

(No Model.)

2 Sheets—Sheet 1.

W. R. PHILLIPS.
SHIPPING RACK AND FRAME FOR CARS.

No. 520,270.

Patented May 22, 1894.

Fig. 1.

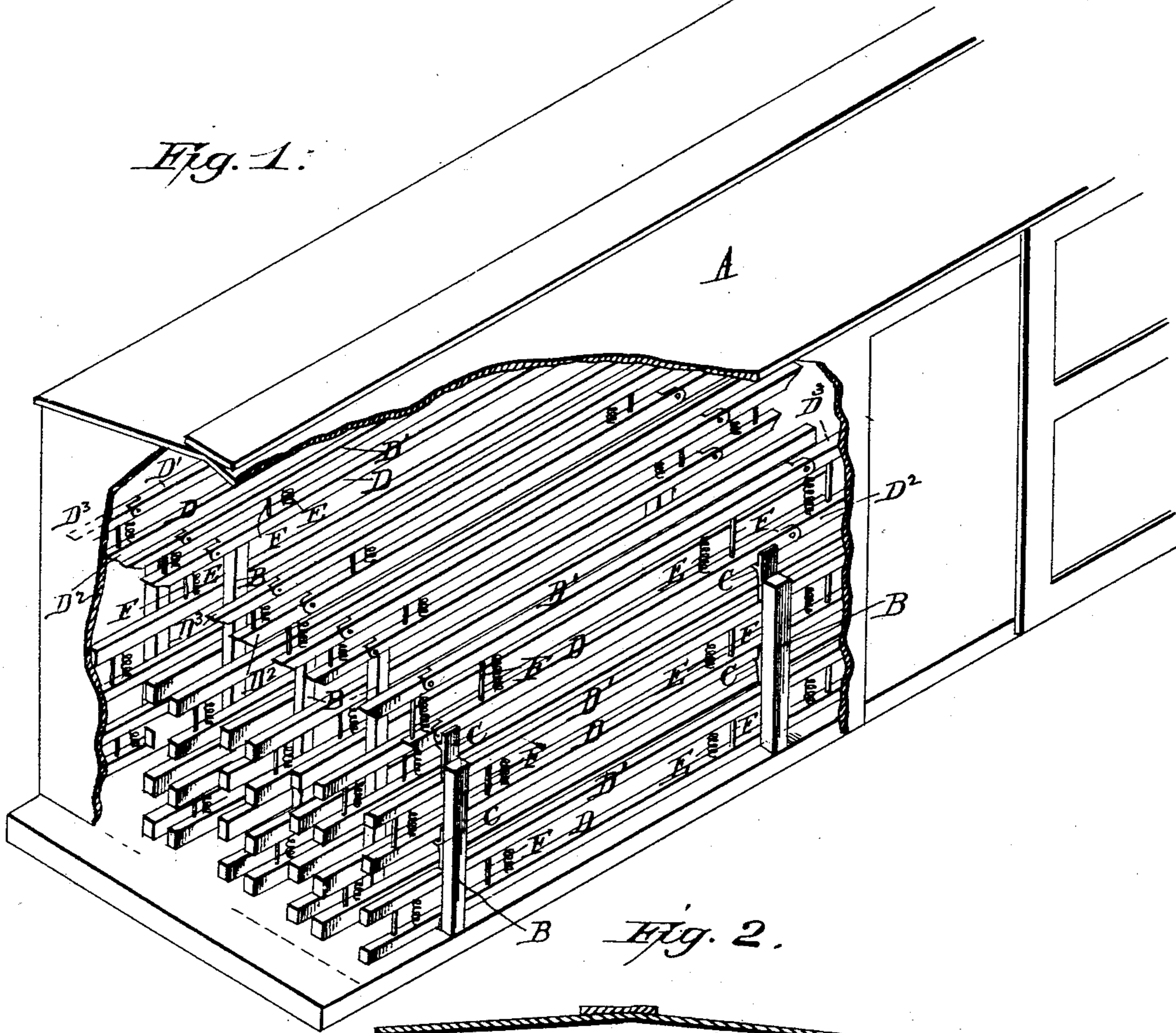
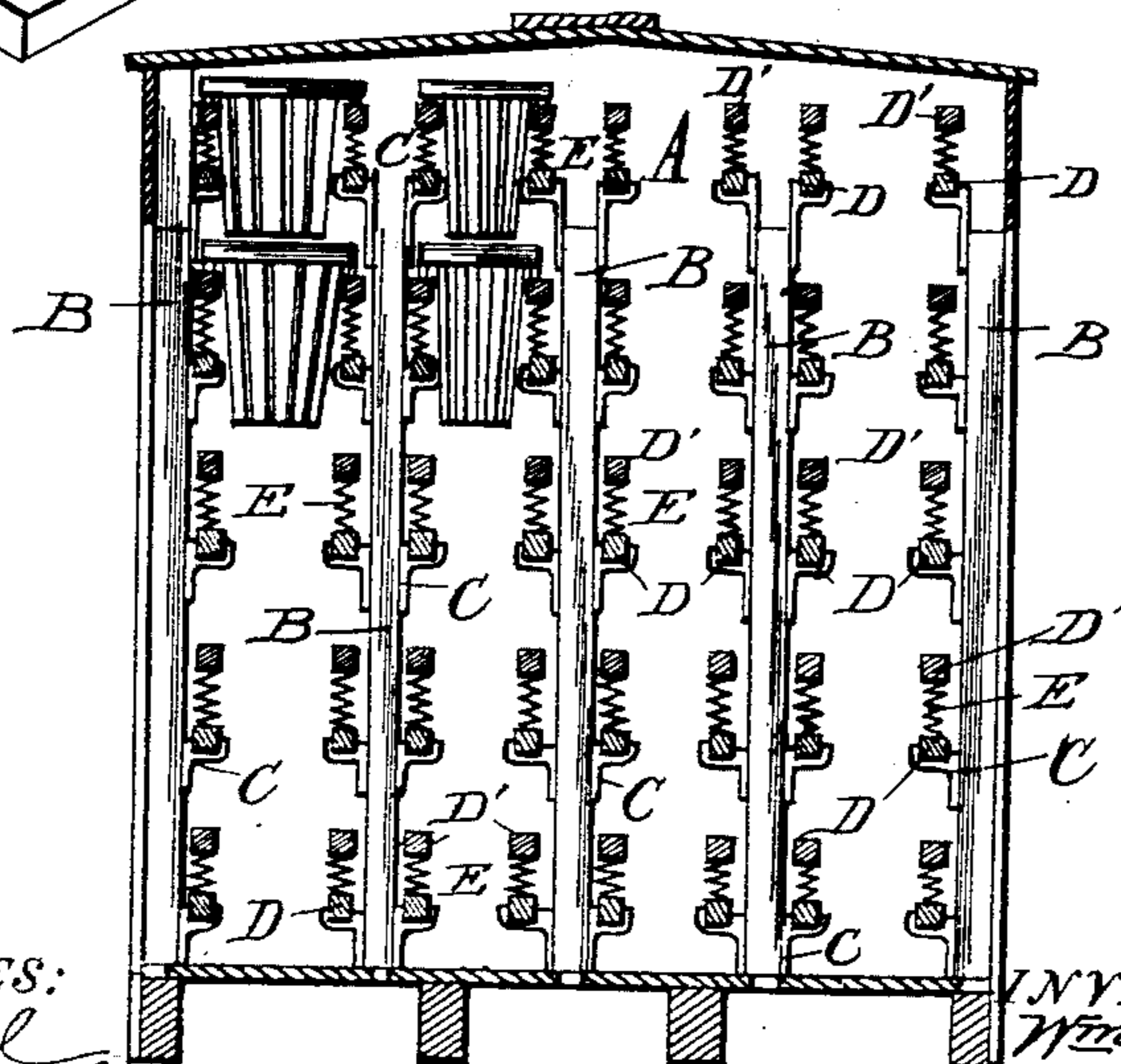


Fig. 2.



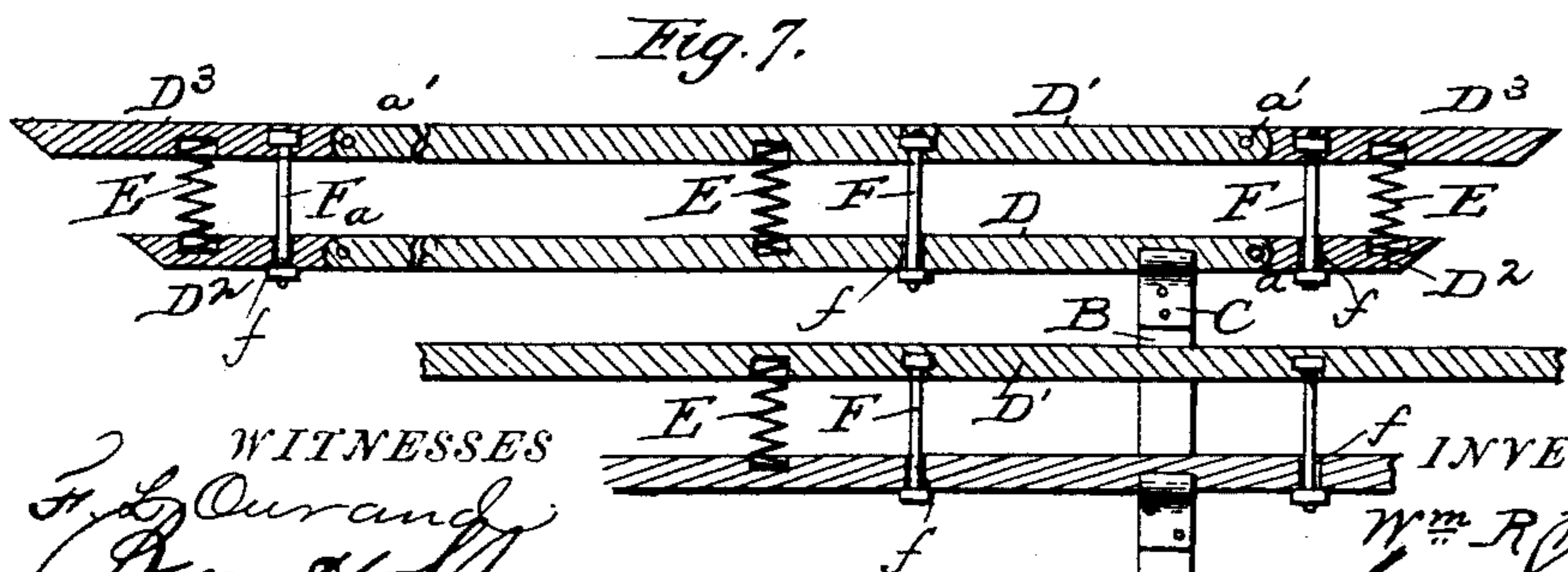
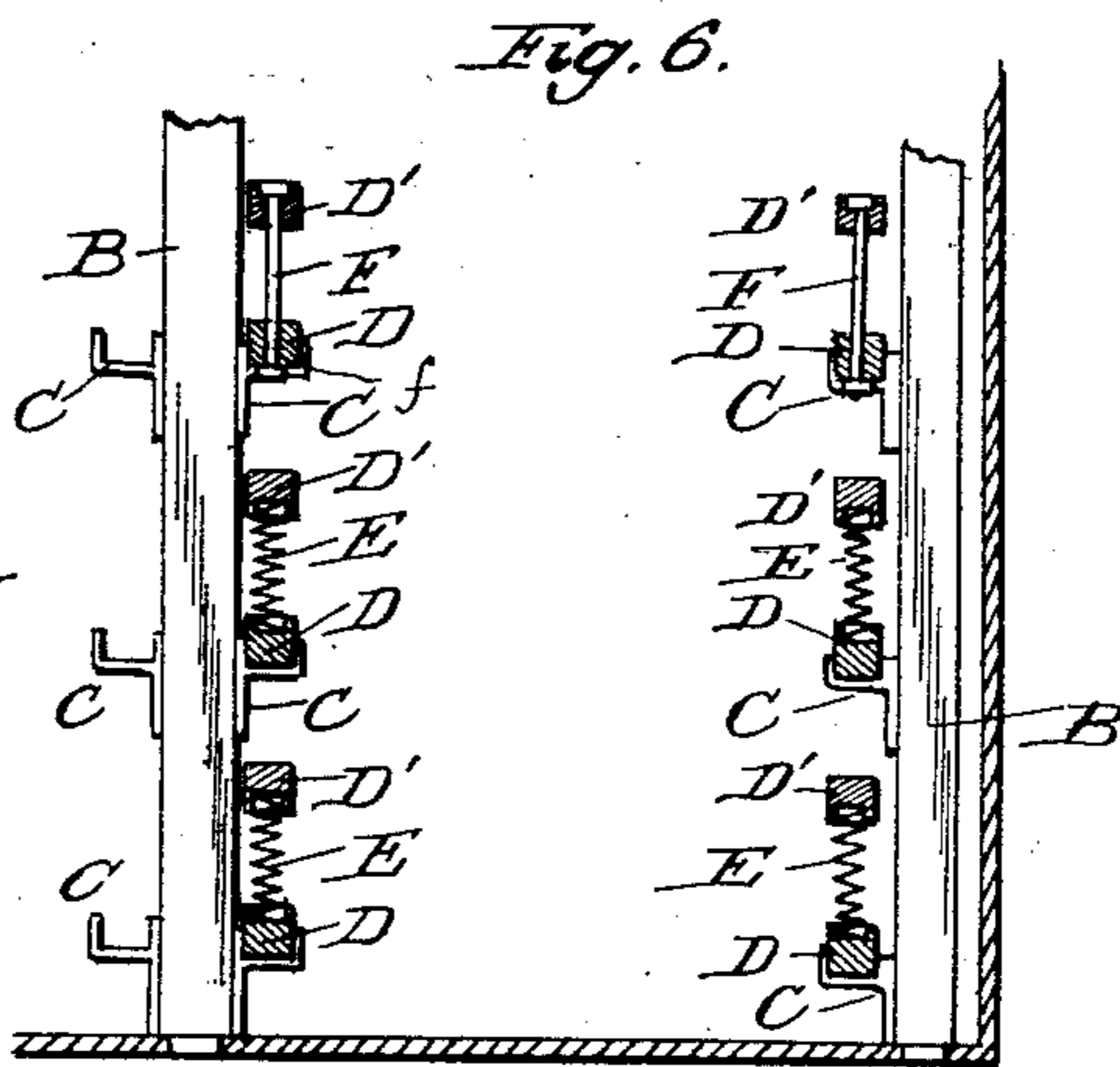
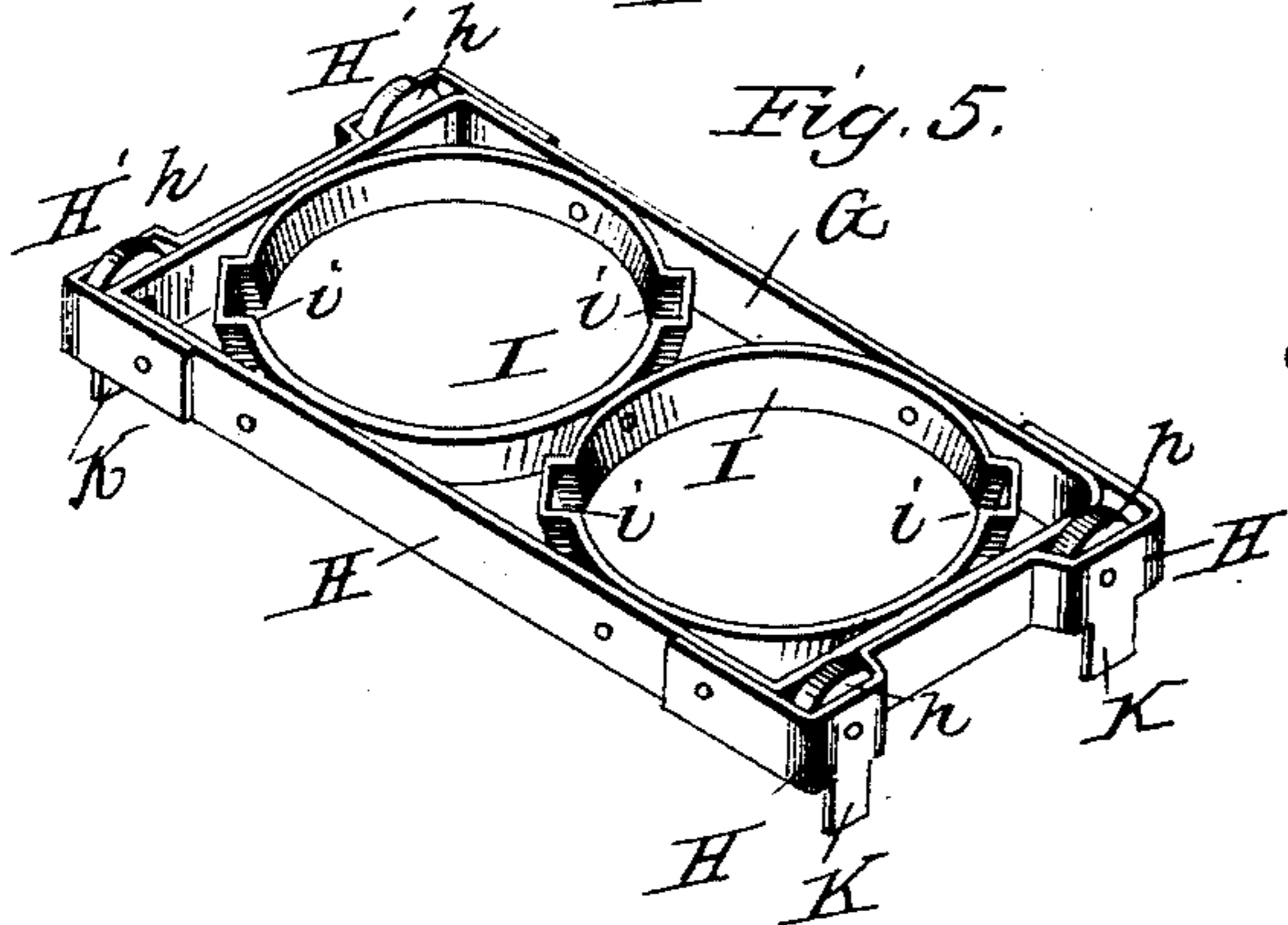
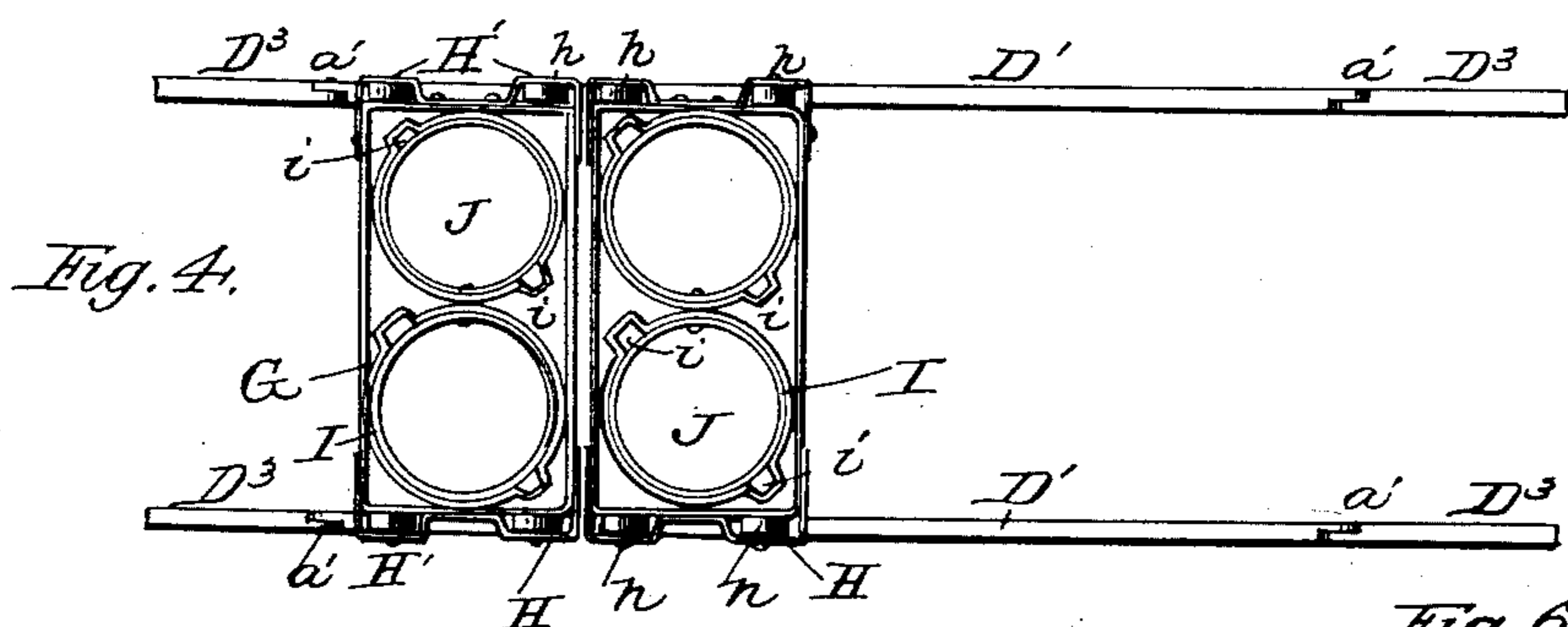
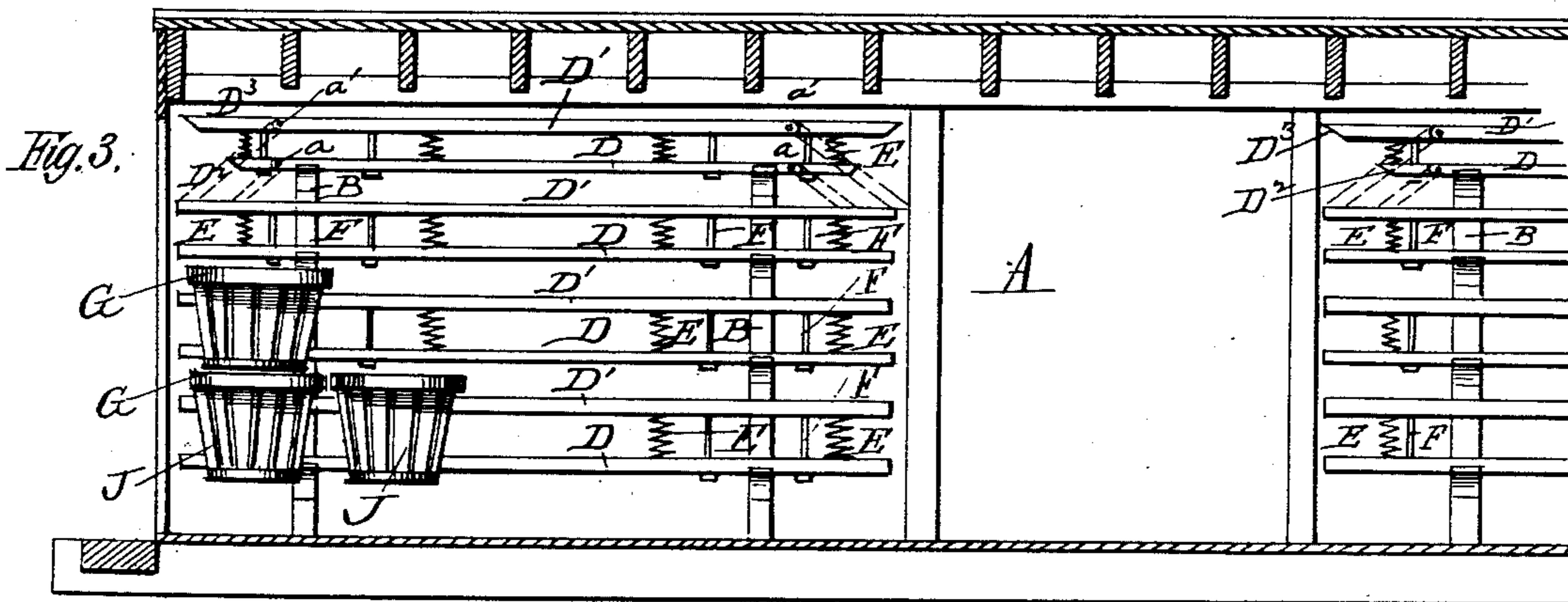
WITNESSES:
F. L. Durand
J. M. H. Jones

INVENTOR:
W. R. Phillips,
J. L. Rogers & Co.
Attorneys.

W. R. PHILLIPS.
SHIPPING RACK AND FRAME FOR CARS.

No. 520,270.

Patented May 22, 1894.



WITNESSES
J. L. Ourand
J. M. H. Jones

INVENTOR.
Wm. R. Phillips,
J. L. Sager & Co.,
Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM R. PHILLIPS, OF MILFORD, DELAWARE.

SHIPPING RACK AND FRAME FOR CARS.

SPECIFICATION forming part of Letters Patent No. 520,270, dated May 22, 1894.

Application filed October 20, 1893. Serial No. 488,731. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. PHILLIPS, a citizen of the United States, and a resident of Milford, in the county of Kent and State of Delaware, have invented certain new and useful Improvements in Shipping Racks and Frames for Fruit-Baskets; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of the interior of a railway car equipped with my shipping rack and frames for supporting baskets of fruit in transit. Fig. 2 is a transverse sectional view of the same on a vertical plane through the middle of the car. Fig. 3 is a longitudinal sectional view of the car with its supporting-racks and carriages, on the vertical plane indicated by the broken line marked $x-x$ in Fig. 2. Fig. 4 is a plan or top view, of the uppermost rack with baskets of fruit in position for transit. Fig. 5 is a detail view, in perspective, of one of the removable carriages or basket holders; the baskets of fruit having been removed therefrom. Fig. 6 is a transverse vertical sectional view on line $y-y$ in Fig. 3, showing the construction and arrangement of the brackets which support the longitudinal stringers or track-bearers. Fig. 7 is a sectional detail view of the longitudinal carriage-track and stringers, showing the construction and arrangement of the track-supporting springs and tie-rods.

Like letters of reference designate corresponding parts in all the figures.

My invention relates to devices for shipping baskets of fruits, vegetables and similar perishable articles, in railway cars, and is intended to take the place of the transverse shelves now used in fruit cars as supports for the baskets of fruits or vegetables in transit. Not only do these shelves, as heretofore constructed and arranged, take up a great deal of room; but they are heavy and clumsy, and being rigid, do not provide for the yielding or "give" of the baskets placed upon them when the cars jar together in start-

ing or stopping a train, or sway in turning curves, so that the baskets, however firmly supported, are thumped and jarred in such a manner as to shake up the fruit contained in them and thereby cause injury and damage to the same by bruising,—especially when the fruit is very mellow and tender, as for example, ripe peaches, strawberries, &c.

The object of my invention is, therefore, to save room in the car, and make it possible for a car of given capacity to contain a larger number of baskets than by the use of the old system of shelves; and, what is even of greater importance, to so construct the racks, which support the baskets of fruit while in transit, that these will "give" or yield to the motions of the car, and thereby, (by causing the baskets to ride easy and without any sudden thumping or concussion) prevent injury to the fruit, however tender and ripe this may be.

With these objects in view, my invention consists in the construction and combination of parts of a frame-work or set of racks adapted to be erected (removably) inside of an ordinary box-car or refrigerator-car, and a movable carriage or basket-holder which is used in conjunction therewith, as I shall now proceed to describe more fully.

On the accompanying two sheets of drawings, the letter A designates the interior of an ordinary ventilated box-car adapted for the shipment of fruit. Within the car, arranged in longitudinal rows facing each other, are removable stanchions B, which are stepped into sockets or pockets in the car-floor and provided with projecting brackets C, which form bearings or supports for the stringers D. These are wooden bars, (or they may be made of metal, if desired,) arranged longitudinally in parallel equi-distant rows, so as to form several tiers, reaching from the floor to the roof of the car and connected to the rails D', vertically, by coiled springs E, the ends of which are inserted into sockets d and d' , to keep them in place. The stringers D and parallel rails D' are also connected vertically, in pairs, by short tie-rods F, the depending nutted ends of which are inserted loosely through apertures f bored vertically through the bar or stringer D next below. The object of these tie-rods is to movably

connect and keep the stringers D in vertical alignment with their respective rails D'; the supporting-springs E providing for the requisite "give" or elasticity in a vertical direction of the upper rails. In this manner it will be seen that the rows of stringers are arranged in pairs; *i. e.*, each row comprises a bottom stringer D, which rests rigidly in its brackets C and forms a bearing or support for the yielding bar or rail D' next above; the two bars D and D' of each pair being connected movably by the spring-supports E and tie-rods F. The rack comprising the uppermost set or row, D D', is cut off short at one end, and is continued by a hinged section or extension, D², D³, of the same construction as illustrated in Fig. 3; said sections being hinged together at *a* and *a'*, which permits of the hinged extension D² D³ being dropped down on an incline, as shown in dotted lines, for the purpose hereinafter set forth. The uppermost bar D' of each rack forms the rail for the basket-carriage, shown at G. This carriage consists of a rectangular frame H, projecting from each corner of which is a roller-bearing H', within which is journaled a small wheel or roller *h*. The interior of the frame is taken up by two circular bands or hoops, I, I, having diagonal offsets or recesses *i i*, through which the fingers may be easily inserted when it is desired to remove or replace the baskets carried in the circular holders I. The latter taper slightly downward, to conform to the taper or incline of the sides of the baskets, shown at J, which are held removably in their respective holders I by one of the hoops of the baskets resting upon the upper rim of the circular holder. On the drawings I have shown each basket carriage constructed with two of these "holders," so that each carriage G will carry two baskets of fruit; but it will be obvious that it may be made of larger size, for three, four, or more baskets, if desired, and without departing from the spirit of my invention. As each basket is intended to fit snugly in its appropriate hoop or "holder" I, it could not readily be removed from the same except by providing means for getting hold of the sides of the basket near its upper edge; hence the offsets *i i* in the hoops, diametrically opposite to each other, which afford the needed room for the insertion of the fingers to remove the baskets from their holders.

The vertical frames composed of a number of parallel racks D D', arranged in pairs as described, are placed such a distance apart that the carriages G will bridge or span the open space between two adjacent rows; resting with one pair of rollers *h* upon one of the top rails D' and with the other set or pair of rollers upon the opposite parallel rail D'; and in order to prevent the carriage from slipping off of the track formed by these parallel rails D' D', each roller-bearing H' is provided with a depending guard K, which overlaps the outside of the rail. If desired, the rollers

h may be made with flanges, like the wheels of railway cars, and for the same purpose, viz., to keep them upon the track, in which case the depending guards K may, of course, be dispensed with.

From the foregoing description, taken in connection with the drawings, the manner of using this frame or shipping-rack will readily be understood. After the baskets filled with fruit, have been placed in the holders I of their respective carriages, these are inserted between the parallel racks so as to rest with their rollers *h h* upon the track formed by a pair of yielding rails D' D'; each carriage being pushed back as far as it will go before placing the next one in position. After the bottom space has been filled up, the row next above is loaded with carriages and baskets in the same manner; and so on, row after row, till the topmost rack just below the roof of the car has been filled.

In order to facilitate the insertion of the carriages here, the hinged end section D² D³ of the uppermost rack is unshipped at its free or outer end from its appropriate bracket or bearing C, and tilted down so as to form an inclined plane, as shown in dotted lines in Fig. 3, up the slanting rails D³ of which the carriages can easily be rolled, one after the other, until this uppermost rack has also been filled, after which the hinged section D² D³ is again raised up into its normal horizontal position, with its end resting in the end-bracket C. The distance between the rails D', vertically, is just sufficient to permit the bottoms of one row of baskets to clear the tops of the filled baskets next below, so that there is absolutely no waste space; all the room inside of the car being utilized to the fullest extent.

Instead of arranging the racks D D' longitudinally within the car, or in the direction of its length and parallel to the sides, as illustrated on the drawings, these may be arranged in parallel rows transversely, or at right angles to the sides of the car, if desired. Ordinarily, however, the arrangement herein described and shown will be found preferable, the car being filled and emptied from both ends and from a door in the middle. In that case there are two sets of racks, one on each side of the central compartment opposite the door, each rack being provided with a hinged section to its uppermost row at both ends, so that it may be filled with basket-laden carriages from both sides. By this construction and arrangement of the stationary racks D D' and movable carriages G, the baskets are kept in yielding supports, and all thumping and concussion due to the motion of the cars, or sudden stoppage and starting of the train, is absolutely avoided, so that fruit may be shipped by rail any distance without receiving any damage while in transit from that source. All space is carefully utilized, and when not in use, or when it is desired to use the car for other purposes, the

racks can be removed in a few moments simply by unshipping the rails and stringers from their supporting brackets and removing the stanchions B from the sockets in the floor into which they are stepped removably.

In order to utilize all the available room in the car, the space in the middle part of the same, opposite to and between the sliding side doors (of which there is usually one on each side) is filled with removable stringers and tracks occupied by carriages holding fruit-baskets, the ends of the stringers which form the tracks in this (middle) section of the car resting upon the ends of the adjacent tracks, so as to span this central open compartment like a bridge. By then filling up these tracks with carriages, commencing in the middle (*i. e.*, between the two sliding side doors) until the doors are reached, and filling each track successively, from top to bottom, it will be seen that there will be absolutely no waste room, but the whole interior of the car will be filled with solidly packed carriages, each containing its appropriate number of baskets filled with fruit. Besides utilizing all the room in the car in this manner, this arrangement and close packing of the fruit-carriages and baskets results in another important advantage, in this, that the carriages and baskets cannot possibly upset or become displaced by the sudden stoppage or starting of the train, or by the jarring and bumping of the cars against one another during the operation of coupling or in turning curves, as the carriages mutually support one another so that the baskets and their contents will be delivered at the end of their journey precisely in the same position and

condition as that in which they were received and placed in the car at the starting point.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The combination with a railway car of the removable stanchions B having brackets C, removable stringers or bearing strips D, top rails D', vertical spring-supports E, and vertical tie-rods F, substantially as and for the purpose shown and set forth.

2. The combination with the stationary rack comprising the horizontal stringers D, parallel yielding rails D' and intermediate spring-supports E and tie-rods F, of the hinged track extensions D² D³; substantially as and for the purpose shown and set forth.

3. The basket carriage consisting of the frame H having roller-bearings H' and rollers *h*, and provided with the circular basket holders I having diametrically opposite recesses or offsets *i i*; substantially as and for the purpose shown and set forth.

4. The combination of the rectangular frame H having roller bearings H' provided with rollers *h* and depending guards K, and basket-holders I united to each other and to the inner sides of the frame, and provided with diametrical offsets or recesses *i i*; substantially as and for the purpose shown and set forth.

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

WILLIAM R. PHILLIPS.

Witnesses:

JOSHUA D. HILL,

BENJAMIN F. DICKERSON.