

No. 686,124.

Patented Nov. 5, 1901.

A. L. PARKER.
CURTAIN RING.

(Application filed Dec. 11, 1899.)

(No Model.)

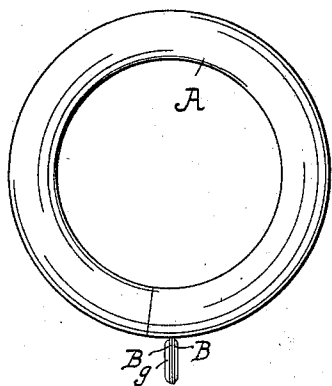


Fig. 1.

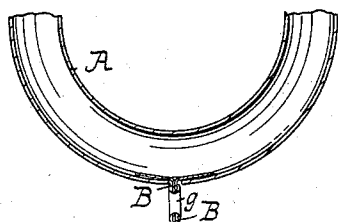


Fig. 5.

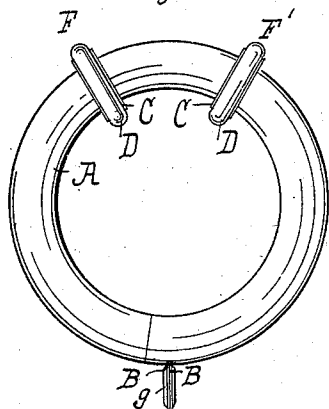


Fig. 9.

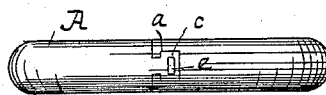


Fig. 2.

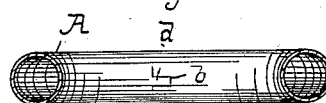


Fig. 3.

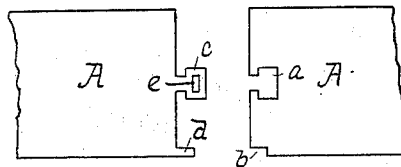


Fig. 4.



Fig. 6.



Fig. 7.



Fig. 8.

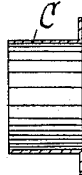


Fig. 10.



Fig. 11.

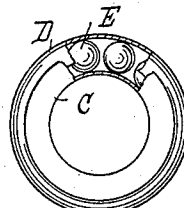


Fig. 12.

Witnesses:

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UNITED STATES PATENT OFFICE.

ALBERT L. PARKER, OF ROME, NEW YORK.

CURTAIN-RING.

SPECIFICATION forming part of Letters Patent No. 686,124, dated November 5, 1901.

Application filed December 11, 1899. Serial No. 739,928. (No model.)

To all whom it may concern:

Be it known that I, ALBERT L. PARKER, a citizen of the United States, residing at the city of Rome, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Curtain-Rings, of which the following is a full, clear, and exact description.

My invention relates to curtain-rings, and more particularly to curtain-rings which are made out of sheet metal.

My invention has for its object, first, an improved method of forming and uniting the ends of a hollow ring; second, an improved method of construction and of attaching the eye to the ring, and, third, an improved construction by means of which I provide a curtain-ring with ball-bearings to facilitate its movement upon the rod when in use.

Referring to the drawings herewith, consisting of one sheet, in which like letters refer to like parts, Figure 1 is an elevation of a curtain-ring made after the manner and form of the first two features of my improvement. Fig. 2 is a view of the exterior of the ring, showing my method of uniting and joining the ends. Fig. 3 is an interior view showing my method of uniting the ends. Fig. 4 is a diagrammatic view showing the outline and contour of the ends of the metal ring, with the means of union, as the same would appear if flattened out. Fig. 5 is a sectional view showing my method of inserting the eyelet into the ring. Fig. 6 is an elevation of one of the stampings of a portion of a section of the eyelet, and Fig. 7 is a side elevation of the same. Fig. 8 is a vertical section of the eyelet. Fig. 9 is an elevation of a curtain-ring made after my improved method and provided with the ball-bearings, as herein-after more fully described. Fig. 10 is a section of the sleeve which is attached to the ring and which constitutes the inner race for the ball-bearings and when completely flanged constitutes the flanges which hold the outer race in place. Fig. 11 is a section of the same, showing the balls and outer race in place and the ends of the sleeve flanged to hold the same in place. Fig. 12 is an elevation of one of my ball-bearings complete. Figs. 10, 11, and 12 are upon an enlarged scale.

A represents the ring proper. My method

of constructing this ring is as follows: Strips of flat metal are taken, which would be substantially the width as shown in Fig. 4, and are drawn through a die to form them into a cylinder, and thereupon these strips are coiled over a mandrel, making them into one long spiral coil. The coil is then passed over a saw and split longitudinally into rings. It then becomes necessary to fasten the two ends of the ring together. As the ordinary process of brazing or soldering is both expensive and slow, I have invented the following method: Upon one end of the ring I punch out or depress a rectangular section, as shown at *a*, (the more clearly shown in Fig. 4,) and adjacent to the inner seam of the ring I punch out or depress a small section, as shown at *b*. Upon the other end of the ring I punch out a section which leaves a projection rectangular in shape, as shown at *c*, which exactly conforms to and fits into the rectangular section or depression *a*. The lug *d* is also left to exactly conform to and fit into the opening, as shown at *b*. Thus punched for union, the spiral curvature of the ring is readily overcome by springing the two ends together, the projection *c* engaging with the rectangular section *a* and the lug *d* engaging with the opening *b*, and the two ends of the ring are firmly united. Centrally within the projection *c* I punch out a rectangular opening *e*, which is calculated to receive the ends of the eyelet-sections, as hereinafter more fully described. The ring is now formed and the ends united ready to receive the eyelet-section.

In like manner as above mentioned with reference to uniting the ends of the ring, it has heretofore been a slow and expensive process to braze or otherwise secure the eyelet to the ring. My invention, which I will now proceed to describe, overcomes this difficulty.

By my construction each eyelet consists of three stampings—that is to say, of two stampings which are identical and which are shown in Figs. 6 and 7 and denoted as *B*. These sections are stamped out in the form clearly shown in Fig. 6 and are thence bent with the upper portions at right angles, as clearly shown at Fig. 7. The third member of the eyelet is the ordinary and well-known eyelet and which is clearly shown in Fig. 8 and marked *g*.

My method of attaching the eyelet is as follows: The sections being stamped out, as shown in Fig. 6, and bent at right angles, as shown at Fig. 7, the two members are inserted in the opening *e*, as clearly shown in Fig. 5. The portions external to the ring are then brought face to face and the eyelet *g* is inserted and punched down in the usual way, thus uniting the two members and holding them securely in place without brazing or soldering.

I will now proceed to describe the next feature of my invention.

It frequently happens where heavy drapery is suspended from an ordinary curtain-ring that when it is desired to move the curtain upon the pole the friction of the ring upon the pole is so great that the curtain cannot be readily moved without getting up to the ring and moving the same by hand. There is also the further difficulty that the continual friction of drawing a ring back and forth upon a pole destroys the lacquer upon the ring and also upon the pole where the pole is a lacquered pole. To overcome this difficulty, I have provided the following ball-bearing mechanism. I have a sleeve *C*, as clearly shown in Fig. 10, with one end struck up at right angles to the cylindrical body of the same. Onto this sleeve I slip an annulus *D*, which upon its inner concave surface carries a race of balls *E*. The sleeve *C* forms the inner race for the balls, and the annulus *D* forms the outer race for the same. Thus inserted in place the straight end of the sleeve *C*, as shown in Fig. 10, is struck up at right angles to form the opposite flange, so that the same takes the form shown in Figs. 11 and 12. The ring having been formed, as heretofore indicated, and the means for uniting the ends having been provided, and before the spiral twist is taken out of the same and the ends are brought together, the sleeve *C*, carrying the bearings, is slipped onto the ring *A* and is brought to place, as clearly shown at *F* and *F'* in Fig. 9. Placed in these posi-

tions the outer surfaces of the annuli *D* will bear directly upon the upper surface of the pole inserted through the ring, and the eyelet in place will keep them in proper position and in rolling contact with the pole. After the ball-bearings *F* and *F'* have been thus put in place the ends of the ring are closed in the manner heretofore described, the eyelet is inserted in the manner heretofore described, and the ring is ready for use.

Having thus described my invention and its method of operation, what I claim is—

1. A divided curtain-ring provided with means for locking the abutting ends of the same, consisting of a lug and a projection formed upon one of the abutting ends, and the other abutting end formed to receive said lug and said projection, said lug and said projection being upon opposite sides of the tube from which the ring is formed, and the formation calculated to receive said lug and said projection correspondingly located, substantially as and for the purposes set forth.

2. In combination with a curtain-ring provided with an opening, an eyelet, consisting of two members, engaging through said opening, and bent down to prevent their retraction, and secured together, face to face, substantially as and for the purposes set forth.

3. A ball-bearing curtain-ring, consisting of a ring, two sets of ball-bearings, arranged radially upon said ring, and consisting of sleeves secured to said ring, constituting the inner races of the ball-bearings, and series of balls and annuli taking over said balls, and constituting the outer race, and flanges upon said sleeves for retaining said balls and said annuli in place, substantially as and for the purposes set forth.

In witness whereof I have hereunto set my hand, this 25th day of November, 1899, in the presence of two witnesses.

ALBERT L. PARKER.

Witnesses:

L. H. JONES,
EUGENE A. ROWLAND.