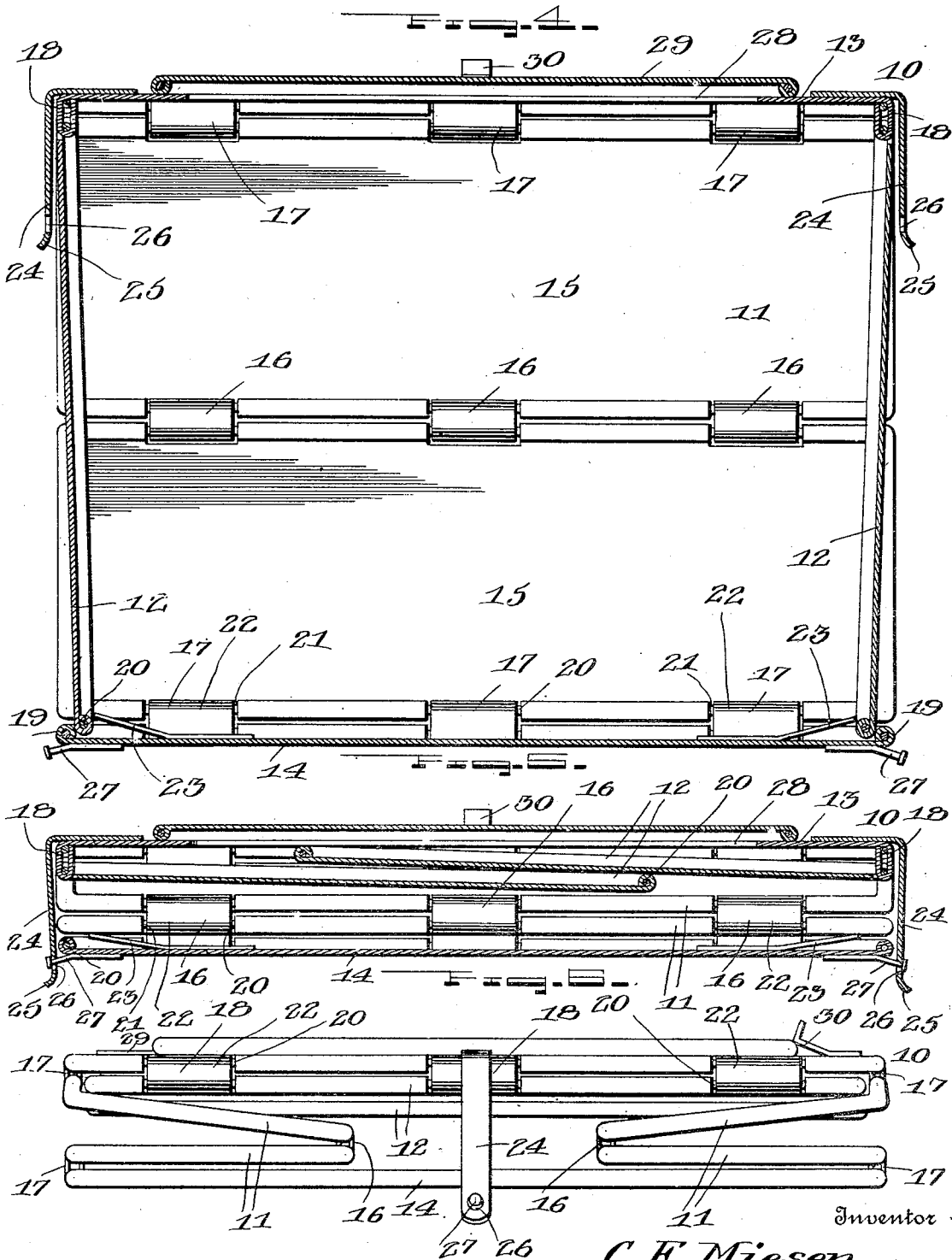
Attorneys

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Witnesses

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UNITED STATES PATENT OFFICE.

CLARENCE F. MIESEN, OF CARROLLTON, KENTUCKY.

FOLDING CRATE.

1,055,482.

Specification of Letters Patent. Patented Mar. 11, 1913.

Application filed July 31, 1911. Serial No. 641,405.

To all whom it may concern:

Be it known that I, CLARENCE F. MIESEN, a citizen of the United States, residing at Carrollton, in the county of Carroll, State of Kentucky, have invented certain new and useful Improvements in Folding Crates; and I do hereby 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.

This invention relates to new and useful improvements in shipping crates and more particularly to that class generally known as folding crates.

An object of this invention is the provision of a crate which when extended will be adapted to contain articles of any nature, the said crate being of such construction as to be folded for the purpose of requiring very little room when the same is not in use.

Another object of this invention is the provision of a shipping crate which will be comparatively simple and inexpensive to manufacture, readily collapsed or extended and retained in either its collapsed or extended position.

With the above and other objects in view this invention resides in the novel features of construction, formations, combinations and arrangements of parts to be hereinafter more particularly described, claimed and illustrated in the accompanying drawings, in which:—

Figure 1 is a front elevation of my improved shipping crate extended. Fig. 2 is a side view thereof. Fig. 3 is a top plan view. Fig. 4 is a vertical sectional view taken through the crate in its extended position. Fig. 5 is a view similar to Fig. 4 with the crate in its folded position. Fig. 6 is a view looking at one end of the crate with the latter in its folded position.

Referring to the drawings by characters of reference, the numeral 10 designates generally my improved shipping crate which consists of opposite side and end members 11 and 12, connected at their opposite edges by a top 13 and bottom 14. The side members 11 each comprise a pair of rectangular plates 15 hinged at their adjacent edges as indicated by the numeral 16 to each other and at their opposite ends as indicated by the numeral 17, to the edges of the top 13 and bottom 14, respectively. The ends 12 are hinged at their upper edges as at 18 to

the ends of the top 13 for inward swinging movement which is limited by the rolled edge 19 of the bottom 14. The opposite edges of each of the collapsing members comprised in the top, bottom, ends and sides are rolled for engagement with reinforcing rods 20 which serves to retain the crate in its proper shape. The hinges 17 are formed preferably by cutting away portions of the material adjacent the rods, as at 21 and connecting the same by metal clips 22 which constitute the hinges.

Spring locking members 23 are secured to the bottom 14 of the crate and bear at their free ends against the lower rolled edges of the collapsing ends for the purpose of retaining them in their extended position yet permitting their inward movement upon their depression. The top 13 of the crate has secured to its opposite ends intermediate the side edges depending spring latches 24 which extend in substantially perpendicular relation to the top and are provided with off set terminals 25 and apertures 26, whereby upon the inward movement of the sides and ends and the locking of the top 13, the said latches will engage pins 27 secured to the intermediate portion of the ends of the bottom 14, as clearly illustrated in the drawings. These pins are fastened to the outer face of the bottom 14 and as will be seen by reference to Fig. 1 extend beyond the bottom and are slightly bent downward to be readily engaged by the spring latches 24 when the crate is collapsed so that such crate will be firmly held or fastened in collapsed condition in the manner shown in Figs. 5 and 6.

The top 13 is provided with a suitable opening 28 of any desired shape and size which is closed by a hinged top 29 and locked against displacement by a spring clip 30. This opening in the closure serves to permit access to the crate when desired and also for the purpose of sealing the interior thereof against unauthorized tampering.

The crate is folded as follows: The ends 12 are released from the catches 23 and move inwardly until they contact with the top 13 after which the hinged sections 15 of the sides 11 are moved inwardly until one engages the bottom and the other the inwardly folded end members, which movement causes the latches 24 to engage the pins 27 thereby locking the crate in its folded position against any undesired displacement.

From the foregoing disclosures taken in connection with the accompanying drawings, it will be manifest that a folding shipping crate is provided which will fulfil all
5 of the necessary requirements of such a device.

Having thus particularly described this invention, what I claim as new and desire to obtain by Letters Patent, is:—

10 A shipping crate comprising a top section and a bottom section, sectional side members hinged together at their intermediate portions and at their opposite edges to the top and bottom sections, end sections hinged
15 to the top section, the top, bottom, ends and sides having rolled edges, reinforcing rods

engaging the rolled edges for retaining the crate in shape, pins secured to the outer face of the bottom section and projecting beyond the same, latches carried by the top section 20 and adapted to engage with the pins carried by the bottom section, spring clips secured to the bottom section for engagement with the end sections for holding the latter against displacement, and a hinged closure 25 covering an opening in the top section.

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

CLARENCE F. MIESEN.

Witnesses:

A. W. DARLING,
BERT AYER.