

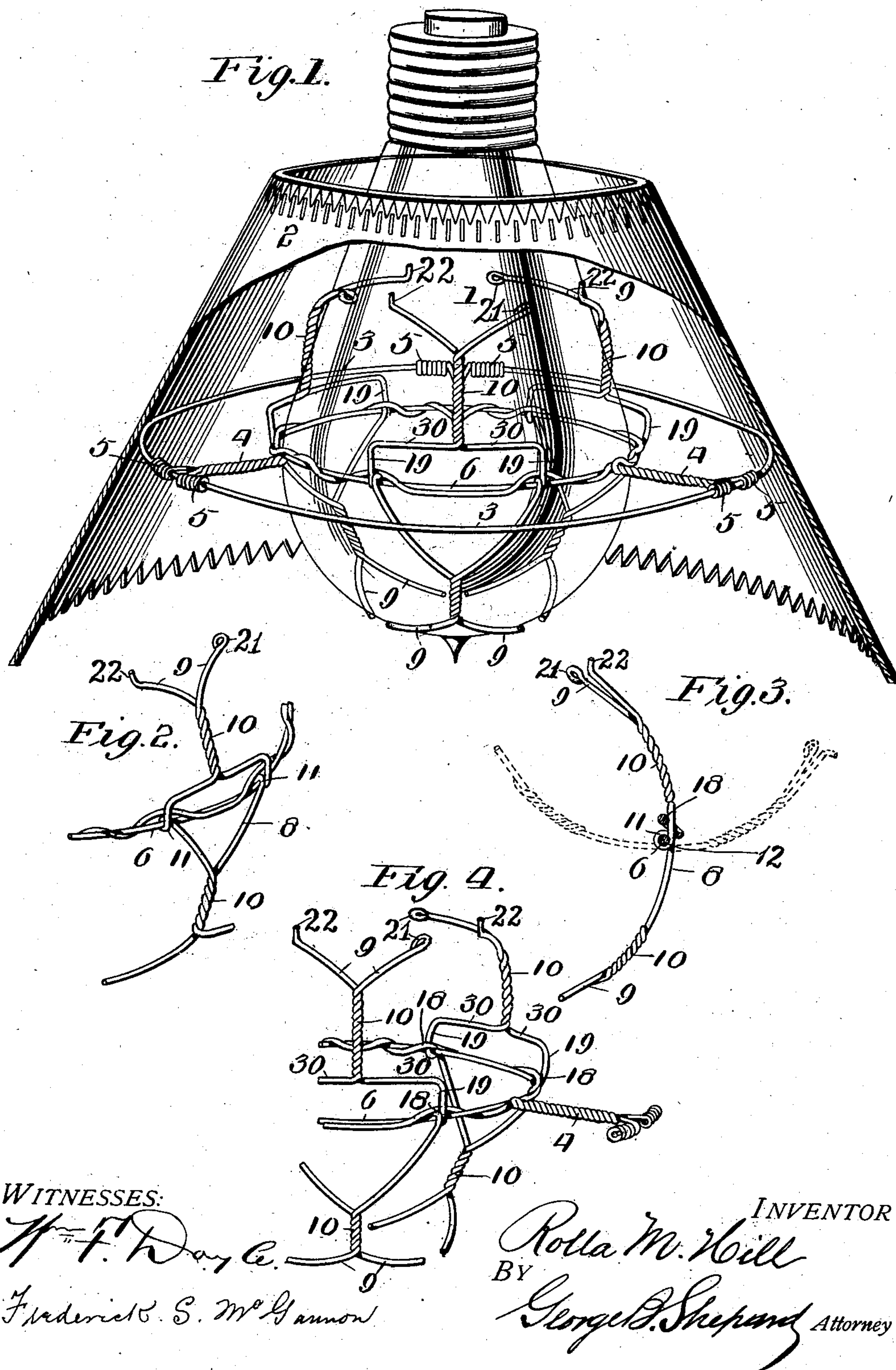
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R. M. HILL.
SHADE HOLDER.

APPLICATION FILED OCT. 24, 1902.

NO MODEL.



UNITED STATES PATENT OFFICE.

ROLLA M. HILL, OF BRASHER FALLS, NEW YORK.

SHADE-HOLDER.

SPECIFICATION forming part of Letters Patent No. 721,704, dated March 3, 1903.

Application filed October 24, 1902. Serial No. 128,536. (No model.)

To all whom it may concern:

Be it known that I, ROLLA M. HILL, a citizen of the United States, residing at Brasher Falls, in the county of St. Lawrence and State of New York, have invented certain new and useful Improvements in Shade-Holders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in shade-holders, and relates more particularly to that class used for the purpose of supporting shade-holders used in connection with incandescent lights.

I propose a novel means for supporting the shade wherein the same may be positioned with relation to the bulb from below the same; and to these ends the invention, briefly described, may be said to consist of a ring adapted for engagement with the shade, the ring carrying a series of spring-held rocking arms, the latter having their ends formed to conveniently receive and grasp the bulb, so as to hold the ring in a relatively fixed position. These arms have their ends extending both above and below the pivotal points, so by moving their upper ends outwardly away from each other their lower ends will be correspondingly moved in an inward direction, readily permitting of the bulb being received, the upper ends of the arms when engaged by the bulb naturally being forced outwardly, thus causing the lower ends to grasp the bulb to secure the same against movement.

By referring to the accompanying drawings, illustrating a practical embodiment of the invention, and in which like characters of reference indicate similar parts throughout the several views, Figure 1 is a perspective view of the invention, showing the shade partly broken away, so as to expose the interior thereof. Fig. 2 is a perspective view of one of the spring-held rocking arms. Fig. 3 is a side elevation thereof, and Fig. 4 is a detail view illustrating the mode of connecting the inner ring to the outer one.

The bulb 1 and the shade 2 are of common form, as illustrated, the shade being of the form used for the purpose of receiving adver-

tising matter, being of transparent material and illuminated by means of the incandescent light, as will be understood.

A wire ring 3, preferably circular in form, through not essentially so, since the shape of the same is dependent upon the form of shade employed, which latter is often hexagonal, square, or otherwise to suit the convenience, carries at points spaced equidistant apart a series of wire arms 4, composed of two lengths wrapped together and having their ends spread and wound independently of each other about the ring 3, as at 5. This wrapped portion of the arms 4 exists only between the ends of the two lengths of wire, the other ends of which are wound about the inner ring, (shown at 6,) the said ends traveling in opposite directions and being continued to form one length of the arm for the succeeding one. Thus should there exist three arms it will only be necessary to employ three lengths of wire, since the one length is first wound about the outer ring 3, then wrapped with the adjacent length to form one of the arms, is then wound about the inner ring, and from thence merges outwardly to be wrapped with the adjacent length on the side opposite to that just mentioned, from whence it is wrapped about the outer ring 3. The inner ring 6 is supported solely by these strands and, as will be observed, is of less diameter than the outer ring 2. The rocking arms (shown at 8) are each composed of two lengths of wire, being formed symmetrical at their ends, and, as illustrated, comprise diverging fingers 9, emanating from the wrapped portion 10 of the arms 8, this latter continuing to in proximity to the inner ring 6, at which point the lengths of wire are bent outwardly at substantially right angles, as at 30, but in opposite directions, away from one another, and are then bent downwardly, as at 19, and coiled about the inner ring 6, as will be seen at 11. This coiled portion forms an eye 12, which readily permits of the arms having a free and easy movement about the inner ring 6 as a point of pivot and are continued downwardly and inwardly toward one another, then being twisted or wrapped together, and from the termination of the twisted portion

the lengths are bent outwardly to form fingers agreeing in all respects to the fingers at the upper portion of the arms, except as hereinafter explained. It might be here noted
 5 that the lengths which are wrapped about the inner ring for the purpose of continuing the same to form the one length of the succeeding strand are slightly looped, as at 18, which looped portion is adapted for engagement with
 10 the downwardly-projecting portions of the lengths forming the rocking arms, as seen at 19, and will have a tendency to limit the outward movement of the lower fingers of the arms, as well as exerting a certain amount
 15 of pressure outwardly upon the upper fingers of the arms, and thus causing them to be normally held open for reception of the bulb. As will be noted from Fig. 3 of the drawings, the arms in elevation are preferably formed
 20 arc-shaped to more readily receive the bulb and conform themselves to the curvature of the latter.

I desire to emphasize the fact that in the manufacture or in practice the outer ring
 25 may be entirely dispensed with, in which event the rocking arms are received directly upon the inner ring; but in all cases where a shade of any large proportions is employed it is preferable to employ an outer ring, which,
 30 as will be noted, serves to space the shade from the bulb, and consequently the heat will act upon the shade with less vigor.

It will be readily understood from the foregoing that in operation the fingers at the
 35 lower portions of the arms are moved inwardly toward one another, which movement will naturally cause the upper arms to move outwardly when the device is placed in position from below the bulb, the engagement of
 40 the latter with the lower arms causing the same to move outwardly and the upper arms to move correspondingly inward until the bulb is engaged and supported by the lower arms, at which time the same will occupy the
 45 position illustrated in Fig. 1 of the drawings.

The wire employed for the purpose of manufacturing a device of this character is preferably possessed of slight "springy" quality, more or less, to suit the needs, and in practice by reason of this property possessed by
 50 the arms of being springy the holder may be moved upwardly to any desired height as will be permitted by the engagement of the fingers with the bulb, the device remaining
 55 in that position until moved downwardly, as will be understood.

The illustration of the invention is capable of numerous changes and alterations, and consequently such as fall within the spirit and
 60 scope of the invention are embraced thereby.

When the shade to be supported is of heavy material, it may be desirable to secure the upper embracing-fingers 9 of the rocking arms 10 against outward movement, except when it is
 65 desired to remove the shade. This may be

accomplished by forming an eye of the wire at the end of one finger, as shown at 21, adapted to engage with the hook 22, formed of the wire at the end of the next adjacent finger. It is obvious that when thus formed and the holder
 70 is pushed upward upon the bulb 1 sufficiently for the ends of the several upper fingers 9 to come into engagement with each other by thrusting the hooks 22 through the eyes 21 the holder will be locked against retraction over
 75 the body of bulb 1 until said hooks and eyes are disengaged from such locked position.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is— 80

1. In a device of the type set forth, the combination with a wire ring, of a series of spring-held arms pivoted to the said ring and extending above and below the ring, with engaging fingers at the ends of the said arms. 85

2. A device of the type set forth, comprising a ring and a series of holder-arms pivoted thereto, extending above and below the ring, and engaging fingers at the ends of said arms.

3. A device of the type set forth, consisting 90 of a ring with a series of spring-held arms pivoted thereto and extending above and below the ring, fingers carried by the arms, the fingers above the ring having a limited inward movement. 95

4. A device of the type set forth consisting of a ring, having a series of arms pivoted thereto, said arms extending above and below the ring and carrying fingers thereon, and means for limiting the inward movement of 100 the same.

5. A device of the type set forth comprising a ring, with a larger ring carried thereby, the larger ring adapted to support the shade, a series of pivoted spring-held arms secured to 105 the smaller ring, with fingers carried by the arms, said arms extending above and below the said rings.

6. A device of the type set forth comprising a ring with a series of spring-held arms pivoted thereto, said arms being formed of strands of wire coiled about the said ring, and having twisted portions above and below the ring, with the ends of the strands separated and bent to form fingers for engagement with 115 the bulb.

7. A device of the type set forth comprising a ring and a series of holder-arms pivoted thereto, with fingers carried by the arms extending above and below the ring, the fingers 120 at the upper portions of the arms having a limited inward movement, the fingers at the lower portion of the arms adapted to be moved inwardly and be engaged by the bulb when the holder is being positioned, causing the 125 upper fingers to move inwardly to engage the bulb, and secure the same.

8. A device of the type set forth, comprising a ring carrying a series of spring-held rocking arms said arms extending above and be- 130

low the ring, fingers carried thereby and means for limiting the inward movement of the arms.

9. A device of the type set forth, comprising a ring carrying a series of spring-held rock-
5 ing arms, said arms carrying fingers, the arms extending above and below the ring, with means for limiting the inward movement of the arms and means for locking the upper

fingers of said arms at a point of their inward travel.

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

ROLLA M. HILL.

Witnesses:

GEORGE B. SHEPARD,
EDWARD P. LYNCH.

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