

F. J. BEHRLE.
 SHADE FIXTURE.
 APPLICATION FILED JUNE 13, 1913.

1,084,781.

Patented Jan. 20, 1914.

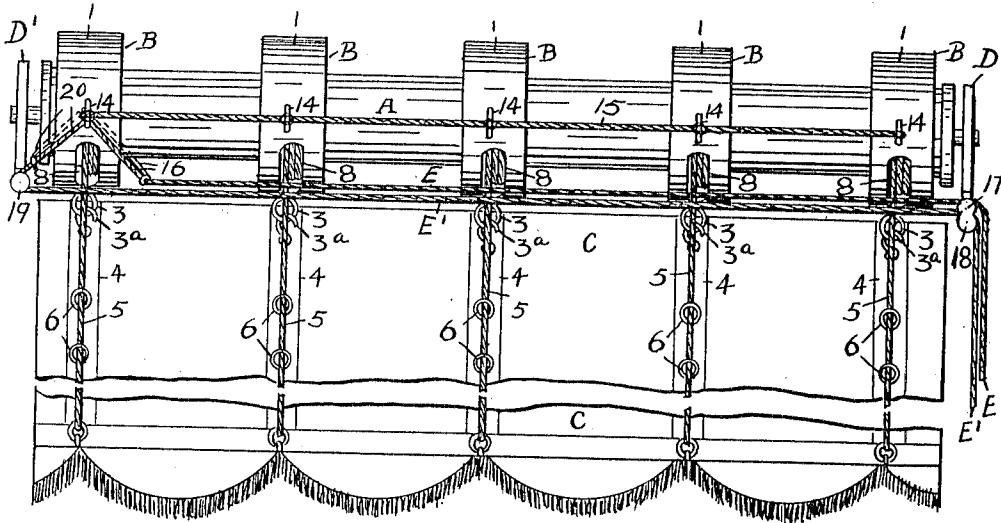


FIG. 1.

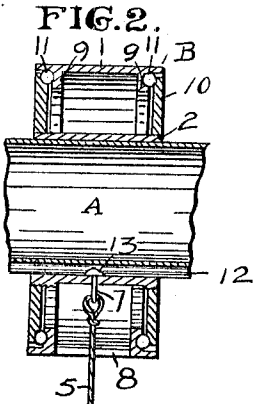


FIG. 2.

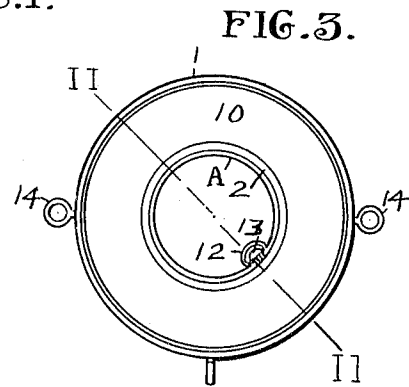


FIG. 3.

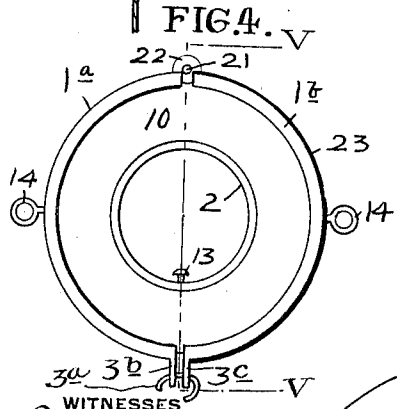


FIG. 4.

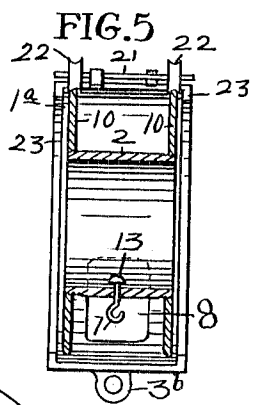


FIG. 5.

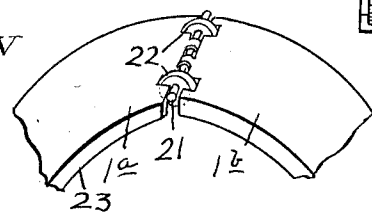


FIG. 6.

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SHADE-FIXTURE.

1,084,781.

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To all whom it may concern:

Be it known that I, FRANZ J. BEHRLE, a subject of the Emperor of Germany, and residing in the city of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented or discovered new and useful Improvements in Shade-Fixtures, of which the following is a specification.

My invention comprises new and useful improvements in shade and curtain fixtures.

More particularly it relates to devices used for the support and manipulation of shades or curtains of soft material, such as the shirred or Austrian shades which are frequently used in the large display windows of stores, or with swinging or casement windows in schoolrooms, sun parlors, office buildings, etc.

The object in view is to provide convenient and satisfactory means for raising and lowering the shade, and for sliding the same laterally to retract or extend the shade as in the case of swinging or casement windows.

In my invention, the shade depends from a plurality of shells in which are mounted rotatable spools about which are wound the raising and lowering cords of the shade. Said spools are mounted on a common roller or pole and rotate therewith. Such pole may be a spring or Hartshorne roller if desired or may be rotatable in any manner now used in connection with shade rollers. The spools are preferably slidable on said roller and a horizontal draw cord or cords are provided for extending or retracting the curtain laterally.

In the accompanying drawings Figure 1 is a broken rear elevation of a shade supported from a roller by my fixtures; Fig. 2 is a vertical section of one of the fixtures taken along the line II—II in Fig. 3, the roller being also shown in section; Fig. 3 is a side view of one of the fixtures dismounted from the roller; Fig. 4 is a similar view of a modified form of fixture; Fig. 5 is a section of the same along the line V—V in Fig. 4, and Fig. 6 is a broken perspective of the shell of said fixture.

The following is a detailed description of the drawings.

A represents the roller or rotatable pole which is supported above and spans the space to be covered by the shade. Upon roller A are mounted a plurality of fixtures B.

C is the shade which is of soft material and which folds or plaits when raised.

D and D¹ are the brackets in which the ends of roller A are journaled.

Each of the fixtures B is composed of an annular shell 1 having mounted to freely rotate therein a spool 2. The shells 1 are provided with eyelets 3 which are engaged by the hooks 3^a fixed to the upper ends of the vertical tapes 4, sewed vertically at intervals to the shade.

5 are cords, one to each tape 4, secured at their lower ends to the bottoms of said tapes and running up through the rings 6 attached at intervals to said tapes, and having their upper ends attached to the hook 7 of the spools 2, so that when said spools are rotated in one direction, said cords 5 are wound up on their respective spools, raising the curtain by folding it in plaits, and when said spools are rotated in the opposite direction, said cords are unwound and the curtain is lowered or extended. The shells 1 are provided with slots 8 which permit the cords 5 to pass in to be attached to the hooks 7 of said spools.

The shells 1, in the form of fixture illustrated in the first three figures, are provided with internal annular shoulders 9 which form with the side plates 10 of the spool 2 a raceway for the ball-bearings 11, thus enabling the spools to rotate freely within the shells, while the shells are stationary. The side plates 10 are shown threaded onto the spool but may be made integral therewith.

The fixtures B may be slid into place longitudinally of the roller A and means are provided for causing said spools to rotate with said roller. As a convenient means to that end I have shown the usual longitudinal undercut slot or groove 12 provided in the roller A which may be engaged by the inwardly extending shank of the hook 7, the head 13 of said hook being engaged in the slot 12 and causing the spool 2 to revolve with the roller B. It is thus seen that while the fixtures B are freely slidable upon the roller A, the spools 2 rotate with said rollers. It is therefore only necessary to rotate the roller A in one direction to wind up the cords 5 and raise the shade, and to rotate said roller in the other direction to unwind said cords and lower the shade.

The roller A may be of any type, such for instance, a spring or Hartshorne roller

or any other well known means for rotating said roller conveniently may be used, as desired. The method of rotating the roller is immaterial.

5 For the purpose of drawing the shade laterally over the window space or retracting the same to one side, I provide a pair of drawing cords E and E¹.

14 are eyelets, two of which attached to each shell 1, one eyelet to a side and the series of eyelets on each side are linked together by a connecting cord 15, as shown in Fig. 1. The eyelets of the front shell are connected by short cords 16 with the end of the drawing cord E which extends horizontally across to the other end of the roller A and passes over a pulley 17 secured to the bracket D. A second drawing cord E¹ passes over an adjacent pulley 18 and extending horizontally across the window space passes up over a third pulley 19 mounted on bracket D¹ and has its end connected by short cords 20 to the eyelet 14 of the first shell 1.

25 It is evident that when the shade is extended or drawn, as shown in Fig. 1, a pull on cord E will draw the first fixture B at the left toward the right until it impinges on the second fixture when both of said fixtures will slide toward the right until they strike the third fixture and so on until the shade has been retracted sufficiently or all the fixtures are crowded together at the right hand end of the pole, the soft material of the shade being gathered or plaited in vertical folds. A pull on the cord E¹ will reverse the movement of the fixtures and restore the shade to its extended position shown in Fig. 1.

40 In Figs. 4, 5 and 6 I have shown a modified and cheaper form of fixture wherein the shell is formed of two semi-annular plates 1^a and 1^b hinged together at their tops by means of a rod 21 upon which are mounted the two small anti-friction rollers 22 which bear upon the side plates 10 of the spool 2. The bottom edges of the plates 1^a and 1^b are provided with adjacent twin eyelets 3^b and 3^c through both of which the hook 3^a is inserted, thus holding the shell together. The plates 1^a and 1^b are preferably provided with inwardly extending edge flanges 23 to hold the spool 2 in place.

55 It is thus evident that by the use of my invention the shades may be raised or lowered, drawn laterally or retracted, with ease and convenience. The fixtures are inexpensive and present a sightly appearance.

What I desire to claim is:

1. In combination with a shade provided with a raising and lowering cord, a fixture comprising a rotatable spool upon which said cord is wound and an annular shell in which said spool is mounted, the top edge of the shade being attached to said shell, whereby when said spool is rotated within said shell the shade is raised or lowered substantially as described.

2. In combination with a shade provided with a raising and lowering cord, a fixture comprising a rotatable spool upon which said cord is wound and an annular shell in which said spool is mounted, the top edge of the shade being attached to said shell and said shell being provided with a slot through which said cord is led to be wound upon said spool, whereby when said spool is rotated within said shell the shade is raised or lowered substantially as described.

3. In combination with a shade provided with raising and lowering cords, a plurality of fixtures each comprising a rotatable spool upon which one of said cords is wound and an annular shell in which said spool is mounted, the top edge of the shade being attached to said shells, and a rotatable member upon which said spools are mounted to rotate therewith, for the purposes described.

4. In combination with a shade provided with raising and lowering cords, a plurality of fixtures each comprising a rotatable spool upon which one of said cords is wound and an annular shell in which said spool is mounted, the top edge of the shade being attached to said shells, and a rotatable member upon which said spools are mounted, said spools being rotatable with said member but slidable longitudinally thereof, for the purposes described.

5. In combination with a shade provided with raising and lowering cords, a plurality of fixtures each consisting of a shell to which the edge of said shades is attached and a rotatable spool mounted in said shell, one of said cords being secured to each of said spools, a roller upon which said spools are slidably mounted and with which said spools rotate, and means for shifting said spools along said roller.

Signed at Pittsburgh, Penna., this 12th day of June 1913.

FRANZ J. BEHRLE.

Witnesses:

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