D. R. KNIGHT & J. M. RIPPLE.

Carriage Curtain-Fixture.

No. 166,114. Patented July 27, 1875.

Fig. 1.

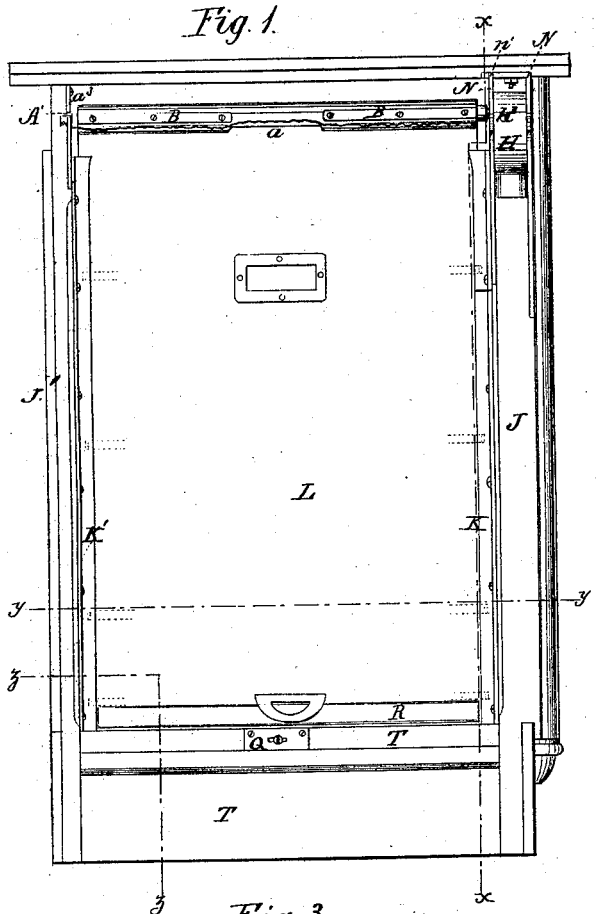


Fig. 2.

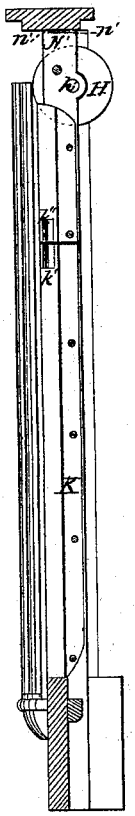


Fig. 5.

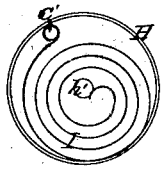


Fig. 6.

Fig. 7.

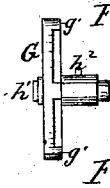


Fig. 8.

Fig. 3.

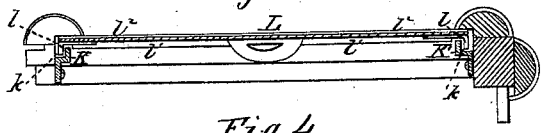


Fig. 9.

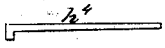


Fig. 10.

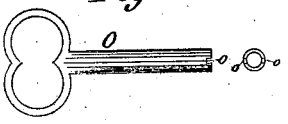
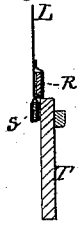


Fig. 4.

Fig. 11.



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UNITED STATES PATENT OFFICE.

DANIEL R. KNIGHT AND JOHN M. RIPPLE, OF WAYNESBOROUGH, PA.

IMPROVEMENT IN CARRIAGE-CURTAIN FIXTURES.

Specification forming part of Letters Patent No. **166,114**, dated July 27, 1875; application filed May 14, 1875.

To all whom it may concern:

Be it known that we, DANIEL R. KNIGHT and JOHN M. RIPPLE, of Waynesborough, in the county of Franklin and State of Pennsylvania, have invented a new and Improved Carriage-Curtain Fixture; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a front elevation; Fig. 2, a vertical cross-section; Fig. 3, a horizontal section; Figs. 4, 5, 6, 7, 8, 9, 10, 11, detail views.

The invention relates to curtain-fixtures for vehicles; and consists in the novel features of improvement which are first hereinafter described in connection with the drawing, and then pointed out in the claims.

A represents the curtain-roll, which is recessed at *a* to receive the glass, and thus prevent the curtain from bulging at this point, as well as to avoid a strain which might fracture the glass. This roll is also recessed longitudinally to receive the upper edge of curtain and the holding-strips B, so that the latter thus may not project beyond the periphery of the roll or interfere with its ready and easy rotary motion. The roll has journal a^2, which fits and is held by catch a^3 into an open bearing, A′, at one end, while on the other is made fast a shaft, C, connected by a pin, D, with a sleeve or skein, E. On one end of shaft C is a pinion, F, that is acted upon by the surrounding spurs *g* of the drive-wheel G. This wheel G is arranged within a case, H has its shaft g^2 journaled at h^1 h^1, and is provided with a hook, h^2. To this hook is attached a loop of spring end, while the other end of spring I is held by the shaft C′, that passes through the case.

The spring I, in unrolling, turns the shaft g^2, whose wheel G actuates the pinion F, and turns the roll A, winding up the curtain.

J J′ are carriage-posts, to which we fasten metallic plates K K′, forming grooves *k*, that receive the hooks *l* on the end of the thin curtain-bars *l′*. The curtain L is thereby kept laterally stretched, and compelled to move up and down uniformly, and without puckering, while a weather-tight joint is also produced.

The plate K is made in two sections, connected by pin or groove k^1 k^2, so that the small piece may be removed separately, in order to conveniently detach the roll and other parts. N is a plate, having notches *n n* in its bent end, while N′ is a straight plate, having projections *n′ n′* that fit into said notches. These plates are fastened on each side to the short post J, at whose upper end is a metallic band, to prevent it from splitting. The case, mechanism, and roll are thus effectively supported.

In order to stop the action of spring while the roll is being detached, we make the radial spokes g^1 to stand out to one side of the rim, and provide in case H a hole, h^3, through which is inserted a pin or screw, h^4, against the spoke. By inserting a key, O, having opposite slots *o o*, over the shaft C, so as to embrace a pin, P, the spring may be wound up, after which the pin h^4 is placed through hole h^3, and against the spoke, to hold it until the roll is attached. The curtain is provided at the bottom with crops-strips R S, that leave a concave angle, in which is received the edge of cross-piece T, one strip abutting on top of the cross-piece, and the other overlapping on the outside to form a weather-tight joint. The strip S also abuts with a shoulder against each of the guides K K′, thus serving as a guide and re-enforcing the piece R.

With these features of improvement a roll may be readily drawn down and held by a spring-latch, Q, and when unlatched will rise automatically to its place.

Having thus described our invention, what we claim as new is—

1. The curtain-roll A, recessed at *a*, as and for the purpose described.

2. The drive-shaft C and sleeve E, connected by a pin, D, in combination with curtain-roll A, having one end in open bearing, and the other receiving fixedly said drive-shaft, as and for the purpose specified.

3. A carriage-curtain having thin bars L, with end hooks *l*, that slide in grooved plates K, as and for the purpose described.

4. The combination of end bent plate N, having notches *n n*, and the straight plate N′,

having projections n' n', with short post J, as and for the purpose set forth.

5. The combination of wheel, having spoke g^1 to one side of rim, the case H, having hole h^3, and the pin h^4, as and for the purpose specified.

6. The combination of key O, having opposite slots *o o*, the shaft C, and the pin P, as and for the purpose described.

7. A curtain stretched longitudinally between a spring-held roll at top, and a spring-catch, Q, at bottom, and laterally between guides K K′, as and for the purpose set forth.

8. The combination with curtain of the bottom strips R S, arranged substantially as and for the purpose specified.

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