

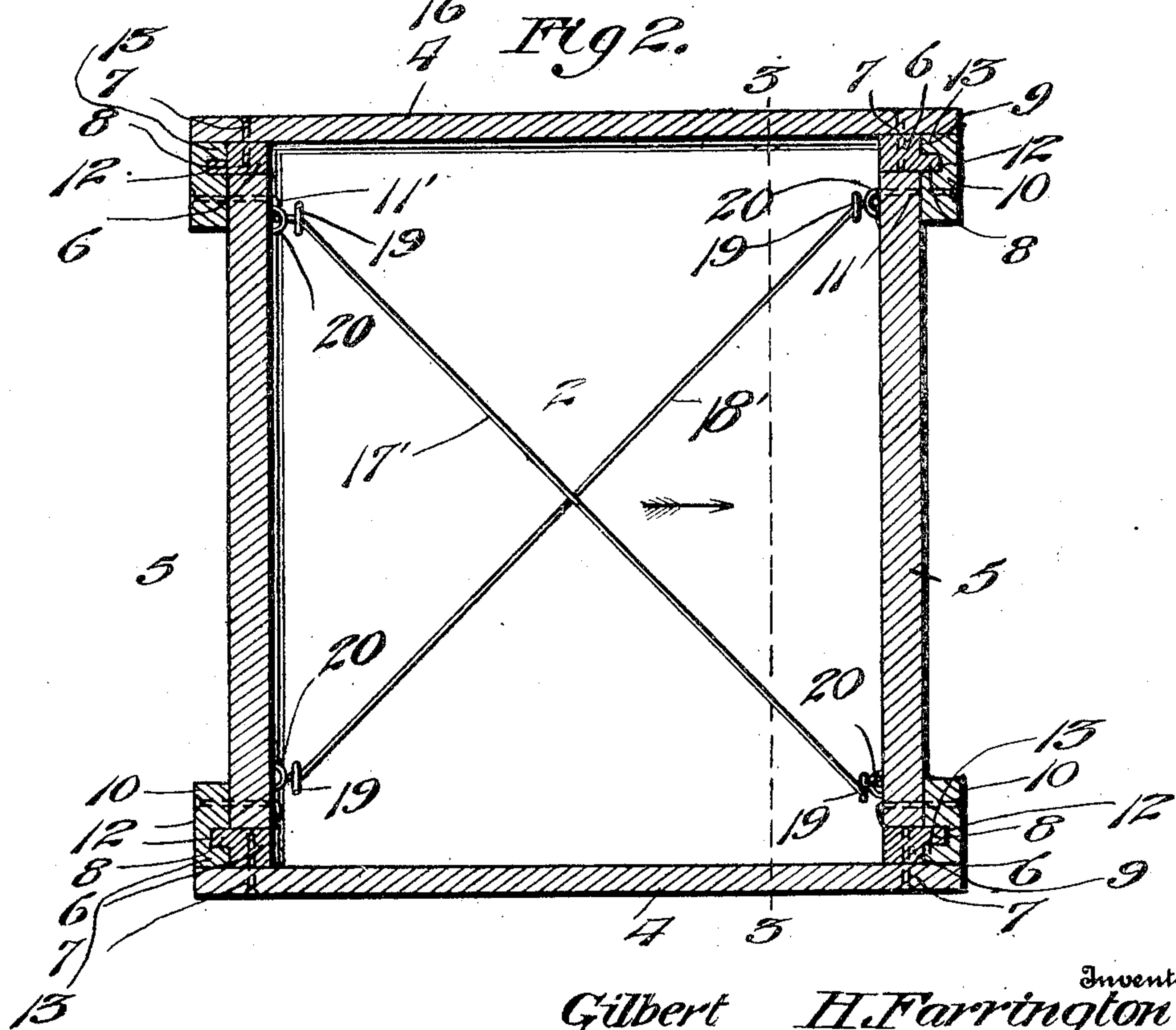
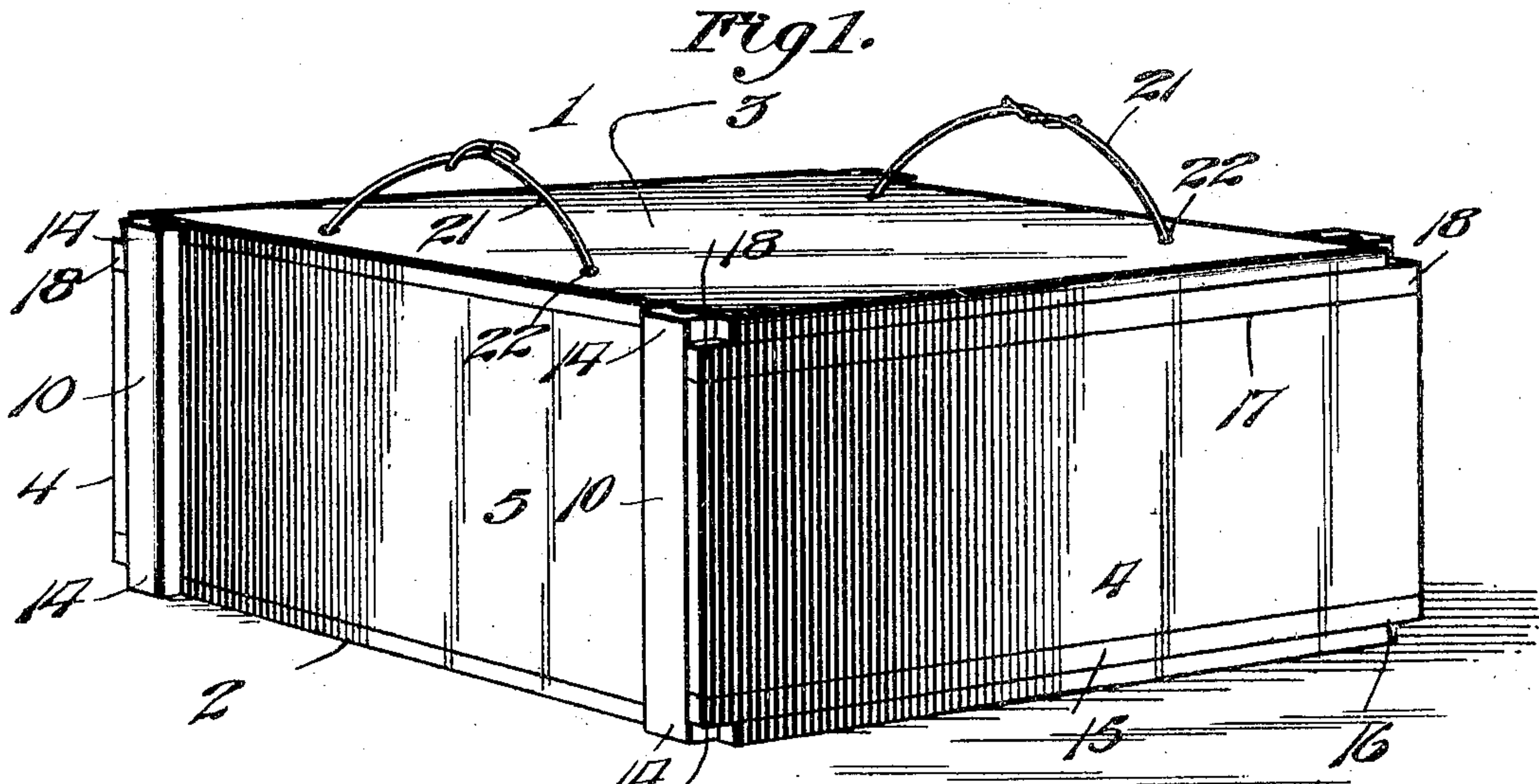
No. 797,949.

PATENTED AUG. 22, 1905.

G. H. FARRINGTON.  
BOX.

APPLICATION FILED DEC. 28, 1904.

2 SHEETS—SHEET 1.



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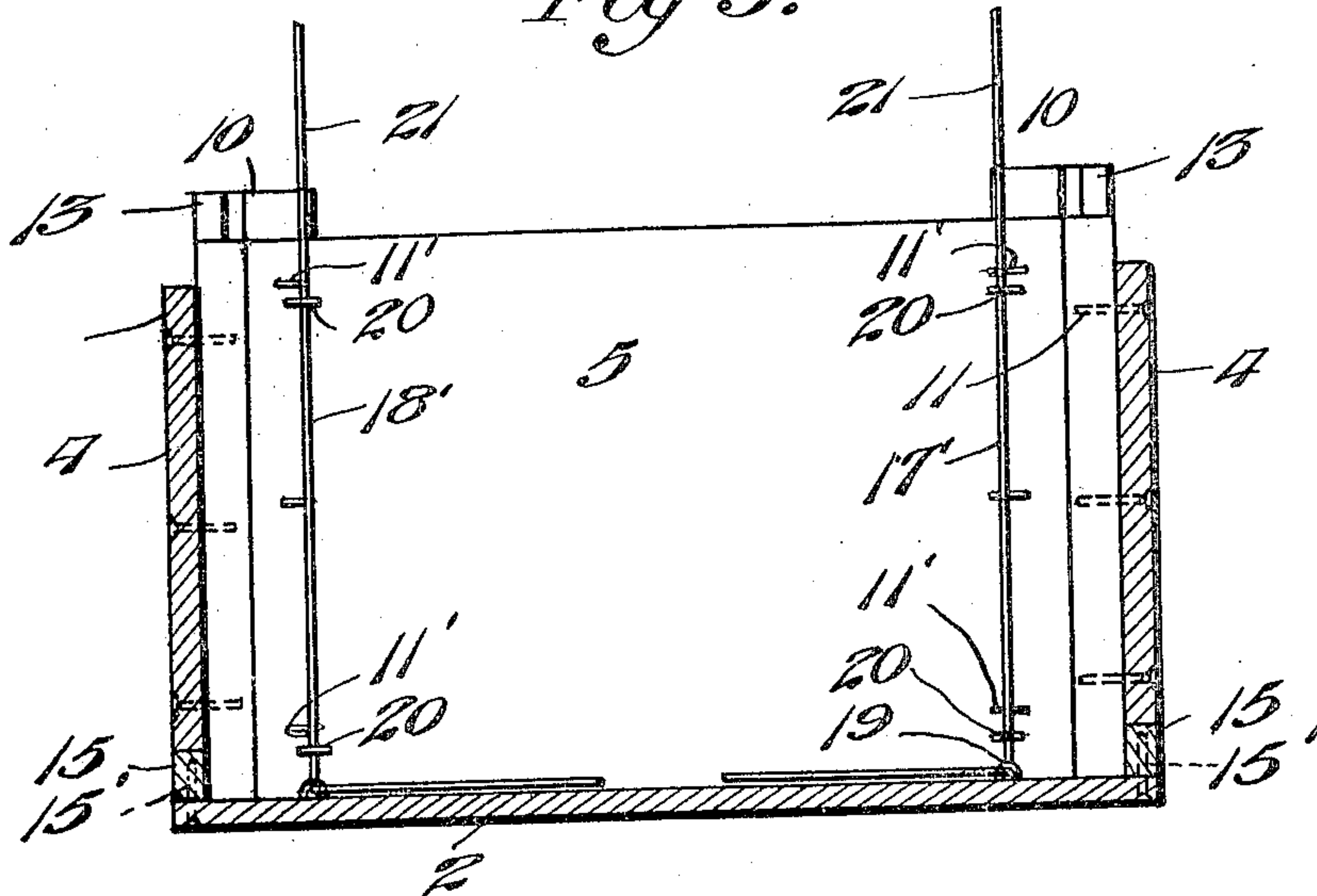
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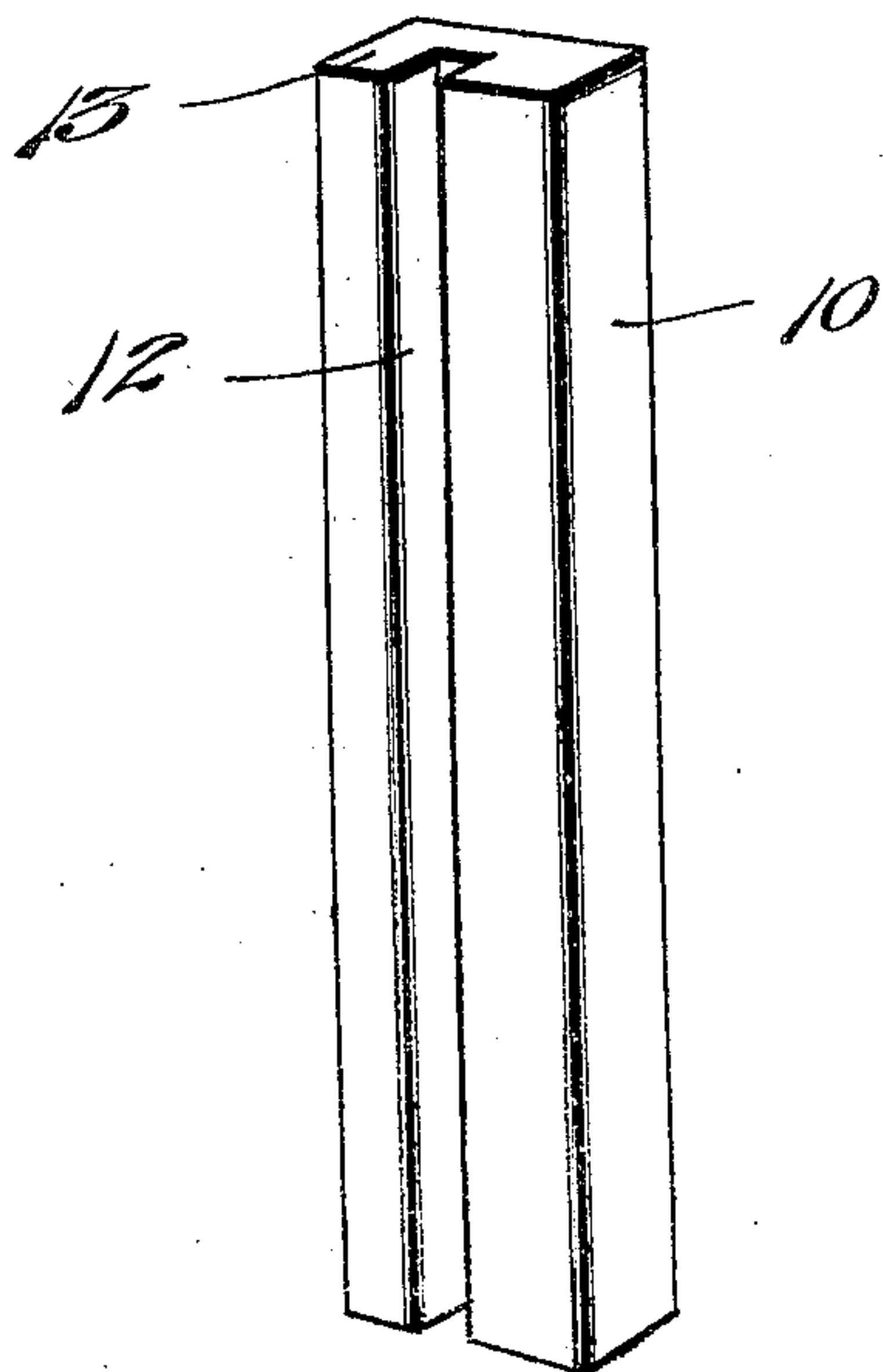
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2 SHEETS—SHEET 2.

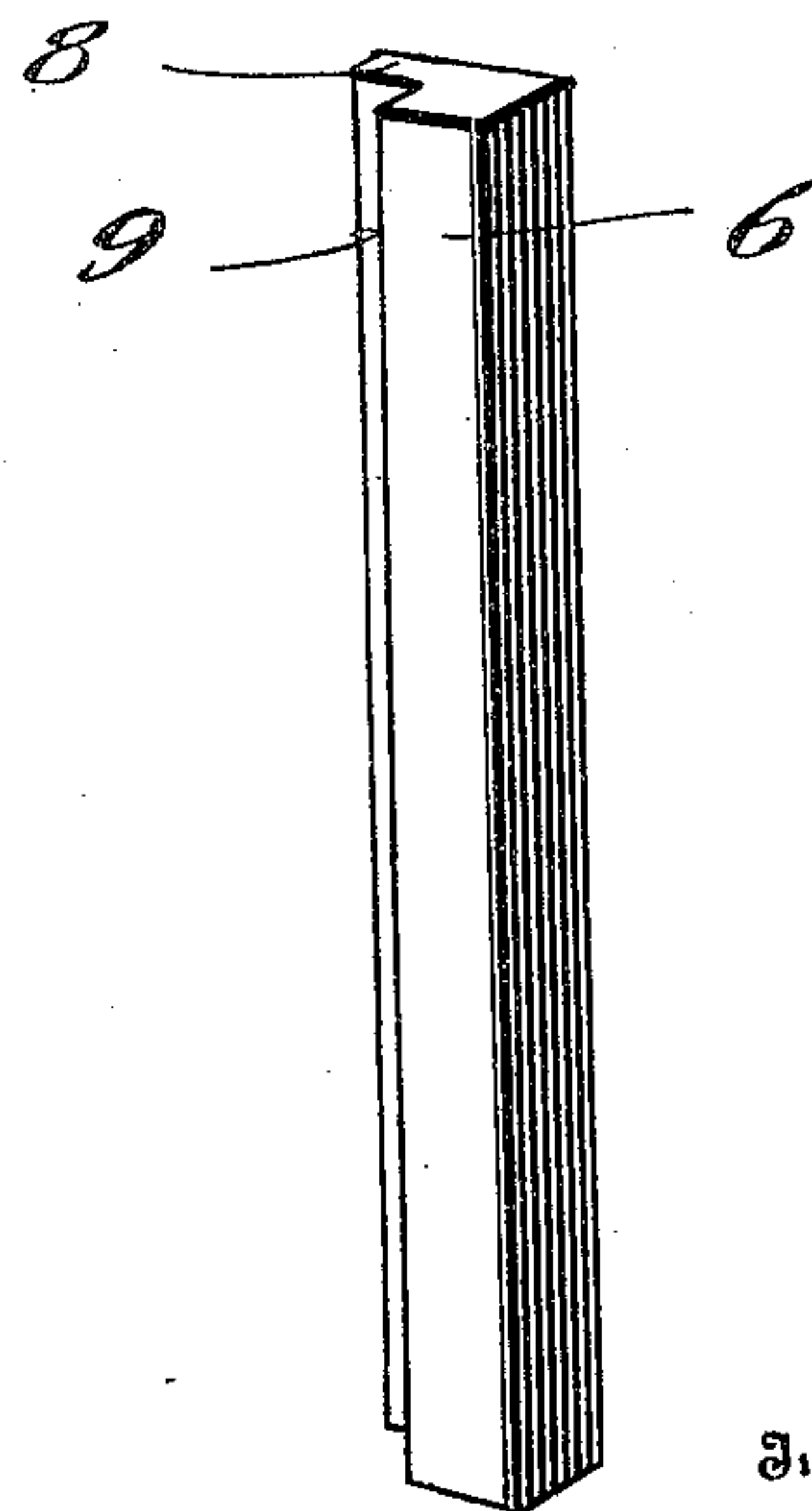
*Fig 3.*



*Fig 4.*



*Fig 5.*



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# UNITED STATES PATENT OFFICE.

GILBERT H. FARRINGTON, OF BROOKLYN, NEW YORK.

## BOX.

No. 797,949.

Specification of Letters Patent.

Patented Aug. 22, 1905.

Application filed December 28, 1904. Serial No. 238,654.

*To all whom it may concern:*

Be it known that I, GILBERT H. FARRINGTON, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Boxes, of which the following is a specification.

This invention relates to improvements in boxes or packing-cases, and particularly to packing boxes or cases which may be conveniently "knocked down" or disassembled for storage or transportation and held securely together by fastening the top or lid in place.

One object of the invention is to provide a packing box or case in which the sides and ends are firmly locked or connected at the joints in such manner that the box or case is not only rendered stronger and more durable in construction, but may be more cheaply manufactured, and in which the ends of the box are so reinforced as to reduce liability of breakage thereof to the minimum and provide for the retention of the parts in place if breakage should occur.

Another object of the invention is to connect the parts of the interlocking joint members in such a way as to render it difficult to remove any portion of the box without destroying or at least leaving visible evidence of the fact that the box has been tampered with.

Still another object is to provide improved means for securing the top and bottom of the box in place and relieving the fastenings of the same of overstrain.

Still another object is to provide a wire tie or binder which will effectually assist in holding or fastening the parts together.

With these and other objects in view the invention consists of the features of construction, combination, and arrangement of parts hereinafter fully described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a box or packing-case constructed in accordance with my invention. Fig. 2 is a horizontal section of the same. Fig. 3 is a vertical section taken on the plane indicated substantially by the line 3 3 of Fig. 2, showing one of the end pieces of the box in inner end elevation. Fig. 4 is a view of one of the joint-strips employed upon the ends of the box, and Fig. 5 is a similar view of one of the joint-strips used upon the sides of the box to interlock

with the aforesaid joint-strips on the ends of the box.

The box or packing-case 1 may be of true rectangular or of oblong rectangular form and comprises a bottom 2, a top, lid, or cover 3, and a body formed of side and end pieces 4 and 5.

The side pieces 4 are provided adjacent to their ends with joint strips or battens 6, arranged vertically upon the inner faces thereof and secured thereto by wire nails or other similar fastenings 7, driven from the outside through the side piece and penetrating the batten. The said batten is of a length substantially equal to the depth of the side piece and is secured a short distance from the end thereof and longitudinally grooved or dadoed at its outer edge to form an inner outwardly-projecting locking-tongue 8 and an outer recess 9.

Secured to each end piece 5 is a locking-strip or batten 10, each strip or batten 10 being arranged on the outside of the end 5 and overlapping the same at its side edge, the lapping portion of the batten, or that portion lying upon the end piece, being secured thereto by nails or like fastenings 11, while the projecting portion thereof is formed upon its inner side with a longitudinal groove 12 to receive the tongue 8 of the adjacent batten-strip 6 and to also form a tongue 13, which projects into the recess 9 of said strip 6.

The side pieces 4 are of a length to extend a distance beyond the end pieces 5 equivalent to the thickness of each batten 10, so that when the parts are assembled the battens 6 upon the side pieces will rest against the edges of the end pieces with their tongues 8 projecting to engage the grooves 12 in the battens 10, while the outer edges of the latter will lie against the extended ends of the side pieces and form, with the battens 6, a locking-joint in which the engaging or locking members are effectually concealed and protected and coact to mutually withstand the strain to which the box or case is subjected and securely tie the body members at the joints thereof.

The fastenings 11, which secure the battens 10 and which preferably consist of ordinary wire nails, are driven from the outside through said battens and through the end pieces and are clenched at their inner or point ends against the inner faces of the said end pieces, as indicated at 11', so as to render it impossible to detach said battens with-



out forcibly tearing them loose with their fastenings, so that the parts of the box-body cannot be possibly disassembled or removed when the box is closed without at least giving visual evidence of the fact that the box has been tampered with. It will be observed that by arranging the battens 6 so as to lie between the end pieces and inner faces of the side pieces these members of the interlocking joints will be effectually shielded and protected and additionally secured by being clamped between the body elements when the parts of the box are assembled and held in closed relation. The ends 5 of the box are made solid or formed of a single piece of material and are reinforced by the battens 10, which reduce liability of breakage thereof to the minimum and should breakage occur will hold the parts thereof assembled by reason of their engagement with the top and bottom portions of the box, as hereinafter described, and their locking connection with the battens 6 of the side pieces 4.

The sides 4 of the box are of reduced depth or height relative to the end pieces 5, while the battens 10 are of greater length than the depth of said end pieces, so that their upper and lower extremities form projecting portions 14, acting in the nature of corner stays or braces to engage and support the bottom 2 and top 3. The bottom 2 corresponds in dimensions to the body formed by the side and end pieces and fits snugly against the lower edges thereof and rests at its corner end edges against the lower projecting portions 14 of the battens 10.

Secured to the upper side edges of the bottom, as by means of nails 15', are longitudinal strips 15, which are of greater length than the bottom and have their ends extending to form projecting portions 16, lapping or bearing at the ends of the box against the outer faces of the said lower projecting portions 14 of the battens 10. These strips also cover and fill the spaces between the bottom and lower edges of the side pieces 4 and by bearing against the battens 10 hold the bottom 2 from shifting in one direction, while the lower extensions 14 of said battens hold the bottom from shifting in the reverse direction, as will be readily understood. The bottom 2 may be nailed or otherwise secured to the ends 5, if desired; but it is preferred to use a wire binder, as hereinafter described, to retain it in place, the said binder serving to hold it against the bottom edges of the end pieces, with the strips 15 in contact with the lower edges of the side pieces, the extended ends of said strips and the lower projecting portions of the battens 10 serving to prevent shifting of the bottom, as previously explained, and to relieve the binding-wire of excessive strain from this cause.

The top, cover, or lid 3 is similar in construction to the bottom 2 and is provided at

its side edges with retaining-strips 17, resting upon the upper edges of the side pieces 4 and having extended ends 18, which bear against the outer sides of the upper projecting portions 14 of the battens 10. The cover is thus held from shifting on the box-body in the same manner as the bottom 2, thus making the box structure firm and rigid with the parts in mutual reinforcing engagement when combined to form the closed box structure.

Arranged upon the interior of the box are binding-wires 17' and 18', the central portions of which are crossed and extend diagonally in opposite directions across the upper surface of the bottom 2 and toward the corners thereof, as shown in Fig. 2, the opposite ends of the wires passing upwardly through staples or guide-loops 19 near the corners of the bottom 2 and thence upwardly through similar staples or guide-loops 20 on the end pieces 5, the free extremities 21 of the wires thence being passed to the exterior through openings 22 in the top 3, so that by drawing the said free extremities 21 taut the wires 17' and 18' will be stretched and secure the component parts of the box firmly in engagement and in assembled relation. The said free extremities 21 of the wires may be engaged at opposite ends of the box to form hand-loops, or they may be extended diagonally across the upper surface of the top 3 and tied at a central point or joined, if preferred, by a seal, which must be broken in order that access to the box may be obtained.

Assuming the sides and ends of the box to be provided with the interlocking battens or corner-strips, it will be understood that in setting up the box the side and end pieces are brought into juxtaposition and secured to form the box-body by locking the battens together, after which the bottom 2, with the binding-wires, is applied thereto and the ends of the wires extended up through the staples or guide-loops 20. The box is then in condition to be filled and after being filled the cover 3 may be placed thereon and secured by passing the free ends of the binding-wires up through the openings 22 and securing them in the manner previously described.

To open the box for the removal of its contents, it is simply necessary to detach the connected ends of the wires and to lift the cover upward out of engagement with the projecting ends of the battens 10. If it then be desired to disassemble or knock down the box for storage or transportation, this may be quickly and conveniently performed by simply removing the box-body from the bottom 2 and then disconnecting the side and end pieces from engagement with each other. The parts of the box may then be tied together in flat form, so that they may be packed or stored in close compass.

A box constructed in accordance with my



invention is exceedingly strong and durable, may be manufactured at a relatively low cost, and cannot be opened when filled with goods in transportation without giving visual evidence of the fact that it has been tampered with.

From the foregoing description, taken in connection with the accompanying drawings, the construction and mode of operation of the invention will be understood without a further extended description. Changes in the form, proportions, and minor details of construction may be made within the scope of the invention without departing from the spirit or sacrificing any of the advantages thereof.

Having thus described the invention, what is claimed as new is—

1. A collapsible box or packing-case comprising a body formed of removably-connected side and end pieces, a bottom and a top, the latter having openings, guides upon the upper side of the bottom near the corners thereof, guides on the body, all of said guides being arranged upon the interior of the box, and diagonally-crossed binding-wires through the guides on the bottom, thence upward through the guides on the body and finally through the openings in the top, substantially as described.

2. A collapsible box or packing-case comprising a body composed of side and end pieces, the side pieces being of less depth than the end pieces, vertical corner-strips secured to the inner faces of the side pieces, vertical corner-strips secured to the outer faces of the end pieces and having extensions above and below the same, said strips interlocking

with the strips on the side pieces, and top and bottom sections resting against the edges of the end pieces and edgewise at their end edges against the inner faces of the projecting portions of the corner-strips and provided at their side edges with strips to compensate for the reduced depth of the side pieces, said strips resting against the top and bottom edges of the side pieces and having end portions projecting beyond the end edges of the top and bottom sections and engaging outer side edges of the corner-pieces of the body.

3. A box or packing-case having a body comprising end and side pieces, one set of pieces being provided upon the inner faces thereof inside its ends with vertical strips resting against the edges of the other set of pieces, and the latter having vertical strips arranged upon the outer faces and projecting beyond the ends thereof a distance equivalent to the width of the first-named strips, and bearing against the extended ends of the set of pieces to which the latter are attached, the meeting faces of the strips having interlocking connection, whereby the first-named strips are clamped between the sets of pieces, and nails passing through the second-named sets of strips and the sets of pieces to which they are attached and clenched upon the inner faces of the latter, substantially as described.

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

GILBERT H. FARRINGTON.

Witnesses:

J. D. H. BERGEN,  
H. C. GUION.