

No. 619,093.

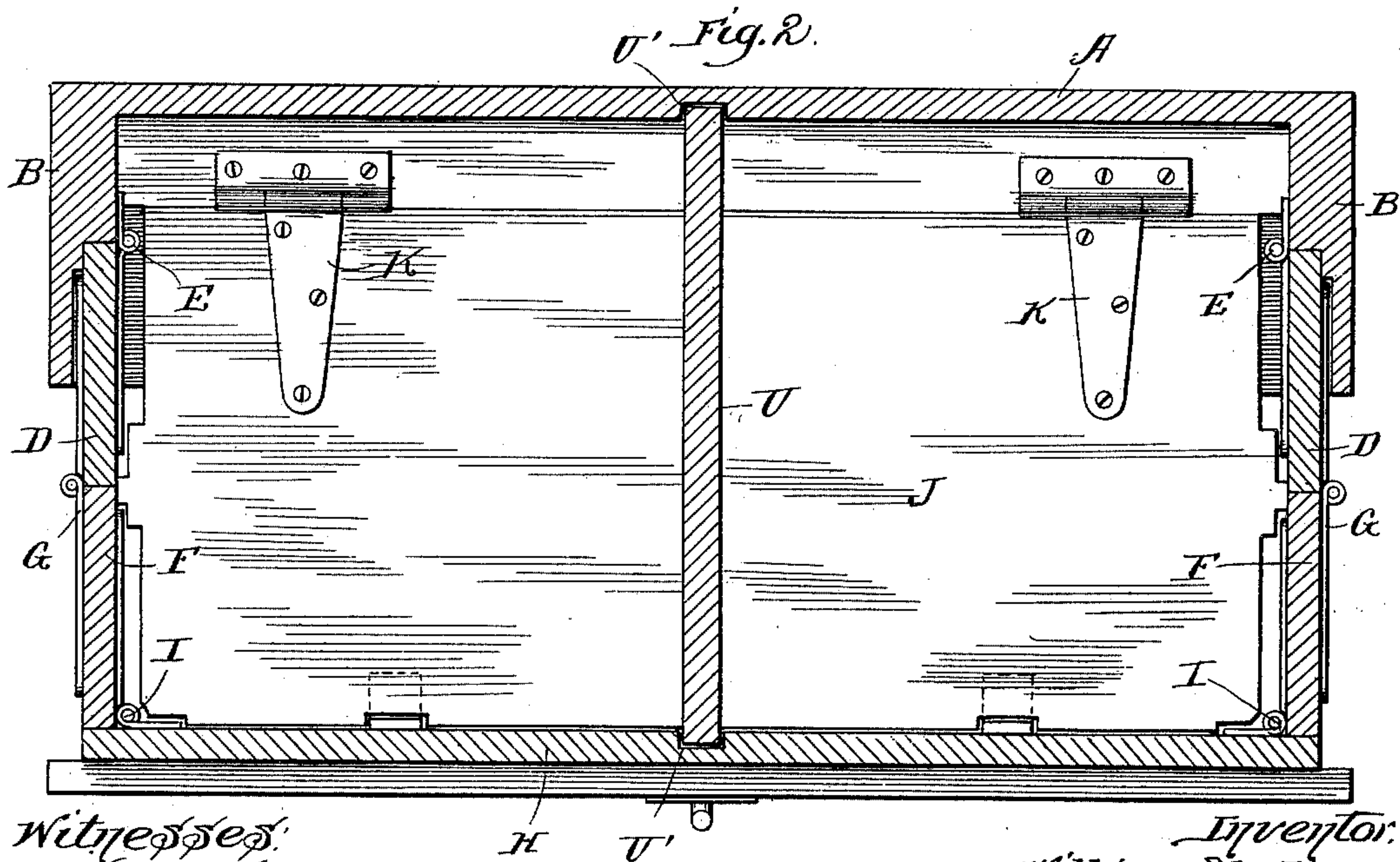
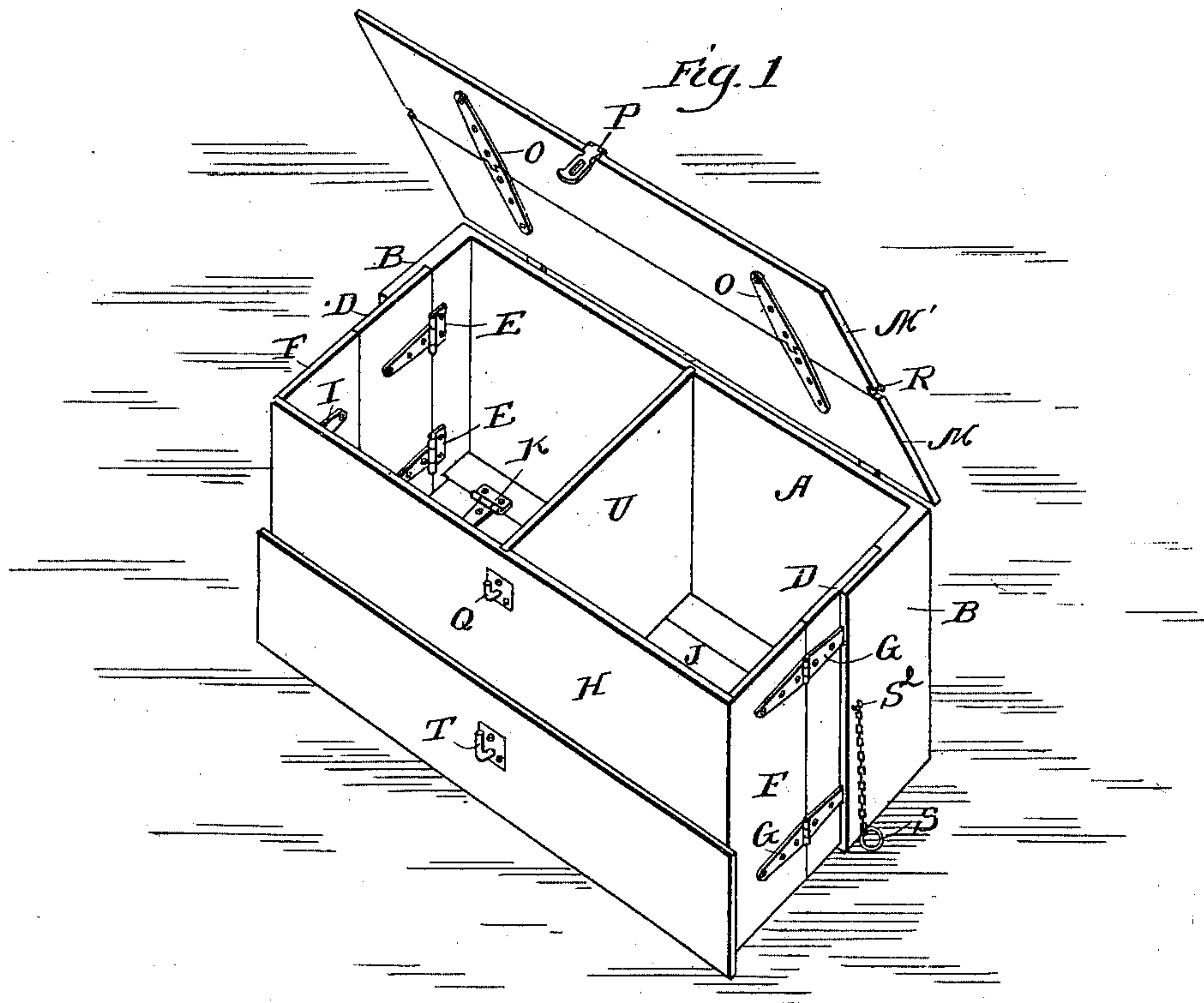
Patented Feb. 7, 1899.

W. SHADINGER.
COLLAPSIBLE CRATE.

(Application filed Aug. 10, 1898.)

(No Model.)

2 Sheets—Sheet 1.



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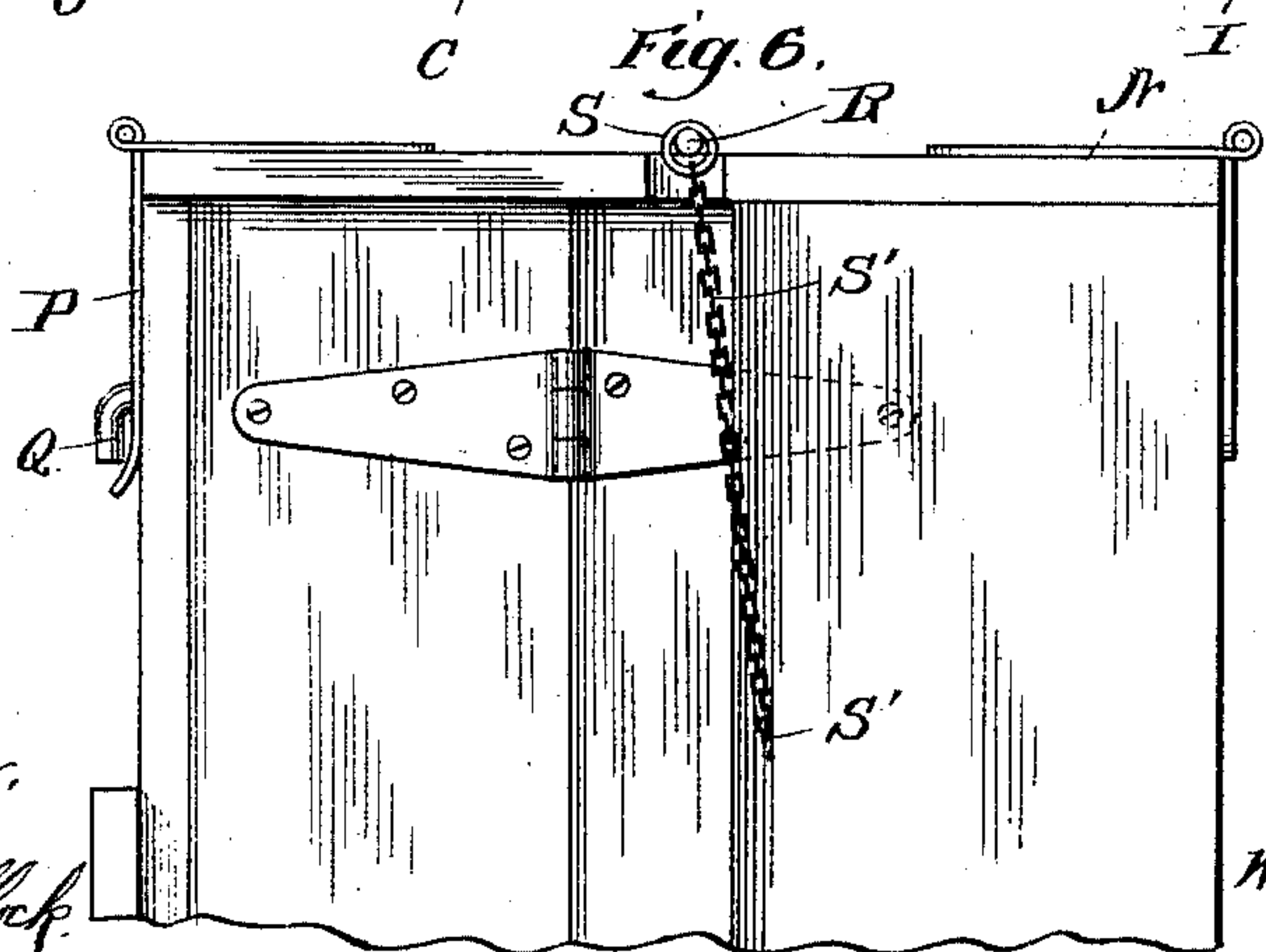
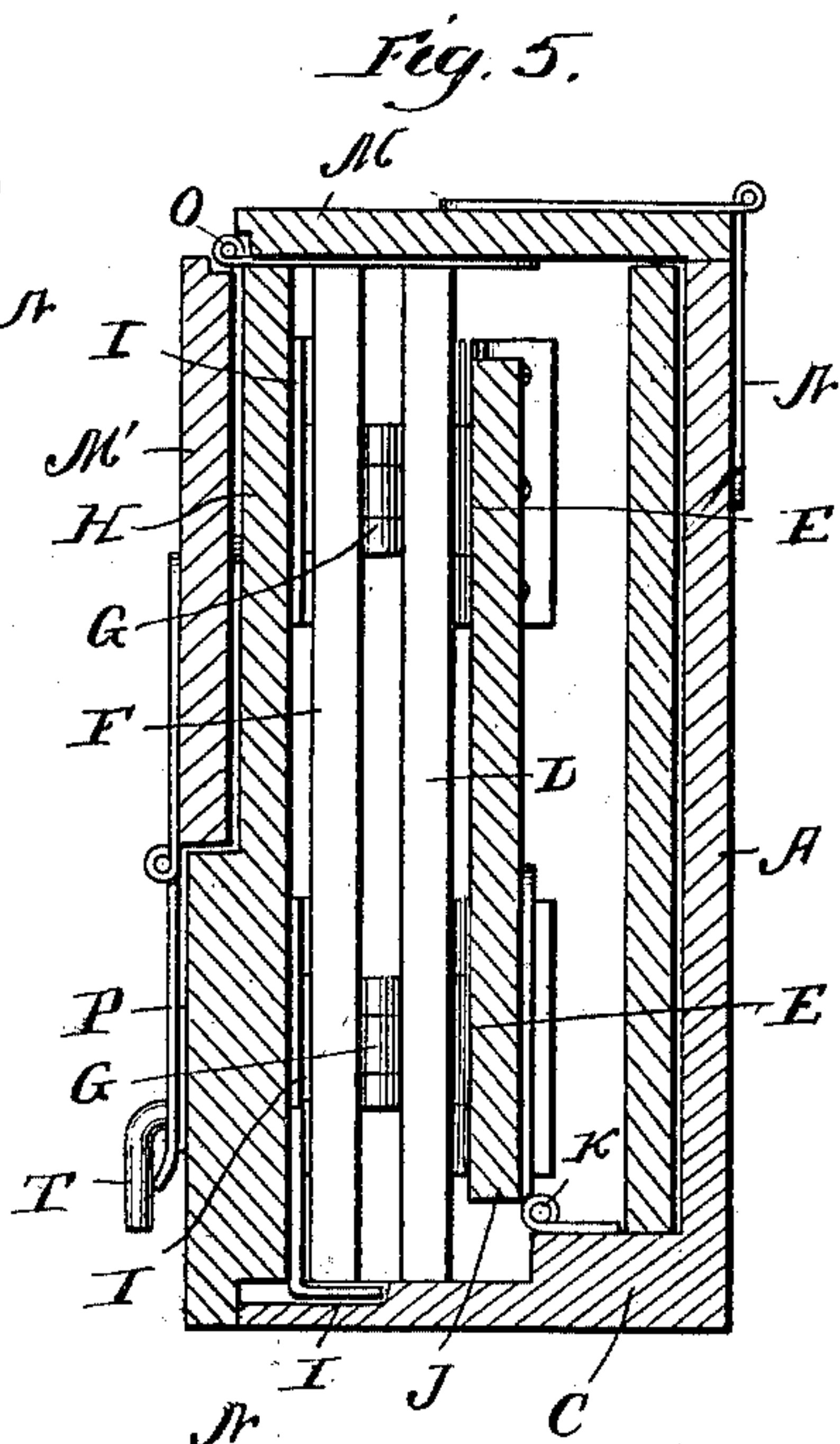
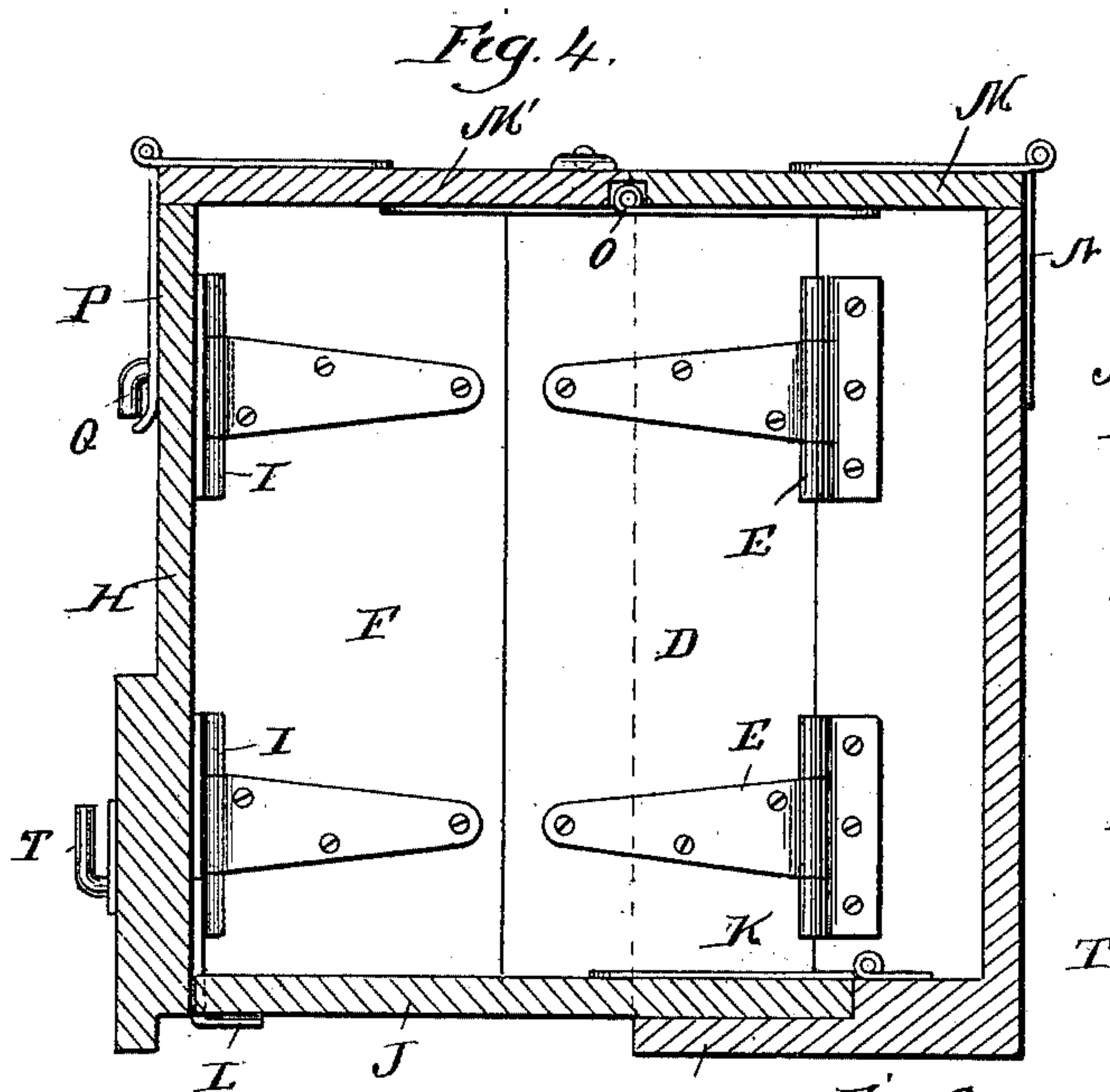
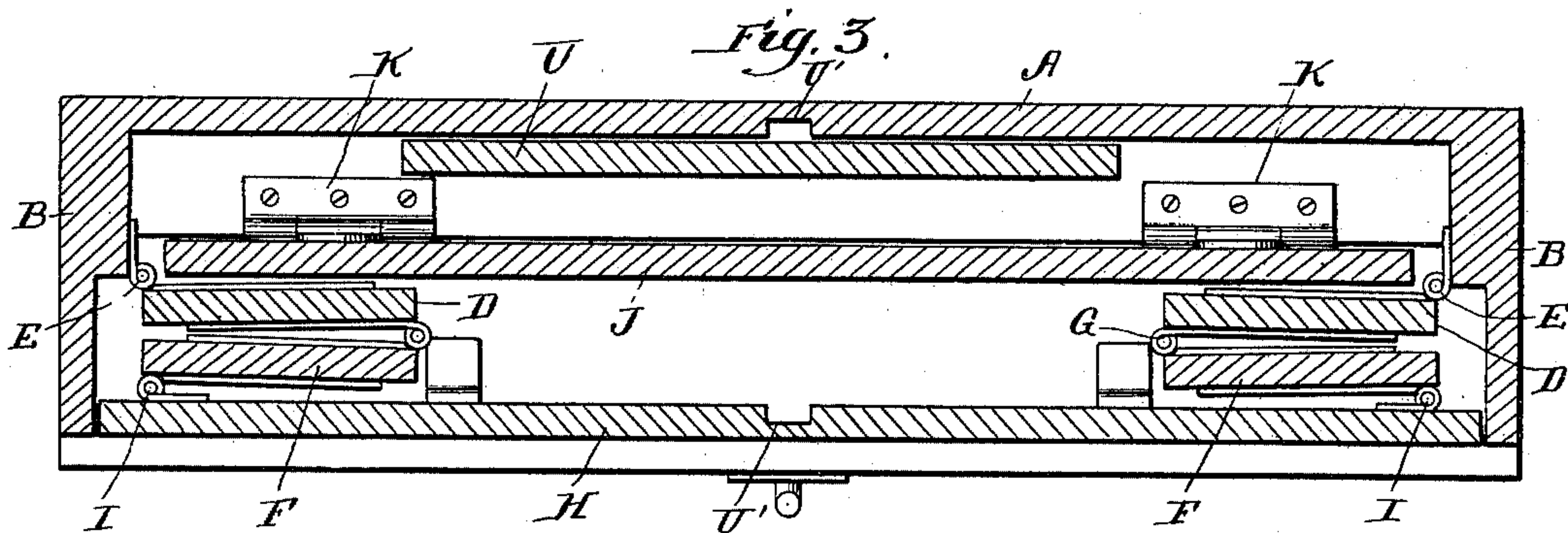
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

WILLIAM SHADINGER, OF PHILADELPHIA, PENNSYLVANIA.

COLLAPSIBLE CRATE.

SPECIFICATION forming part of Letters Patent No. 619,093, dated February 7, 1899.

Application filed August 10, 1898. Serial No. 688,253. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SHADINGER, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia 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 collapsible crates or boxes, and has for its object to provide a substantial device of this description which when adjusted for use will be as rigid as though it were of ordinary construction and yet which may be collapsed when not in use and when it is desired to store or ship the same, thereby greatly facilitating such storage or shipment and reducing the cost of transportation, since this class of articles is rated by bulk rather than weight.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

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 perspective of a crate made in accordance with my improvement, the cover thereof being open, so as to show the interior of the crate; Fig. 2, a horizontal section looking into the crate, showing the bottom thereof in position; Fig. 3, a similar section showing the crate in its folded position; Fig. 4, a cross-section of the crate when adjusted for use; Fig. 5, a similar view when folded or collapsed; and Fig. 6, a view of a portion of one end of the crate, illustrating the manner of utilizing the chains for holding the central portion of the cover in a rigid position.

In carrying out my invention as here embodied, A represents the back of the crate, having the rigid side sections B and the rigid bottom section C, and these sections, with the back, form the only rigid portion of the crate, the remainder being connected therewith in such manner as to be collapsible, as will be hereinafter explained. The side sections are

of two thicknesses, as clearly shown in Fig. 2, and have hinged thereto the inwardly-folding sections D by means of the strap-hinges E, and to these folding sections are also hinged the similar folding sections F by means of the strap-hinges G. The front H of the crate is hinged at I to the folding section F, so that when the folding sections D and F are swung inward the front of the crate will be drawn toward the back thereof, and thus collapsed into a much smaller space, as clearly indicated in Fig. 3. The rigid bottom section C of the crate is also of two thicknesses, so as to accommodate the swinging section J, which is hinged thereto by the strap-hinges K. This, as is obvious, will permit this section J to be swung downward to the position shown in Figs. 2 and 4 or upward to the position shown in Figs. 3 and 5, and when in its lowered position the section J is supported at its outer edge by the metal stops L, thus rendering it exceedingly firm, so that it may be well adapted for supporting the contents of the crate however heavy said contents may be. Another advantage of the downward swinging of the section J is to hold the folding end sections D and F, as well as the front of the crate, in proper position, and this it effectually does, as when properly constructed it fits snugly within the rectangle formed by these sections.

M represents the cover of the crate, which is hinged to the back A by the strap-hinges N, and this cover is made in two sections, the front section M' being hinged to the rear section by the hinges O, placed upon the under side thereof, so as to permit this cover to fold, as shown in Fig. 5, and the front of the crate is made of two thicknesses in order that when the front section M' of the cover is swung downward against the front it will lie flush with the thicker portion thereof, as clearly shown.

A suitable hasp is secured to the front section of the cover, and a turn-pin Q is arranged to enter the slot in the hasp, and may thereafter be turned so as to secure the hasp, and thus hold the cover closed, and to prevent the tendency of the two sections of the cover to move upward studs R are secured thereon, with which the rings S, carried by the chains S', may engage, the opposite ends of these

chains being stapled at S² to the side sections of the crate, from which it will be seen that when these rings are thus engaged with the studs the cover will be rigidly held in place.

5 A turn-pin T is attached to the lower portion of the front of the crate for engaging the hasp P when the section M' is folded against this front, the result of which is that when the crate is collapsed and the hasp is thus secured all of the sections of the crate will be held in their folded position.

When it is desired to use this crate for shipping eggs or similar articles required to be in separate compartments, a partition U is provided, which is placed in position after the crate had been adjusted for use by being passed downward in the grooves U', formed in the front and the back of the crate for that purpose, and this has a further advantage of rendering the crate more rigid when being used.

From the foregoing description it will be obvious that in practice my improved crate will answer all the purposes for which an ordinary crate may be used and yet greatly facilitates the return of the crates to the original point of shipment, since when folded it occupies a much less space than when adjusted for use, and this has the further advantage of facilitating the storing of a number of crates, thereby enabling a shipping establishment to carry in stock a greater number of crates for use, and thus avoid the delay which might otherwise be occasioned in the effort to secure a sufficient number of crates for the busy seasons.

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

1. A collapsible crate consisting of a rigid back having formed therewith short end and bottom sections, folding end sections hinged to the rigid end sections said hinged ends being arranged in two sections hinged together to swing inward, the said rigid and pivoted end sections being of two thicknesses, a front of two thicknesses hinged to the folding end sections, a swinging bottom hinged to the rigid bottom section and a cover consisting of two sections hinged together, substantially as described.

2. A collapsible crate consisting of a rigid back having end and bottom sections, portions of which are of two thicknesses, folding end sections hinged to the rigid sections and so arranged as to collapse inwardly, a front hinged to the folding end sections, said front being of two thicknesses, a swinging bottom hinged to the rigid bottom section, a cover consisting of two sections hinged together, and to the back of the crate, studs projecting from the cover, chains stapled to the rigid end sections and carrying rings for engagement with said studs, a hasp secured to the cover, and two turn-pins secured to the front of the crate whereby the cover may be secured in place either when the crate is adjusted for use or when it is collapsed, as specified.

3. A crate of the character described consisting of a rigid back, rigid end and bottom sections secured thereto, each of said sections being of two thicknesses, folding sections D hinged to the rigid side sections, folding sections F hinged to the first-named folding sections, a front H hinged to the last-named folding sections, said front being made of two thicknesses, a swinging bottom J hinged to the rigid bottom so as to be folded upward when collapsing the crate, stops L secured to the inner wall of the inner surface of the front of the crate for supporting the outer edge of the swinging bottom, a cover made in two sections hinged together, said cover being hinged to the back, stops secured to the cover, chains stapled to the rigid side sections, rings carried by said chains for engagement with the stops, a hasp carried by the cover, two turn-pins carried by the front for engagement with said hasp for holding the cover in place when the crate is adjusted for use, or collapsed, and a partition adapted to slide within grooves formed in the back and front of the crate, as for the purpose set forth.

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

WILLIAM SHADINGER.

Witnesses:

WILSON GARIS,
W. GARIS.