

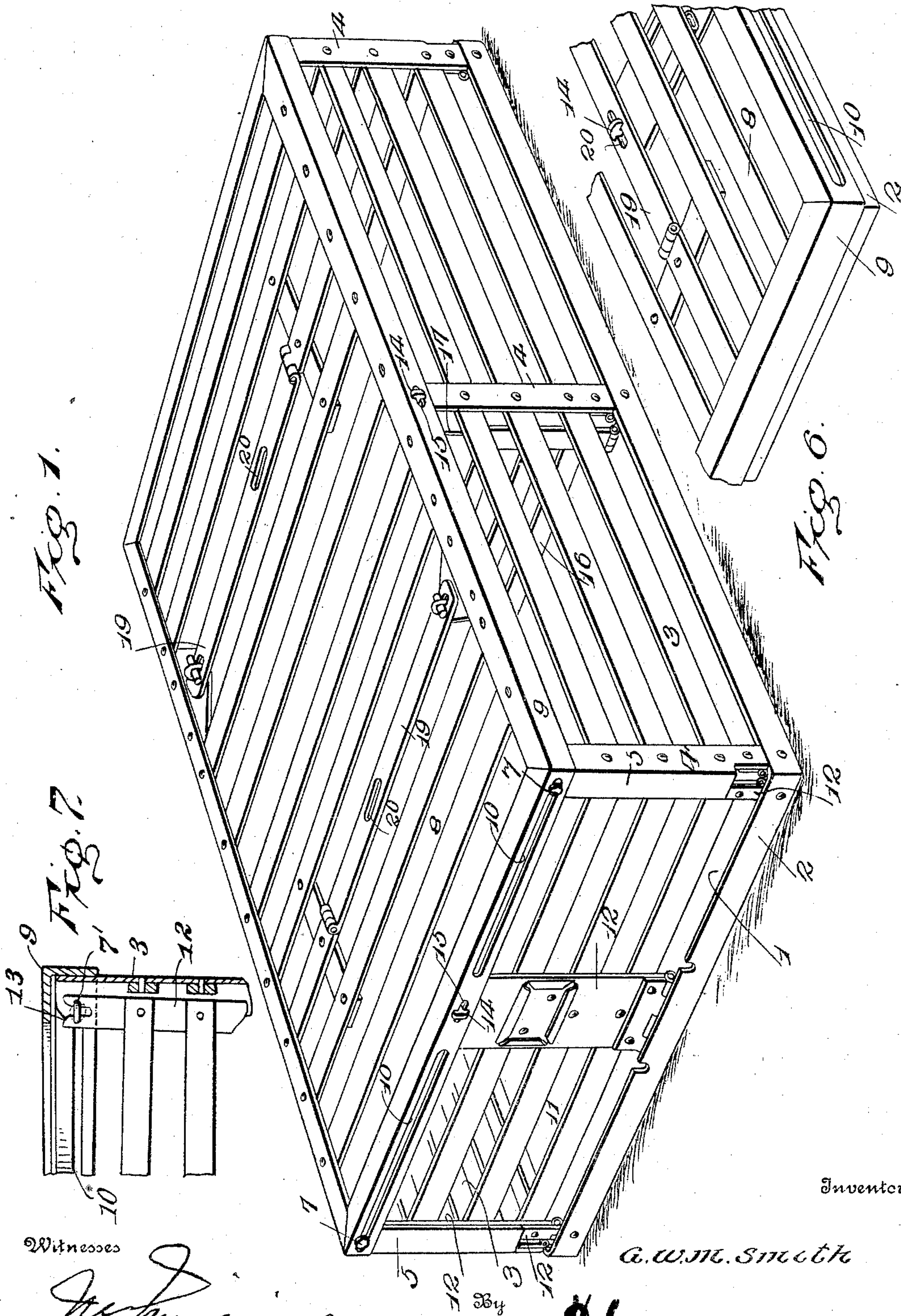
G. W. M. SMITH.
FOLDING CRATE.

APPLICATION FILED FEB. 28, 1908.

Patented Aug. 3, 1909.

2 SHEETS—SHEET 1.

929,718.



Inventor

G. W. M. Smith

Witnesses

John M. Smith
W. R. Woodson

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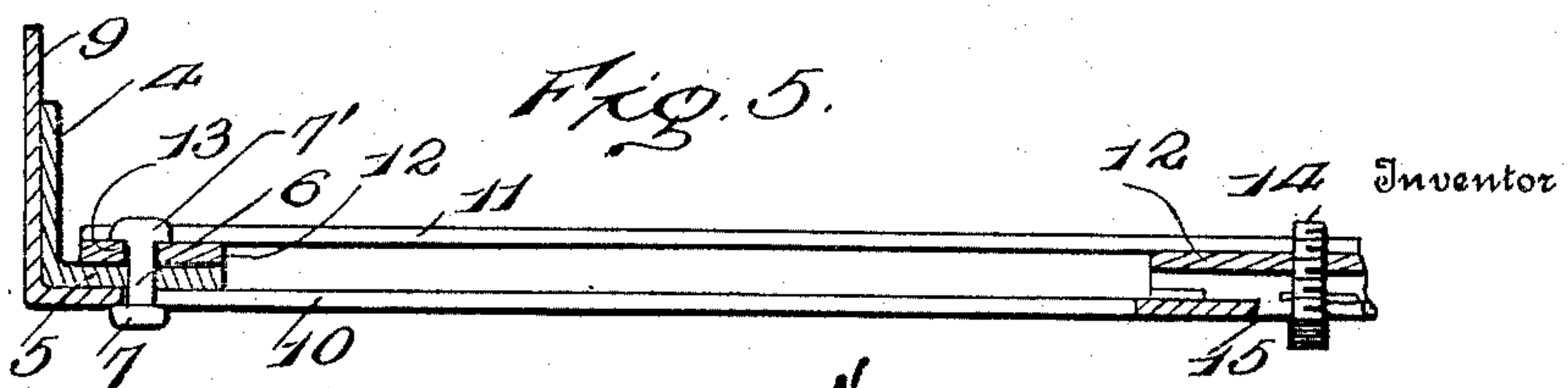
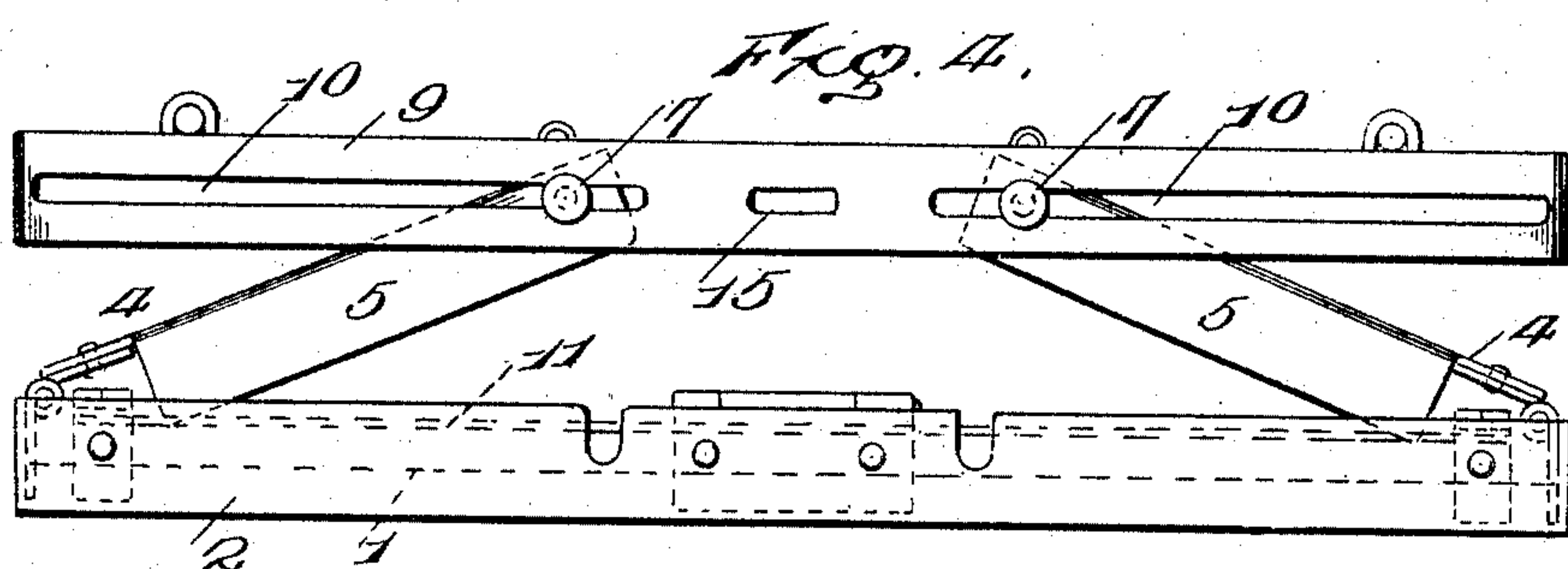
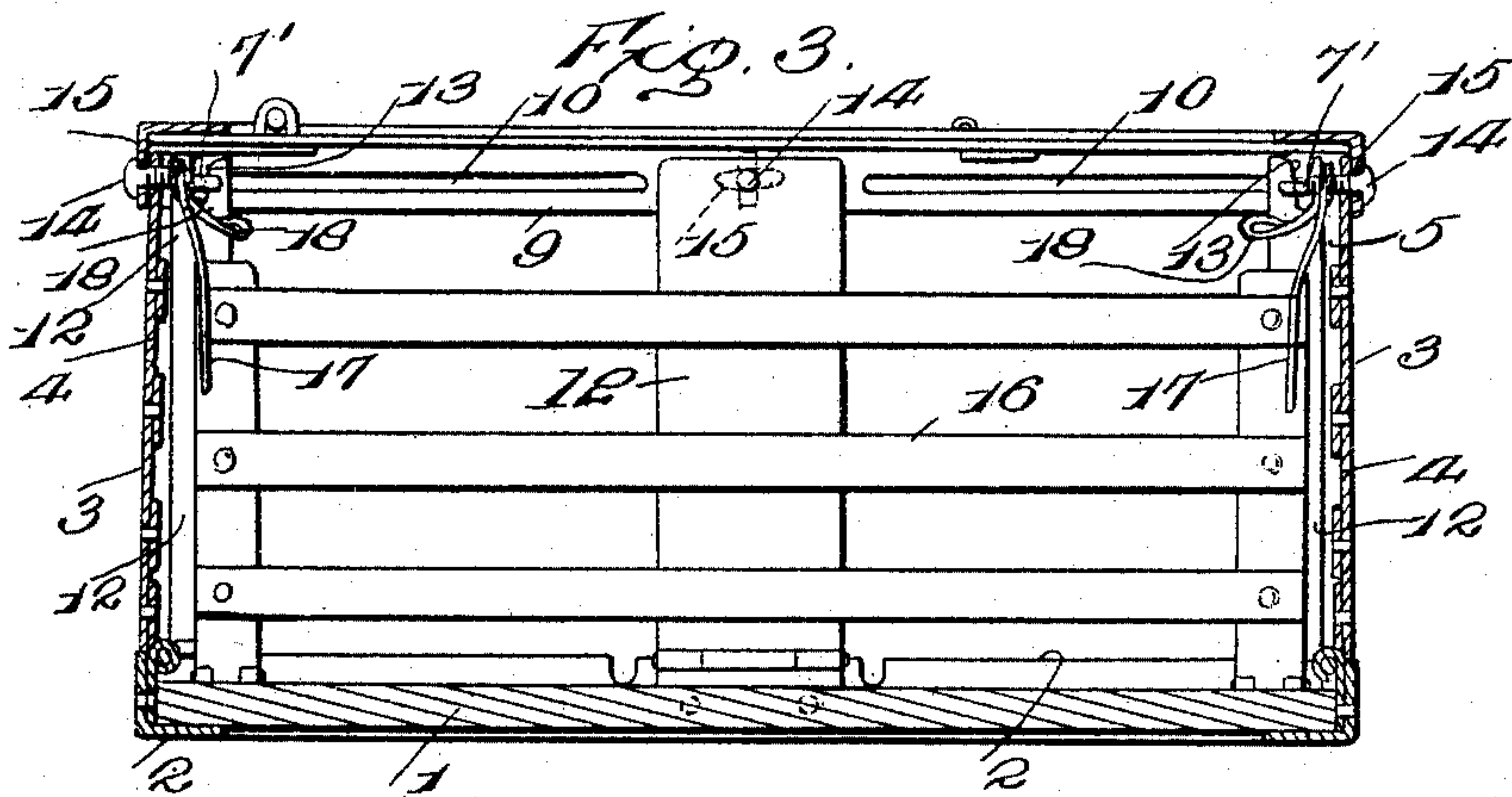
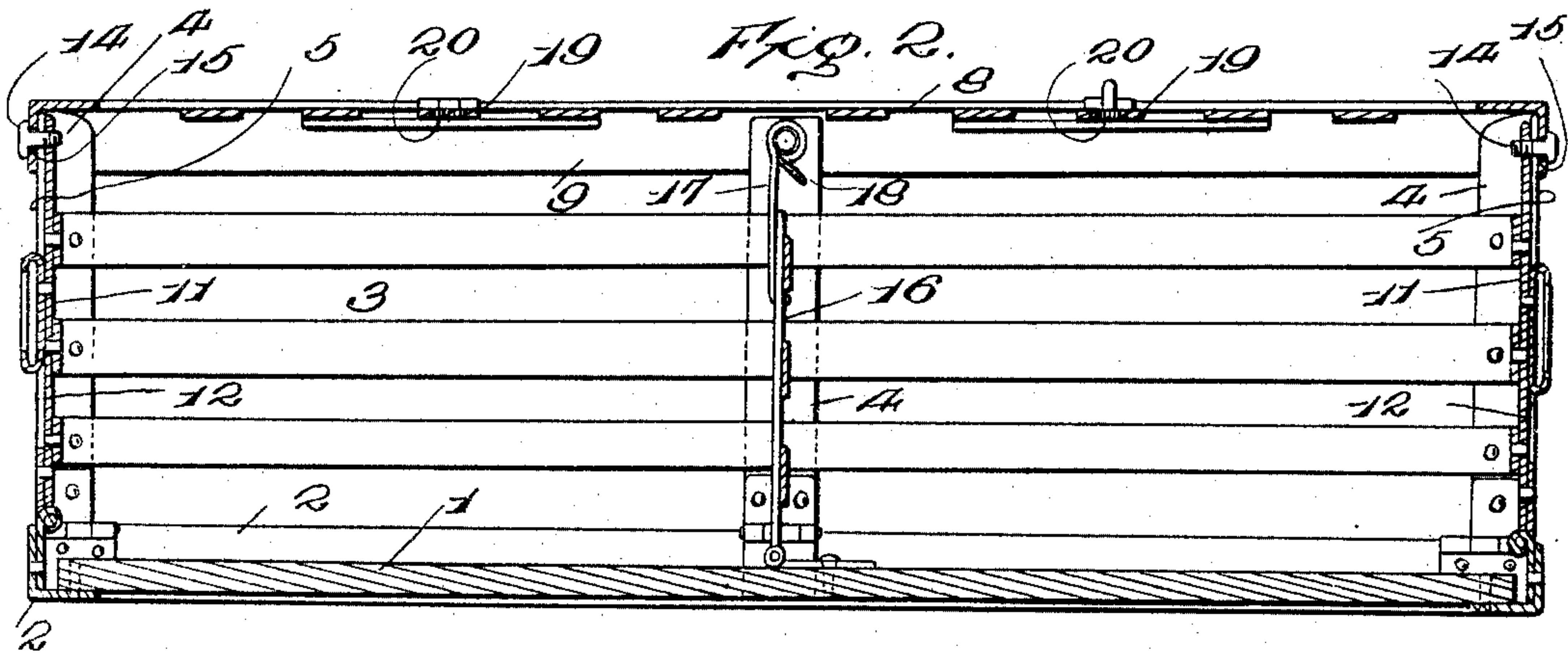
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2 SHEETS—SHEET 2.



Witnesses
R. M. Smith
W. H. Hordern

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UNITED STATES PATENT OFFICE.

GEORGE W. M. SMITH, OF CAPE GIRARDEAU, MISSOURI.

FOLDING CRATE.

No. 929,718.

Specification of Letters Patent.

Patented Aug. 3, 1909.

Application filed February 28, 1908. Serial No. 418,304.

To all whom it may concern:

Be it known that I, GEORGE W. M. SMITH, a citizen of the United States, residing at Cape Girardeau, in the county of Cape Girardeau and State of Missouri, have invented certain new and useful Improvements in Folding Crates, of which the following is a specification.

The object of this invention is an improved crate which is designed particularly for use in shipping poultry and which is adapted to be knocked down when being returned in an empty condition, so as to be less liable to be injured, and to be more compact in form, and thus economize in the freight charge.

With this and other objects in view that will more fully appear as the description proceeds, the invention consists in certain constructions and arrangements of the parts that I shall hereinafter fully describe and claim.

For a full understanding of the invention and the merits thereof, and to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawing, in which:

Figure 1 is a perspective view of my improved crate; Fig. 2 is a longitudinal section thereof; Fig. 3 is a transverse section; Fig. 4 is an end view showing the crate partially collapsed; Fig. 5 is a detail view in horizontal section of one end; Fig. 6 is a perspective view of a portion of the crate showing the top secured to one end when the parts are in collapsed position; and Fig. 7 is a fragmentary perspective view of the inside of the crate.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing by the same reference characters.

My improved crate comprises a preferably rectangular solid bottom 1 which is provided with an upwardly disposed marginal strip 2, and two sides 3 that are frame-like in structure and embody end and intermediate cross bars 4 which are hingedly connected at their lower ends to the bottom or marginal strip 2. The end cross bars of the side frames are

formed with laterally and inwardly disposed flanges 5, and keepers 6 are mounted in the respective flanges and are formed at their outer ends with heads 7 and at their inner ends with heads 7', the latter heads being preferably elongated, as shown, for a purpose to be presently disclosed. The corresponding keepers 6 are slidingly mounted in the respective transversely spaced slots 10 formed in the opposite ends of a rim 9 that depends from the top 8 of the coop or crate, said top being of any desired or approved construction or design, although in the present instance, it is frame-like in construction, as shown. The ends 11 of the crate are also formed of frames which embody end and intermediate cross bars 12 that are hingedly connected at their lower ends to the bottom 1 or the marginal strip 2, the end cross bars being formed at their upper or free ends with vertically elongated recesses 13 which provide clearances for the elongated heads 7' of the keepers in certain positions of the same. These ends 11 are overlapped by, and have their outward movement limited by the rim 9 and the flanges 5, while the keepers 6 are designed to be partially rotated so as to engage the elongated heads 7' thereof with the end cross bars 12 and prevent any inward movement of such ends 11, thereby maintaining the same in an upright position. In order to further sustain the sides 3 and the ends 11 of the crate in an operative or upright position, headed or T-bolts 14 are mounted with their screw threads in the upper or free ends of the intermediate cross bars 4 and 12 and have their heads designed to be passed through horizontally elongated openings 15 formed in the rim 9, and to be turned with the T heads vertically into engagement with the latter to secure the parts together.

In the preferred construction of the crate, a transverse partition 16 is hingedly connected to the bottom 1 of the coop, and is designed to be supported in an upright position to divide the crate into two compartments, any suitable means being employed for such purpose, as two retaining members 17 which

are preferably constructed of resilient strips of metal or wire that are rigidly secured at one end to the swinging or free end of the partition and that extend upwardly there beyond and are coiled, as shown, so as to be adapted to be slipped over the inner ends of the adjacent T-bolts 14 that project inwardly for this purpose. Beyond the coils, the wire strips are laterally and inwardly disposed and are looped, as indicated at 18, so as to render the retaining members susceptible of being conveniently sprung inwardly to disengage the coils thereof from the T-bolts.

As one means of rendering the interior of the crate conveniently accessible, two of the slats of the top frame 8 near the opposite ends of the crate are constructed with hinged sections which form doors 19 leading into and from the respective compartments, the said doors being designed to be closed or locked in any suitable manner, and being preferably formed at intermediate points with elongated openings 20 that serve in conjunction with the headed bolts 14 of the ends 11, to secure the parts in position when the crate is folded.

In the practical use of my improved crate, when it is desired to knock down the latter to render it more conveniently shipped, a suitable tool or the like is passed through the frame-like top 8 and engaged with the loops 18 to spring the retaining members inwardly and disengage the coils thereof from the inner extremities of the corresponding T-bolts 14, the partition 16 being thus released and being swung downwardly against the bottom 1. The respective T-bolts 14 are then turned out of engagement with the rim 9 and the keepers 6 are partially rotated so as to disengage the elongated heads 7' thereof from the vertical slots 13 in the end cross bars 12 of the ends 11, whereupon the latter are swung downwardly against the bottom 1. To complete the knocking down of the crate, the sides 3 are swung inwardly and downwardly in a manner illustrated in Fig. 4, as is permitted by their pin and slot connection with the top, and such movement obviously lowers the latter and causes all of the parts to assume folded positions. When the crate is completely collapsed, the heads of the T-bolts 14 carried by the intermediate cross bars 12 in the ends 11 are arranged to extend through the openings 20 in doors 19 and are adapted to be turned into engagement with the latter to hold the parts securely folded and permit the crate to be handled conveniently and with a minimum danger of becoming injured. The above operation is reversed when it is desired to restore the crate to its normal position.

While my improved crate is designed particularly for use as a shipping crate, it is obviously not limited to such use, but may be employed for all purposes for which a knock-

down crate is desired. In the present instance, this crate is constructed of metal except the bottom, which is of wood, but it is manifest that this is arbitrary, and any suitable material may be used in its construction.

Having thus described the invention, what I claim is:

1. A knock-down crate comprising a bottom, a top, sides and ends hingedly connected to the bottom, and headed fastening elements mounted in the sides and slidably connecting the same to the top, said fastening elements being adapted to be turned into engagement with the ends to support the same in operative position.

2. A knock-down crate comprising a bottom, a top having a rim formed in each end with a slot, sides hingedly connected at one end to the bottom and formed with laterally and inwardly disposed flanges, keepers rotatably mounted in the respective flanges and formed at their inner extremities with heads, said keepers being slidably mounted in the respective slots in the rim, and ends hingedly connected to the bottom and formed at their swinging ends with recesses providing clearances for the heads of the keepers in certain positions thereof, said keepers being adapted to be turned to engage the heads with the ends, as and for the purpose specified.

3. A knock-down crate comprising a bottom, a top, sides hingedly connected to the bottom and having a sliding connection with the top, ends hingedly connected to the bottom, means for rigidly securing the sides and ends to the top, a partition hingedly connected to the bottom and adapted to be supported in an upright position to divide the crate into two compartments, retaining members comprising resilient strips of metal rigidly secured at one end to the swinging end of the partition and projecting beyond the same and formed with coils, and fastening means carried by sundry parts of the crate and with which the coils are designed to be engaged to detachably support the partition.

4. A knock-down crate comprising a bottom, a top, sides hingedly connected to the bottom having a sliding connection with the top, ends hingedly connected to the bottom, fastening means mounted in the sides and ends and arranged for engagement with the top to secure said parts thereto, a transverse partition hingedly connected to the bottom, and means carried by the partition and arranged for engagement with sundry of said fastening means to sustain the partition in an operative position.

5. A knock-down crate comprising a bottom, a top having a rim formed with marginal openings, sides hingedly connected to the bottom and having a sliding connection

with the top, ends hingedly connected to the
bottom, headed fastening elements mounted
in the sides and ends and arranged to pass
through the openings in the rim and turned
5 into engagement therewith to support the
parts in an operative position, sundry of said
fastening elements being designed in the
folded position of the crate for engagement

with the top, as and for the purpose speci-
fied.

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

GEORGE W. M. SMITH. [L. s.]

Witnesses:

ORAL TURNIPSEED,
A. U. SMITH.