

No. 835,318.

PATENTED NOV. 6, 1906.

J. H. PARSONS.
FOLDING CRATE OR BOX.
APPLICATION FILED NOV. 23, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

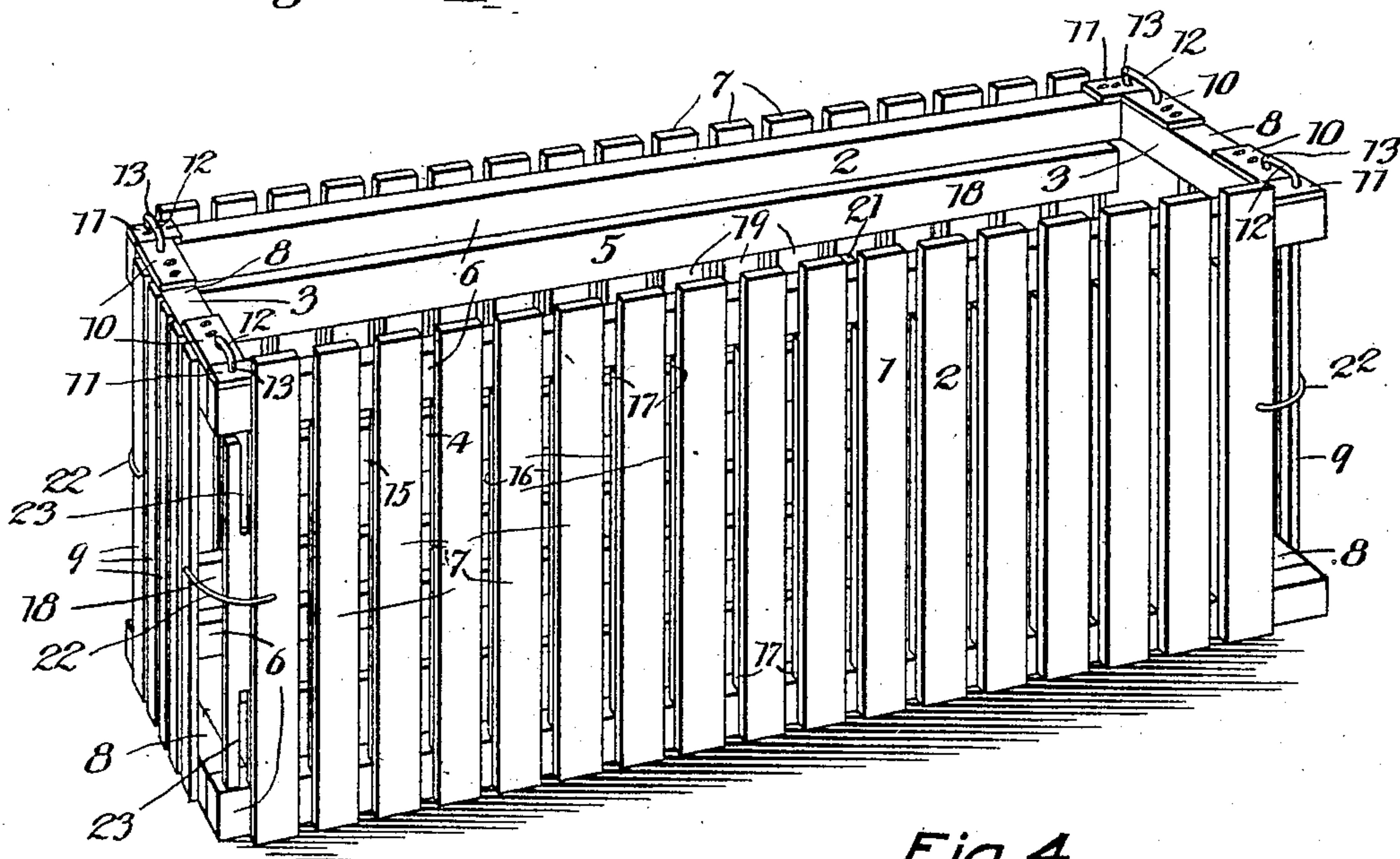
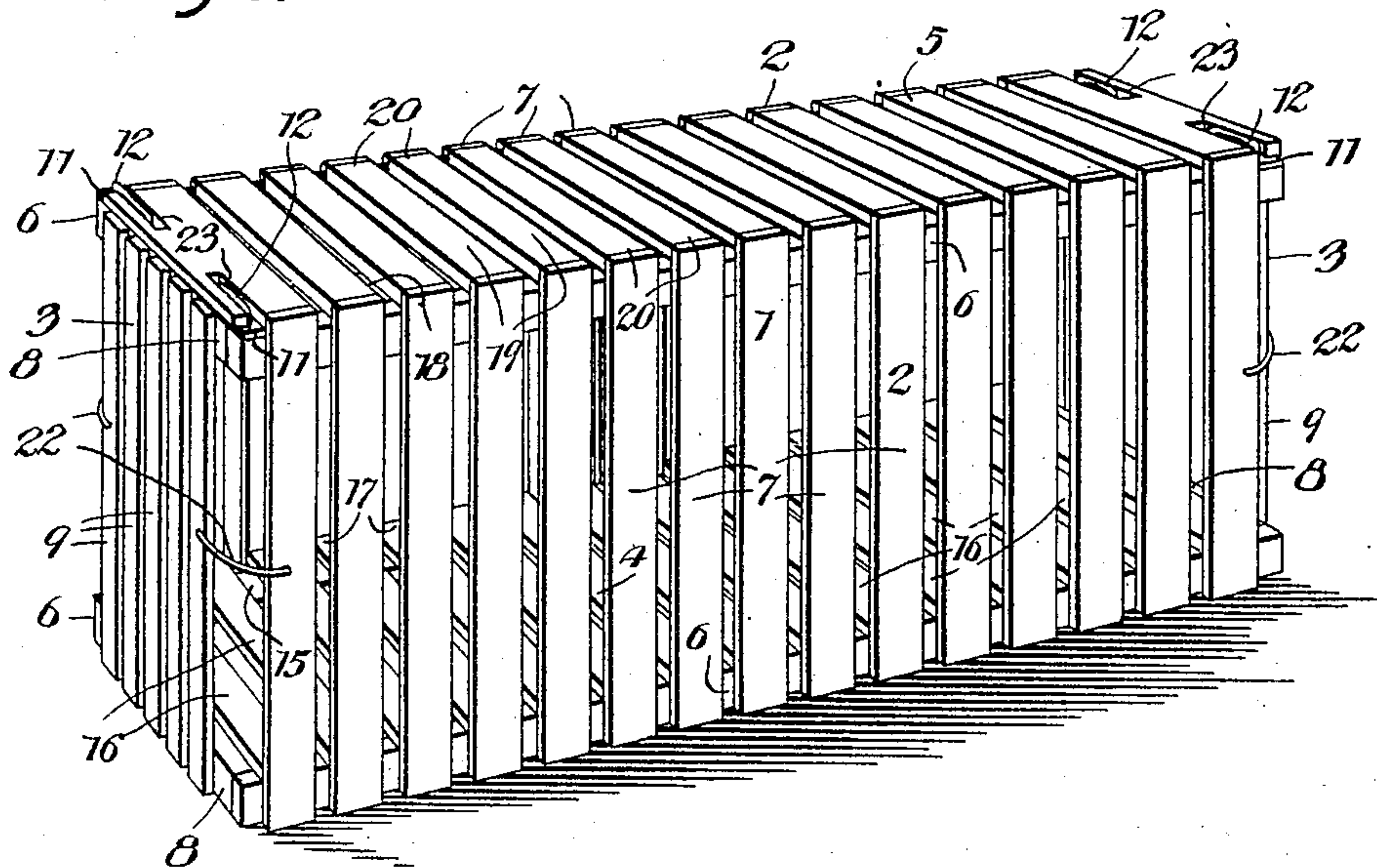


Fig. 4.

Witnesses

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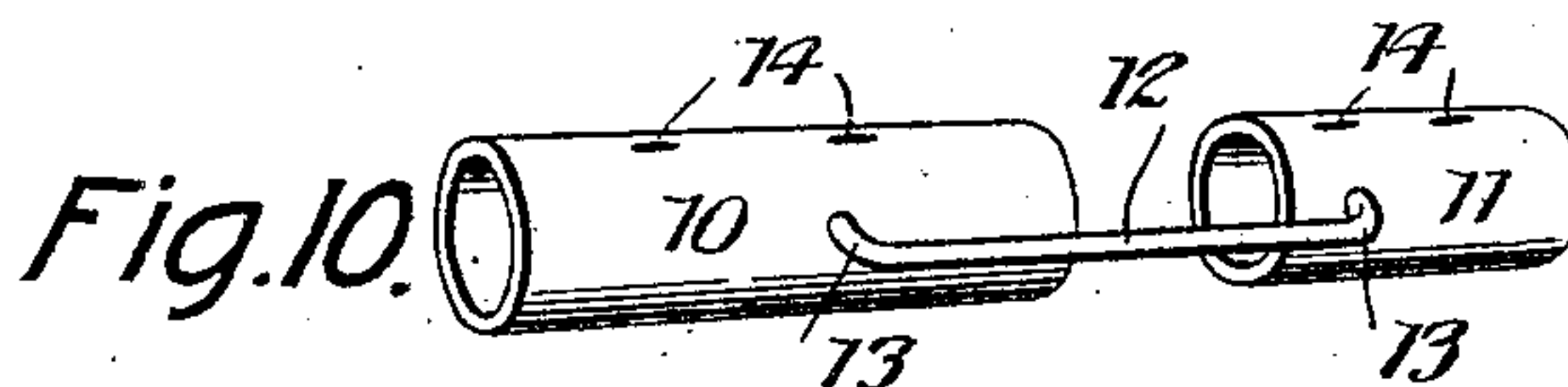
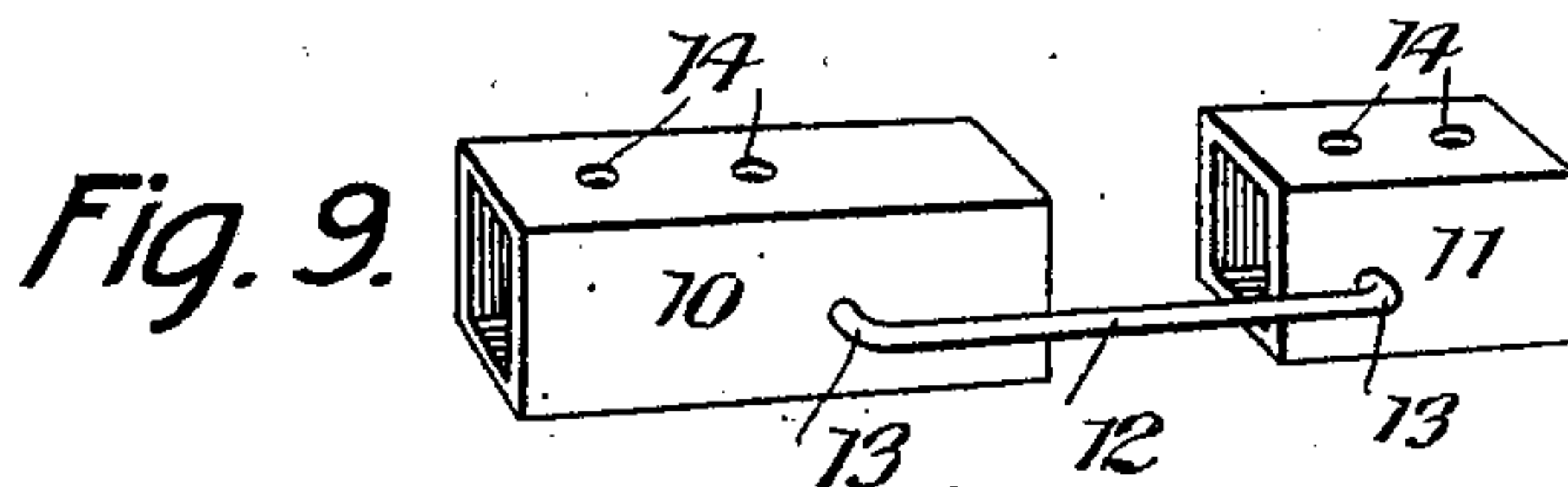
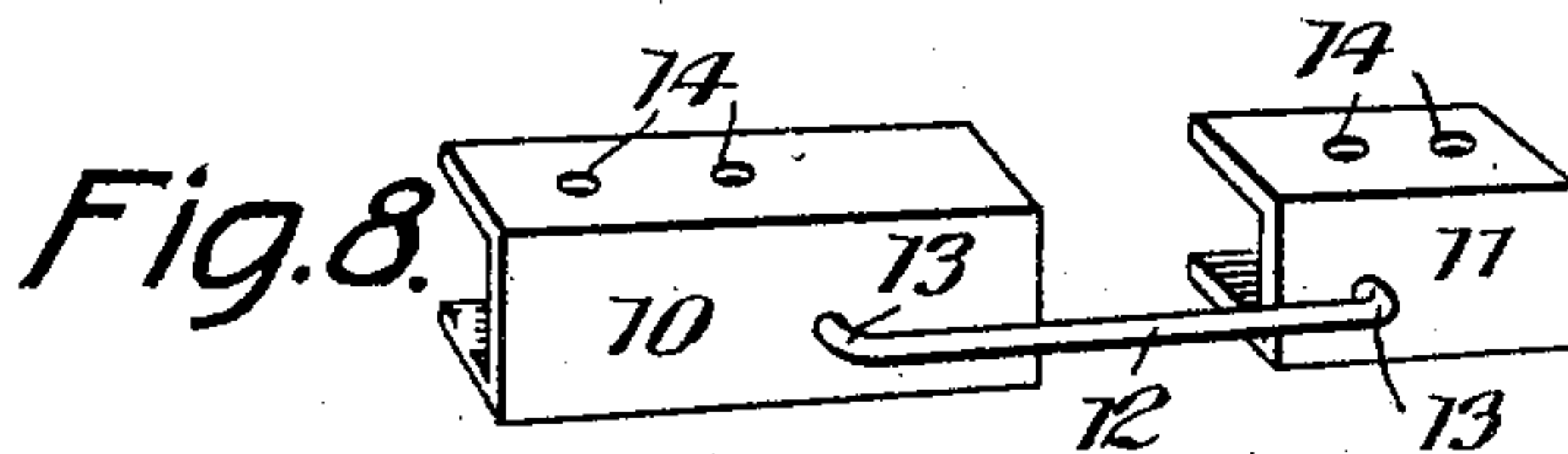
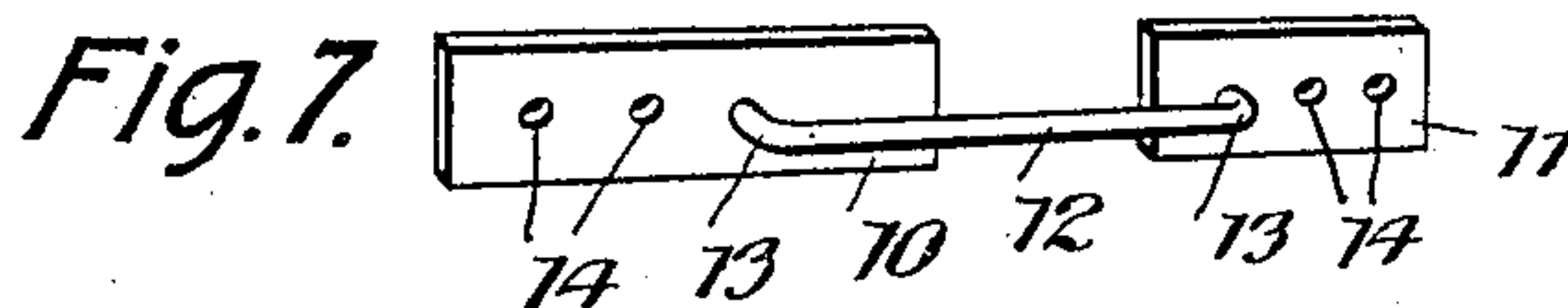
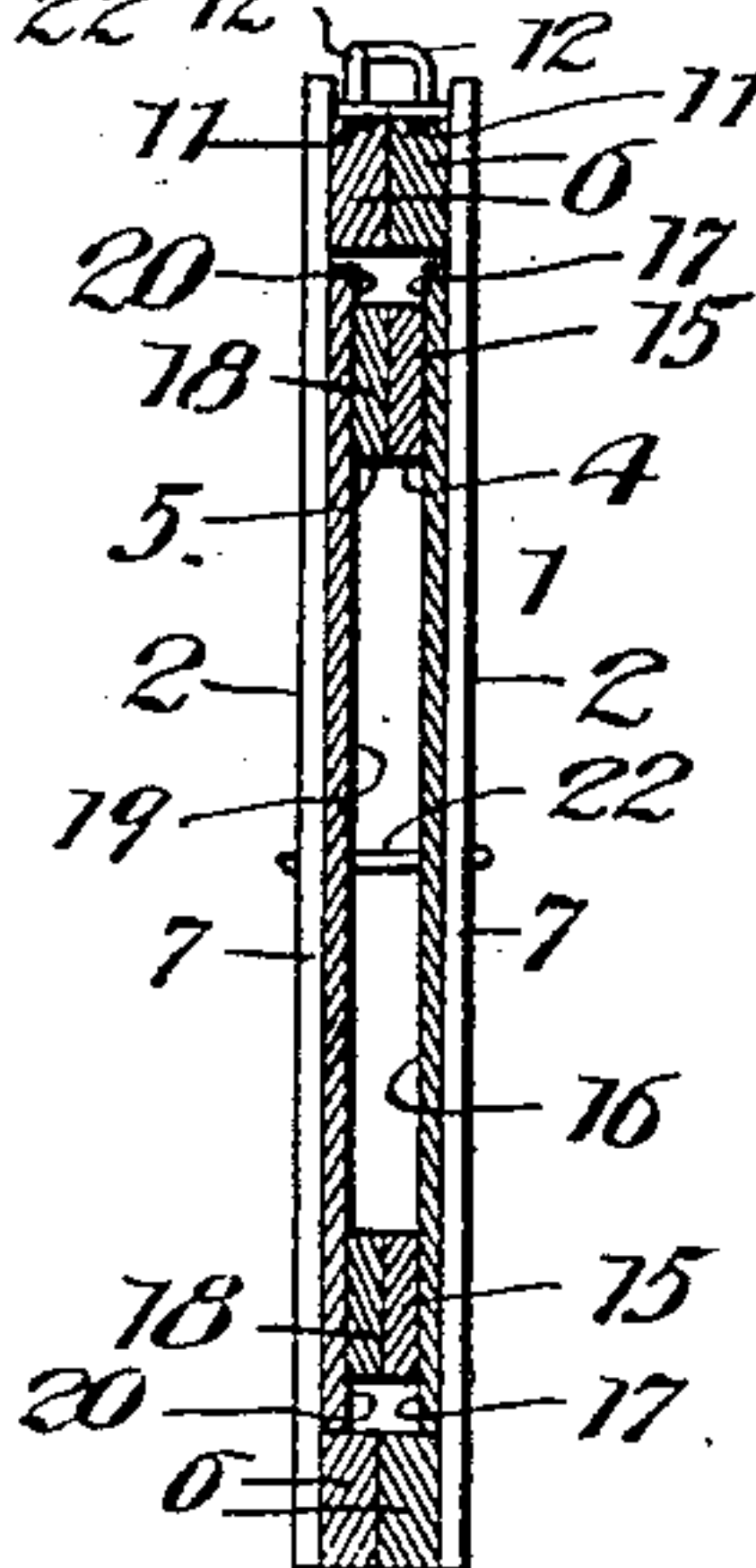
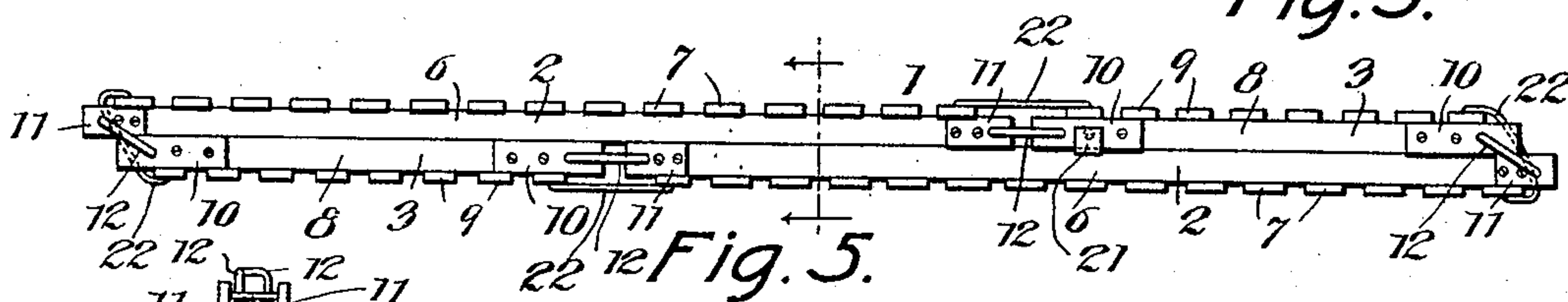
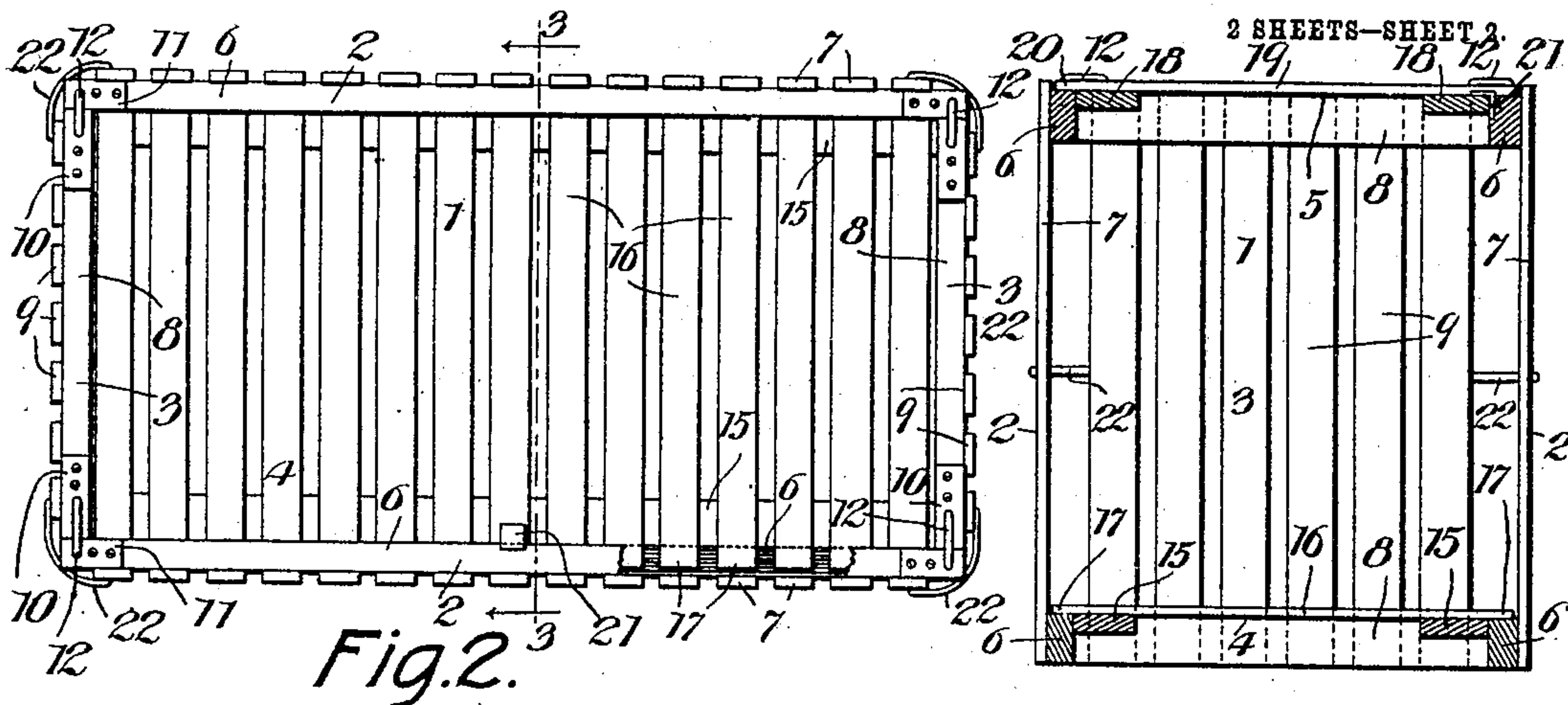


Fig. 6.

Witnesses
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UNITED STATES PATENT OFFICE.

JOSEPH H. PARSONS, OF FLORIDA, NEW YORK.

FOLDING CRATE OR BOX.

No. 835,318.

Specification of Letters Patent.

Patented Nov. 6, 1906.

Application filed November 23, 1905. Serial No. 288,791.

To all whom it may concern:

Be it known that I, JOSEPH H. PARSONS, a citizen of the United States, residing at Florida, in the county of Orange and State of New York, have invented certain new and useful Improvements in Folding Crates or Boxes; and I do 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.

My invention relates to improvements in folding or collapsible crates, boxes, and similar containers and to hinges therefor.

One object of the invention is to provide a simple, inexpensive, durable, and convenient crate or box which may be quickly set up to receive fruits, vegetables, eggs, bottles, canned goods, and all kinds of merchandise and which when not in use may be compactly folded to occupy but little space, so that it may be stored away or shipped at a comparatively small expense.

Another object of the invention is to provide a simple, strong, and durable hinge for folding crates which will permit them to be quickly and easily collapsed.

With the above and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of the crate constructed in accordance with my invention. Fig. 2 is a top plan view of the same with the cover removed and parts broken away to more clearly illustrate the construction. Fig. 3 is a vertical transverse sectional view, taken on the line 3 3 in Fig. 2. Fig. 4 is a perspective view of the crate in a position partly folded or collapsed, its top and bottom being placed upon the inner faces of its two sides. Fig. 5 is a plan or edge view of the crate in its folded position. Fig. 6 is a vertical transverse sectional view through the same, and Figs. 7, 8, 9, and 10 are perspective views of different forms of hinges which may be used in constructing the crate.

Referring to the drawings by numeral, 1 denotes a container, which may be in the form of a crate, box, or any other receptacle adapted for containing or shipping fruits,

vegetables, eggs, canned goods, and all kinds of merchandise, but which is here shown in the form of a slatted crate. The crate or container 1 consists of two sides 2, two ends 3, a bottom 4, and a top 5. Each of the sides 2 consists of upper and lower parallel longitudinal or side bars 6, which are connected upon their outer faces by parallel cross bars or slats 7. The ends 3 are similarly constructed of upper and lower longitudinal or horizontal bars 8, connected on their outer faces by cross or vertical slats 9. The sides and ends are adapted to be hingedly connected at their corners by any of the four different forms of hinges shown in Figs. 7, 8, 9, and 10. Each of these hinges consists of two leaves or attaching plates or members 10 11 and a connecting pivot bar or pintle 12. This bar 12 is straight and has its right-angularly-bent ends 13 pivotally mounted in the attaching plates or members 10 11, as shown. The latter may be in the form of flat metal plates, as shown in Fig. 7, when the crate, box, or container upon which they are used is constructed of heavy, strong, and durable material, or they may be of the form shown in Fig. 8 when the construction of the crate is lighter and of less durable material. In Fig. 8 it will be noticed that these members are in the form of three-sided frames or casings which are adapted to fit over the ends of the horizontal or longitudinal bars 6 8 of the sides and ends of the crate.

The form of hinge shown in Fig. 9 is the one employed in the present embodiment of the improved crate and its two members 10 11 are in the form of rectangular sleeves or casings which are adapted to fit upon the ends of the bars 6 8 of the sides and ends. When these bars are cylindrical, the members 10 11 are made cylindrical, as shown in Fig. 10. These members may be secured to the bars 6 8 by screws, nails, rivets, or any other suitable fastening means, which are passed through openings 14, formed therein. By employing hinges of this description it will be seen that the sides and ends of the crate may be collapsed, as shown in Figs. 4 and 5 of the drawings, so that it will occupy but little space.

When folded as in Fig. 5, the sides are parallel and overlapping and the ends are in longitudinal alinement with the sides; but, if de-

sired, the crate may be folded so that the ends will be either between the sides or upon their outer faces, in which case the length of the crate when folded will be less than that shown in Fig. 5; but its width will be greater. When the crate is set up, the ends 3 are adapted to enter between the sides, as shown in Fig. 2, and these parts are prevented from collapsing by the bottom and top. The bottom 4 consists of two longitudinal bars 15, connected by cross-slats 16, which have their ends 17 projecting beyond the bars 15 and resting upon the upper faces of the lower bars 6 of the sides, as clearly shown in Fig. 3. It will be seen that this bottom will thus hold the sides and ends in their opened position, and, if desired, a suitable catch or other device may be employed for retaining the bottom in position. The top 5 is similar to the bottom and consists of two longitudinal bars 18, connected by cross-slats 19. The bars 18 are so spaced apart that they will enter between and engage the inner side faces of the upper bars 6 of the sides, and the ends 20 of the top slats 19 project beyond the bars 18 and engage the upper faces of the upper bars 6 of the sides, as shown in Figs. 1, 2, and 3 of the drawings. The top is retained in position by a hook-plate 21, which is right angular in form and is secured in a recess formed in the inner face of the upper member 6 of one of the sides at a point midway its ends. The inwardly-projecting horizontal portion of this hook-plate is adapted to engage the upper face of one of the bars 18 of the top, so as to retain that side or edge of the top in position. The opposite side or edge of the top may be secured by a catch or any other fastening device, if desired. The bottom 4 and the top 5 are of less size than the sides 2, so that they will fit within the latter upon the inner faces of the same, as shown in Figs. 4 and 6 of the drawings. The top and bottom are prevented from slipping endwise out of the crate when in its folded position by means of wires or any other suitable flexible connections 22, which connect the adjacent edges of the sides and ends at points midway their vertical edges, as clearly shown in the drawings. If desired, the ends of the cross-slats 19 of the top 5 may be formed with slots or recesses 23 to receive the pivot-bars 12 of the hinges, so that the cover or top may fit snugly upon the crate.

The construction, operation, and advantages of the invention will be readily understood from the foregoing description, taken in connection with the accompanying drawings. It will be seen that when the crate, box, or similar container is constructed in this manner it may be quickly set up by swinging its sides and ends at right angles to each

other and inserting the bottom to retain them in this position. It may be as readily collapsed and folded by placing the bottom and top upon the inner faces of the sides and then folding the sides and ends together, as shown, or in any other suitable manner, which will be permitted by reason of the peculiar construction of the hinges. It will be understood that the sides, ends, bottom, and top of the container may be made solid or open or in any other form of construction than the one shown, so that the container may be used for any purpose. It is exceedingly convenient as a shipping-crate, since it may be compactly folded and returned from the consumer to the shipper at a comparatively small cost and may be conveniently stored by the shipper.

While I have shown and described the preferred embodiment of my invention, it will be understood that I do not wish to be limited to the precise showing herein set forth, since various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A folding structure of the class described, having sides and ends, hinges connecting them at the corners thereof and having pivoted links projecting above the upper surfaces of said sides and ends, and a top to fit between the sides and ends when the structure is set up, and provided with recesses to receive said links and lock them against pivotal movement.

2. A folding structure of the class described, having sides and ends, each provided with longitudinal bars on its inner surface near the top and bottom, hinge devices connecting said sides and ends together at the corners of the structure and permitting each end to turn and assume a position in line with one of the sides, and permit the structure to collapse and bring its sides and ends in contact with one another, a removable top and bottom, to fit between the sides and ends and bear on the longitudinal bars thereof, when the structure is set up, and to lie between the sides and ends and the upper and lower longitudinal bars thereof when the structure is collapsed, and flexible devices connecting the sides and ends at the corners of the structure and at points between the upper and lower bars, to prevent the top and bottom from being removed endwise from between the sides and ends when the structure is collapsed, substantially as described.

3. A folding container comprising sides and ends each consisting of longitudinal bars

connected by cross portions, hinges connect-
ing said ends and sides and consisting of at-
taching members secured upon the ends of
said longitudinal bars and pintle-rods having
5 right-angular ends pivoted in said attaching
members, and a removable top and bottom
to coact with said sides and ends.

In testimony whereof I have hereunto set
my hand in presence of subscribing witnesses.

JOSEPH H. PARSONS.

Witnesses:

JOHN E. GREENE,
JOHN ALLEN,
L. D. ADAMS.