(No Model.)

E. L. BOOTH.

SPRING ATTACHMENT FOR CARRIAGE BOWS.

No. 321,946. Patented July 14, 1885.

FIG. 1.

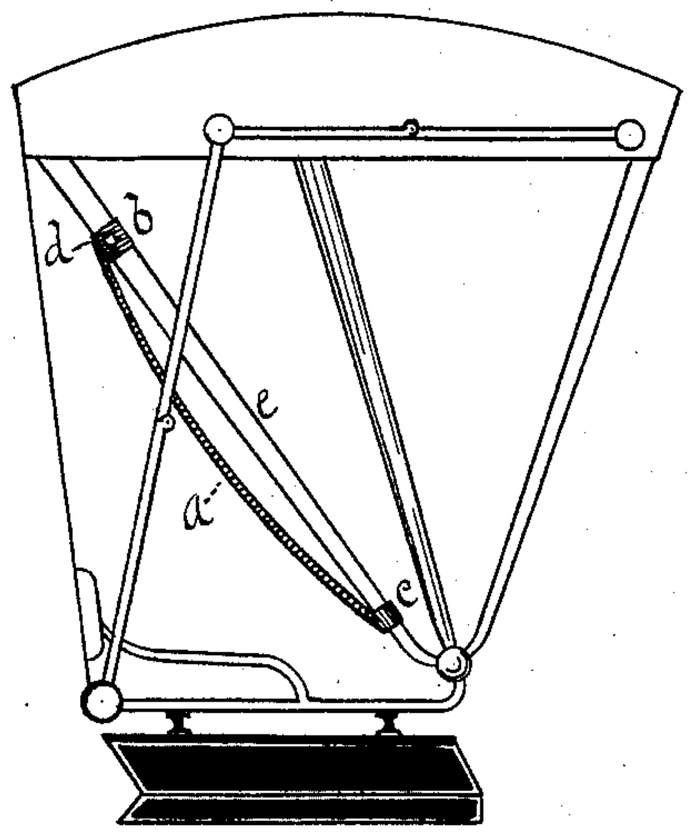


FIG. 2.

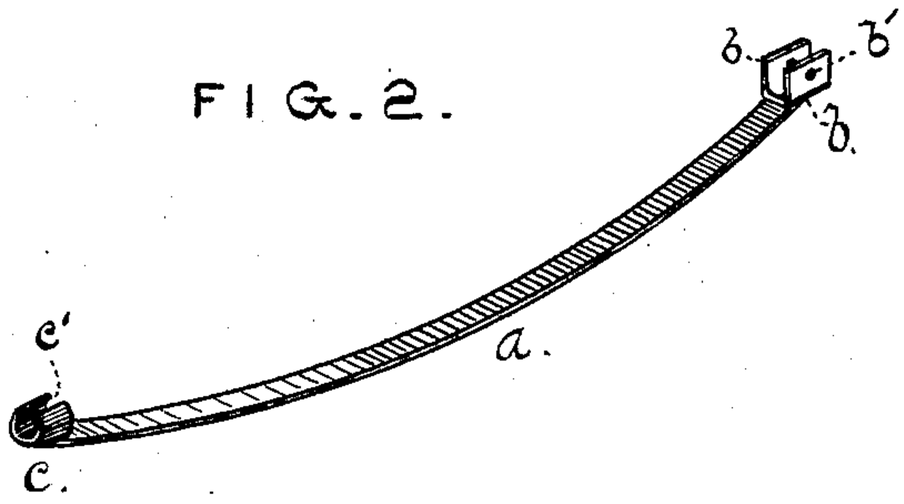
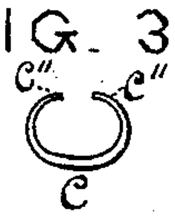


FIG. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

ERASTUS L. BOOTH, OF MOUNT ZION, ILLINOIS.

SPRING ATTACHMENT FOR CARRIAGE-BOWS.

SPECIFICATION forming part of Letters Patent No. 321,946, dated July 14, 1885.

Application filed March 7, 1885. (No model.)

To all whom it may concern:

Be it known that I, ERASTUS L. BOOTH, a resident of the town of Mount Zion, county of Macon, and State of Illinois, have invented certain new and useful Improvements in Spring Attachments for Carriage-Bows, of which the following is a specification.

My invention relates to springs adapted to be attached to the rear bow of carriage-tops, for the purpose of protecting the same from breakage, and has for its object the simplification of such devices both in construction and manner of attachment.

Heretofore when springs for carriage-bows have been secured by a rigid attachment at one end and a sliding attachment at the other both the construction and manner of attachment have been complex to a considerable degree, as in the patent to Marlatt and Wright, No. 186,428, January 23, 1877, or the construction has been complex and the attachment imperfect, as in the patent to Wilgus and Johnson, No. 225,738, March 23, 1880, where the sliding end of the spring is represented as resting against the bow without any attachment whatever; and in all cases projecting points have formed a part of their construction, to the great detriment of the side flaps of the carriage-curtain and the wearing-apparel of the carriage occupants.

In the drawings accompanying and forming a part of this specification, Figure 1 is a side view of a carriage-top with my device attached. Fig. 2 represents my spring in perspective, and Fig. 3 is an end view of one of the attachments of the same.

a is a segmental spring adapted to act as a cushion for the rear bow of a carriage-top, and protect the same from breakage.

b b are lugs that project parallely from an end of spring *a* and form a means of attaching the same to the carriage-bow. *b'* indicates a bolt-hole through lugs *b b*.

c is a sliding concave attachment for an end of spring *a*, representing in transverse section about three-fourths of a circle. *c'* is the opening in attachment *c*. *c'' c''* are the ends of curved attachment *c*, designed to operate as springs to prevent rattling, as will be hereinafter specified.

d is the bolt that secures lugs *b b* to the carriage-bow, provided with a small convex head, and secured by a riveting process that leaves no projecting end.

e is the rear bow of a carriage-top, which, in accord with the general conformation of such bows, is tapering from the top down, while its outline in cross-section gradually changes from a circle at the bottom to an approximate parallelogram at the top.

The concavity of attachment *c* slides on the bow, and the opening *c'* is large enough to pass over the bow at its lowest and smallest point, but small enough to prevent lateral displacement when drawn up in the position shown in Fig. 1.

The lugs *b b* are adapted to fit neatly over the upper portion of the bow, with their bolt-holes on a line transversely with the center of the same.

The process of attaching my device to a carriage-bow consists in slipping attachment *c* over the lower extremity of the bow, drawing the same up into the position shown in Fig. 1, securing lugs *b b* to the upper portion of the bow by means of rivet *d*.

The ends *c'' c''* are sufficiently elastic to compensate for the difference in diameter of that portion of the bow over which the attachment slides, and consequently the connection between said attachment and bow is always close enough to prevent rattling.

No special skill or special tools are requisite to place my device on a carriage, and the simplicity of its construction is obvious.

The general conformation of the spring may be modified for the purpose of economizing material, and the proportion of the attachments may be adjusted to insure symmetry without affecting the principle of my invention.

I claim as new and desire to secure by Letters Patent—

1. The combination, for the purposes herein set forth, of a segmental spring, a concave attachment formed on the lower end of the spring, an opening in the concave attachment sufficiently large to pass over the lower extremity of the carriage-bow, but small enough to prevent displacement when drawn up to the position shown, and suitable means for securing the upper end of the spring to the bow, substantially as specified.

2. The combination, for the purposes here-

in set forth, of a segmental spring, a concave attachment formed on the lower end of the spring, an opening in the concave attachment sufficiently large to pass over the lower extremity of the carriage-bow, but small enough to prevent displacement when drawn up to the position shown, springs formed of the terminations of the concave attachment, and suitable means for attaching the upper end of the spring to the bow, as set forth.

ERASTUS L. BOOTH.

Attest:

JOHN L. BOOTH,

W. I. WALKER.