

No. 616,146.

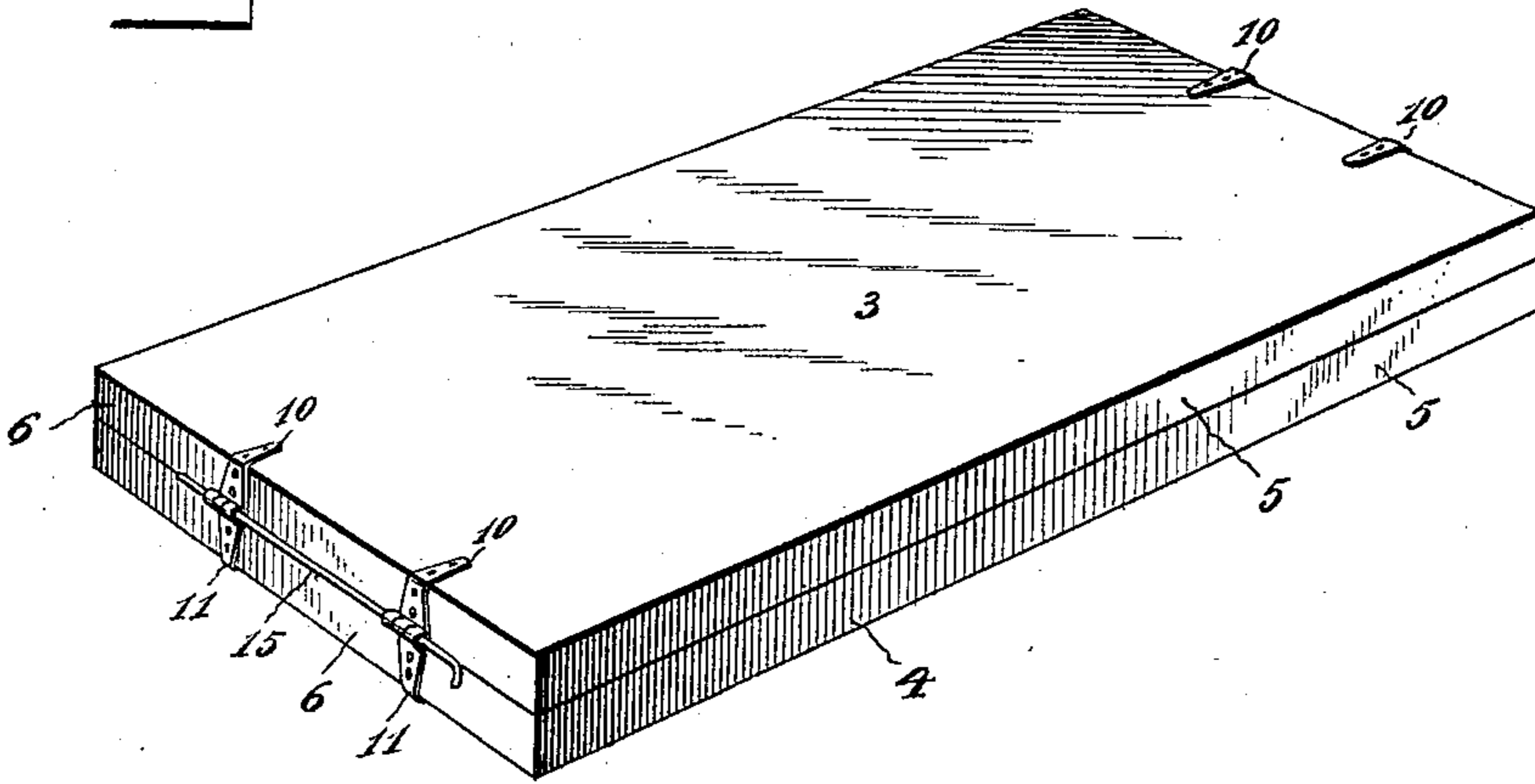
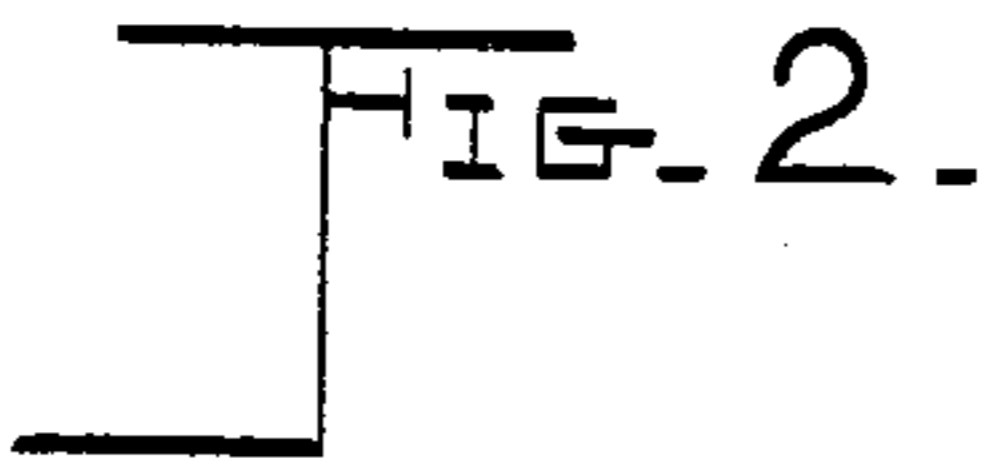
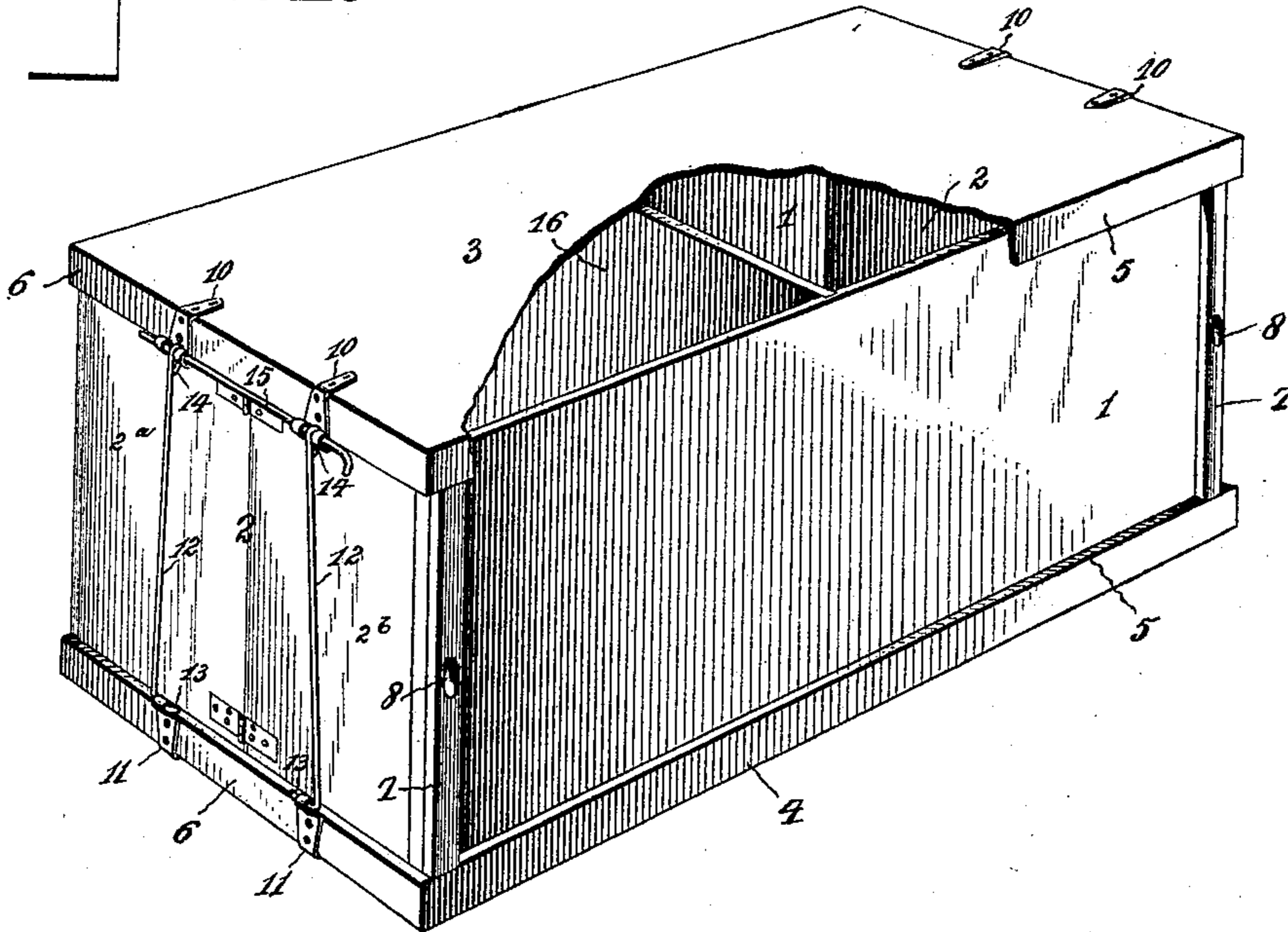
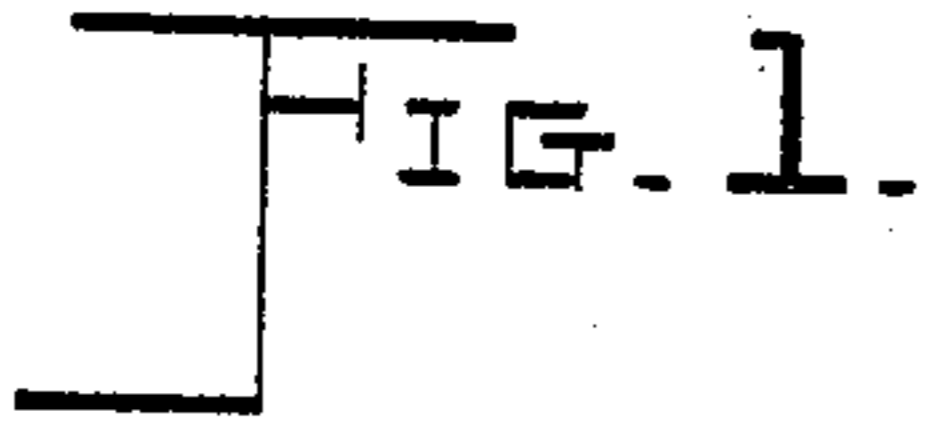
G. C. RUNKLE.
SHIPPING CRATE.

Patented Dec. 20, 1898.

(Application filed Jan. 24, 1898.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

John F. Deufferwiel

[Handwritten signature]

George C. Bunkle, Inventor

By *his* Attorneys,

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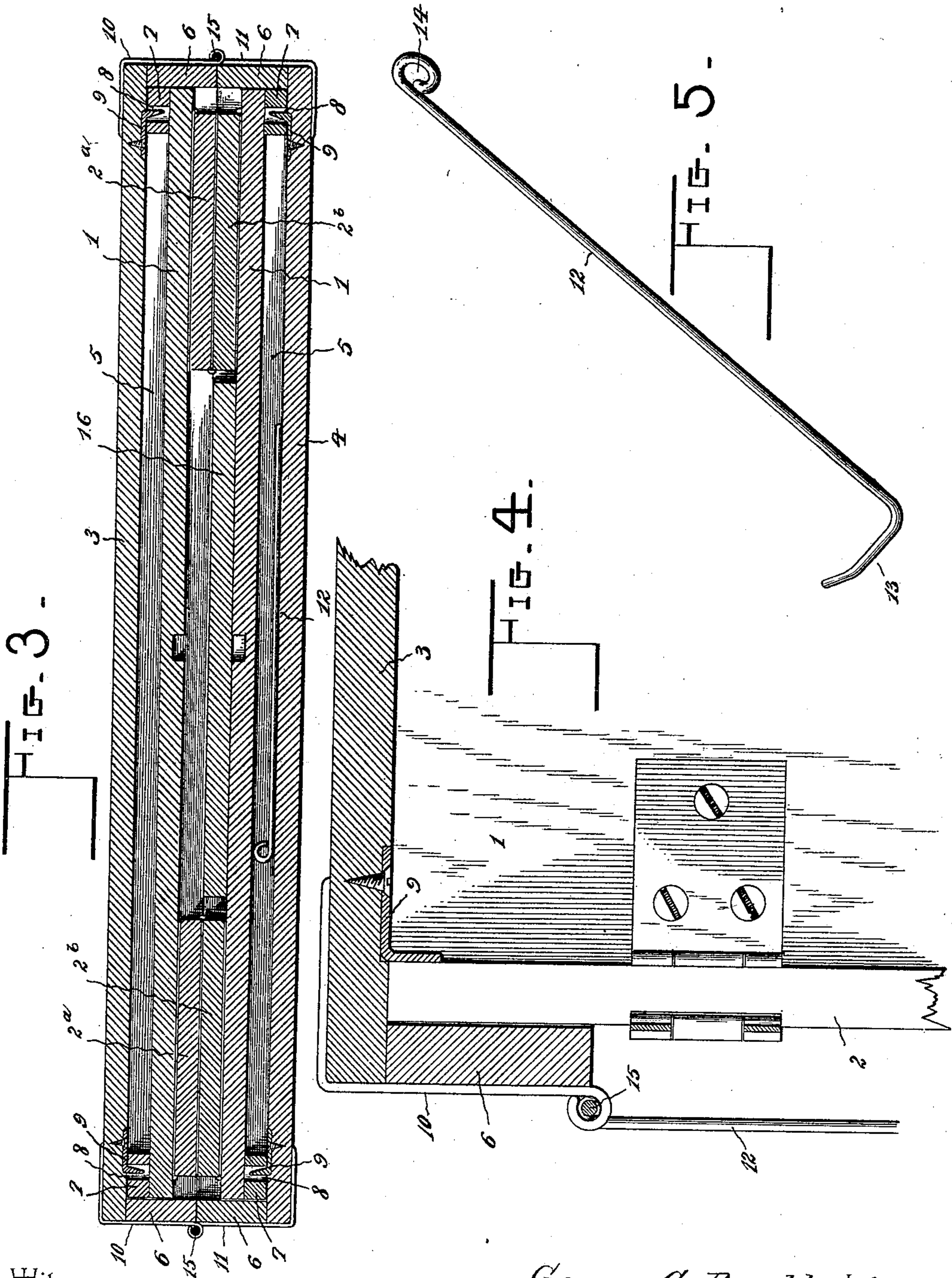
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2 Sheets—Sheet 2.



Witnesses

John F. Deffenbach
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George C. Runkle, Inventor

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UNITED STATES PATENT OFFICE.

GEORGE C. RUNKLE, OF PORT ROYAL, PENNSYLVANIA.

SHIPPING-CRATE.

SPECIFICATION forming part of Letters Patent No. 616,146, dated December 20, 1898.

Application filed January 24, 1898. Serial No. 667,779. (No model.)

To all whom it may concern:

Be it known that I, GEORGE C. RUNKLE, a citizen of the United States, residing at Port Royal, in the county of Juniata and State of Pennsylvania, have invented a new and useful Shipping-Crate, of which the following is a specification.

My invention relates to shipping-crates of that class adapted particularly for eggs and similar produce, but also adapted for fruits, vegetables, &c., and with slight modification for poultry, the object in view being to provide a simple and efficient construction and arrangement of parts adapting the crate when not in use or when about to be reshipped to the producer to be folded into compact form, suitable spaces being provided, when folded, for the reception of the partition, cells, &c.

A further object of the invention is to provide simple and efficient means for securing the parts of the crate either in their operative or folded position.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a crate constructed in accordance with my invention, a portion of the upper head or cover being broken away. Fig. 2 is a similar view showing the crate folded. Fig. 3 is a longitudinal section of the crate in its folded position. Fig. 4 is a detail sectional view of the upper angle of the crate at one end with the parts in their normal or shipping positions. Fig. 5 is a detail view of one of the connecting-rods.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

The side walls 1 of the crate embodying my invention are terminally and permanently connected by end walls 2 of sectional construction, each end wall consisting of a plurality of leaves 2^a 2^b, hingedly connected at their inner ends and also hingedly mounted at their remote ends upon the side walls, the hinges being arranged to allow said leaves to fold inwardly, as shown in Fig. 3. In connection with said side and end walls I employ upper and lower heads 3 and 4, having

side and end flanges 5 and 6 to receive and inclose the contiguous edges of the side and end walls, said side walls being provided at their extremities with transverse cleats 7, flush at their outer surfaces with the flanges of the heads and provided with sockets 8 for the reception (when the crate is folded) of clips 9, which are arranged on the inner surfaces of the heads contiguous to their extremities. These clips are preferably of metal and are of approximately L shape, with their short arms extending inwardly parallel with the end flanges of the heads and spaced therefrom a distance equal to the thickness of the end walls, whereby when the crate is set up said clips engage or bear against the inner surfaces of the end walls at the joints between the leaves thereof, and thus hold said end walls from accidental inward folding. In addition to strengthening the side walls transversely the cleats 7 serve to bear against the inner surfaces of the heads when the crate is folded, and thus prevent rattling or displacement of the side and end walls between the heads during return shipment, and the spaces thus formed between the side walls and the inner surfaces of the heads constitute receptacles for the egg-cells or analogous filling of the crate. The combined depths of the flanges of the head is greater than the combined thicknesses of the side walls and the folded leaves of the end walls, and hence when the crate is folded with the side and end walls disposed flatwise between the planes of the heads and within the flanges thereof the contiguous edges of the flanges of the heads come in contact, as shown in Fig. 2, and the above-described cleats on the side walls serve to fill the additional space between the heads and provide the receptacles for the filling.

Carried by the flanges of the heads are respectively double and single eye-keepers 10 and 11, the former being carried by one head and the latter by the other to provide for reversing and exchanging the heads without affecting the relative positions of the parts. These keepers project inwardly slightly beyond the edges of the flanges and are connected, when the crate is set up, by connecting-rods 12, having terminal transversely-bent portions or studs 13 and eyes 14. Said transversely-bent portions or studs constitute

hooks for engagement with the single eye-keepers, while the opposite terminal eyes of the connecting-rods are adapted to fit between the eyes of the double eye-keepers for engagement by locking rods or pins 15. When the crate is folded, said connecting-rods being removed (and being stowed in the spaces between the members of the crate) and the flanges of the heads being in contact, as shown in Fig. 2, the eyes of the keepers interlock and aline for the reception of the above-described locking rods or pins 15. In order to prevent accidental disengagement of the terminal transversely-bent portions or studs of the connecting-rods from the single eye-keepers, I preferably bow said studs outwardly or downwardly, as shown in the drawings.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

When used in shipping eggs, the crate is preferably provided with an intermediate partition 16, which when the crate is set up is fitted in registering vertical grooves in the inner surfaces of the side walls, and when the crate is knocked down is arranged between the planes of said side walls in the space bounded terminally by the inner edges of the end-wall sections.

Having described my invention, what I claim is—

1. A shipping-crate having hingedly-connected side and end walls, the end walls being halved with their sections hinged together to fold inwardly between the planes of the side walls, transverse cleats secured exteriorly to the extremities of the side walls and terminating short of the upper and lower edges thereof, flanged heads fitting upon and inclosing the contiguous edges of the side and end walls, the combined depths of the end flanges being equal to the combined thicknesses of the side walls, folded end-wall sections, and said transverse cleats, whereby when folded the inner edges of the head-flanges are in contact, said head-flanges also being equal to the intervals between the ends of the transverse cleats and the contiguous edges of the walls, and means for connecting the heads in the set-up and folded positions of the crate, substantially as specified.

2. A shipping-crate having hingedly-connected side and end walls, the end walls being halved with their sections hinged together to fold inwardly between the planes of the side walls, transverse cleats secured exteriorly to the extremities of the side walls and terminating short of the upper and lower edges thereof, flanged heads fitting upon and inclosing the contiguous edges of the side

and end walls, the combined depths of the end flanges being equal to the combined thicknesses of the side walls, folded end-wall sections, and said transverse cleats, whereby when folded the inner edges of the head-flanges are in contact, and means for connecting the heads in the set-up and folded positions of the crate, said means including keepers carried by the head-flanges and extending inwardly from the edges thereof, connecting-rods provided at one end with studs for engagement with the keepers on one of the heads and provided at the opposite end with eyes for alinement with the keepers on the other head, and locking-pins for engaging the alined eyes and keepers, substantially as specified.

3. A shipping-crate having foldably-connected side and end walls, and flanged heads for receiving and inclosing the contiguous edges of said walls, single and double eye-keepers carried by the heads, connecting-rods having terminal transverse studs to engage the single eye-keepers and terminal eyes for alinement with the double eye-keepers, and locking-pins for engaging the eyes of the connecting-rods and the double eye-keepers, substantially as specified.

4. A shipping-crate having foldably-connected side and end walls, and flanged heads for receiving and inclosing the contiguous edges of said walls, single and double eye-keepers carried respectively by the heads, connecting-rods having bowed transverse studs at one end to engage the single eye-keepers and eyes at the other end to aline with the double eye-keepers, and locking-pins for engaging the eyes of the connecting-rods and the alined double eye-keepers, substantially as specified.

5. A shipping-crate having foldably-connected side and end walls, and flanged heads for receiving and inclosing the contiguous edges of said walls, single and double eye-keepers carried by the flanges of the heads and projecting inwardly beyond the edges thereof to aline when the contiguous edges of the head-flanges are in contact, connecting-rods having terminal hooks and eyes for respective engagement and alinement with the single and double eyes and locking-pins for engaging the eyes of the connecting-rods and the alined double eye-keepers, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

GEORGE C. RUNKLE.

Witnesses:

WM. C. POMEROY,
JAS. T. ALTER.