E. G. GRAHN.

Carriage-Curtain Fastener.

No. 212,924. Patented Mar. 4, 1879.

Fig. 1.

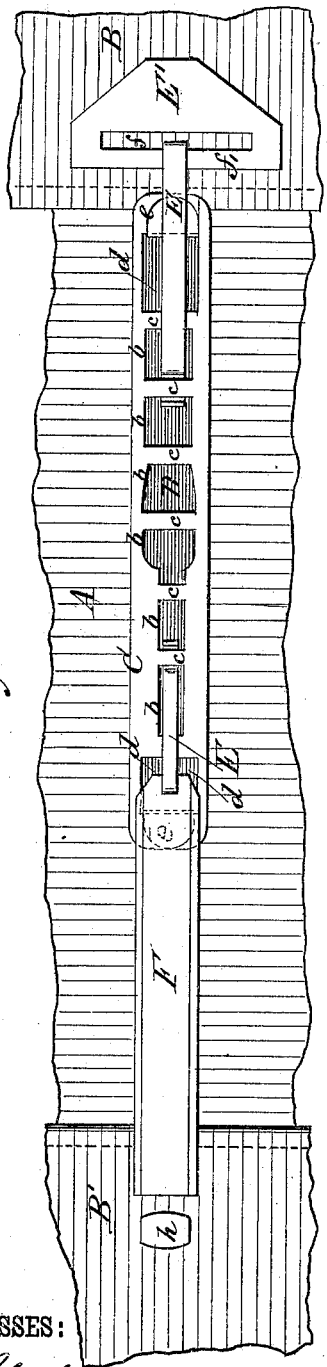

Fig. 2.

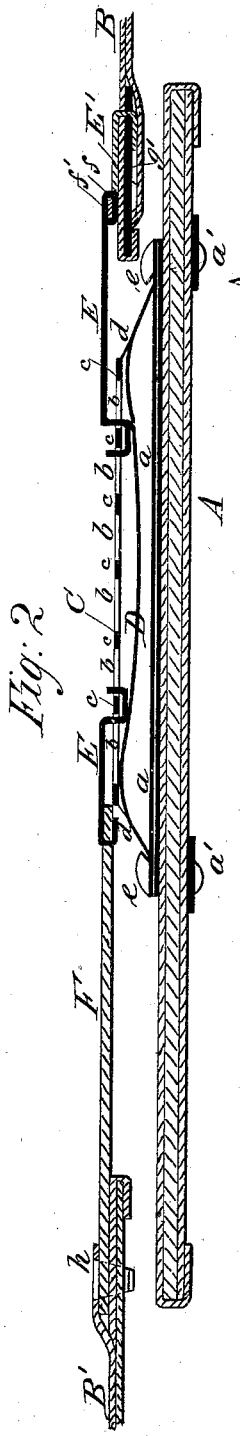

Fig. 3.

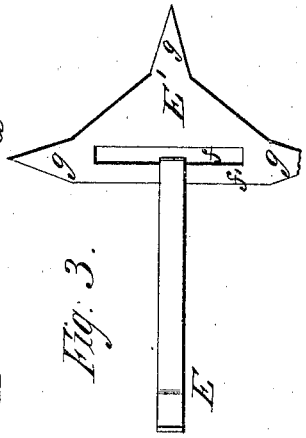

Fig. 4.

WITNESSES:

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UNITED STATES PATENT OFFICE.

EDWARD G. GRAHN, OF INDIANAPOLIS, INDIANA.

IMPROVEMENT IN CARRIAGE-CURTAIN FASTENERS.

Specification forming part of Letters Patent No. **212,924**, dated March 4, 1879; application filed December 4, 1878.

To all whom it may concern:

Be it known that I, EDWARD G. GRAHN, of Indianapolis, in the county of Marion and State of Indiana, have invented a new and Improved Carriage-Curtain Fastener, of which the following is a specification:

The object of this invention is to furnish a fastener for carriage-curtains that can be easily and quickly operated and secure the curtains perfectly, and at the same time is simple and economical in its construction.

It consists of a metal loop fixed to the back-stay of the carriage-top, in which are several slots and bars, for engaging the hook fixed to the curtain, and provided with a spring, which bears against the under side of the hook when attached to the loop, and prevents it from slipping from the same and releasing the curtain.

In the accompanying drawings, Figure 1 is a view of my improvement applied to the back-stay of a buggy-top, with the curtains hooked to the loop. Fig. 2 is a longitudinal section of the same. Fig. 3 is a plate for connecting the hook to the curtain, and Fig. 4 is a modification of the connection with the curtain.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the back-stay of a buggy-top, and B B′ are curtains joining the same. The loop for engaging the hooks of the curtains is represented by the letter C. It is made of sheet metal, in rectangular form, and the under sides overlapping each other. The top of the loop is cut out, leaving openings *b* and cross-bars *c*, and at each end a part of this top is cut off, as shown at *d d*, and the sides are chamfered off.

A flat spring, D, is inserted in this loop, so that it will rest just under the openings *b* and bar *c*, while the ends are bent down at about the same angle as the sides are chamfered off.

The loop is secured to the back-stay by rivets *e e*, passed through the double bottom *a* at each end, thence through the back-stay and a plate, *a′*, on the under side, against which they are riveted, the plate and rivet being covered by the lining. The side of the rivet-heads adjacent to the loop and spring is cut off straight, and the under side is chamfered.

The ends of spring D are held against and slightly under the straight chamfered edges of the rivet-heads, and are thus prevented from slipping from their places, space being allowed for the spring to lengthen. At the same time, if it should be necessary to remove the spring to adjust the catches in the loop, or for any other purposes, it can be done quickly and easily by slipping an awl or other suitable implement under the end and lifting it out.

E represents the hook for securing the curtain. Its fixed end is passed through the slot *f* in plate E′ and looped under the elevated bar *f′*, which is raised above the surface of the plate, and thus connected with said plate, so as to move freely on the bar.

Plate E′ is fixed to the curtain by passing the sharp prongs *g g g* through the curtain from the outside, then through a triangular metal plate, *g′*, on the opposite side, and clinching them against the said plate. The lining likewise conceals this from view.

Attaching the hook to the bar *f′* allows it to be adjusted to compensate for the shrinkage of the curtain. For example, when the curtain is first made, the plate with the hook is attached in such a position that the hook E will be at the extreme upper end of the elevated bar *f′*, when said hook is in its proper place opposite the center of the loop. As the curtain shrinks, the plate, with its bar, is pulled up, always leaving the hook E in its proper place opposite center of barred loop. This makes provision for shrinkage of the curtain from top to bottom or lengthwise. Further, when the curtain is first made, the hook E is to be put under the middle bar in loop C; then as it shrinks sidewise, the hook is slipped under the next bar approaching the end of the loop; then, when it shrinks farther, under the next, and so on. This provides for the shrinkage sidewise, as the first arrangement provides for its shrinkage lengthwise.

A modification of my improvement consists in connecting the hook to one end of a strap, F, and then attaching the opposite end of the strap to the curtain by thrusting it through a slot made in the outer fold of the curtain, near its edge, and then securing it by passing a metal staple, *h*, through the curtain, the end of the strap passing through the slot and then through the inner fold or thickness of the curtain, against which the prongs or ends are

clinched, thus connecting the strap securely with the curtain.

When the curtain is to be fastened it is drawn to the back-stay or part to which it is to be hooked, and the hook E is placed in one of the slots *b* and on the spring D. It is then pressed, pushing the spring downward, and when far enough the hook is slipped under one of the cross-bars *c* until it engages the same, as shown in Figs. 1 and 2, when, the pressure being removed, the spring D presses up against the under side of the hook, and thus holds it to the cross-bar. In this way the curtain is securely fastened, and in a much more simple and easy manner than with buckles or buttons.

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

1. As an improved article of manufacture, a carriage-curtain fixture or fastener consisting of a suitable loop, C, provided with suitable catch places or bars *c*, one or more holding-springs, D, and adapted to wedge with one or more catch-hooks, E, all operating together, substantially as herein shown and described, so that when the end of a hook is inserted the spring D will readily yield to admit the insertion or removal of the hook, and will also press against the back of the hook after the latter is inserted and hold the same in place, substantially as described.

2. The hook E of a carriage-curtain, connected adjustably with the loop C by means of the several bars *b*, arranged substantially as and for the purpose specified.

3. The spring D, placed within loop C, so as to press upward against the under side of the bars or catches, for the purpose of holding the hook in connection with said bars or catches, and having its ends bent down and held under and against the straight chamfered edges of rivets *e e*, to prevent it from slipping, but allowing it to lengthen out when necessary, substantially as described.

4. The rivets *e e*, in combination with the curtain and the loop and metal plate *a'*, against which they are clinched, said rivets having straight chamfered edges adjacent to the ends of spring D, to hold the same in place, substantially as described.

5. The combination, with carriage-curtain, of the plate E', having elevated bar *f'*, to receive the extremity of hook E or the strap that carries hook E, substantially as described, so that the said hook E or its strap may move on said bar, and thus adjust itself to the shrinkage of the curtain.

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Witnesses:
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