(No Model.)

W. S. DUNN.

CARRIAGE CURTAIN FASTENER.

No. 358,389. Patented Feb. 22, 1887.

Fig. 1.

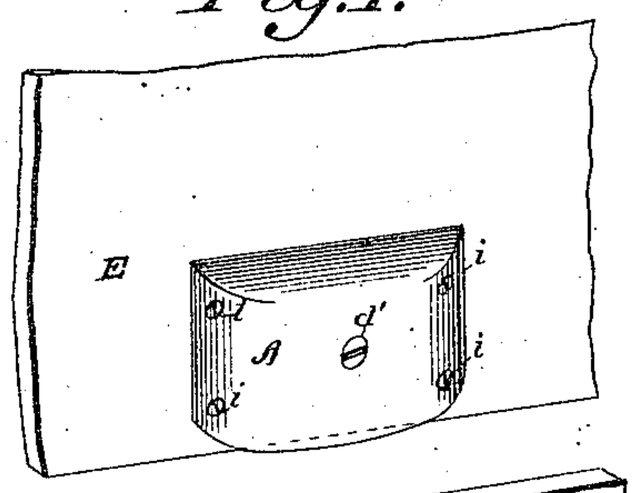


Fig. 11.

Fig. 3.

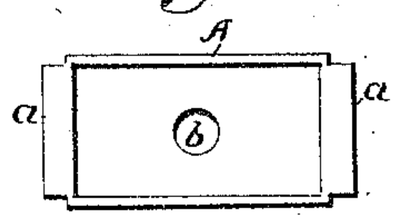


Fig. 2.

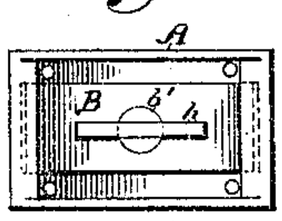


Fig. 4.

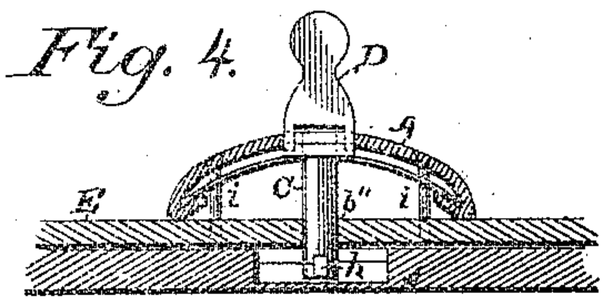


Fig. 6.

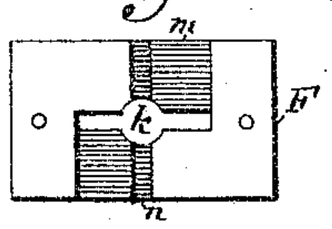


Fig. 7.

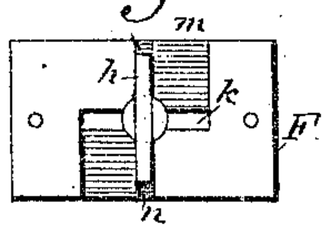


Fig. 9.

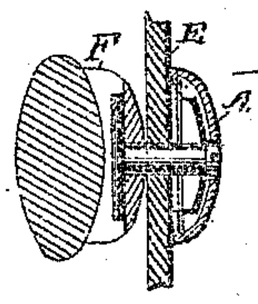


Fig. 5.

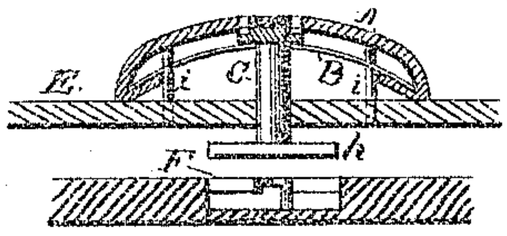


Fig. 10.

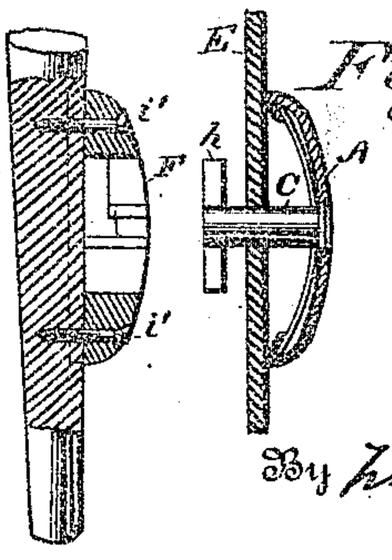
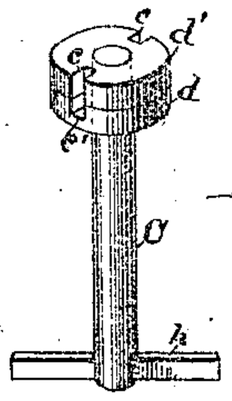


Fig. 8.



Witnesses

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UNITED STATES PATENT OFFICE.

WINFIELD S. DUNN, OF WASHINGTON, DISTRICT OF COLUMBIA.

CARRIAGE-CURTAIN FASTENER.

SPECIFICATION forming part of Letters Patent No. 358,389, dated February 22, 1887.

Application filed December 11, 1886. Serial No. 221,319. (No model.)

To all whom it may concern:

Be it known that I, WINFIELD S. DUNN, a citizen of the United States, residing at the city of Washington, in the District of Columbia, have invented certain new and useful Improvements in Carriage-Curtain Fastenings; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to that class of carriage-curtain fastenings in which the fastening device is attached directly to the curtain and locks with a suitable holding device secured upon any part of the carriage to which it is desired to temporarily connect the curtain. Nearly all the fastenings now in use reverse this method of attachment, the stud, button, or other fastening device being attached to the carriage and connecting with the curtain through the agency of a button-hole, eyelet, or other properly-constructed receptacle formed in the curtain. This method of construction is, however, open to a serious objection, as the projecting studs upon the seat-arms, bows of the top, and other parts are very liable to catch and tear the clothing of occupants, and, further, do not prevent unauthorized persons from disconnecting the curtains and boot-fastenings, thus exposing the cushions and interior of the carriage to the weather. To obviate these objections is the object of my invention, by which the fastening device is so constructed that it may be attached directly to the curtain or boot, and the catch or keeper with which it connects upon the carriage embedded in the wood, so as to present no outward projection; or, when it is desired to attach the curtain to a bow or other part which would be weakened by embedding the keeper therein, it is so rounded upon its outer surface and hollowed out upon its inner as to fit closely to the part to which it is secured and present nothing outwardly upon which clothing might catch or the hands be cut or injured by coming in contact therewith; and, further, instead of providing the fastening with a projecting stud or similar device for operating the same, it is so constructed as to adapt it to be operated only by a wholly disengaged key, no part of the connecting mechanism projecting outside of the case containing it, and which case is secured to the curtain or boot of the carriage, thus preventing any derangement of the parts by unauthorized parties, as they can only be connected or disconnected by the use of the key which operates the locking-bolt; and the invention consists in the construction and arrangement of the several parts, by which they are adapted to be operated by a key, and present no dangerous projection, as will be hereinafter fully described, and specifically pointed out in the claims.

In the accompanying drawings, in which similar letters indicate like parts in the different figures, Figure 1 is a perspective view of the fastening device attached to a curtain. Fig. 2 shows a bottom plan with the spring and locking-bolt in place within the case. Fig. 3 shows the inner side of the case before the ends are bent down to secure the spring. Fig. 4 is a longitudinal section through the case, spring, curtain, and keeper, with which the locking-bolt is connected. Fig. 5 is a similar longitudinal section showing the fastening disconnected from the keeper. Fig. 6 is a plan view of the under side of the keeper. Fig. 7 is a similar view of the keeper with the locking-bolt attached. Fig. 8 is a perspective view of the locking-bolt upon an enlarged scale. Fig. 9 is a transverse section through the fastener and keeper connected, the lat being adapted to be secured to a carriage-bow. Fig. 10 is a longitudinal section of the same, with the fastener disconnected; and Fig. 11 shows a form of keeper adapted for attachment to a curtain or other thin flexible part.

In constructing this fastening, I form the case A of metal, presenting outwardly a convex surface, with a corresponding concavity upon its inner side. In this concavity is placed the curved plate-spring B, held in place by turning down the lips *a a* upon its ends after it has been placed in the case. A circular orifice, *b*, is formed in the case, and a similar one, *b'*, but of less diameter than that in the case, is formed in the spring B. Through these orifices passes the lock-bolt C, which is provided with a fixed collar or flange, *d*, near its outer end, resting upon the outer or convex side of the spring B. The locking-bolt projects sufficiently beyond the flange *d* to receive the loose collar *d'*, having grooves *c* in its pe-

riphery, which, when in the proper position, register with the notches *c'*, formed in the periphery of the flange. A key, D, having a bifurcated end, as shown in Fig. 4, is employed to turn the locking-bolt, its bifurcations being made to fit the grooves in the collar and the notches in the flange.

The object of the loose collar upon the locking-bolt is to prevent said bolt from being turned except by a properly-constructed key, as when an attempt is made to turn the bolt by other means the collar will turn upon the bolt and cover the notches in the flange which receive the key by which the bolt is operated.

It will be observed that the orifice *b* in the case is of sufficient diameter to receive the collar and flange of the locking-bolt, so that it may not only turn easily therein, but may also have a slight longitudinal movement when pressed upon by the key, but that the orifice *b'* in the spring is smaller, allowing only the body of the bolt to pass through it, so that when the bolt is pressed by the key it depresses the spring; but when the pressure of the key is removed the spring returns the bolt to its normal position, with the outer side of the loose collar even with the outer surface of the case.

E represents the curtain, boot, or other article, to which the case A is secured by means of rivets or screws *i i*. An orifice, *b''*, is made through the material of which the part E is composed, and allows the passage through the same of the shaft of the locking-bolt C. Securely attached to the inner end of this locking-bolt is the cross-bar *h*, forming the device by means of which said bolt is connected to the keeper F. This keeper, when it is to be attached to flat surfaces, is preferably formed with a plane outer surface, and is sunk into the part so as to present no projection therefrom, as shown in Figs. 4 and 5 of the drawings; but when it is to be attached to a rounded surface or to a flexible article it may be constructed as shown in Figs. 9 and 11, in the first of which figures it is illustrated with a convex outer and concave inner surface, and is intended for attachment to a carriage-bow, while in Fig. 11 it is shown with a flat inner and rounded outer surface to fit it for attachment to a piece of leather or other thin material, to which it is secured by screws or rivets *i'*.

The form of the under side of the keeper F, with which the locking-bolt engages, is illustrated by Figs. 6 and 7, *k* being the elongated orifice through which the locking-bolt and cross-bar pass, and *m* a recess in which the cross-bar of the bolt moves when said bolt is turned.

n represents a cross-groove or depression, into which the cross-bar is drawn by the spring B when the bolt has been turned through one-quarter of a circle and the cross-bar brought to a position at right angles with the slot *k*. This groove *n* holds the cross-bar of the locking-bolt in this locked position until it is forced out of said groove by the application of the key D to the opposite end of the bolt and sufficient pressure applied to depress the spring B, thus allowing the bolt to move endwise until the cross-bar is out of the groove, when the bolt may be turned until the cross-bar is in line with the slot *k* and the tension of the spring draws it into said slot, allowing the case A, with the part to which it is attached, to be disconnected from the keeper.

It will be apparent that the special form of key herein shown and described may be departed from without changing the scope of my invention, as other forms might be devised which would accomplish the result—as, for instance, a narrow groove might be formed in the end of the locking-bolt to receive the thin blade of the key, and other forms might be devised; but I prefer that shown as affording the best protection with simplicity of construction.

It will be obvious that the peculiar construction of this fastening, partaking of the nature of a lock, will adapt it to other uses than those of confining the curtains or boot of a carriage. I do not, therefore, confine myself to its use for that purpose solely.

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

1. As an improvement in carriage-curtain fastenings, the combination of the case A, attached to the curtains, the spring-plate within said case, and locking-bolt D, provided with a loose collar, *d'*, and adapted to be operated by a disengageable key, for the purpose of locking and unlocking the fastening, as set forth.

2. As an improvement in carriage-curtain fastenings, the combination of the case having a rounded outer surface, inclosing-spring, locking-bolt provided with a loose collar, and adapted, as shown and described, to be operated by a key, and a keeper with which said locking-bolt engages, substantially as set forth.

3. As an improvement in carriage-curtain fastenings, the case A and spring B, secured in said case by turning down the lips *a a*, in combination with the locking-bolt C, provided with flanges *d* and loose collar *d'*, having grooves and notches in their peripheries to receive the bifurcated ends of key D, substantially as shown and described.

4. In a curtain-fastener, the case A and locking-bolt C, provided with flanges *d* and collar *d'*, adapted to be operated by key D, in combination with the curtain E, and keeper F, attached to the carriage, substantially as and for the purpose specified.

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

WINFIELD S. DUNN.

Witnesses:
T. M. E. CHANDLER,
M. A. BALLINGER.