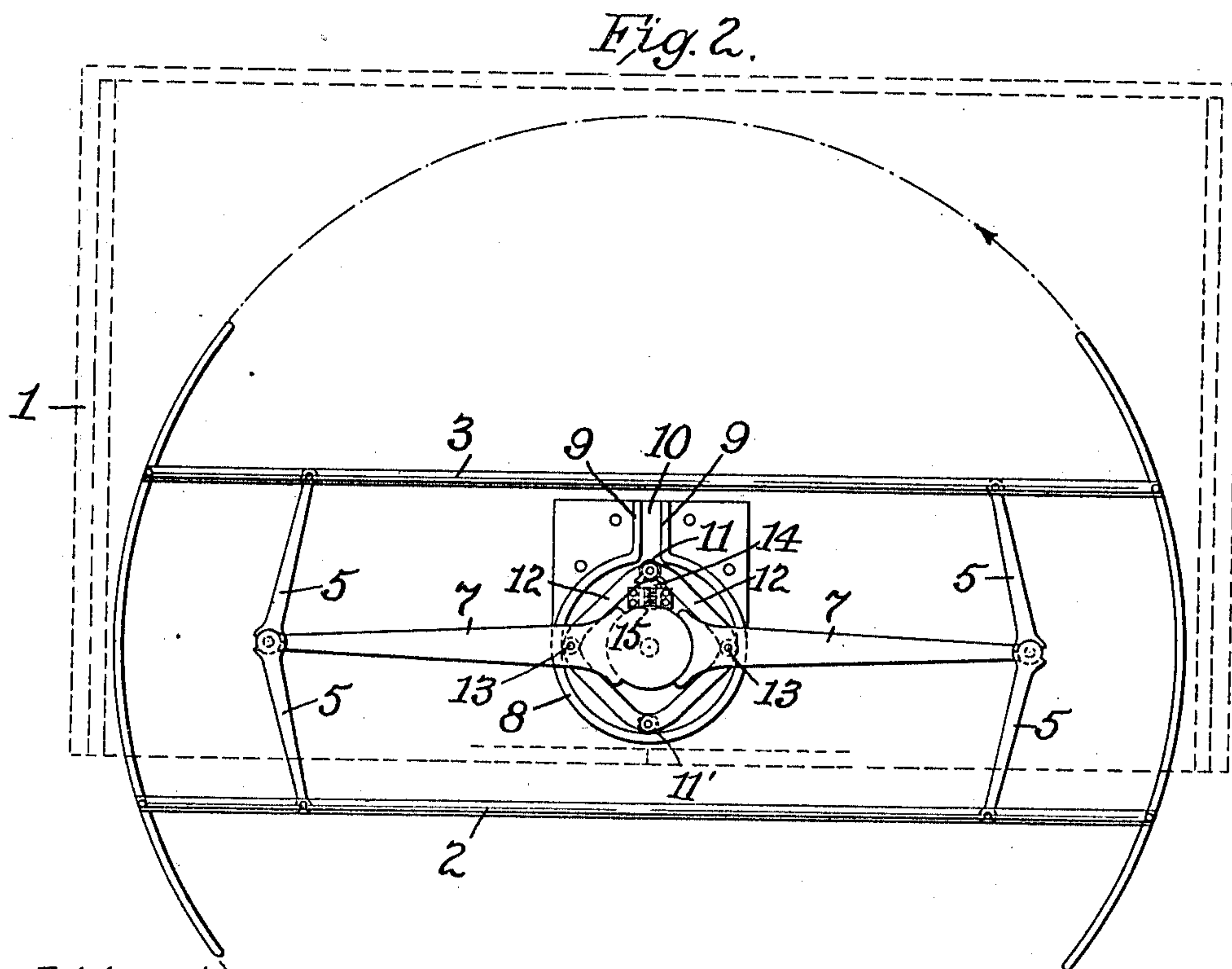
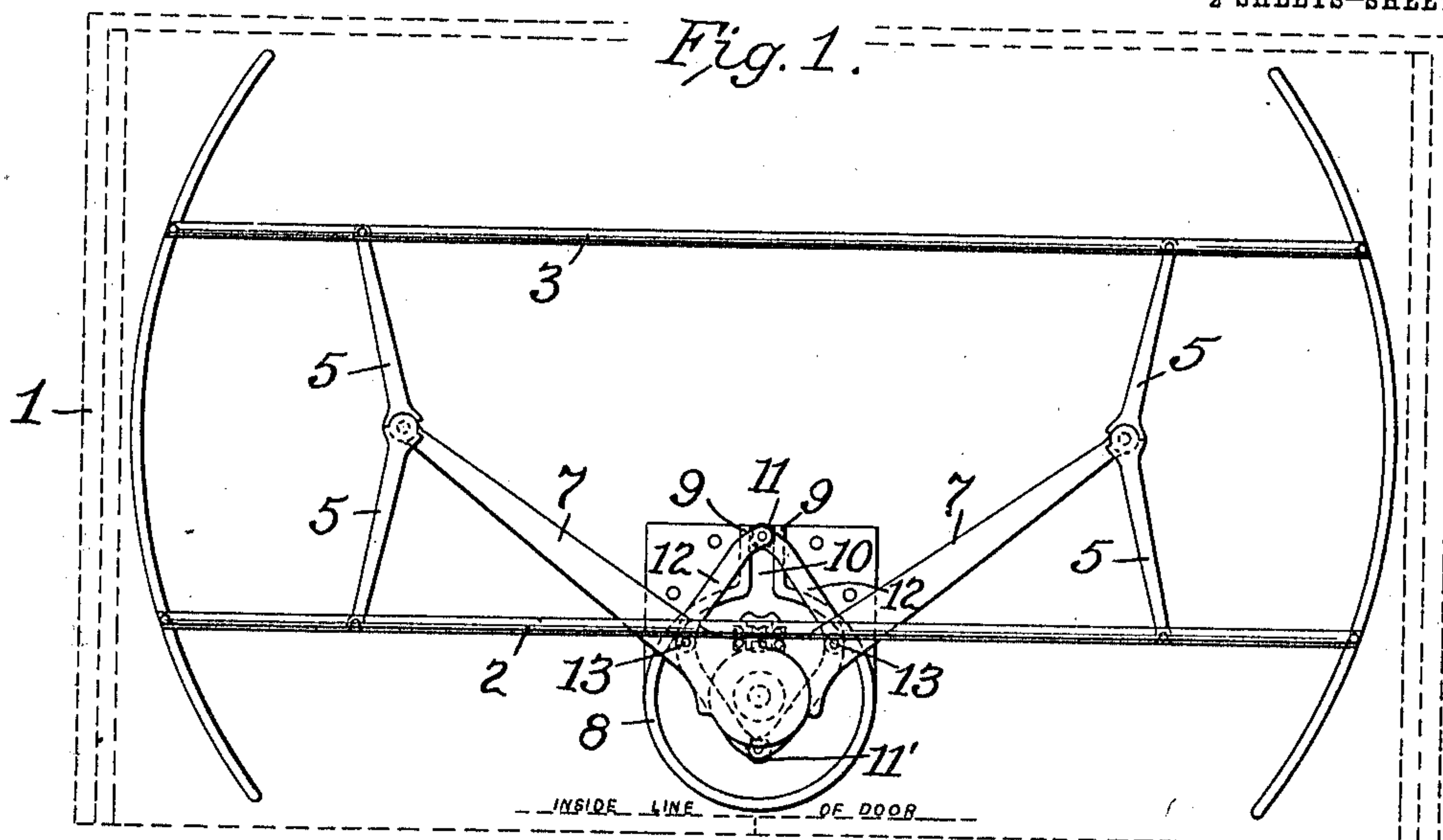


991,918.

L. W. WELCH.
DISPLAY APPARATUS.
APPLICATION FILED NOV. 17, 1910.

Patented May 9, 1911.

2 SHEETS-SHEET 1.



Attest:
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Inventor:
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by Spear, Middleton, Donalson & Apple,
per Walter Donalson, Attys.

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Fig. 3.

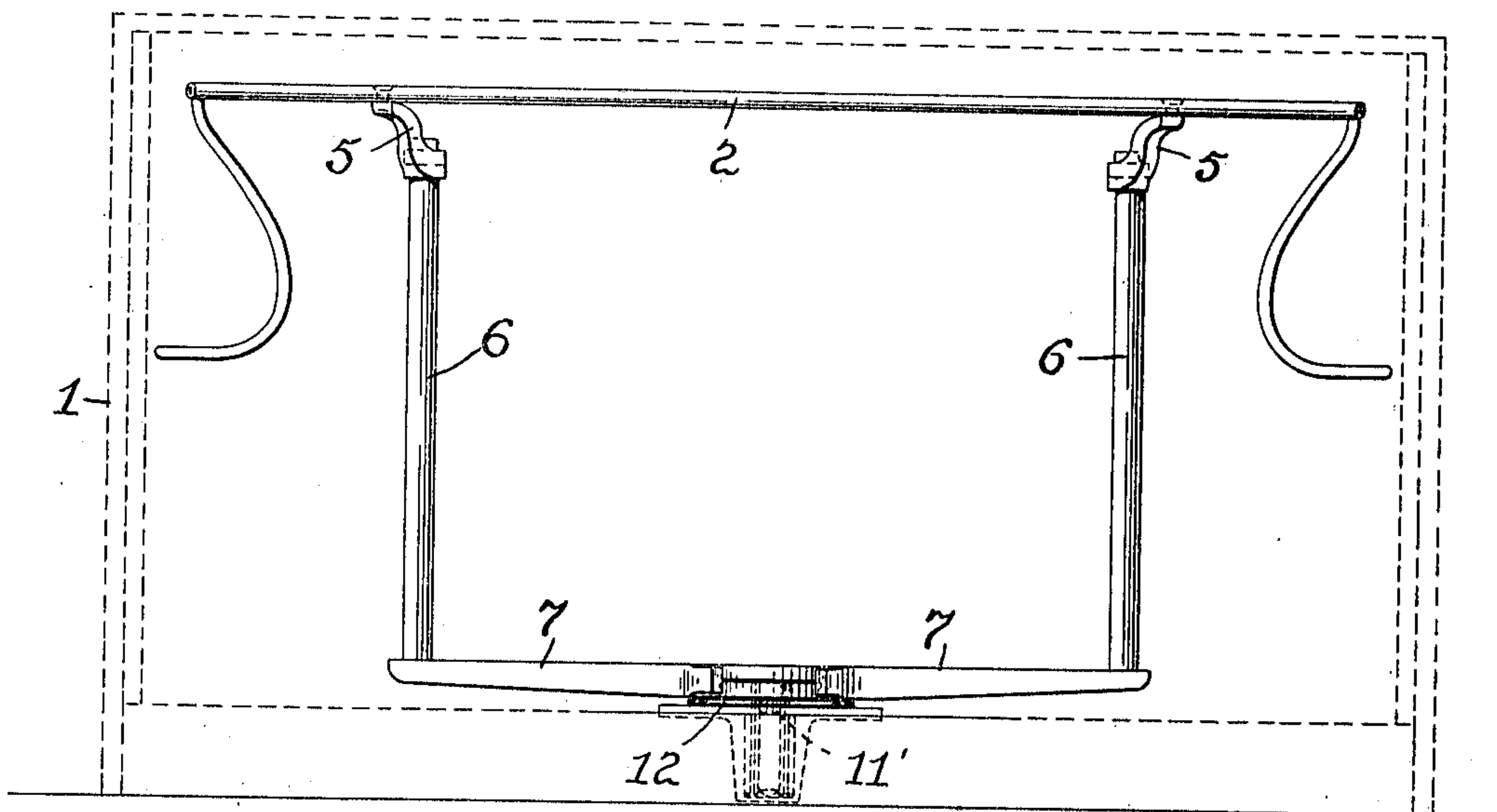
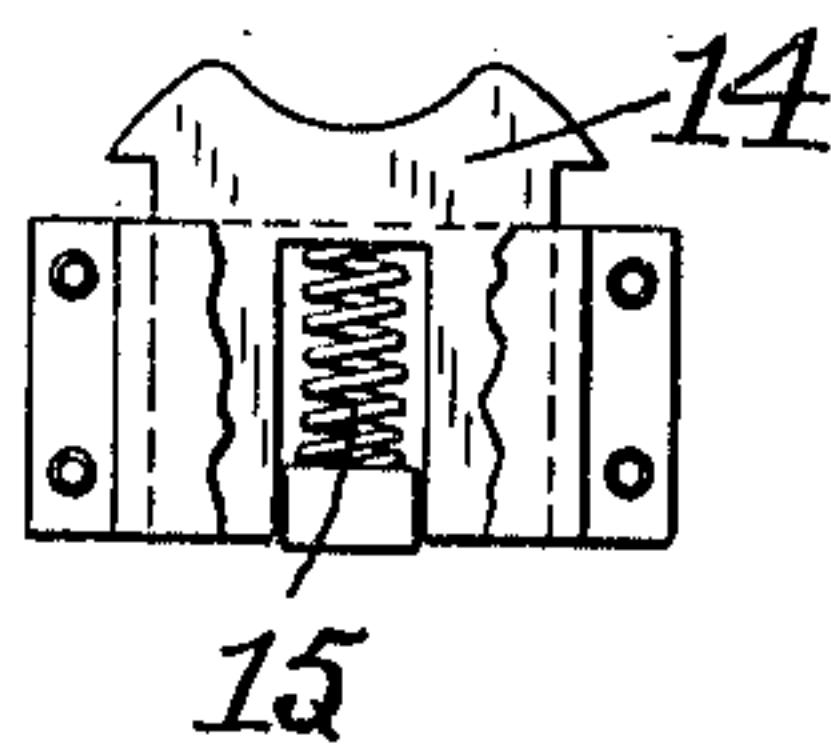


Fig. 4.



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UNITED STATES PATENT OFFICE.

LYMAN W. WELCH, OF GRAND RAPIDS, MICHIGAN.

DISPLAY APPARATUS.

991,918.

Specification of Letters Patent.

Patented May 9, 1911.

Application filed November 17, 1910. Serial No. 592,926.

To all whom it may concern:

Be it known that I, LYMAN W. WELCH, citizen of the United States, residing at Grand Rapids, Michigan, have invented certain new and useful Improvements in Display Apparatus, of which the following is a specification.

My present invention is an improvement upon that disclosed in application for Letters Patent of the United States filed by me October 29, 1910, #590,595, in which a revolving display rack is combined with a casing, the display rack being adjustable in relation to the casing so that it may be pushed or set back therein so that the casing may be closed or may be drawn forward in relation to the casing, so that the salesman may have access to the garments which are hung in two lines or rows upon parallel bars, access being had to the garments on the front bar by simply drawing the display rack forward and access being had to the garments on the rear bar by turning the display rack after it is drawn into its forward position.

My present invention concerns means for controlling the display rack so that, as it is drawn forward in relation to the casing, it can not be rotated until a predetermined forward position is reached, said controlling means also preventing backward or inward movement of the display rack in relation to the casing when the salesman applies the necessary force thereto in turning it.

The invention consists in the features of construction and combination and arrangement of parts hereinafter described and particularly set forth in the appended claims.

In the accompanying drawings Figure 1 is a plan view of a display rack such as illustrated in the application above referred to, in position within the casing, which is shown in dotted lines and with my improved controlling mechanism; Fig. 2 is a view similar to Fig. 1, with the display rack drawn forward in relation to the casing; and Fig. 3 is a side view of the display rack with parts in section. Fig. 4 is a detail view of a catch.

In these drawings, the casing is indicated at 1; the parallel bars for supporting the rows of garments are shown at 2 and 3, these parallel bars being connected by links 5 with standards or posts 6 located in a plane about midway between the parallel bars, the said posts being supported by arms 7 which are pivotally mounted on the bottom of the casing at their meeting ends. As in the appli-

cation above referred to, these meeting ends have overlapping portions provided with stop shoulders, and the pivotal mounting for the meeting ends of these arms is substantially the same as that disclosed in the application above referred to, and needs no specific description herein, it being understood that the arms 7 are adapted to swing from the position shown in Fig. 1 to that shown in Fig. 2 in order to draw the display rack forwardly in relation to the casing when the salesman wants to gain access to the garments. When the display rack is drawn into the position shown in Fig. 2, it may be turned without interference by striking the wall of the casing, the said rack turning on the pivotal mounting of the arms 7, 7, above mentioned.

In order to control the movement of the display rack when drawn forward so that it will have only a forward movement and no turning movement as it is being adjusted from the position shown in Fig. 1 to that shown in Fig. 2, and furthermore in order to control the display rack while it is being rotated so that it will have only rotating movement but no inward movement in relation to the casing, I provide the mechanism consisting of a circular track 8 on the base of the cabinet or casing which is concentric with the pivot of the arms 7, 7, the said track, at one point, having an extension consisting of the parallel straight portions 9 extending parallel with the side walls of the cabinet, and having a groove or space 10 between them. When the display rack is in the position shown in Fig. 1, this straight portion of the track receives a roller 11 mounted on a pivot or journal pin which connects together controlling links 12. These links diverge from each other and are pivotally connected with the arms 7 at 13. There is a pair of these links 12 extending rearwardly in relation to the arms 7, and a second pair extending forwardly in relation to these arms 7, the links of both pairs being pivotally mounted on the arms 7 at the points 13, and the forward pair, like the rear pair above described, converge with each other and have at their converging ends a roller 11'. This roller, as shown in Fig. 2, lies at some distance away from the circular track when the display rack is adjusted within the casing, while the other roller 11, as above stated, lies in the groove or runway of the straight portion 9 of the controlling

track. It will now be seen that as the display rack is drawn forwardly from the position of Fig. 1 to that of Fig. 2, the roller 11 moving against the straight portions 9 of the track, will control the forward movement of the display rack so that only forward movement can take place but no turning movement, and this control is exerted until the parts assume the position shown in Fig. 2, at which time the roller 11 will have passed from the straight portion of the track, and is lying within the circuit of the circular portion of the track, while the front roller 11' will have been moved from its rearmost position to a position in contact with the inner front wall of the circular track. In this movement also it will be seen that the links 12 have been spread apart at the points where they join the arms 7 because of the straightening out of the said arms 7 and the separation of the pivot points 23 due to this straightening action, and it will be observed also that the rollers 11 and 11' have approached each other from their position of maximum separation shown in Fig. 1 so that both will lie within the circuit of the controlling track, as shown in Fig. 2. With the parts in this position of Fig. 2, it will be seen that as soon as the attendant applies force to turn the display rack so that access may be had to the garments suspended on the rear rod, the roller 11 will come opposite the inner face of the track at its circular portion and out of line with the runway 10, and this roller bearing on the inner face of the circular track and coacting with the roller 11', will hold the display rack with the arms 7 in alinement, as shown in Fig. 2, and the rack may then be turned on the central pivot and without danger of the rack moving except revolubly. In other words, the circular track, together with the controlling rollers and links, will prevent the arms 7 from moving in relation to each other from their position of alinement into any position more or less at an angle to each other, and thus the rack will be controlled so that it will revolve without any danger of any of its portions striking the walls of the cabinet. When the rack is reversed, as just described, to bring the rear bar to the front, the rack may be moved back into the casing when desired, the roller 11' now entering the runway 10 and controlling this rearward movement of the rack and prevent it from rotating during this action. In other words, the rack may be operated in precisely the same manner in drawing it out and in returning it into the casing or in rotating it no matter which of the supporting rods 2 or 3 is at the front of the casing. The rollers may be provided with ball bearings, as indicated in dotted lines.

I provide at 14 a spring catch or frictional locking device which has a curved or re-

cessed end to conform to the periphery of the roller 11 or 11', the said catch being guided in a box on the base of the cabinet and pressed forwardly by a spring 15, part of the boxing being broken away in Fig. 4. This catch or resistance member, by engaging the roller, will hold the display rack under some frictional resistance when it is drawn forward. In other words, it will act to center the display rack and hold it against turning unduly and until such time that sufficient force is applied by the attendant to overcome the slight resistance of the frictional catch, when the roller will ride out of the recess, the catch yielding for this purpose, and then the frame will be free to be turned, and when the other roller is about to assume its central position at the rear, it will engage the catch, press it back until the roller comes opposite the recess, when the spring will press the catch forward to center the roller and hold the rack in its new position.

While I have illustrated the invention as applied to a single deck form of apparatus, it will be understood that the invention may be embodied in a double deck form, and it will also be understood that while I have shown the embodiment of my invention in one form herein, I do not limit myself to the detail construction or arrangement of the parts.

I claim as my invention:

1. In a display apparatus, the combination of a casing, a rack comprising bars for carrying the goods, a pivot mounted at a fixed point in said casing and supporting means for the bars comprising a pair of arms turning about the said pivot and movable forwardly and backwardly in relation to the casing to advance or retract the same, and having rotary movement at the pivot for reversing the position of the bars, and controlling means to prevent the rotary movement while the rack is being moved forwardly or backwardly and to prevent said backward movement when the rack is rotated, substantially as described.

2. In a display apparatus, the combination of a casing, a rack comprising members for supporting the goods, and a pair of arms connected thereto and revolubly mounted to swing relatively to each other and to the casing for moving the rack forward or backward, and means for locking the rack against rotary movement while the same is being moved directly forwardly or backwardly and to lock the same against backward movement while the rack is being rotated, substantially as described.

3. In a display apparatus, the combination of a casing, a rack comprising supporting means for the garments, and a pair of arms pivotally mounted in the casing at their adjacent ends, said arms having turn-

ing movement in relation to each other to advance or retract the rack in relation to the casing and having rotary movement as one body to rotate the rack in relation to the casing and controlling means to prevent rotation of the rack as it is moved forward or backward in relation to the casing and to prevent backward movement as the rack is rotated, substantially as described.

4. In a display apparatus, the combination of a casing, a rack comprising supporting means for the garments and a pair of arms pivotally mounted on the casing at their adjacent ends, said arms having turning movement in relation to each other to advance or retract the rack in relation to the casing, and having rotary movement as one body to rotate the rack in relation to the casing, and controlling means to prevent rotation of the rack as it is moved forward or backward in relation to the casing and to prevent backward movement as the rack is rotated, said controlling means comprising a circular track on the casing having a radial portion, and means on the rack engaging said track, substantially as described.

5. In combination a casing, front and rear bars for supporting the garments, a pair of arms pivotally mounted on the casing at their adjacent ends, and connected to the said bars, said arms having movement in relation to each other and rotary movement as one body, and controlling means comprising a circular track having a radial portion, and

links pivoted to the arms to contact with the track, substantially as described.

6. In combination a casing, front and rear bars for supporting the garments, a pair of arms pivotally mounted on the casing at their adjacent ends, and connected to the said bars, said arms having movement in relation to each other and rotary movement as one body, and controlling means comprising a circular track having a radial portion, and links pivoted to the arms to contact with the track, said links being arranged in pairs, one pair at the front and one at the rear, substantially as described.

7. In combination the casing, a rack comprising front and rear supports, a pair of arms carrying the same and pivotally mounted at their adjacent ends, to turn in relation to each other for advancing or retracting the rack in relation to the casing, or to revolve as one body to turn the rack, a controlling track on the casing, links pivoted to the arms and having contact members at their meeting ends, and a spring catch to engage said contact members to center the rack after being turned and to place the same under restraint, substantially as described.

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

LYMAN W. WELCH.

Witnesses:

WESLEY W. HYDE,
NINA L. WILLISON.