2 Sheets—Sheet 1.

C. P. DODGE & C. W. BROWN.

Carriage-Boot.

No. 200,440. Patented Feb. 19, 1878.

Fig. 1.

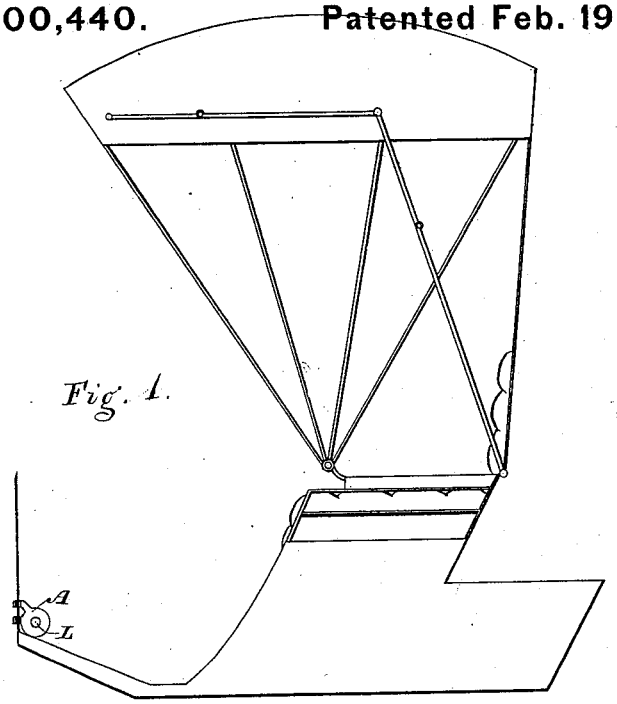
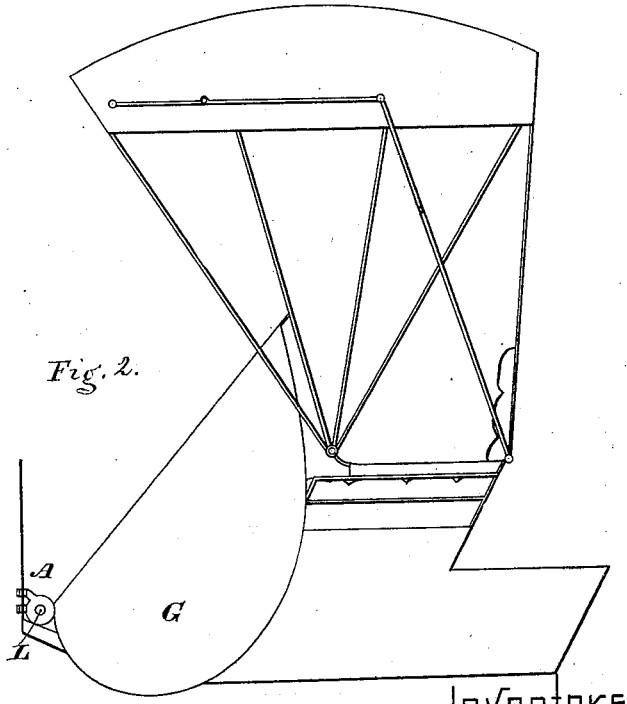


Fig. 2.



Witnesses.

Wm A Skinkle.
Geo. W. Breck

By their Attorneys.

Inventors.

Charles P. Dodge.
C. Warren Brown

Baldwin, Hopkins & Peyton.

2 Sheets—Sheet 2.

C. P. DODGE & C. W. BROWN.

Carriage-Boot.

No. 200,440. **Patented Feb. 19, 1878.**

Fig. 3.

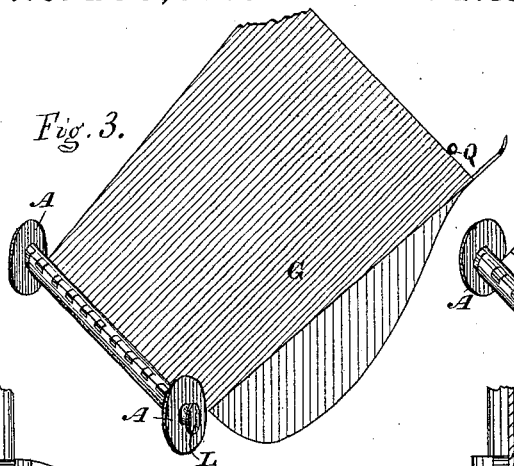


Fig. 4.

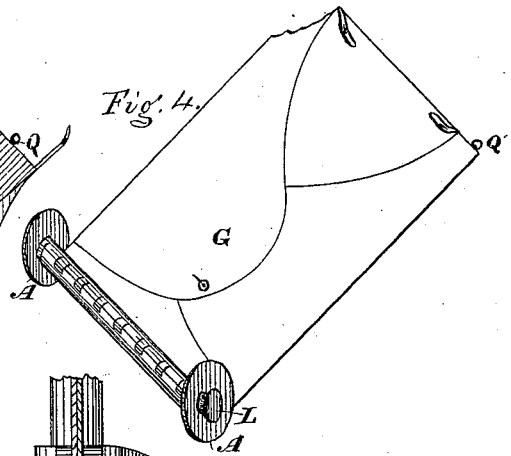


Fig. 5.

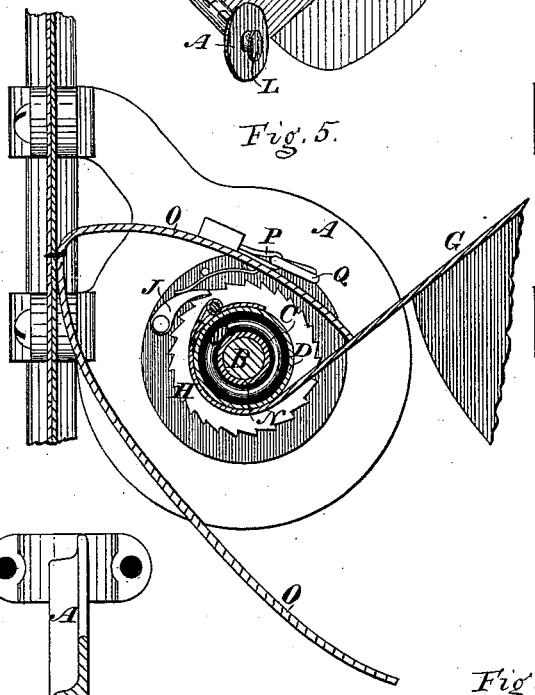


Fig. 6.

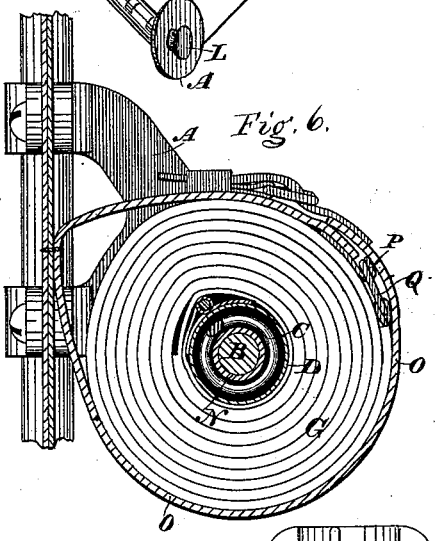
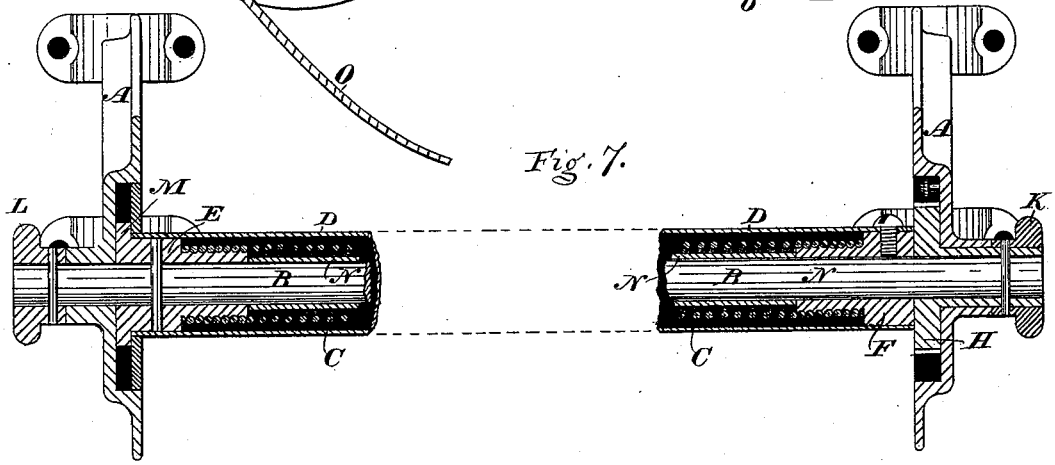


Fig. 7.



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UNITED STATES PATENT OFFICE.

CHARLES P. DODGE AND C. WARREN BROWN, OF SALEM, MASSACHUSETTS, ASSIGNORS, BY MESNE ASSIGNMENTS, TO C. WARREN BROWN, TRUSTEE.

IMPROVEMENT IN CARRIAGE-BOOTS.

Specification forming part of Letters Patent No. **200,440**, dated February 19, 1878; application filed November 16, 1876.

To all whom it may concern:

Be it known that we, CHARLES P. DODGE and C. WARREN BROWN, both of Salem, in the county of Essex and Commonwealth of Massachusetts, have invented a new Device for Operating Boots for Carriages; and we do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of our invention sufficient to enable those skilled in the art to practice it.

The object of our invention is to so arrange the boot of a carriage-front that it may be readily spread or opened, and as readily packed or rolled away.

It is well known that the ordinary carriage-boot is inconvenient, both in opening and folding; and to overcome the difficulties attendant thereto we have adopted the following: We take the common rubber-cloth boot as furnished to the trade, and stitch or cement to its lower edge, between the flaps, a strip of the same material, said strip being attached to a hollow cylinder or drum in any convenient manner. This cylinder is held in position by brackets, and contains a spiral spring of sufficient strength to roll the boot upon the cylinder when desired.

In the accompanying drawings, which form a part of this specification, Figure 1 is a side view of a carriage-body with the boot rolled on the cylinder. Fig. 2 is a similar view, but showing the boot open, as when in use. Fig. 3 is a perspective view, showing the boot open. Fig. 4 shows the flaps folded and fastened, preparatory to being rolled on the cylinder. Fig. 5 shows a sectional elevation with the boot drawn out. Fig. 6 is a similar view with the boot rolled onto the cylinder and packed away. Fig. 7 represents a longitudinal section of the mechanism used in operating the boot.

A A represent the brackets which support the boot and its operating mechanism. While in some cases these may be fastened to the body or frame of the carriage either independently of or in combination with or forming part of a foot rest or brace similar to those now in use, we prefer to attach or clamp them to the frame of the dasher. Extending through these brackets is a rod, B, encircling which are the spiral spring C and hollow cylinder D. One end of the spring C is made fast to the collar E, while the other end is attached to the collar F. The collar E is pinned to the rod B, while the collar F is fastened to the cylinder D. Attached to the outer surface of the cylinder D is the boot G. At one end of the rod B, and pinned to it, is the ratchet H, engaging with the pawl J, hung on the bracket, and holding the rod rigidly against the tension of the spring, to turn it when the boot is drawn out. Should the spring from any cause slacken or weaken, it can be easily set up again by turning the thumb-nut K or L, which are also pinned to the rod B. These thumb-pieces also hold the brackets firmly and prevent them from spreading.

It is obvious that, from this construction, the several parts are held firmly in position; but the spiral spring, extending the whole length of the cylinder, and lying upon the center rod or against the cylinder, might cause a rattle; and to obviate this we cover the rod B and the inside of the cylinder D with a solution of rubber, which, when dry, will adhere thereto; or we cover either the rod with the rubber tube N, or incase the spring itself in a tube, or both.

When the boot is entirely rolled up, as in Fig. 6, it is desirable to inclose it in some manner which shall be pleasing to the eye and yet easily manipulated. This may be done by extending from one bracket to the other a cylindrical casing of zinc or other material, which shall be permanent, having a slot, through which the boot may be drawn and allowed to run back; but we prefer to fasten to the dasher or to the floor or body of the carriage a flexible or elastic covering, O, part of which extends over and part of it beneath the boot-cylinder. To the part extending over the boot when rolled up are attached hooks, P, while to the upper edge of the boot are rings Q. When the boot is rolled entirely up the rings are looped over the hooks, thereby preventing the spring from entirely unwinding. The lower part of the flexible

fastening is brought up and fastened to the upper part by straps or any other suitable means, and when so fastened completely incloses the boot, and yet in such a manner that it can be readily removed should occasion require.

The operation of this device is as follows: The flexible elastic covering is unfastened, the lower part thereof being allowed to drop onto the floor of the carriage. The boot is then drawn up, after releasing the rings from the hooks. When drawn to its full extent against the resistance of the spiral spring it may be fastened, in the usual manner, to the sides of the carriage; or a stop may be applied to the rod B, similar to those used upon shade-rollers, in which case the boot may be fastened up or allowed to lie over the knees. The flaps are then unbuttoned and dropped over the sides, when it assumes the position of the ordinary boot.

When it is desired to return the boot to its casing, it is unhooked from the sides of the carriage, the flaps folded over on top of the middle part, and buttoned or otherwise held in position, when, the strain being removed, the spring revolves the cylinder, thereby rolling up the boot in a manner similar to that of an ordinary window-shade. When rolled completely up, the rings are again placed over the hooks, the two parts of the flexible covering reunited, and the whole stowed away in the smallest possible compass.

As before stated, should the spring not have sufficient tension to roll the boot entirely up, more tension can readily be given to it by turning the thumb-nuts K or L.

The advantages of this arrangement over the boots in common use are the greater ease and celerity with which our boot can be opened and folded or rolled back again. It is also neater and more compact, as the oftener it is used the more closely it will roll up, while the more the common boot is used the more difficult it is to fold it up neatly. Furthermore, a boot rolled up as ours is will be more durable, as it will have no liability to seam or crack, and, being attached to the outer frame of the dasher, it will completely cover the floor of the carriage.

We do not claim, broadly, the rolling up of the boot by means of a spring; but

We do claim—

1. In a carriage, the cylinder D, spring C, rod B, brackets A A, ratchet H, pawl J, and thumb-pieces K and L, when combined with a boot or apron, G, of such width that the sides must be folded over the center, in order that the said boot or apron may be wound around the cylinder D by the force of the spring C, substantially as shown, and for the purpose herein specified and described.

2. In combination, the boot G, cylinder D, spring C, brackets A, rod B, with rubber tubing N or its equivalent, substantially as and for the purpose described.

3. In combination, the boot G, cylinder D, spring C, brackets A, rod B, and casing O, substantially as described.

In testimony whereof we have hereunto subscribed our names.

CHARLES P. DODGE.
CHAS. WARREN BROWN.

Witnesses:
AUGUSTUS BROWN,
A. S. BROWN.