(No Model.) 2 Sheets—Sheet 1.

G. H. GROVE.

COLLAPSIBLE CRATE.

No. 601,650. Patented Apr. 5, 1898.

Fig. 1

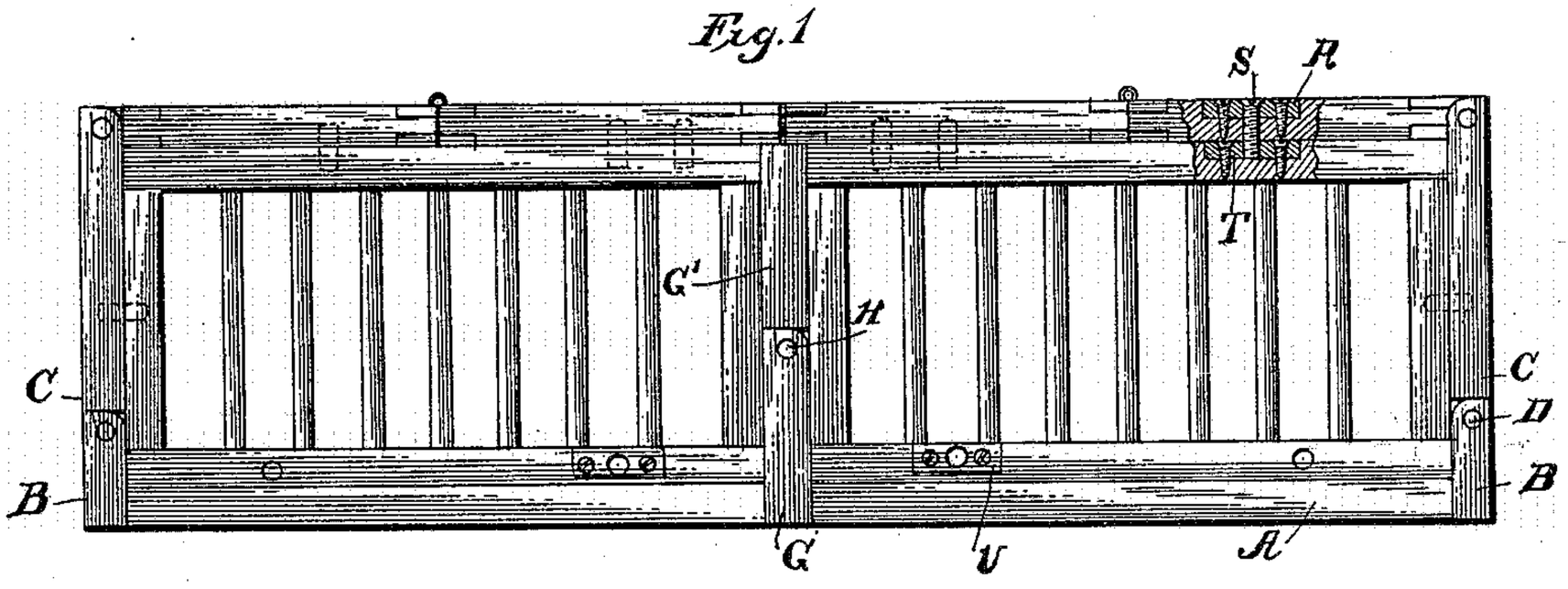
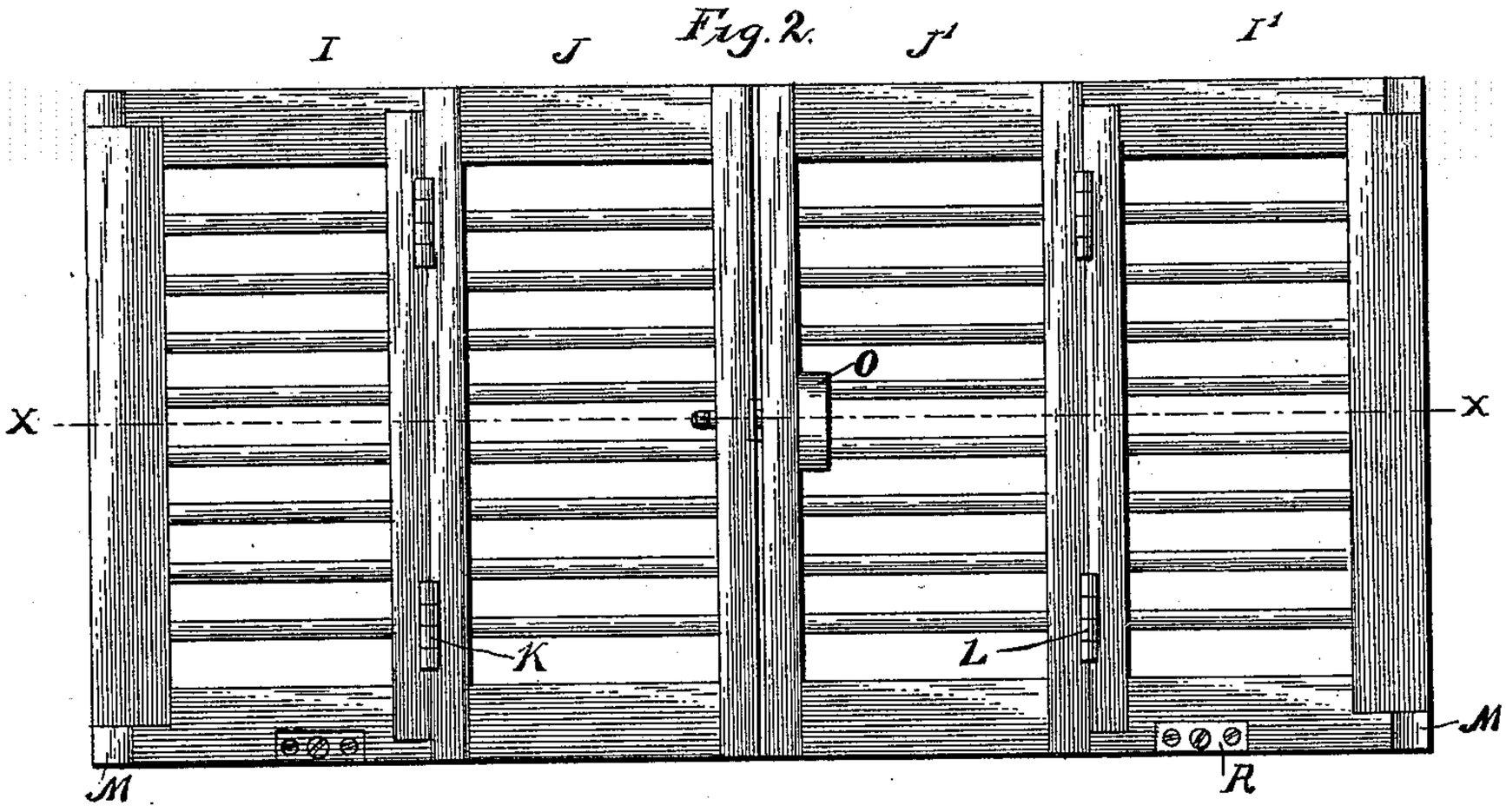


Fig. 2.



Witnesses:

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(No Model.) 2 Sheets—Sheet 2.

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No. 601,650. Patented Apr. 5, 1898.

Fig. 3.

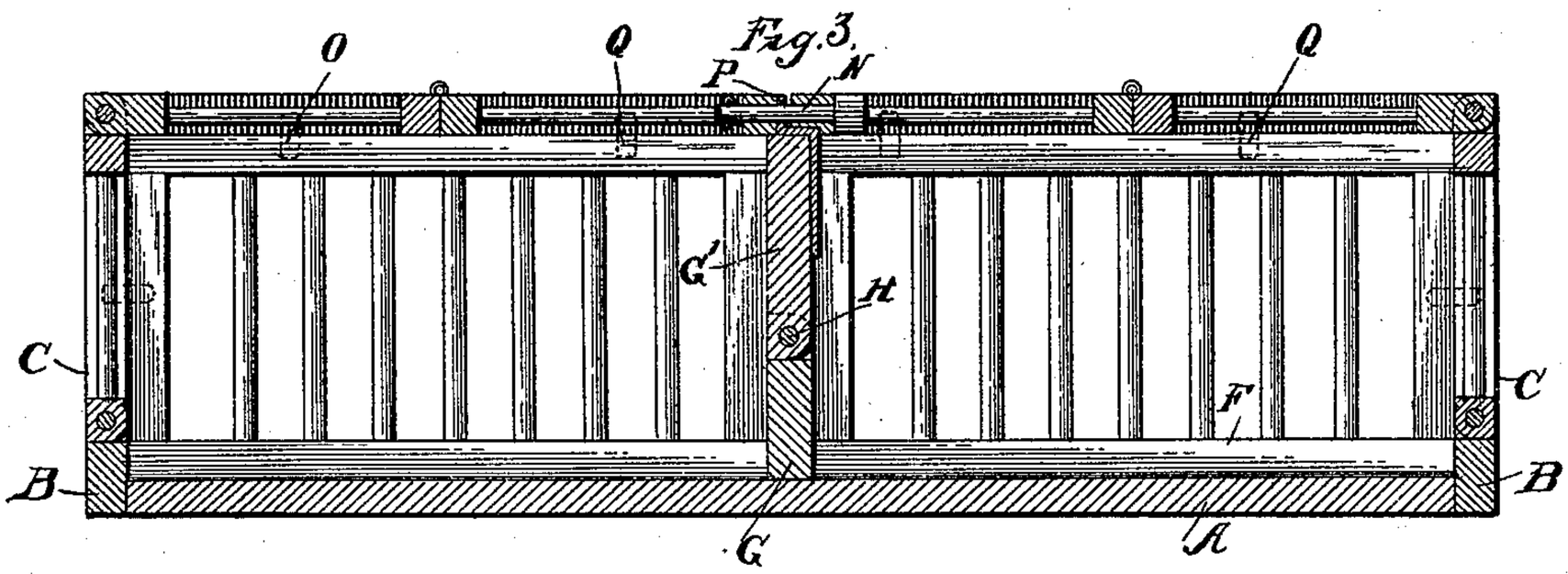


Fig. 4.

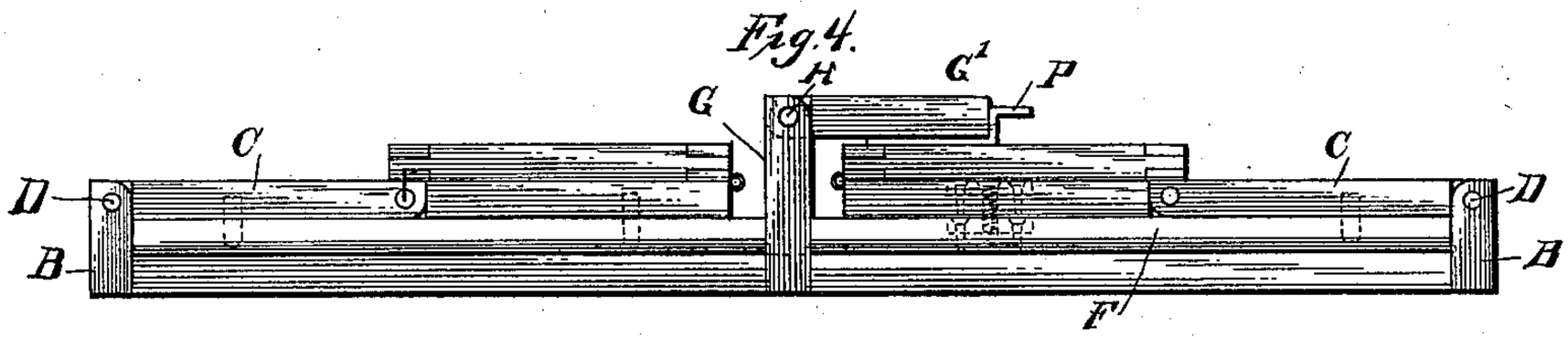
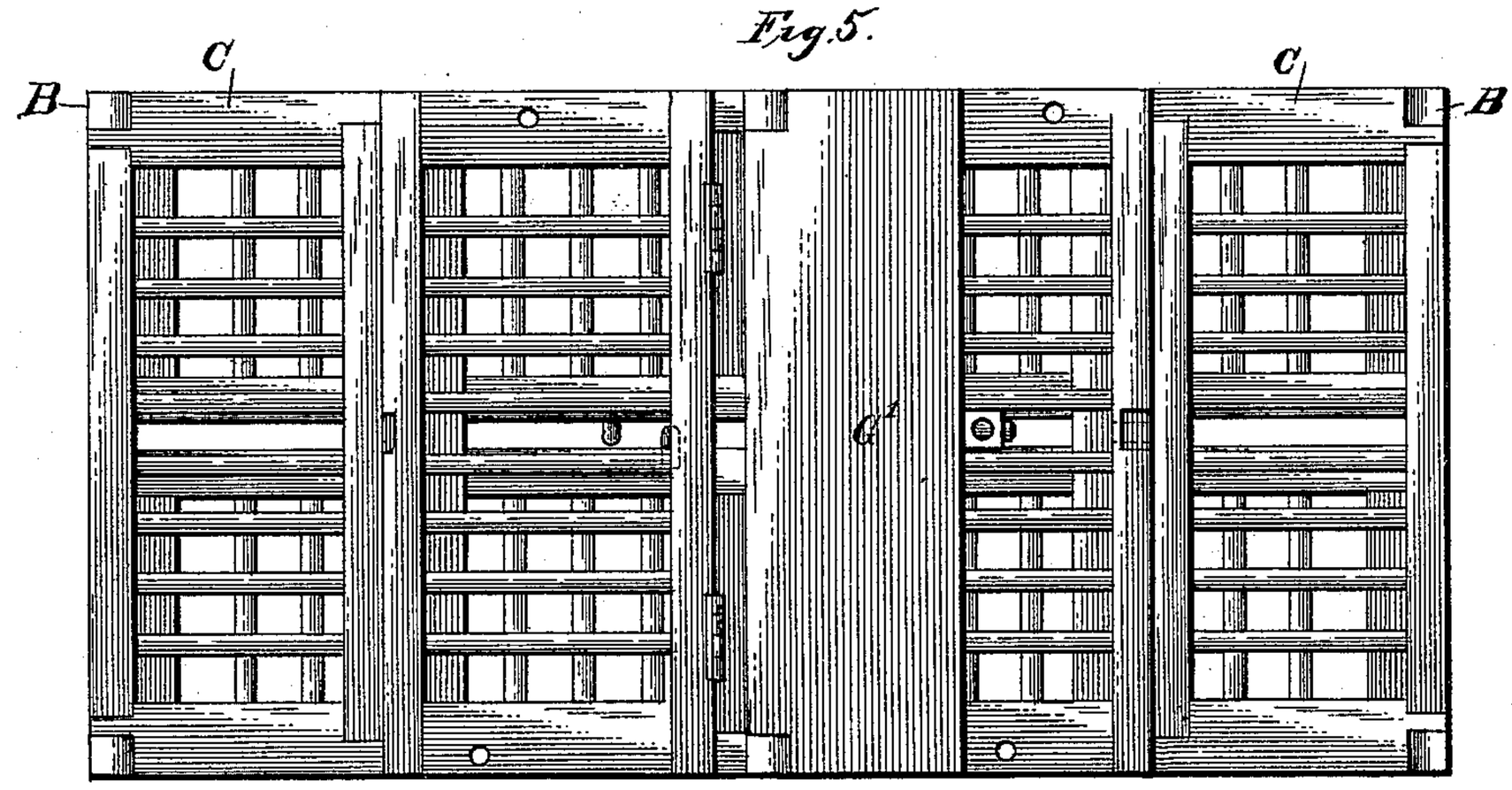


Fig. 5.



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UNITED STATES PATENT OFFICE.

GEORGE H. GROVE, OF HUMMELSTOWN, PENNSYLVANIA.

COLLAPSIBLE CRATE.

SPECIFICATION forming part of Letters Patent No. 601,650, dated April 5, 1898.

Application filed October 8, 1897. Serial No. 654,521. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. GROVE, a citizen of the United States, residing at Hummelstown, in the county of Dauphin and State of Pennsylvania, have invented a certain new and useful Improvement in Collapsible Crates, of which the following is a specification.

My invention relates to a new and useful improvement in folding or collapsible crates, and has for its object to provide a simple and effective device of this description which when adjusted for use will be as rigid as though of ordinary construction and when not in use may be quickly folded into an exceedingly small compass, thereby greatly facilitating the storage or shipment thereof.

Heretofore much expense has been occasioned in the shipping of certain classes of goods, since new crates must be provided for every shipment, and when the destination of these crates has been reached they are not only useless, but often become a nuisance when large numbers are received and expensive to dispose of; but by the use of my improvement these disadvantages are overcome, and the crates, having been once used and emptied, may be folded in an exceedingly small space and returned to the point from whence they were shipped at comparatively small cost, since the folding thereof will bring them in the weight class rather than the bulk class of freight.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side elevation of my improved crate when adjusted for use; Fig. 2, a plan view thereof; Fig. 3, a longitudinal section upon the line *x x* of Fig. 2; Fig. 4, an edge view of the crate when out of use and collapsed, and Fig. 5 a plan view when in this collapsed condition.

In carrying out my invention I provide a rectangular bottom A, which is here shown as oblong, and to this bottom are secured the end strips B. The ends C are hinged to the end strips, as indicated at D, so as to fold inward, while the sides F, which are in section, are hinged between the end strips and the central partition G. This partition is likewise made in two sections, the lower one being stationary and rigidly secured to the bottom, while the upper section G′ is hinged thereto, as indicated at H, in order that it may fold inward, as clearly shown in Fig. 4. The sides and ends may be rendered comparatively rigid by suitable dowel-screws projecting from the latter into the ends of the frame, thus pinning these parts together until sufficient force is exerted thereon to disengage the dowel-screws. A top consisting of four sections I, I′, J, and J′ is so constructed that the sections I and J are hinged together at K, while the sections I′ and J′ are hinged together at L. These two subdivisions of the top are hinged at M to the ends, and when extended for use cover the entire top of the crate, and may be secured against opening by a locking-pin N, carried by the sliding clip O and passing through the inner rail of the section to which it is attached and from thence through the staple P, projecting upward from the partition into a suitable hole formed in the inner rail of the opposite division of the top, as clearly shown in Fig. 3. This will securely lock the inner sections of each division, so that they cannot be opened until the pin has been retracted, and, if desired, a suitable lock or seal may be applied to the pin, so as to prevent its retraction until the destination of the crate has been reached. When the top is in place and the crate adjusted for use, dowel-screws Q, projecting upward from the upper edges of the sides, pass into suitable holes in the sections of the top, and thus add stability to the crate and prevent the straining of the joints thereof. As a further precaution against the straining of the joints of the crate and in order that it may be made entirely rigid escutcheon-plates R are set in the upper surface of the outer sections of the top, and passed therethrough is the screw S, which may be threaded into the washer-plates T, as shown in Fig. 1, thus securing this outer section rigidly to the sides of the crate, while leaving the inner sections thereof free to be swung open for gaining access into the interior of the crate. Any number of these plates and screws may be provided, in accordance with the size of the crate. Another use these screws accomplish

is the holding of the crate in its folded or collapsed position, since plates U, similar to plates T, are set in the lower rails of the sides, and when said sides are turned inward and the top sections closed thereon the screws S are brought into alinement with the holes in the plates U, when by running said screws within these holes the several parts of the crate will be held in their folded positions, greatly facilitating the shipping of the crate.

In folding the crate the sides are first swung inward against the bottom, the inner sections of each subdivision turned back upon the section to which it is hinged, and these two again swung upward, after which the ends carrying the subdivisions are swung downward upon the sides, when finally the swinging section G′ of the partition is swung downward upon one of the subdivisions of the top, which completes the collapsing of the crate.

By the use of a crate made in accordance with my improvement much convenience is occasioned the shippers of large quantities of goods, since the crates may be stored within a small space, thus enabling the carrying of a large stock of such crates for immediate use when necessary, and when the crate has reached its destination and has been emptied it may be reshipped to the point from which it came at so small an expense as to avoid the necessity of having to supply a new crate for every shipment, and this fact will warrant the use of crates of better construction than when the crates must be destroyed after each shipment.

While I have here shown my improvement as adapted to an open crate, it is obvious that the parts thereof may be made solid when intending to ship goods which require to be inclosed.

Having thus fully described my invention, what I claim as new and useful is--

1. A collapsible crate consisting of a bottom, end pieces secured thereto, ends hinged to said pieces, a partition, sides hinged between the partition and end strips, and a top made in two subdivisions each composed of two sections hinged together and to the ends, substantially as shown and described.

2. A collapsible crate consisting of a bottom, end pieces attached thereto, a partition made in two sections, one stationary and the other movable, sides hinged between the end strips and partition, ends hinged to the end strips, a top consisting of the sections I, J, I′ and J′ hinged together and to the ends, a sliding pin adapted to pass through the inner rails of the top, and a staple projecting upward from the movable section of the partition and adapted to receive the pin in its passage, substantially as and for the purpose set forth.

3. In combination, a bottom, end strips secured thereto, a partition secured to the middle of the bottom, said partition consisting of a stationary section and a swinging section, sides hinged between the end strips and partition, ends hinged to the end strips, a top made in two subdivisions each of which is hinged to one of the ends, said subdivisions consisting of two sections hinged together, dowel-screws for holding the movable parts in proper relative position, dowel-screws for securing certain of the parts together either in their distended or folded positions, a staple projecting upward from the swinging section of the partition, a locking-pin adapted to pass through the inner rails of the top and the staple, and a clip to which said pin is secured, as specified.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

GEORGE H. GROVE.

Witnesses:
S. S. WILLIAMSON,
CARRIE E. HUMMEL.