O. L. SMITH.

DISPLAY DEVICE.

APPLICATION FILED MAY 27, 1911.

1,027,083.

Patented May 21, 1912.

2 SHEETS—SHEET 1.

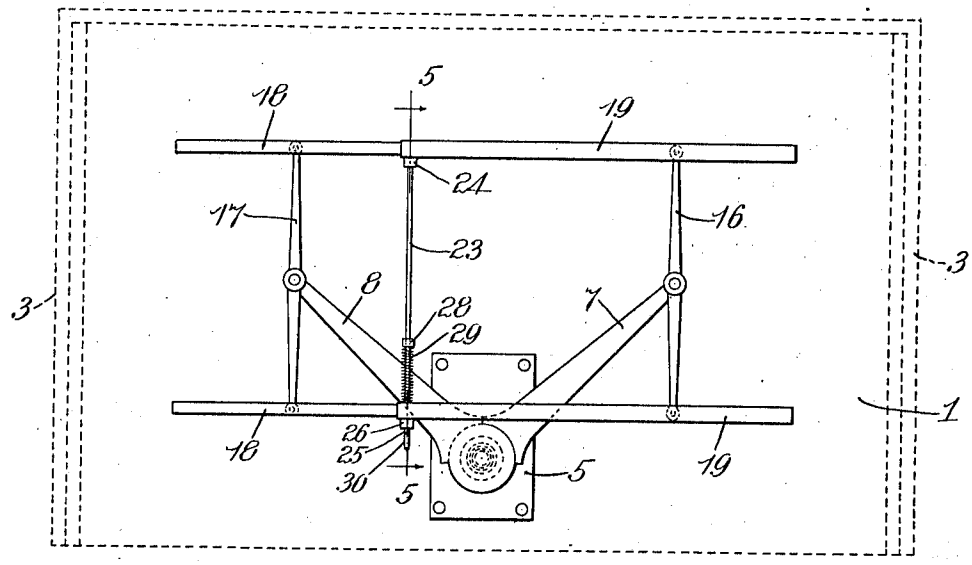

Fig. 1.

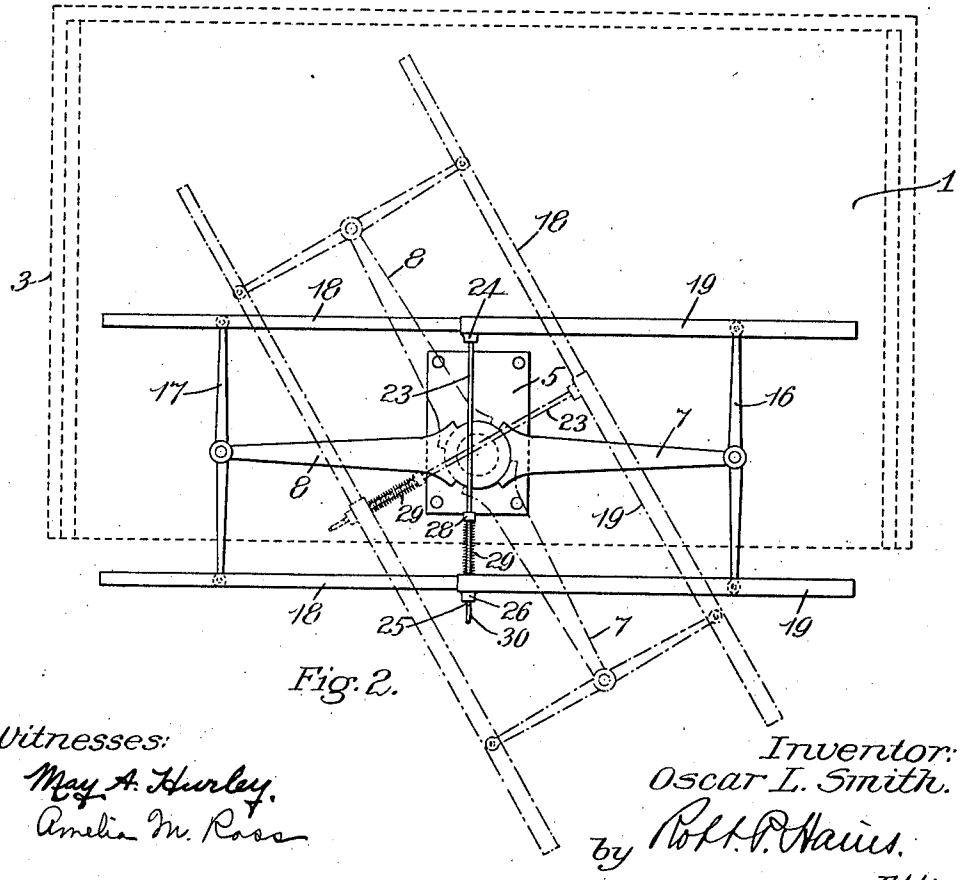

Fig. 2.

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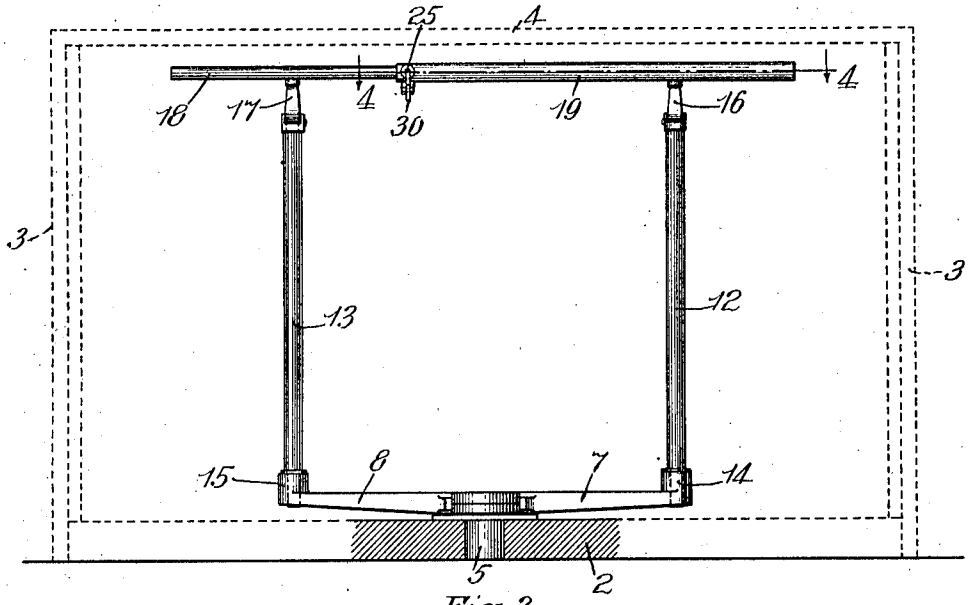

Fig. 3.

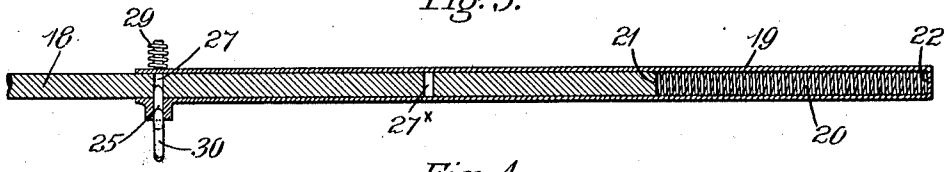

Fig. 4.

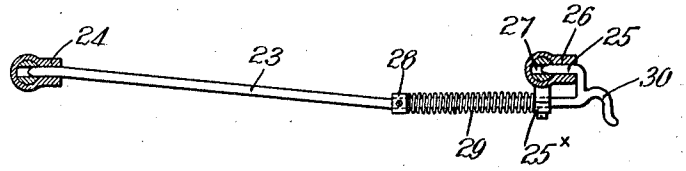

Fig. 5.

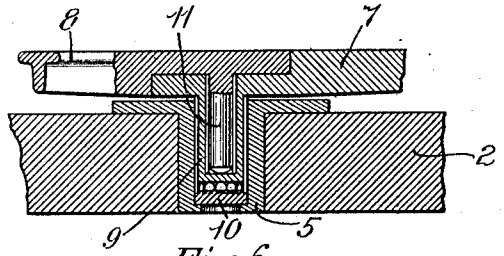

Fig. 6.

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UNITED STATES PATENT OFFICE.

OSCAR L. SMITH, OF GRAND RAPIDS, MICHIGAN.

DISPLAY DEVICE.

1,027,083. Specification of Letters Patent. Patented May 21, 1912.

Application filed May 27, 1911. Serial No. 629,860.

To all whom it may concern:

Be it known that I, OSCAR L. SMITH, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented an Improvement in Display Devices, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

The invention to be hereinafter described relates to display racks for the exhibition of goods or merchandise in a store or other place.

In a device of this character, where a case or compartment is employed to protect the goods, and the rack is rotatable and also bodily movable in and out of the case or compartment, it is desirable in some instances to provide means to assist in the bodily movement of the rack to its outer position, or, preferably to cause automatic action to that end, said means being preferably though not of necessity associated with locking devices to hold the rack in its outer or in its inner position with respect to the case or compartment.

With these general matters in view the present invention has for its aims and purposes to provide a display rack and its containing case, wherein means are employed for causing the rack to move to its outer position with respect to the case, either with or without means for locking the rack in either of its positions, all of which will hereinafter more fully appear in connection with the accompanying drawings which disclose one form of means for carrying the invention into practical effect, it being understood, of course, that in its true scope the invention is defined by the claims.

In the accompanying drawings:—Figure 1 is a top or plan view of a display device embodying the present invention, the rack being shown at its inner position with respect to the case or compartment which is indicated by dotted lines; Fig. 2 is a view similar to Fig. 1, the rack being shown in its outer position, by dotted lines, partially rotated; Fig. 3 is a front elevation of the parts in position shown by Fig. 1; Fig. 4 is a section on the line 4—4, Fig. 3, showing one of the arms constituting the rack in section; Fig. 5 is a section on the line 5—5 of Fig. 1, showing a form of locking device for holding the rack either in its inner or outer positions; and Fig. 6 is a sectional detail showing the mounting which permits the rack, when in outer position, to be rotated.

The case or compartment 1 is indicated by dotted lines in Figs. 1, 2 and 3, may be of any usual or desired character and is preferably formed with a base portion 2 from which rise glass sides 3 supporting a glass top 4, but so far as details of the case or compartment are concerned, it may be varied within wide limits to suit the conditions of use.

Mounted in the base portion 2 of the case is a socket piece 5, Figs. 1 and 6, for supporting the rack sustaining members 7 and 8, as indicated in said figures. The rack sustaining member 7 has a socketed pivotal support 9 resting on ball bearings sustained by a block 10 in the socket piece 5, and the rack sustaining member 8 is likewise provided with a stud 11 projecting into the socketed portion of the part 9 as indicated in Fig. 6, roller bearings preferably being interposed between the moving parts. The construction is such that the rack supporting members 7 and 8 may rotate as a whole in the socket piece 5 secured to the case in order to present different portions of the rack successively to front position as will hereinafter more fully appear.

Rising from the end portions of the rack sustaining members 7 and 8 are the parts 12 and 13, said parts 12 and 13 being preferably mounted rotatably at 14 and 15 in the ends of the arms 7 and 8 as will be clearly apparent from Fig. 3.

The upper ends of the parts or uprights 12 and 13 have rigidly secured thereto the cross arms 16 and 17, between the ends of which extend the rack supporting portions of the device. In the present form of the invention the rack supporting portions connecting the arms 16 and 17 are made telescopic and means is herein provided for normally moving said telescopic portions in a direction to expand or lengthen the same, whereby when the rack is in the position indicated in Fig. 1, the expanding member for the rack portions, when free to act, will elongate such rack portions and, perforce, straighten the rack supporting arms 7 and 8 into the position shown by full lines in Fig. 2. As one means for em-

bodying this feature of the invention the telescoping racks connecting the arms 16 and 17 may be formed as indicated in Fig. 3, wherein 18 represents a part telescoping into the tubular part 19, a spring 20 being seated in the tubular part 19 between the end 21 of the part 18 and the end 22 of the part 19, the construction being such that when the spring 20 is free to exert its expanding force it will move the parts 18 and 19 in a direction to elongate the rack, as will be clearly understood from Figs. 3 and 4.

In order to lock the rack parts 18 and 19 from responding to the force of the spring 20 a locking device is provided which, when the rack parts 18 and 19 are in contracted position, will hold them in such position. This locking device may also serve to lock the rack parts 18 and 19 in expanded position. Extending between and mounted on the tubular rack parts 19, as indicated in Figs. 1 and 5, is one form of locking device contemplated by the present invention. In the illustrated form of this device it comprises a rod 23, one end of which is sustained by a lug portion 24 formed on one of the tubular rack parts 19 and the other end of which passes through a lug $25^{\times}$ projecting from the other tubular rack portion 19, the end 25 of the rod 23 being turned or bent in the direction as indicated in Fig. 5 and passing through a suitable guide portion 26 secured to the tubular rack part 19. The rack part 18 is provided with sockets or perforations 27 and $27^{\times}$, either one of which when brought into alinement with the end portions of the locking rod 23 will be engaged and held thereby, as clearly indicated by Figs. 4 and 5.

The locking rod 23 has secured thereto a collar 28 between which and the lug $25^{\times}$ is an extension spring 29 the normal tendency of which is to move the end portions of the locking rod 23 to the left, Fig. 5, and into locking engagement with one or the other of the sockets or perforations in the rack part 18, when either of said sockets or perforations is brought into alinement with the ends of the locking rod. The locking rod 23 is also preferably provided with a finger pull 30 by which it may be drawn bodily to the right, Fig. 5, to disengage its end portions with the sockets or perforations of the rack part 18.

From the construction hereinbefore described as one form or embodiment of the invention, it will be noted that when the rack comprising the parts 18 and 19 carried by the arms 16 and 17 is in its expanded position, as indicated by full lines in Fig. 2, that the locking device will hold said parts in such position by engagement of the ends of such locking device with the holes or perforations in the rack members 18. If now it be desired to move the rack bodily into the case, the locking device 23 which is preferably located near the center of the rack, is withdrawn by means of the finger piece 30 or otherwise whereupon a push or force applied to the central portion of the rack, full lines Fig. 2, will cause the rack supporting arms 7 and 8 to swing from the full line position Fig. 2 to the full line position Fig. 1, that is, the rack will be bodily moved into the case or compartment, and when in such position, the locking device 23, will, by means of a spring 29 be moved into engagement with the recesses or perforations 27 Fig. 4, to thereby lock or hold the rack parts 18 and 19 from expanding under the impulse of the spring 20. If now it be desired to have the rack moved bodily to front of the case, it is only necessary for the attendant to withdraw the locking device 23, whereupon the spring 20 will act upon the parts 18 and 19 and exert a force tending to straighten the rack supporting arms 7 and 8 from the position indicated in Fig. 1 to that indicated in Fig. 2, the upright rack supporting parts 12 and 13, at such times preferably turning on their pivotal connections 14 and 15 with the rack supporting arms 7 and 8.

When the rack supporting arms 7 and 8, under the force of the spring 20, have assumed the position indicated in Fig. 2, said spring 20 will tend to hold the arms in this position, and the rack may then be rotated to bring successive portions thereof to the front of the case. It is desirable, however, in some cases, to lock the rack members 18 and 19 from further movement either in the direction for expansion or contraction to give stability and increased advantage to the rack, so that the locking device 23 is herein shown as not only locking the rack members 18 and 19 when the rack is in the case and these parts are in contracted relation, but also for locking said members when they are in expanded relation at the front of the case.

From the construction hereinbefore described as one embodiment of the present invention it will be noted that the spring 20 may be used in connection with either one or both of the rack members 18 and 19 to discharge the functions hereinbefore described; and it will likewise be obvious that the locking device may be varied in construction and that it may be provided with means for this unlocking movement when either side of the rack is at the front of the case, the only essential in this respect being that the locking device be moved in opposition to its spring 29 to effect its unlocking action. Thus when the rack is at its inner position and it is desired to have it moved to the front of the case, it is only necessary to withdraw or disengage the lock and to

permit the spring or springs 20 to exert their expanding force upon the telescoping rack members 18 and 19, whereupon the rack will automatically move to the front of the case, and will assume its expanded position as indicated in Fig. 2, whereupon it may be freely rotated to bring all portions of the rack successively to the front of the case as indicated by dotted lines, Fig. 2.

What is claimed is;—

1. In a store display device, the combination of a case, a rack for supporting goods movable to and from a position within the case, supporting means for the rack, and means acting simultaneously to expand the rack and move it bodily toward the front of the case.

2. In a store display device, the combination of a case, a rack for supporting goods and movable to and from a position within the case, means permitting the rack to be freely rotated when at the front of the case, and means for elongating the rack and moving it toward the front of the case.

3. In a store display device, the combination of a case, rack supporting arms pivotally mounted in the case, a rack carried by said supporting arms, and means acting to turn said rack supporting arms on their pivotal mounting and move the rack to the front of the case.

4. In a store display device, the combination of a case, rack supporting arms pivotally mounted in the case, a rack carried by said supporting arms, means acting to turn said rack supporting arms on their pivotal mounting and move the rack to the front of the case, and a lock to control the action of said means.

5. In a store display device, the combination of a rotatable rack, a case, rack supporting arms pivotally mounted in the case and movable about their pivotal mounting to carry the rotatable rack bodily to and from a position within the case, and a spring device to turn said rack supporting arms on their pivotal mounting and cause the rack to be moved to the front of the case.

6. In a store display device, the combination of a rotatable rack, a case, rack supporting arms pivotally mounted in the case and movable about their pivotal mounting to carry the rotatable rack bodily to and from a position within the case, a spring device to turn said rack supporting arms on their pivotal mounting and cause the rack to be moved to the front of the case, and a lock to hold the rack supporting arms from movement in response to said spring device.

7. In a store display device, the combination of a case, a rack for supporting goods movable to and from a position within the case, means acting to expand the rack and move it toward the front of the case, and a locking device for locking the rack in either its expanded condition at the front of the case or its contracted condition within the case.

8. In a display device, the combination of a case, pivoted rack supporting arms, a rack for supporting goods carried by said arms, and means acting normally to move the pivoted rack supporting arms about their pivotal axes into alinement.

9. In a store display device, the combination of a case, a rotatable rack for supporting goods movable to and from a position within the case, and a spring device for moving the rack toward the front of the case and for expanding or enlarging the rack as it is thus moved.

10. In a display device, the combination of a case, rack supporting arms, a rack sustained by said rack supporting arms and movable to and from a position within the case, said rack having telescopic members, and means for moving said members telescopically and for operating the rack supporting arms.

11. In a display device, the combination of a case, rack supporting arms, a rack sustained by said rack supporting arms and movable to and from a position within the case, said rack having telescopic members, means for moving said members telescopically and for operating the rack supporting arms, and means for locking the rack members from telescoping movement.

12. In a store display device, the combination of a case, a rack for supporting goods movable to and from a position within the case, means for supporting the rack for such movement, means independent of the supporting means acting to expand the rack as it is moved toward the front of the case, and a lock for holding the rack expanded at the front of the case.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

OSCAR L. SMITH.

Witnesses:
HENRY WILLIAMS,
LILLIAN KANIES.