

(No Model.)

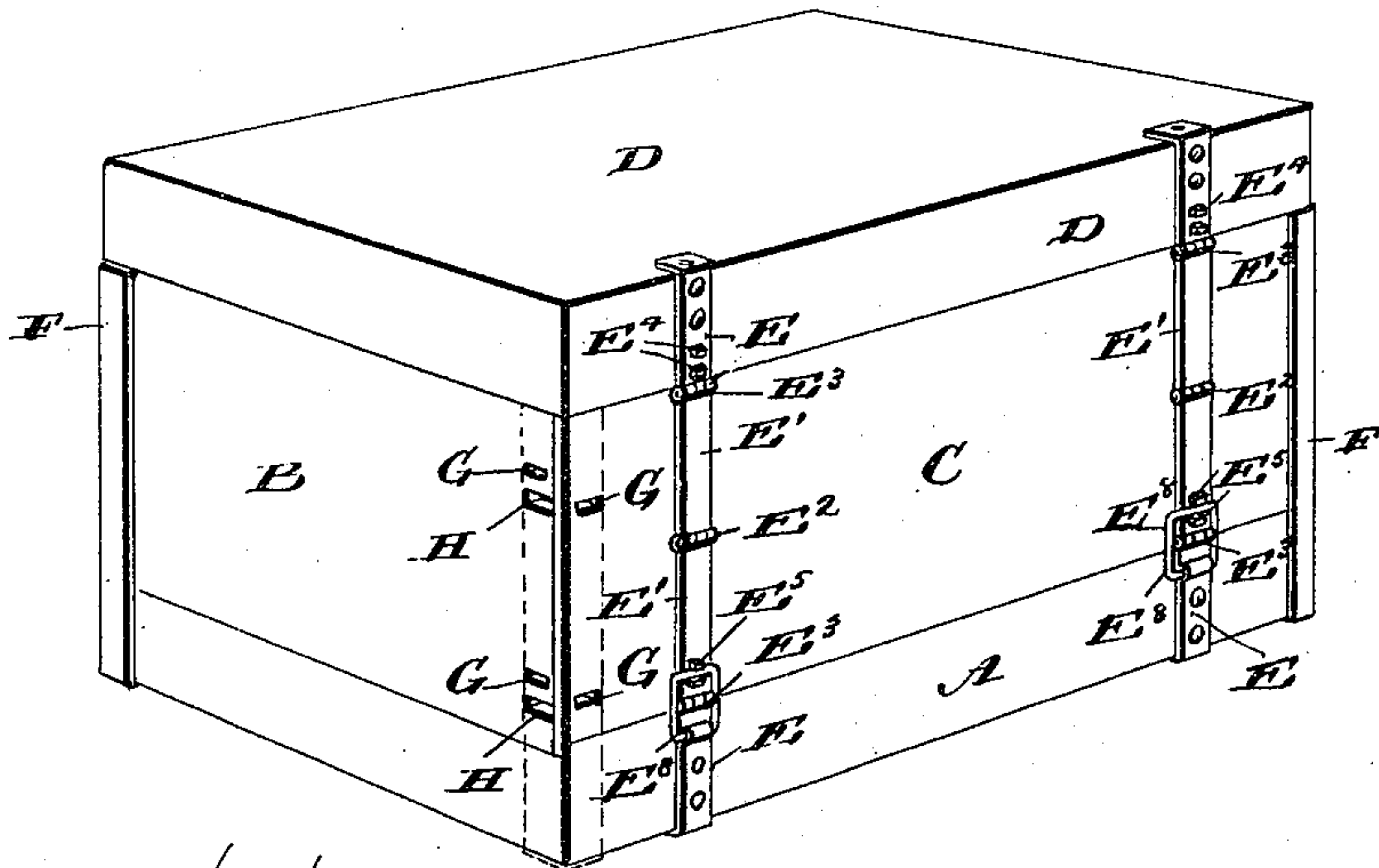
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E. J. M. CLEMENS.
COLLAPSIBLE TRUNK.

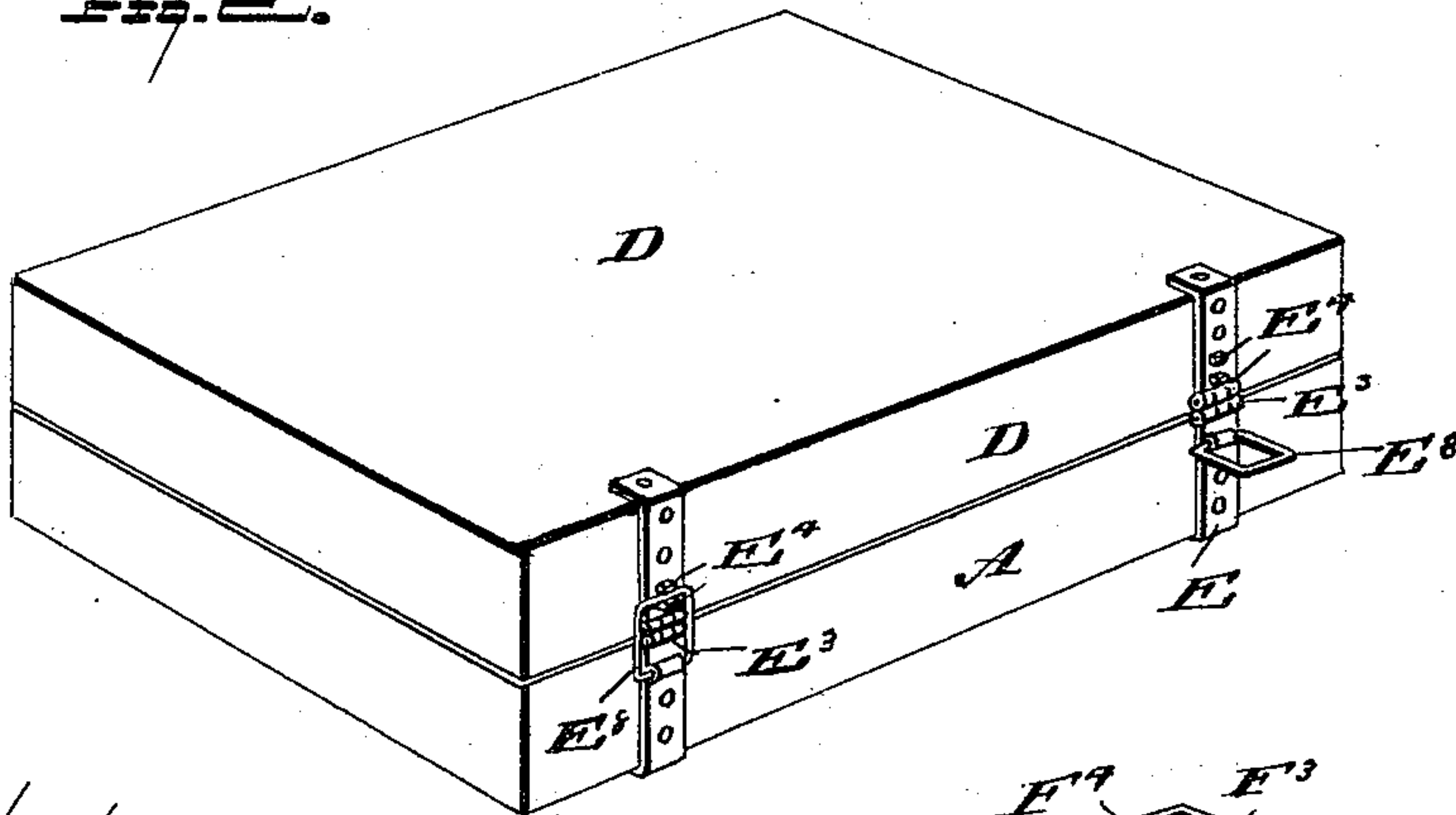
No. 517,841.

Patented Apr. 10, 1894.

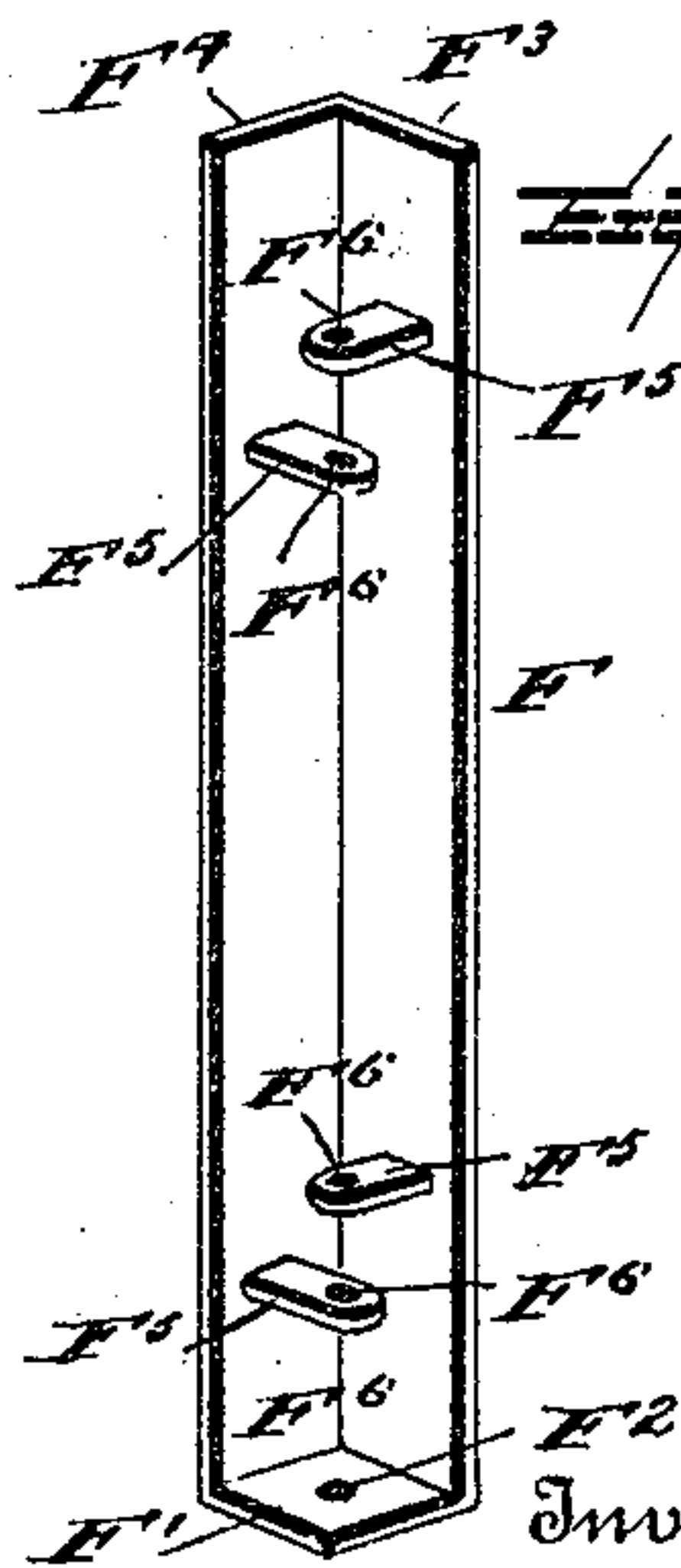
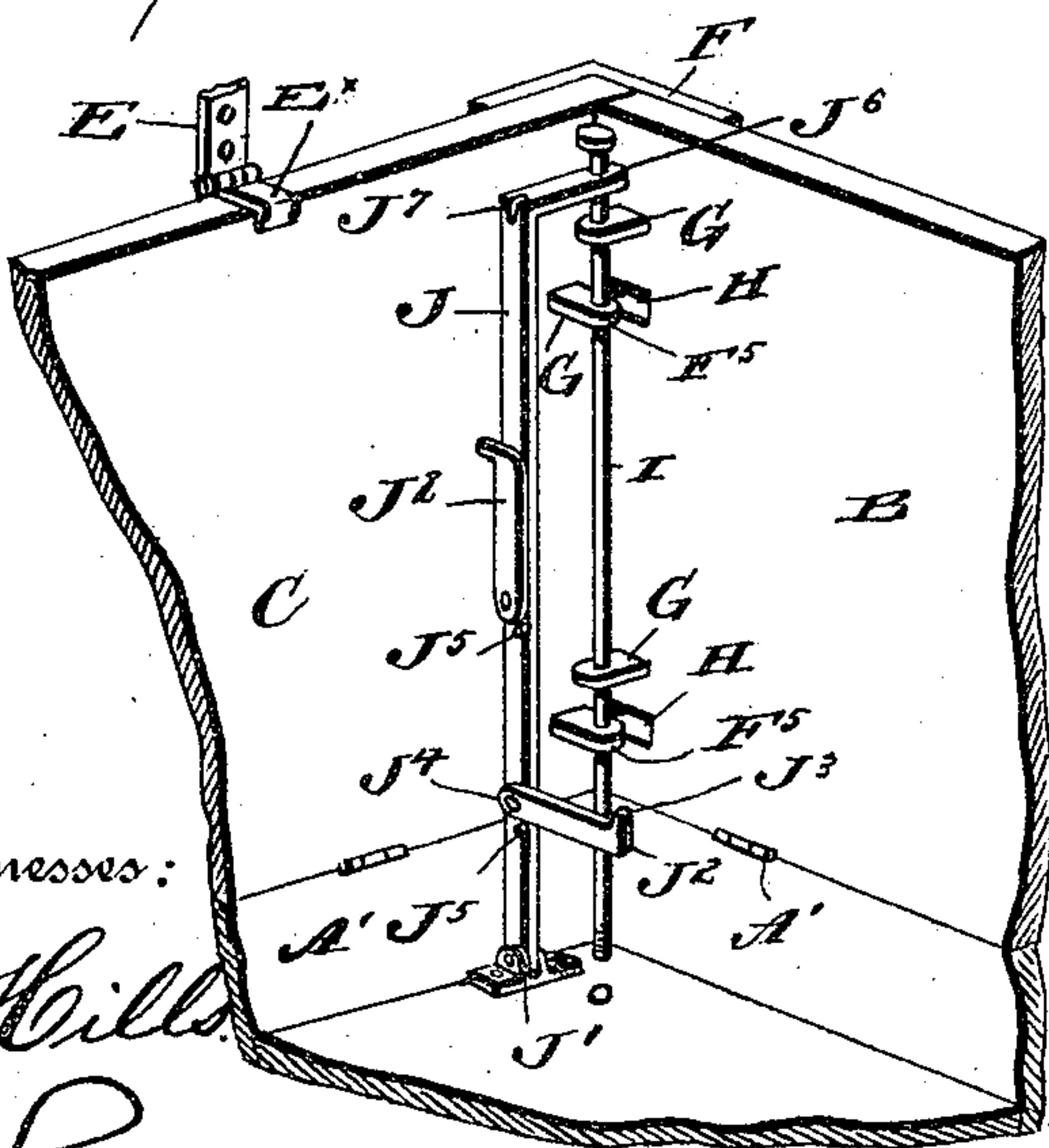
III. I.



55.2.



55.3.



Witnesses:

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Heath Luther Card

Inventor: .

Eliza J. M. Clemens

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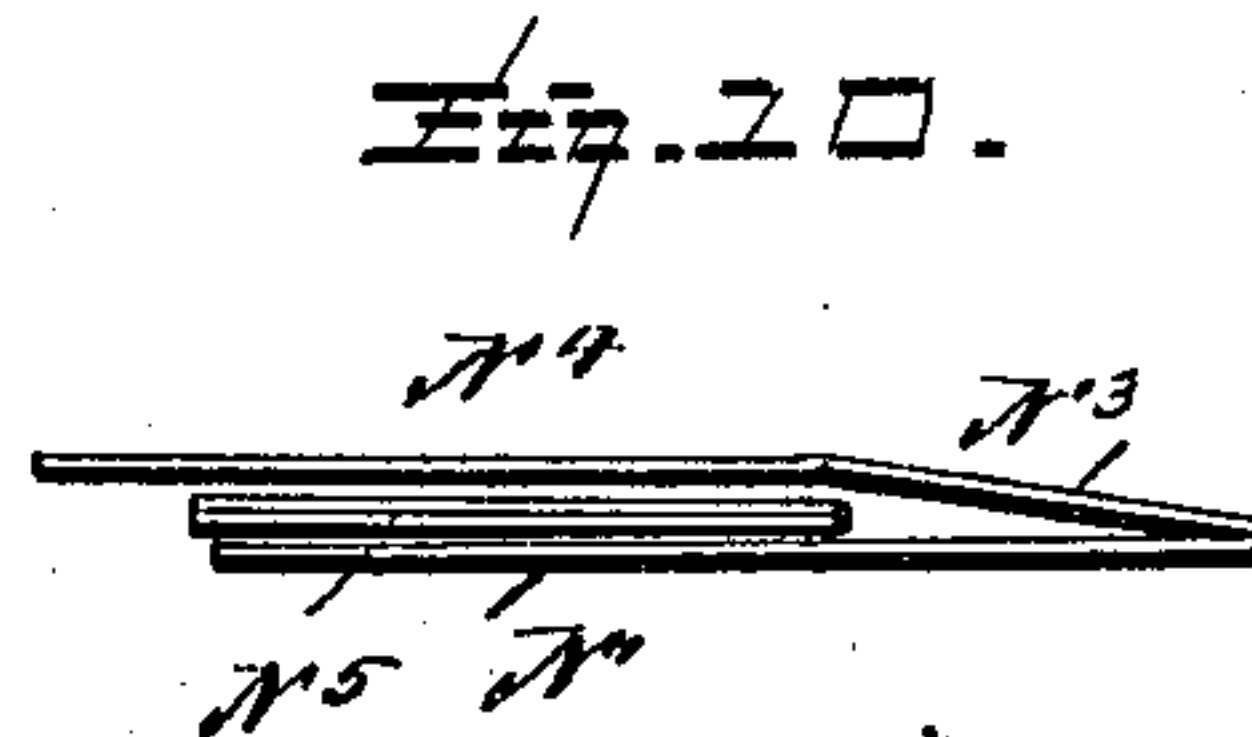
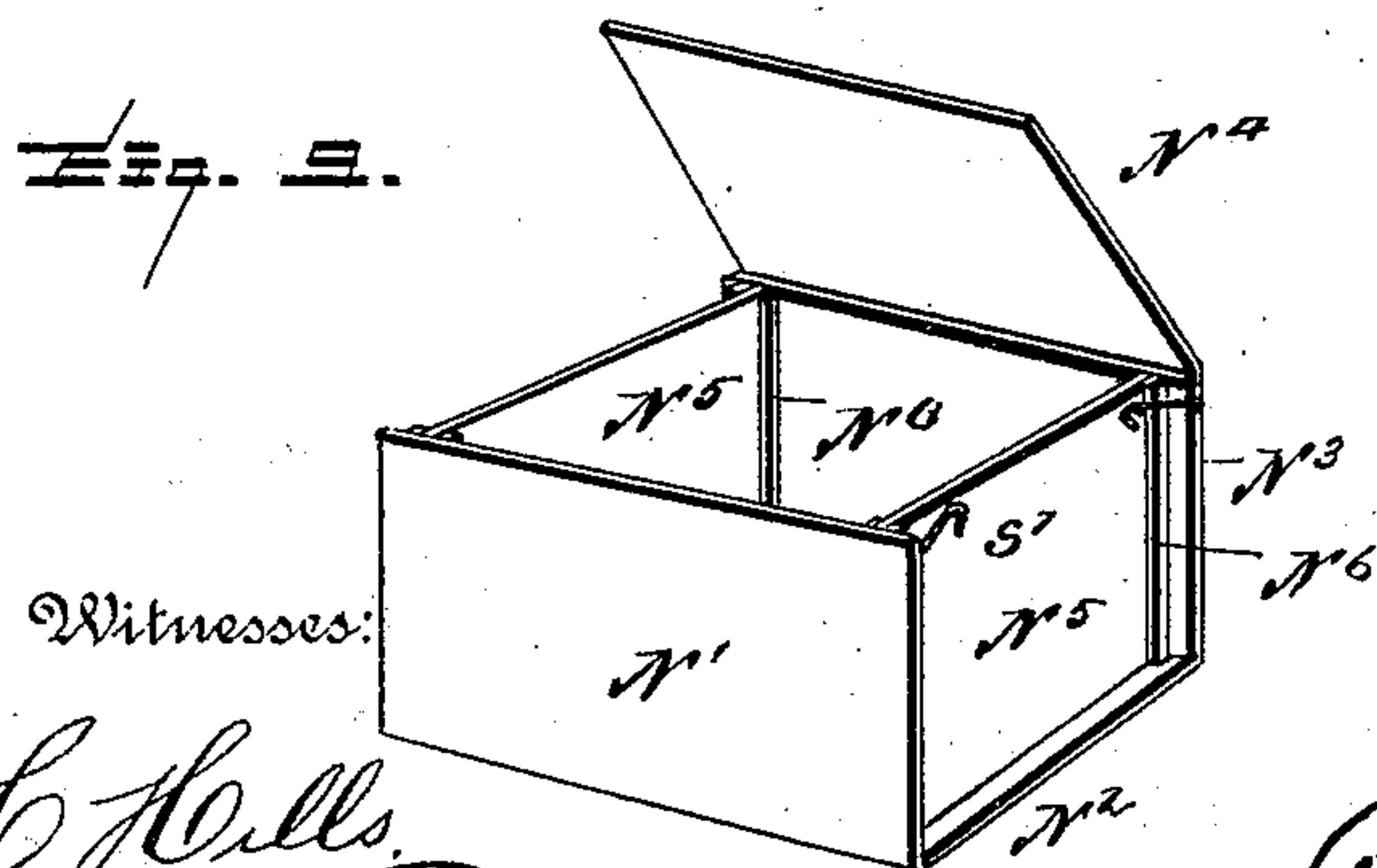
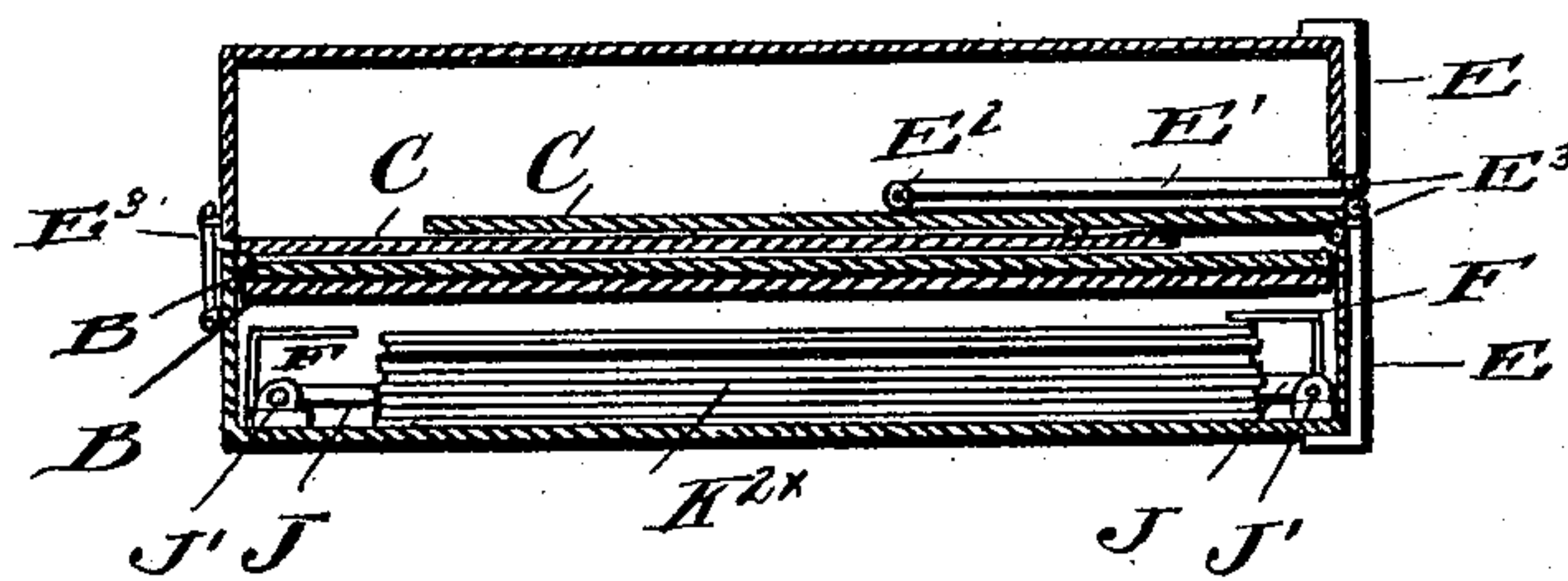
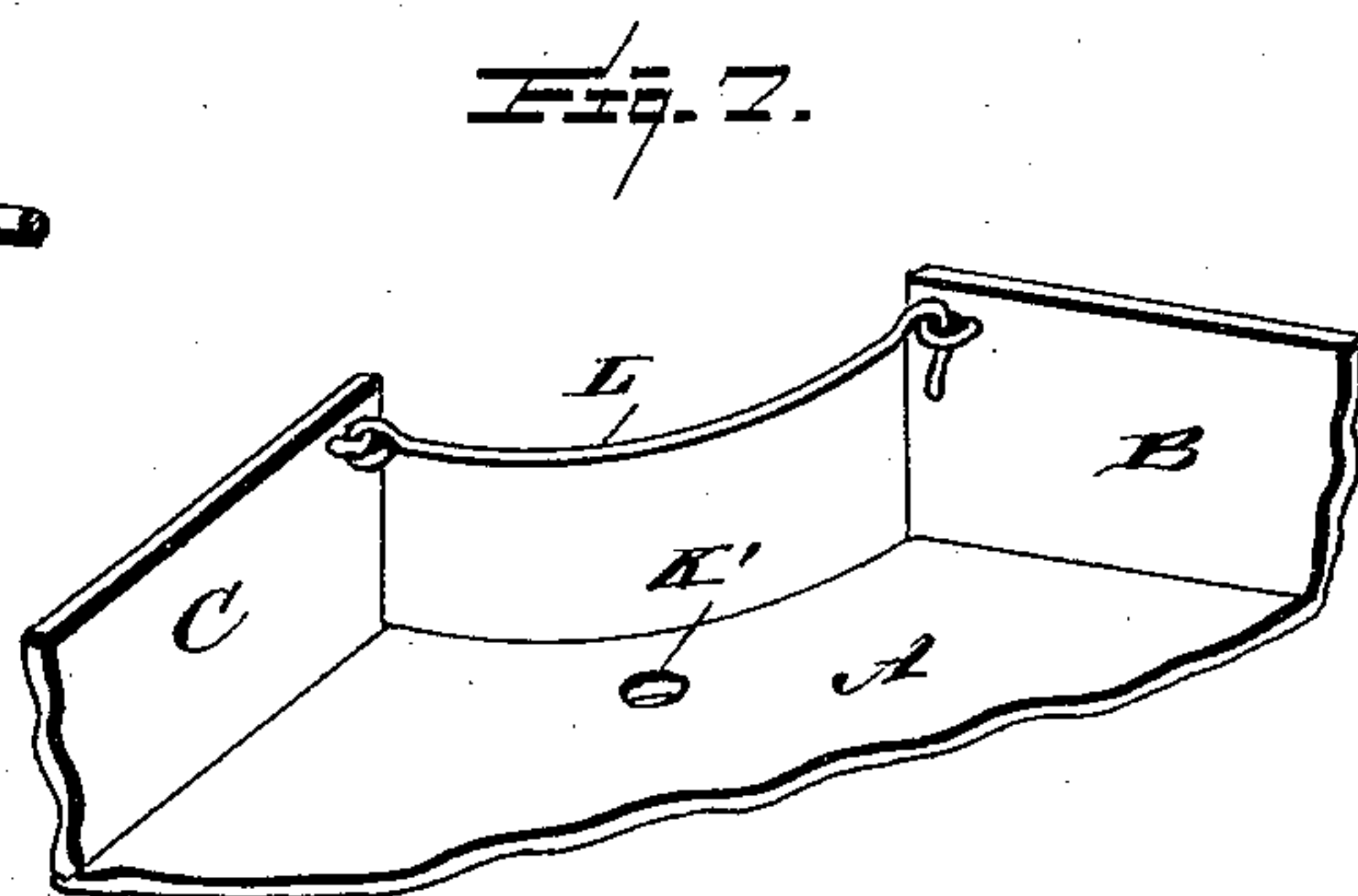
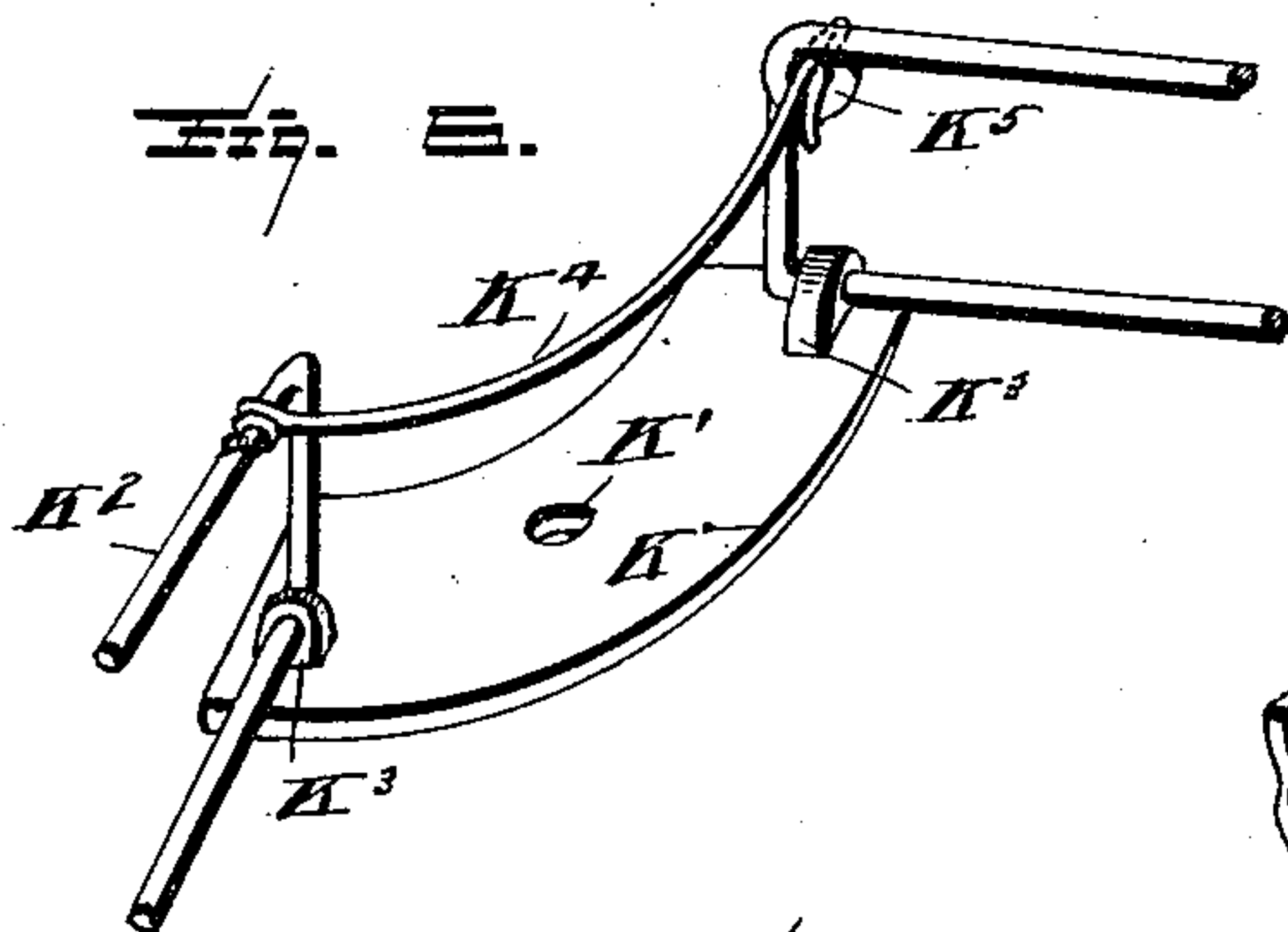
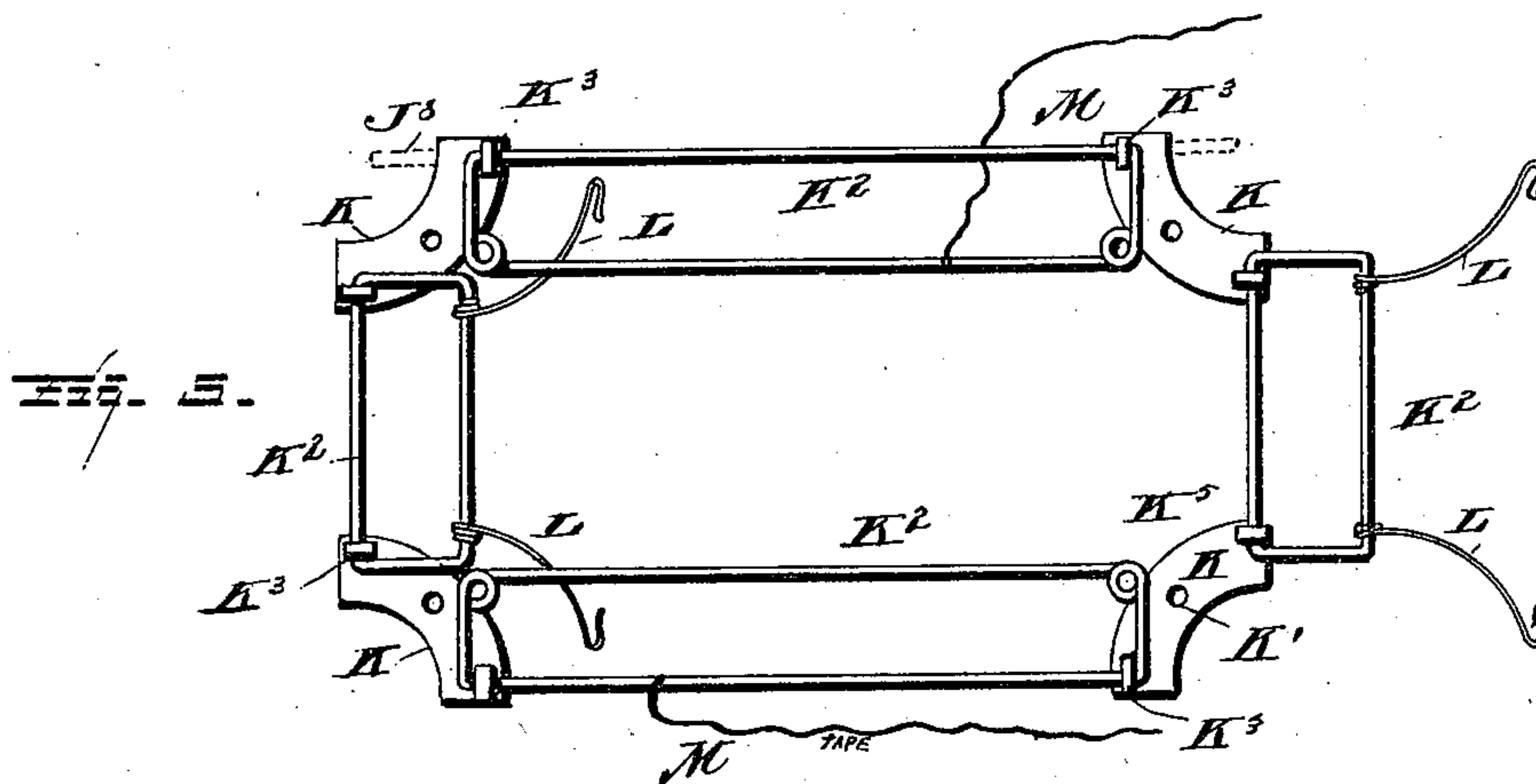
(No Model.)

2 Sheets—Sheet 2.

E. J. M. CLEMENS.
COLLAPSIBLE TRUNK.

No. 517,841.

Patented Apr. 10, 1894.



Witnesses:

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Inventor:

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UNITED STATES PATENT OFFICE.

ELIZA J. M. CLEMENS, OF METROPOLIS, ILLINOIS.

COLLAPSIBLE TRUNK.

SPECIFICATION forming part of Letters Patent No. 517,841, dated April 10, 1894.

Application filed April 29, 1893. Serial No. 472,340. (No model.)

To all whom it may concern:

Be it known that I, ELIZA J. M. CLEMENS, a citizen of the United States, residing at Metropolis, in the county of Massac, State of Illinois, have invented certain new and useful Improvements in Collapsible Trunks, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to foldable or collapsible trunks, and it has, among other of its objects, that of providing that class of trunks with means for rendering it, not only of such dimension when in a collapsed condition as will require a minimum of space for its occupancy, but to provide means for rendering the trunk when in condition for use fully as strong and rigid as non-foldable trunks. Simplicity and serviceability are also secured as will be seen by the following description of the invention, referring to the figures of the drawings of which—

Figure 1 is a perspective of a trunk constructed in accordance with my invention in its unfolded or distended condition. Fig. 2 is a like view of the same trunk in its folded or collapsed condition. Fig. 3 is a perspective of the devices located in each corner for the purpose of locking the corner in a distended position and for supporting trays within the trunk. Fig. 4 is a perspective of a corner plate one of which is employed at each corner of the trunk. Fig. 5 is a plan of a collapsible tray adapted for use in connection with the trunk, the tray being shown in this figure in a collapsed or folded position. Figs. 6 and 7 are perspectives of one corner of the tray in condition for use, the latter figure being a modification. Fig. 8 is a substantially central longitudinal section of the trunk and its tray in a folded or collapsed condition. Figs. 9 and 10 illustrate an unfolded foldable hat-box or independent receptacle to be used in connection with the trunk.

Like letters refer to like parts in all the figures.

Referring to the drawings A represents the bottom section of the trunk, to which, as at A', Fig. 2, the sides and ends are hinged. Preferably the ends B are proportioned to fold within the sides C as fully shown in said figure, although it is apparent, but the inven-

tion is not limited in this regard as it is apparent that these proportions may be changed so that the sides shall fold within the ends. So also the proportionate depth of the top and bottom sections at the side or ends may be varied as suits the constructor. The top section D is connected to the bottom section A by hinge leaves E connected by a strap E' having a hinge or other articulate joint E² between its ends which are hinge jointed at E³ to the leaves E; on one of the leaves E there is a projection E⁴ and upon the other leaf E, there is a spring link E⁵ which is of the ordinary character employed upon trunks and which when the trunk is distended, as shown in Fig. 1, connects with projections or lugs E⁵ on the lower section of the jointed strap E' and which connects with the upper projections or lugs E⁴ when the trunk is in its collapsed condition as clearly shown in Fig. 2. The link E³ at the right of Fig. 2 is shown disconnected from the lugs E⁴ to facilitate an understanding of its operation. The purpose of the link E³ is to secure the top and bottom sections together when the trunk is in its collapsed condition. An ordinary lock upon the top section taking into a lock plate or keeper upon the bottom section at the front side of the trunk or a link or links similar to the link E³ may be employed for securing the said sections together at the front. Each of the corners of the trunk is stayed, strengthened and the side and ends rigidly secured in a distended position by means of, what I shall designate as a corner-plate F of one or more pieces as desired, comprising a base F' having a screw threaded perforation F² therein and two sides F³, F⁴, from which there project inwardly apertured lugs F⁵, those upon one side being ranged in a horizontal plane above that of those on the other side. The perforations F⁶ of the lugs and that F² of the base are in line with each other. In the end and side constituting a corner, there are formed openings G to receive the lugs F⁵ of the corner plates and in the end or side as preferred depending upon which is proportioned to fold within the other, slots H are formed to permit the slotted side or end to fold up or down as the lugs F⁵ will pass through the slot H adjacent thereto.

In distending the trunk the side C is first

turned up, the plate F is mounted thereon, the lugs F⁵ thereof being passed through the holes G. The end is then turned up and the projecting portions of the lugs F⁵ at the side are escaped by the end on account of the slots H while the lugs F⁵ on the other side of the corner plate enter the holes G in the other end. A screwthreaded rod I is now passed through the several lugs of the corner plate, the bottom of the trunk and into the screwthreaded aperture in the base of the corner plate, see F² Fig. 4. One of the corner plates is left off from Fig. 2 to show the holes G and slots H of the end and side at that point.

By the construction thus far described a collapsible trunk is provided which is capable of occupying a minimum space when folded and which is exceedingly rigid when distended and these results are accomplished by means which are easily made and applied and which occupy necessarily no more of the internal space than is required by the bolt I, it being understood that the lugs are shown projecting farther than is necessary into the trunk simply for the purpose of clearness of illustration.

In packing fine dresses and other goods, wares, samples of merchandise and the like and where it is desirable to prevent disfigurement or injury by reason of the contact with or the weight of other goods upon the same and to facilitate the separation of articles from each other experience has demonstrated that tills or trays are essentially the best means. These however as ordinarily constructed and arranged in a trunk consume too much space or result in an increase of unoccupied space. To provide means for overcoming these objections is a part of my invention.

In each corner of the trunk I place a tray-supporting standard J which when employed in a foldable trunk is pivoted at its lower end J', in any suitable manner, but when employed in a rigid trunk it may be secured to the bottom at its lower end and to a side or end of the trunk at its upper end in any suitable manner. The support J is provided with a series of tray-supporting arms J² terminating in a projection J³ and pivoted at J⁴ to the standard. A stop J⁵ serves to support the arm in a horizontal position. In this instance the support is projected into the path of the bolt I and is perforated as at J⁶ for the passage of said bolt therethrough whereby the upper end of the support is maintained in position. The number of tray-arms may be as desired although as shown in Fig. 3 it is limited for the purpose of clearness of illustration. The object of foldably-connecting the arms to the support is to reduce the space that they require when folded down in the collapsed trunk as shown in Fig. 8. If desired the free ends of the arms J² may be enlarged in cross section to give a broader support at the base of the projection J³ for a tray when resting thereon. At the upper end of

the support there may be formed a depression or slot J⁷ to receive the trunnions J⁸—see dotted lines Fig. 3—formed on an upper tray so that the same may be tilted thereon when desired.

Any ordinary tray may be employed in connection with the devices thus far described but for the purpose of lightness and economy in space, I construct a tray with corner-plates K of such an outline as to escape the rod I and lugs F⁵ as well as the support J when the tray is placed within the trunk. I have shown the plates in the form of quarter-annuli but this may be materially changed as the only essential is the escapement of the devices in the corner of the trunk. Each corner plate is provided with an aperture K' for the reception of the lug J³ on the tray-supporting arm J². As before stated the arm may be enlarged in cross-section to give a broader support to the plate K. The sides and ends of the tray may be formed of sheet-material such as wood, paper or metal as shown in Fig. 7 in which case the corner-plate K would be omitted and a simple opening K' formed in the bottom of the tray. The end B and sides C are foldably-connected with the bottom A of the tray and connected by any suitable device such as a hook L. But for lightness and compactness the preferable form of tray would comprise the corner-plates K and wire frames K² for the ends and sides, these frames being pivoted in ears K³ on the plates K, as clearly shown in Fig. 8.

Any form of retaining device may be employed to separably connect the side and end of the tray at each corner. In Fig. 8 a wire K⁴ is wound around the frame K², is bent upon itself at its opposite end to form a spring catch which is inserted in the eye K⁵ formed in the wire K². It may be held in said eye by mere friction. To form the bottom of the tray canvas or tapes or woven wire cloth may be secured to the frames K² and the same materials may be employed to fill in the sides and ends. Tapes may be secured to the frame to be tied over and across the contents of the tray when packed. These tapes M are shown in Fig. 5.

In Fig. 9 N represents a hat box, the front N', bottom N², back N³ and cover N⁴ are each pivoted to the other while the ends N⁵ are pivoted to the bottom or if desired may slide in cleats N⁶ and the whole maintained in a distended position by hooks N⁷ or any other well known means. This construction permits of folding the receptacle as shown in Fig. 10 and when so folded it can be stored away in the collapsed trunk.

K^{2x} Fig. 8 represents a number of trays unfolded and packed in the collapsed trunk.

What I claim is—

1. A collapsible trunk provided with a removable corner plate having lugs projecting from its inner surfaces and overlapping and means for securing the plate to the trunk, substantially as specified.

2. A collapsible trunk having openings in its side and end and having a corner plate with lugs passing through said openings and overlapping each other, substantially as specified.

3. A collapsible trunk having holes in a side or end and holes and slots in an adjacent side or end and a corner plate having lugs projecting from its inner faces at right angles to and overlapping each other and means for maintaining the slotted side or end in a distended position, substantially as specified.

4. A collapsible trunk having openings in a side and end, a corner plate having perforated projections in line with each other and passed through said openings and a single bolt passed through said perforations, substantially as specified.

5. A collapsible trunk having openings in its side and end, a corner plate provided with perforated base and perforated lugs arranged with all the perforations in the same vertical plane and passed through said openings, and a bolt screwthreaded at its lower end and passed through all of said perforations, substantially as specified.

6. A collapsible trunk provided with openings in the side and a folding tray support, a removable corner-piece having lugs passed through said openings and a bolt for passing through the tray-support and all of said lugs, substantially as specified.

7. A collapsible trunk having tray-supporting horizontally-foldable standards in its corners and having trays comprising corner-

plates cut away and strengthened and constructed to escape the supports and foldable sides and ends, substantially as specified.

8. A collapsible trunk having tray-supports in the corners thereof and trays having pivoted wire frames and corner plates concaved to escape the supports and to rest upon tray-supporting arms carried by the supports, substantially as specified.

9. In a collapsible trunk, top and bottom sections and intermediate foldable and hinge-leaves one connected to the top and the other to the bottom section and connected to each other by a jointed strap, substantially as specified.

10. In a collapsible trunk, top and bottom sections, intermediate folding sections, terminal hinge-leaves, one of which is connected with the top section and the other with the bottom section, and one of which carries a fastening device and the other of which carries cooperating fastening lugs, substantially as specified.

11. In a foldable trunk, and in combination with the top and bottom and intermediate folding sections thereof, a jointed connecting-strap pivoted at either end to a hinge leaf and means for detachably connecting the hinge-leaves, substantially as specified.

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

ELIZA J. M. CLEMENS.

Witnesses:

HEATH SUTHERLAND,
L. C. HILLS.