

(No Model.)

F. W. R. MANSFELD.
SHOW CASE.

3 Sheets—Sheet 1.

No. 570,322.

Patented Oct. 27, 1896.

Fig. 1.

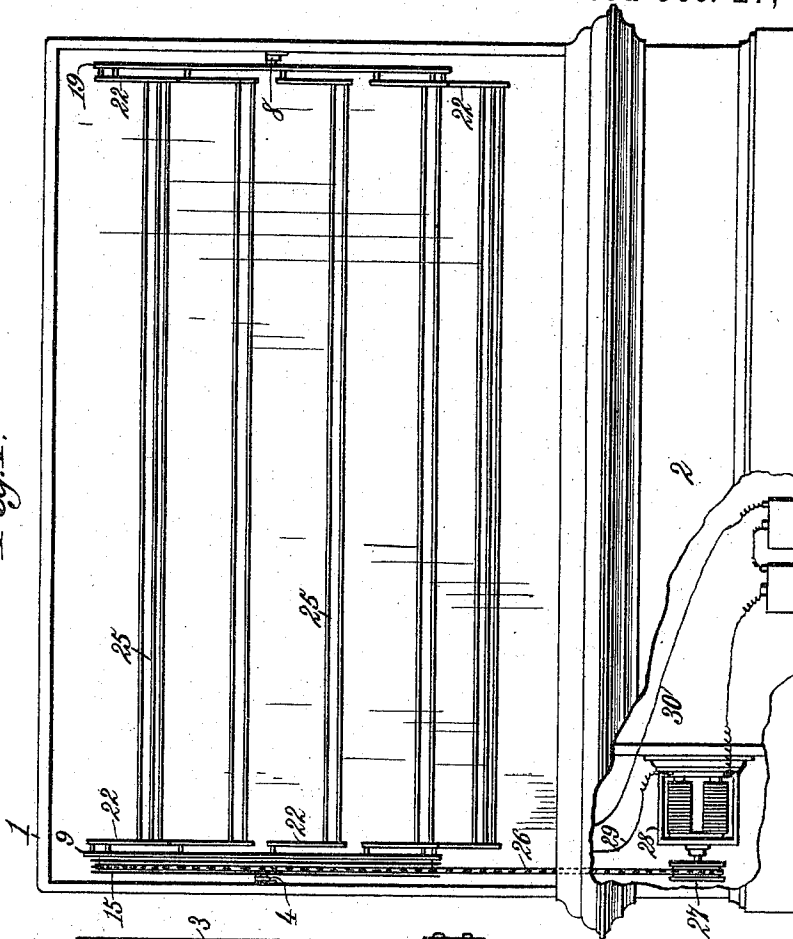
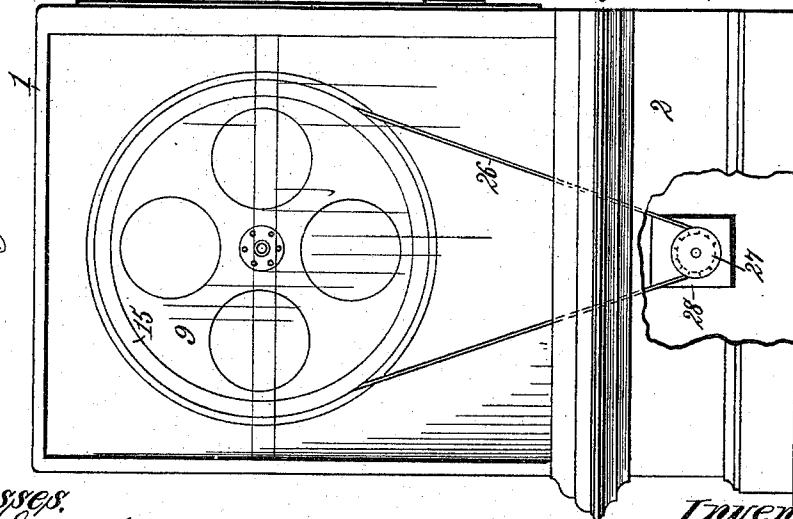


Fig. 2.



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(No Model.)

F. W. R. MANSFELD.
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Fig. 5.

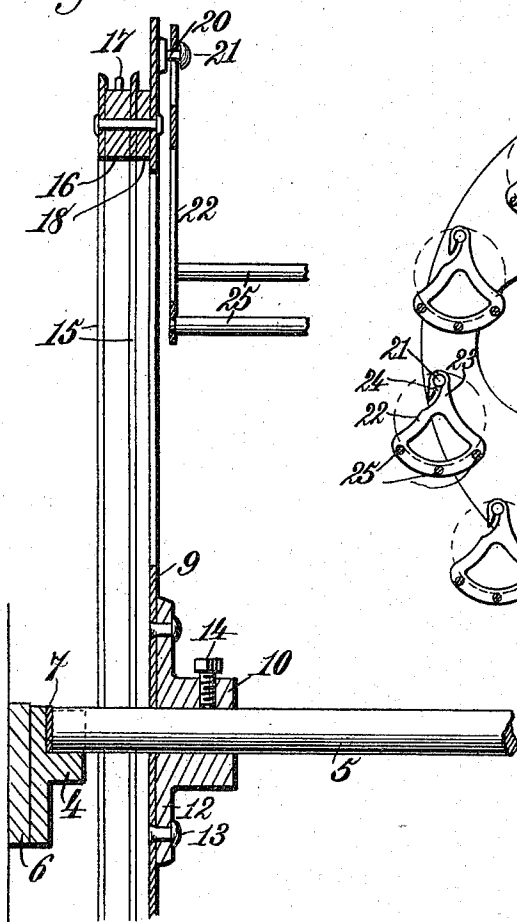


Fig. 3.

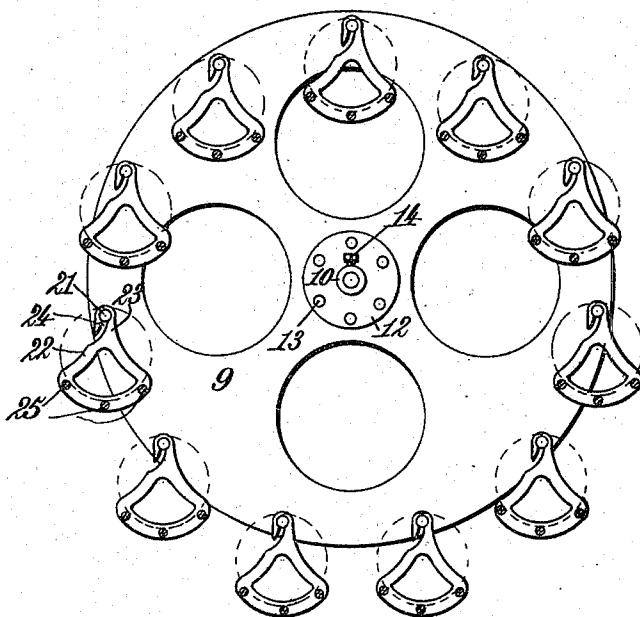
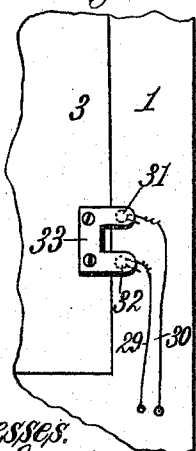


Fig. 4.



Witnesses.
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Thos. A. Green

Fig. 7.

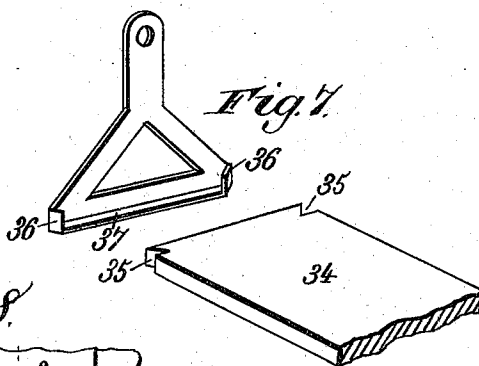
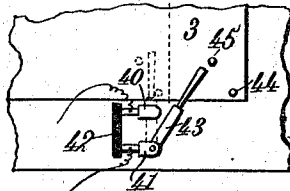


Fig. 8.



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Att'y.

(No Model.)

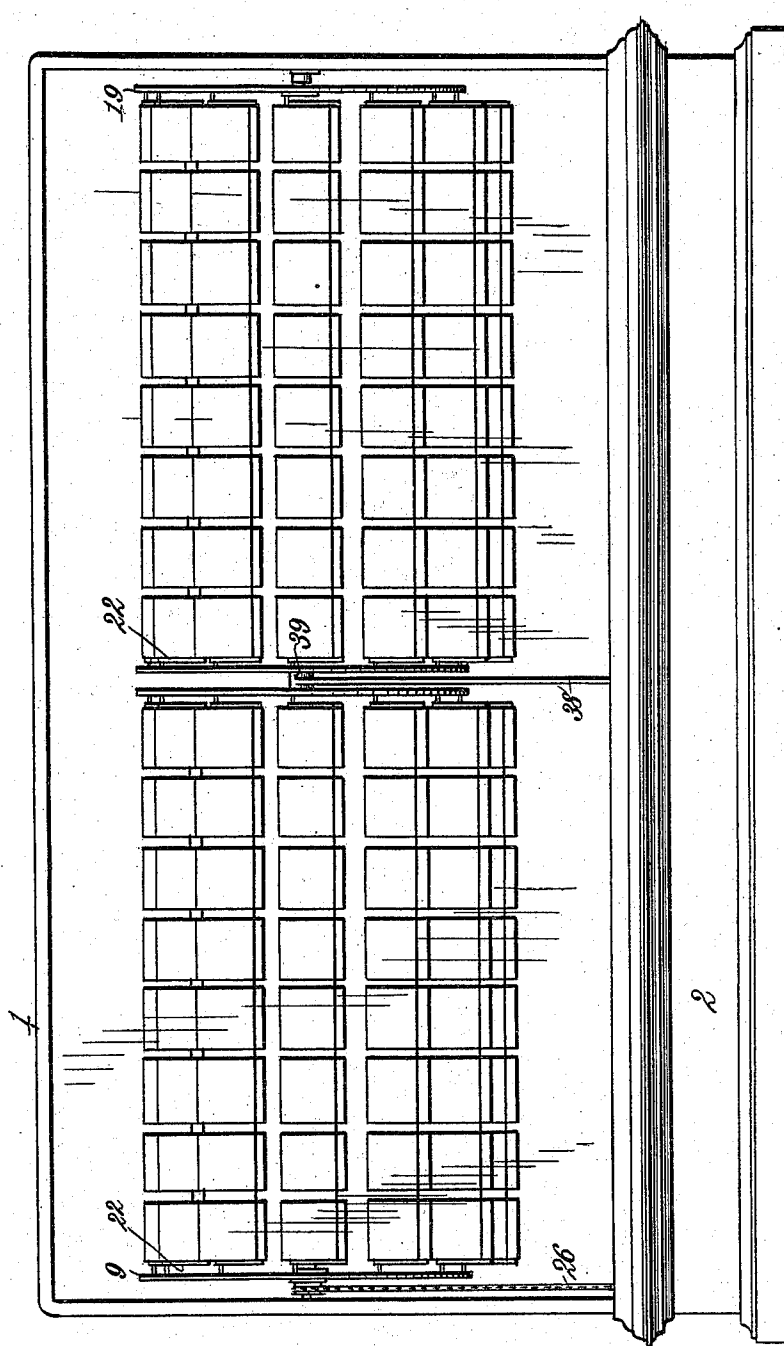
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Patented Oct. 27, 1896.

Fig. 6.



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UNITED STATES PATENT OFFICE.

FREDERICK W. R. MANSFELD, OF LOUISVILLE, KENTUCKY.

SHOW-CASE.

SPECIFICATION forming part of Letters Patent No. 570,322, dated October 27, 1896.

Application filed June 25, 1896. Serial No. 596,924. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK W. R. MANSFELD, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented new and useful Improvements in Show-Cases and Apparatus for Displaying Ribbons and other Merchandise, of which the following is a specification.

My invention relates to show-cases and apparatus for displaying ribbons and other merchandise.

One object of my invention is to provide a show-case with interior revolving and swinging supports for ribbons in bolts, gentlemen's furnishing goods, and other merchandise, to greatly increase the capacity of the show-case for containing and exhibiting goods, and render every article easily discernible to customers and conveniently accessible to the salesman or saleswoman without the necessity of stooping and without danger of disarranging other contents of the show-case by extending the hand and arm from the rear to the extreme front thereof to remove goods.

It is a further purpose of my said invention to provide revolving supports for the interior of a show-case which shall be of novel and simple construction and to combine therewith improved means for imparting rotary motion in such manner that customers standing in front of the case can examine every article therein to the utmost advantage.

It is one purpose of my invention, also, to provide novel and simple means for supporting the bolts of ribbon and for the advantageous arrangement and display of other merchandise and to so connect the motive power employed in such manner that the rotary movement of the apparatus shall be automatically arrested by opening any one of the rear doors of the show-case, thereby expediting the work of the persons waiting upon customers, enabling the apparatus to be stopped at the point where the goods to be removed can most easily be reached, and preventing all danger of deranging the actuating mechanism by the ignorance or carelessness of the attendants.

My invention also comprises various other novel features of construction and new combinations of parts, all as hereinafter specified,

and then particularly pointed out and defined in the claims which conclude this specification.

In describing said invention reference will be had to the accompanying drawings, in which—

Figure 1 is a front elevation of a show-case equipped with my invention, a part of the lower wall being broken away to show the motor. Fig. 2 is an end elevation of the same. Fig. 3 is a view of the inner face of one of the rotating disks, showing the hangers pivoted thereon. Fig. 4 is a detail view of a portion of the case and of one of the rear doors to show the means for stopping and starting the motor. Fig. 5 is a sectional view of part of one of the disks with its sprocket, showing the construction and arrangement of the latter. Fig. 6 is an elevation showing a modified construction. Fig. 7 is a detail view showing a modified form of hanger and support. Fig. 8 is a detail view showing a modified form of switch for completing and interrupting the circuit of the motor automatically.

The reference-numeral 1 in said drawings indicates the outer or inclosing case, within which the rotating apparatus is inclosed. This outer case comprises a base 2, of wood or other suitable material, and an inclosure of glass, or partly of glass, mounted upon the base. As shown in the drawings, this upper structure is rectangular throughout, but I may arch the top or construct it with a suitable curvature, and in other parts of the case the form and the material of which it is composed may be modified or varied as circumstances or preference may require. The chief object being to render the interior of the inclosing case visible from different points at the front, top, and ends of the case, all forms which are compatible with this purpose are within the scope of my invention. Access is had to the interior of the case by means of one or more doors 3 at the rear. These doors, or this door, as the case may be, may form the entire rear wall of the case or any suitable part of said wall, and the inner face of said wall, however formed, is preferably lined either wholly or in part with mirrors to reflect and multiply in appearance the size and contents of the interior. The door or doors may be arranged

to open in any suitable manner, but I prefer to connect them with the case in such manner that they will slide in or upon guides of any ordinary form.

5 Within the inner face of one of the end walls of the inclosing case is arranged a bearing 4 to receive one of the journals of a shaft 5, the latter being usually of steel and of a diameter proportioned to the length and the weight it
10 is to sustain. The bearing 4 may be supported in any way preferred, as, for example, by a brace or rail 6, attached at its ends to the
15 woodwork of the case. To prevent end play and noise or rattling, a washer 7 may be inserted between the end of the shaft and the adjacent wall. The other end of the shaft is supported by a bearing 8 upon the other end wall of the case and sustained by similar or by any preferred means.

20 Upon the shaft 5, at a short distance from the bearing 4, is placed a large disk 9, which may be of wood, metal, or any material suitable for the purpose. I have usually formed this disk of sheet metal of one-eighth of an
25 inch thickness, its weight being diminished by removing portions of the disk. These portions may be of any form (circular, as shown in the drawings) or of any shape that will not unduly weaken the skeleton disk that re-
30 mains. The latter is rigidly connected to the shaft 5 by a hub 10, having a flange 12, which abuts against the flat inner face of the disk and is secured thereto by rivets 13. A set-
35 screw 14, tapped through the hub 10, abuts against the shaft and connects the disk 9 thereto.

Upon the outer face of the disk 9, between the latter and the end wall of the case, are rigidly mounted two annuli 15, both concentric with the shaft 5. These annuli are separated by an interposed annulus 16, concentric with them, its outside diameter being less than that of the parts between which it lies, so that the latter project on each side beyond
45 the periphery of the annulus 16. Thus a grooved pulley is formed, which may be, and preferably is, converted to a sprocket by providing the annulus 16 with points or projections 17, extending in radial directions from
50 the center of its outer face. I prefer to attach the sprocket thus formed to the outer face of the disk 9 by interposing an annular strip 18 between it and said disk and uniting the parts by rivets which pass through both
55 the annuli 15, the annulus 16, and the interposed strip 18, thus using the means for uniting the parts as fastenings to connect them to the disk.

The construction described enables the
60 sprocket to lie nearly in the same plane with the bearing 4, and thus the disk 9 is brought very near to the end wall of the casing.

Upon the other end of the shaft 5 a disk 19 is mounted, its form, as well as the manner of its attachment, being substantially the same as that already explained.

Upon the inner face of each disk, as near

as possible to its edge, are arranged a series of pivots 20, having heads 21, which are separated by a narrow interval from the face of
70 the disk. Upon these pivots, which are placed at suitable intervals to accommodate the kind of goods to be displayed, are mounted hangers 22, each consisting of a nearly triangular frame, having at the apex a prolongation 23.
75 In the latter is formed a slot 24, of such width that one of the pivots 20 can easily enter it. The closed end of the slot lies in the central line of the prolongation 23 and is cut through the edge of the same to admit the pivot. The
80 head 21 of the latter, overlapping the surface of the prolongation adjacent to the closed end of the slot, securely retains the hanger upon its pivot, upon which it turns freely by its own gravity as the disks 9 and 19 revolve.
85

Each of the hangers 22 upon one disk is connected with the corresponding hanger upon the other disk by means of three light rods or bars 25, the ends of which are rigidly secured to the lower members of the trian-
90 gular hangers. While I do not specifically restrict myself to the use of any particular number of these rods or bars, I prefer to use three, one being placed in the center and the others near the ends of the lower arm of the
95 hanger. The points of attachment are arranged in an arc of a circle on each hanger, the arc being struck from a center below the pivot 20, with a radius substantially equal to the semidiameter of a bolt of ribbon. Each
100 pair of hangers therefore, with these rods connecting them, form a stable support for a series of bolts of ribbon, which are placed thereon with their axes in parallelism with the rods on which they rest and close together.
105 The number of continuous rows of ribbon-bolts which can be arranged in this manner between a pair of disks of ordinary size is considerable, as the pivotal supports of the hangers need be separated from each other
110 only so far as to give clearance between the rods 25 and the ribbon-bolts below them as the disks revolve.

The sprocket on the end of the shaft 5 is geared by a belt 26 to a much smaller sprocket
115 27, which is on the shaft of an electric motor 28. This motor I arrange in the base 1, the belt 26 passing through slots in the wall separating the base from the casing resting on it. Current may be supplied to the motor
120 from any source preferred, whether this be a primary battery, a secondary battery, or a branch from a light or power circuit. In any case I connect the wires 29 and 30 for the direct and return currents to two separably-
125 insulated contact-posts 31 and 32, secured in the frame of the sliding door or doors in rear of the casing. The door carries a spring-plate 33, which is brought into contact with the posts 31 and 32 by closing the door, thereby
130 establishing the circuit of the motor. The first movement of the door in opening breaks the circuit between the contact-posts 31 and 32, and the motor at once comes to a stop.

For displaying gentlemen's furnishing goods and other merchandise the construction is substantially the same, save that the hangers 22 are so constructed as to support flat strips or shelves 34, on which the articles are placed. These shelves are made of glass, wood, or any suitable material and are provided at their ends with dovetailed notches 35, which engage with angular edges 36 on the hangers. The hangers are of triangular form and are provided with flanges 37 upon their lower, horizontal members to support the ends of the shelves.

When the length of the show-case is such as to require it, the parts described may be duplicated, although a single shaft may be employed to carry them. In all cases where the weight of the rods 25 and of the articles placed thereon is so great as to cause the rods to sag excessively they may be divided or shortened, and by mounting two additional disks similar to 9 and 19 upon the same shaft the rods or shelves may be shortened, so as to sustain the weight without a material sacrifice of space. The additional disks are placed as close together as possible consistently with the provision of an auxiliary support 38, which rises from the floor of the show-case and has a bearing 39 for that portion of the shaft 5 lying between the disks.

I may use any suitable motor instead of that shown, but in all cases the movement of the rotary apparatus will be stopped and started by the opening and closing of the door or that one of the doors by which access is had to the interior of the show-case.

I propose to employ doors 3 which slide horizontally, although I do not limit myself to the horizontal sliding movement, nor do I restrict my invention to the use of sliding doors exclusively, as hinged doors will accomplish all the purposes of my invention.

In Fig. 8 of the drawings I have shown a slightly-modified construction of the circuit breaking and completing device. In this figure the wires to and from the motor are connected to terminals 40 and 41, which are insulated upon a base 42 of non-conducting material placed upon the frame of the show-case in suitable proximity to one of the sliding edges of the door 3. Upon one of the terminals is pivoted the end of a switch-arm 43, which can be electrically engaged with and disengaged from the other terminal by turning said arm on its pivot. The end of the arm extends over the edge of the sliding door and in substantial parallelism with it, and upon the frame of the door are mounted two pins or studs 44 and 45, which project at right angles to the switch-arm crossing the vertical plane in which said arm turns on its pivot. The pin 44 is placed near the edge of the door, so that when moved in one direction it will strike the switch-arm at some little distance from its free end and throw it toward the terminal 40. The pin 45 is placed in a different vertical line and at such a point

that when the door 3 is closed it will lie close to that side of the switch-arm which is adjacent to the terminal 40, and, the switch being closed, its position will be close to the end of the arm, as shown in dotted lines in Fig. 8. In this position, the door 3 being closed, the circuit of the motor is completed. If now the door be moved, in order to open the show-case, the pin 45 will turn the switch-arm 43 until said pin can pass over its end, and, the circuit being thus broken, the motor will stop. When the door is closed, the pin 45 passes over the end of the switch-arm without operating it. After said pin has passed in this manner the further movement of the door brings the pin 44 against the switch-arm and turns it into engagement again with the terminal 40, thereby bringing its end against the pin 45 in position to open the switch when the door 3 is again opened.

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

1. In a show-case for displaying ribbons in bolts and other merchandise, a shaft carrying disks having hangers pivotally mounted upon their adjacent faces, rods or bars parallel with the axis and having their ends rigidly attached to opposite hangers, the points of attachment being in an arc struck upon the lower part of each hanger from a point below the pivotal support, a motor for rotating said shaft and disks, and means operated by the opening and closing of a rear door for stopping and starting said motor, substantially as described.

2. In a show-case for displaying goods, the combination with a rotating shaft carrying a series, of supports for the articles displayed, of a motor geared to a pulley on the shaft, a circuit for said motor including two insulated contact-posts upon the frame of the show-case, and a spring-plate mounted upon a door to make contact with both posts when the door is closed, substantially as described.

3. In a show-case for displaying goods, a rotary support having disks at its ends, an annulus provided with projecting teeth, two annular plates arranged at opposite sides of said annulus and having a diameter greater than the latter, an annular plate arranged between one of the end disks of the rotating support and one of the said annular plates, and bolts extending through all of said annular plates and the annulus and engaged with one of the disks of the rotating support, whereby the plates and annulus are rigidly connected together and are united to said disk, substantially as and for the purposes described.

4. In a show-case for exhibiting goods, the combination with a horizontal shaft having its ends supported at the ends of a transparent inclosing case, of disks having central openings for the shaft, hubs mounted on said shafts and locked therewith by set-screws, and provided with flanges rigidly fastened to

the disks, hangers of nearly triangular form having prolongations at an apex provided with slots open at the edges of the prolongations to receive pivots projecting from the adjacent faces of the disks at or near the periphery, three rods parallel with the shaft, their ends rigidly secured to the lower members of each pair of hangers, the points of attachment being in curved lines struck from 10 points below said pivots to provide three points of support for a series of bolts of ribbon arranged on said rods, a motor in the base belted to a sprocket on one of the disks,

a circuit for the motor including electrically-isolated contact-posts, and a spring-plate of 15 conducting metal carried by a sliding door and making electrical contact with said posts when the door is closed, substantially as described.

In testimony whereof I have hereunto set 20 my hand in presence of two subscribing witnesses.

FREDERICK W. R. MANSFELD.

Witnesses:

ED. MEGLEMYR,
J. SHORT.