G. L. CRANDAL.

CARRIAGE CURTAIN LIGHT.

No. 178,417. Patented June 6, 1876.

Fig. 1.

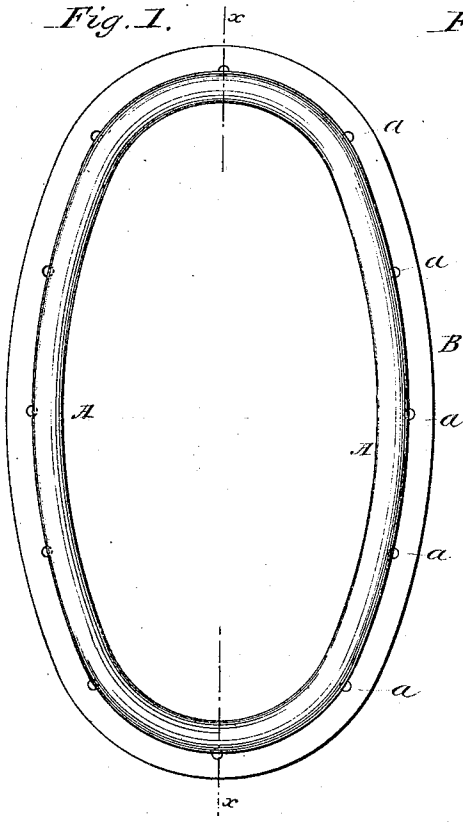


Fig. 2.

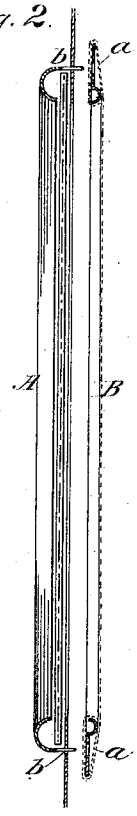


Fig. 3.

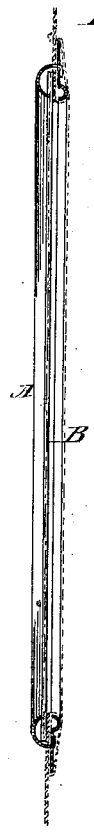
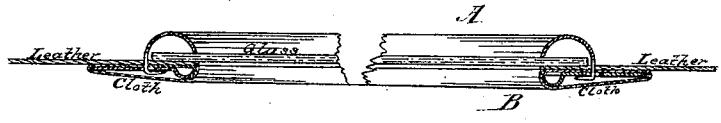


Fig. 4.



Witnesses:

L. A Warner

H. S. Crandal

Inventor:

Geo. L. Crandal

UNITED STATES PATENT OFFICE.

GEORGE L. CRANDAL, OF BINGHAMTON, NEW YORK.

IMPROVEMENT IN CARRIAGE-CURTAIN LIGHTS.

Specification forming part of Letters Patent No. **178,417**, dated June 6, 1876; application filed April 19, 1875.

To all whom it may concern:

Be it known that I, GEORGE L. CRANDAL, of Binghamton, in the county of Broome and State of New York, have invented a new and useful Improvement in Securing Carriage-Curtain Lights, of which the following is a specification:

The object of my improvement is to furnish a carriage-curtain frame for back lights that shall be free from any tendency to crack the material of the curtain, and show openings where the clinches pass through the curtains, and especially round the edges of the outer frame.

By my improvement the frame is also strengthened in a manner to allow of a much lighter frame being used. This improvement applies only to frames in which the clinches are formed upon the outer edge of the inner frame, and combined with the inside frame, as shown in the patent of J. F. Dohan, December 27, 1870.

I am aware, also, that the clinches have been secured to the inside frame in a manner to conceal them from either side of the curtain, and it is not intended to claim such construction, but to improve the frame in the particular stated, to protect the cracking of the curtain where the fastenings are made with the frame and round the edges thereof. This I accomplish by combining, with the frame, a ring whose outer edge projects beyond that of the frame, so that the junction formed by the two will not coincide, and thus avoid a cracking joint, and give a support for the curtain outside of the line where the clinches are made, so that all tendency of the curtain to crack in swaying, or in being rolled and unrolled, is prevented. This is important, as the curtain frequently becomes marred at the window-joints from this cause, and forms openings for wind and rain.

The lapping of the ring beyond its junction with the edge of the frame adds strength to withstand the strain upon the curtain when drawn taut.

In the accompanying drawings, Figure 1 represents the frame and its inside ring when put together without the curtain; Fig. 2, a vertical section on the line *x x*, showing the frame and ring in position before joined and clinched with the curtain; Fig. 3, a similar section, showing the parts joined and fastened by the clinches; and Fig. 4, an enlarged sectional view of the frame and ring after being inserted in the curtain.

The frame A has the clinches *b b* formed upon its outer edge, and the ring B is made to conform therewith, but is wider than the frame, so that its edge projects some distance beyond that of the frame, as shown in the drawings. It has perforations *a a* made in it nearer its inner than its outer edge, and corresponding with the clinches on the frame.

The extended surface of the ring B is shown in Fig. 4 as affording a bearing-surface for the curtain, and as passing beyond and outside of the clinches *b*, so that the joint formed at the clinching edge cannot be affected by the rolling or unrolling of the curtain, and therefore no cracking of the curtain can take place at such clinching line.

In clinching the back light with the curtain, the clinches are put through the curtain in the usual way; then the ring, after having been covered with the lining-cloth, is placed upon the frame, care being taken that the teeth all enter the holes in the ring, and pressed down gently, and with some hand smoothing implement bind the teeth over. If any of the teeth project through the lining the cloth is raised by an awl or needle, and the clinches then pressed flat.

The ring is covered with cloth in the usual manner, by stitching on the back, and for this purpose the inner edge of the ring has a bead formed upon it to raise the cloth slightly from its surface, as shown in Fig. 4, which gives more space to receive the clinches when inserted, and by which they are concealed.

I claim—

The combination, with the edge-clinching frame A *b*, of the plate B, having perforations *a* to receive the clinches *b*, and extend beyond and form a bearing outside of the joint formed at the clinch-securing edge, as shown, and for the purpose stated.

GEO. L. CRANDAL.

Witnesses:

LEE S. PRATT,

H. S. CRANDAL.