March 12, 1929. H. U. SCHOCKETT ET AL 1,704,953

APPARATUS FOR DISPLAYING LIGHTING FIXTURES

Filed Dec. 23, 1925 2 Sheets-Sheet 1

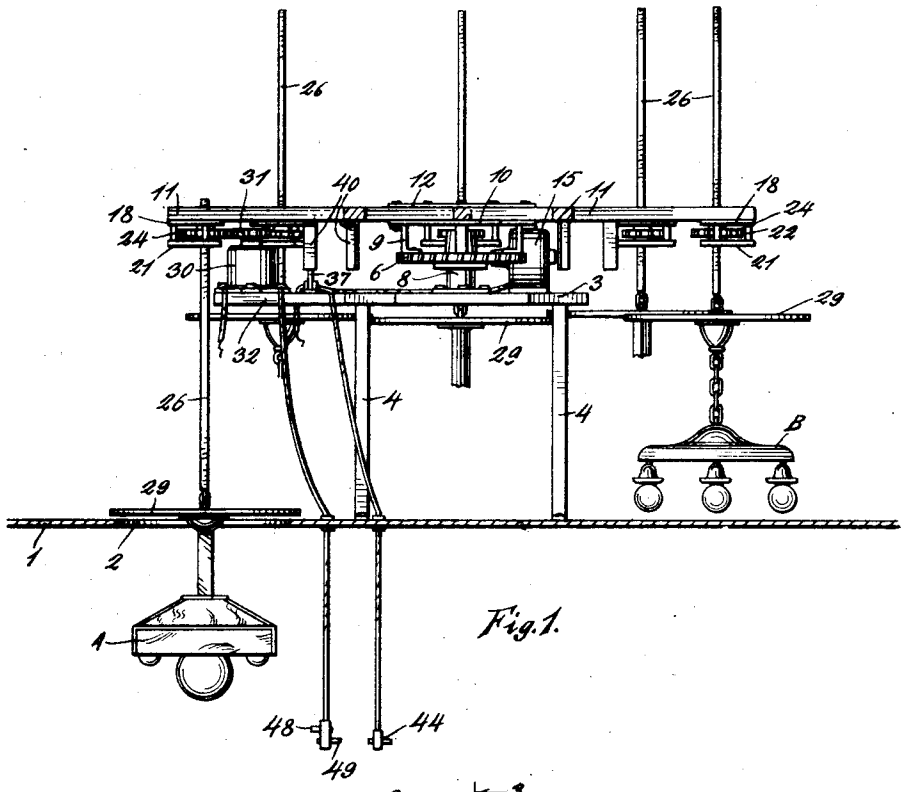


Fig.1.

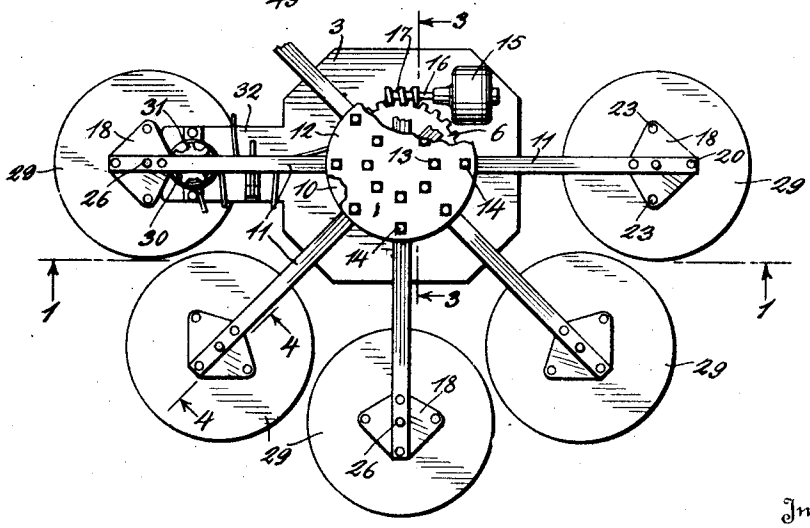


Fig.2.

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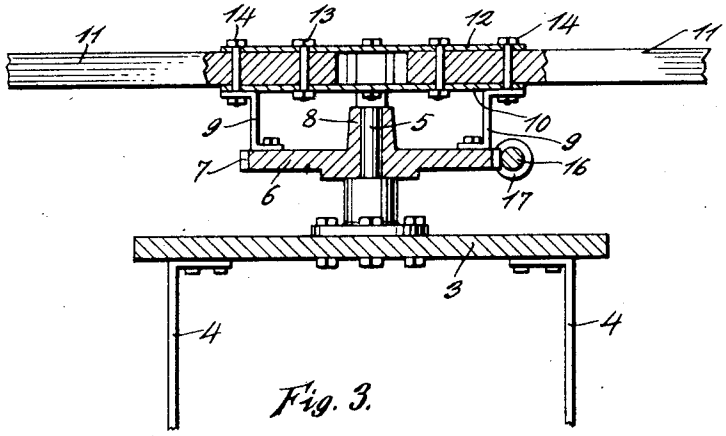


Fig. 3.

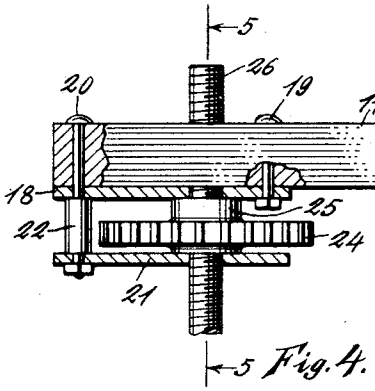


Fig. 4.

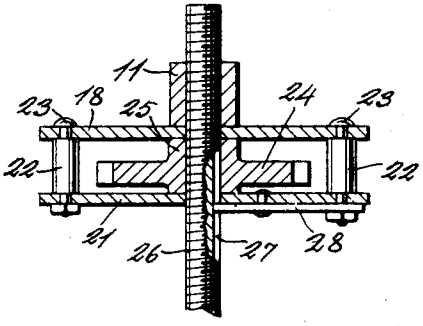


Fig. 5.

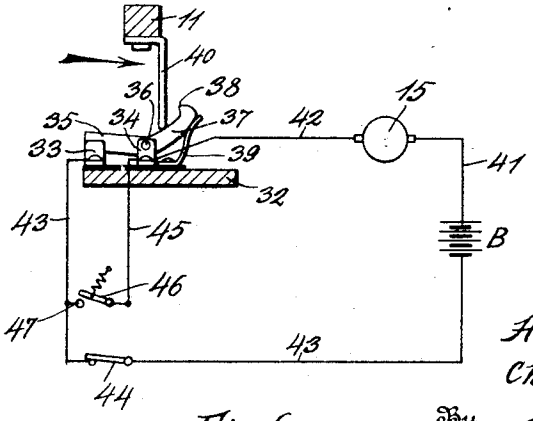


Fig. 6.

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UNITED STATES PATENT OFFICE.

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APPARATUS FOR DISPLAYING LIGHTING FIXTURES.

Application filed December 23, 1925. Serial No. 77,208.

This invention relates to improvements in display apparatus and has reference more particularly to a device for displaying lighting fixtures.

The proper display of lighting fixtures is difficult as it is necessary for the merchant to keep a large number of fixtures on hand and as these are somewhat bulky they are usually suspended from the ceiling of the display room. This manner of displaying the fixtures is very unsatisfactory for several reasons, among which may be mentioned the fact that the customer becomes confused on account of seeing so many different fixtures and is therefore unable to decide which ones he likes the best and then the fixtures do not show to the best advantage when exhibited under such unsatisfactory conditions. It is evident that the ideal way of displaying fixtures is to suspend a single fixture from the ceiling of a room so that it occupies substantially the same position relative to the room and to the furniture that it will when it is installed in the room where it is to be used. It is equally evident that it is impracticable for a dealer to have a separate room for each fixture and equally impractical to transport each fixture to the display room and hang the same.

It is the object of this invention to produce a display device that is so constructed that it will support a plurality of fixtures in such a way that each fixture can be moved into position directly above an opening in the ceiling of the display room and which shall be provided with means for lowering the fixture through the opening until it projects downwardly from the ceiling in the same manner that it will when actually installed. The lowering means must also be reversible so that the fixture can be withdrawn so as to make room for another.

The invention can be most clearly explained and will be most readily understood when reference is had to the accompanying drawing in which it has been illustrated and in which:

Figure 1 is a section taken on the vertical plane indicated by line 2—2, in Fig. 2;

Fig. 2 is a top plan view of the parts shown in Fig. 1, portions being broken away to more clearly disclose the construction;

Fig. 3 is a section taken on line 3—3, Fig. 2;

Fig. 4 is a section taken on line 4—4, Fig. 2 with parts broken away;

Fig. 5 is a section taken on line 5—5, Fig. 2; and

Fig. 6 is a diagram showing the electric control of the driving motor.

Numeral 1 represents the ceiling of the display room which is provided with an opening 2 that is located substantially in the center of the room. It is, of course, understood that the representation of the ceiling is merely diagrammatic and that no attempt has been made to show the actual construction. A plate or table 3 is supported in horizontal position by four legs 4 and serves as a support for the mechanism employed in connection with this invention. An axle 5 is secured to the upper surface of the table 3 and rotatably mounted on this axle is a wheel 6 having gear teeth 7 and an elongated hub 8 which has an opening for the reception of the axle 5. The hub 8 is long and the wheel 6 is therefore held against wobbling. Secured to the upper surface of the wheel 6 are a plurality of brackets 9 which support the plate 10. A plurality of arms 11 have their inner ends in contact with the upper surface of the plate 10 and are clamped between this plate and the plate 12 by means of bolts 13 and 14. The bolts 14 pass through the upper ends of the brackets 9 in the manner shown in Fig. 3. The arms 11 radiate from the center of the plates 10 and 12 in the form of a wheel (Fig. 2). A motor 15 has a worm 16 secured to the outer end of its shaft 17 and this cooperates with the teeth 7 on the wheel 6 for the purpose of rotating the wheel and the attached arms about the axle 5. Secured to the outer end of each arm 11 is a plate 18 that is fastened to the arm by means of bolts 19 and 20. A second plate 21 is located a short distance below the plate 18 from which it is spaced by ferrules 22. The bolt 20 extends through the arm 11 and both of the plates in the manner shown in Fig. 4 and shorter bolts 23 connect the outer corners of the plates in the manner shown in Fig. 5. Located between the plates 18 and 20 is a gear wheel 24 that has a threaded hub 25 with which the long threaded rod 26 is connected. Each of the rods 26 has a groove 27 extending along one side thereof and a plate 28, which is secured to the underside of the plate 21, has a portion extending into this groove for the purpose of preventing the rod from rotating. It is now evident that when the wheels 24 are rotated, the rods 26 will be

moved upwardly or downwardly as the case may be. Supported from the lower ends of these rods are lighting fixtures of various designs of which two examples A and B have been shown. A round plate 29 of somewhat longer diameter than the hole 2 is supported between the lower end of each rod and the attached fixture and serves to close the opening 2 when the fixture is in the position occupied by the fixture A in Fig. 1.

The fixtures are normally in a position corresponding to that occupied by the fixture B in Fig. 1 so that they may be rotated about the axle 5 in order that the desired fixture may be brought into position above the opening 2. When a fixture has been brought into the proper position by rotating the arms 11, it must be lowered into the position occupied by fixture A in Fig. 1 and this is accomplished in the embodiment shown, by means of a motor 30 to the shaft of which a gear wheel 31 is connected. When the fixture is in the proper place for being lowered through the opening 2, the gear 31 is in mesh with the gear 24 and the latter can be rotated in either direction by means of the motor 30. The fixtures are rotated by means of the motor 15 and it is evident that, since the parts are concealed, some automatic means must be provided for stopping the motor 15 when the parts are in the desired position. As an example of one means that might be employed for this purpose, we have shown a switch having an insulating base member 32 (Fig. 6) having two stationary contact members 33 and 34 secured to its upper surface. A movable switch blade 35 is pivoted to the contact 34 at 36 and has one end 37 curved upwardly; this curved end has its extreme end 38 bent outwardly at a sharper angle than the part 37. A spring 39 tends to keep the switch closed. Secured to the underside of each arm 11 is a downwardly extending bracket 40 whose lower end is adapted to strike the inclined arm 37 and to open the switch when the fixture carried by the arm 11 is in proper position to be lowered through the opening 2. At this position the lower end of the bracket 40 is in contact with the stop 38, which, however, does not form a positive stop but merely increases the resistance to further movement. The motor 15 is controlled by the switch just described as it is connected therewith in the manner shown in Fig. 6. In this diagram the source of electrical energy has been designated by letter B, one pole of which is connected to one pole of the motor by means of the wire 41, from the other pole of the motor a wire 42 extends to the contact 34. The other pole of the battery B is connected to the contact 33 by a conductor 43 whose continuity is interrupted by the switch blade 44. A wire 45 extends from the center contact 34 to one pole of a normally open circuit closer 46 whose other pole is connected to the wire 43 at 47. It is obvious from Fig. 6 that when the parts are in the position shown current will flow through the motor and operate the latter. When the arm 11 carrying a fixture arrives at the desired position it will move the switch blade 35 to open position and stop the motor. After the fixture has been exhibited and raised to its normal position the motor 15 can be started by merely closing the circuit closer 46 and holding it closed until the switch contact 35 has been released and returned to closed position when it may be released, as the switch contact 35 will keep the circuit closed until another fixture has been moved into place.

The wiring for the motor 30 has not been shown in detail as it involves nothing new. The motor 30 has been shown (Fig. 1) as connected with a pair of circuit closers which have been indicated as 48 and 49. When one of these are held closed the motor will rotate in one direction and when the other is held closed it will rotate in the other direction so that by merely closing one or the other of these circuit closers the fixtures may be raised or lowered as may be desired.

Applicants are aware that the object sought may be obtained by means that differ in specific particulars from those described and they have merely described one embodiment as an example.

In the foregoing part of this specification an apparatus has been described which is adapted to be located over the ceiling. It is, however, evident that by a mere reversal of the parts they may, with equal facility, be placed underneath the floor so as to project objects upwardly for the purpose of display instead of downwardly as above described. This reversed mechanism is useful in exhibiting floor lamps and kindred objects. It is also evident that other things than fixtures can be displayed to advantage by a means of the type described. Furniture, shoes and almost any object of merchandise can be handled in this way. This device, to a somewhat modified scale, can be employed in changing the exhibits in show windows so as to automatically display several articles one at a time.

Having now described the invention what is claimed as new is:

1. In a device for displaying electric fixtures having a support, a rotatable member secured to the support, a plurality of arms extending radially from said rotatable member and means for securing a fixture to each of said arms, means for rotating the arms through a predetermined angle, said means comprising an electric motor, a source of electric energy, conductors for connecting the motor to the source of electric energy, two switches in series with said motor, one of said switches being manually operable, the other

having a spring for normally holding it in closed position, a normally open switch in parallel with the normally closed switch and means on each arm for opening the normally closed switch when the arm reaches a predetermined position in its rotation.

2. In a device for displaying electric light fixtures having a stationary support and a fixture support rotatably secured thereto, said fixture support having a plurality of radially extending arms, means for rotating the fixture support through predetermined angles, said means comprising an electric motor, a normally closed switch in series with the motor, means carried by each of said arms for opening the switch and for stopping the motor when the arm has reached a predetermined angle and means comprising a normally open switch in parallel with the normally closed switch for starting the motor when the normally closed switch is open.

In testimony whereof we affix our signatures.

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