

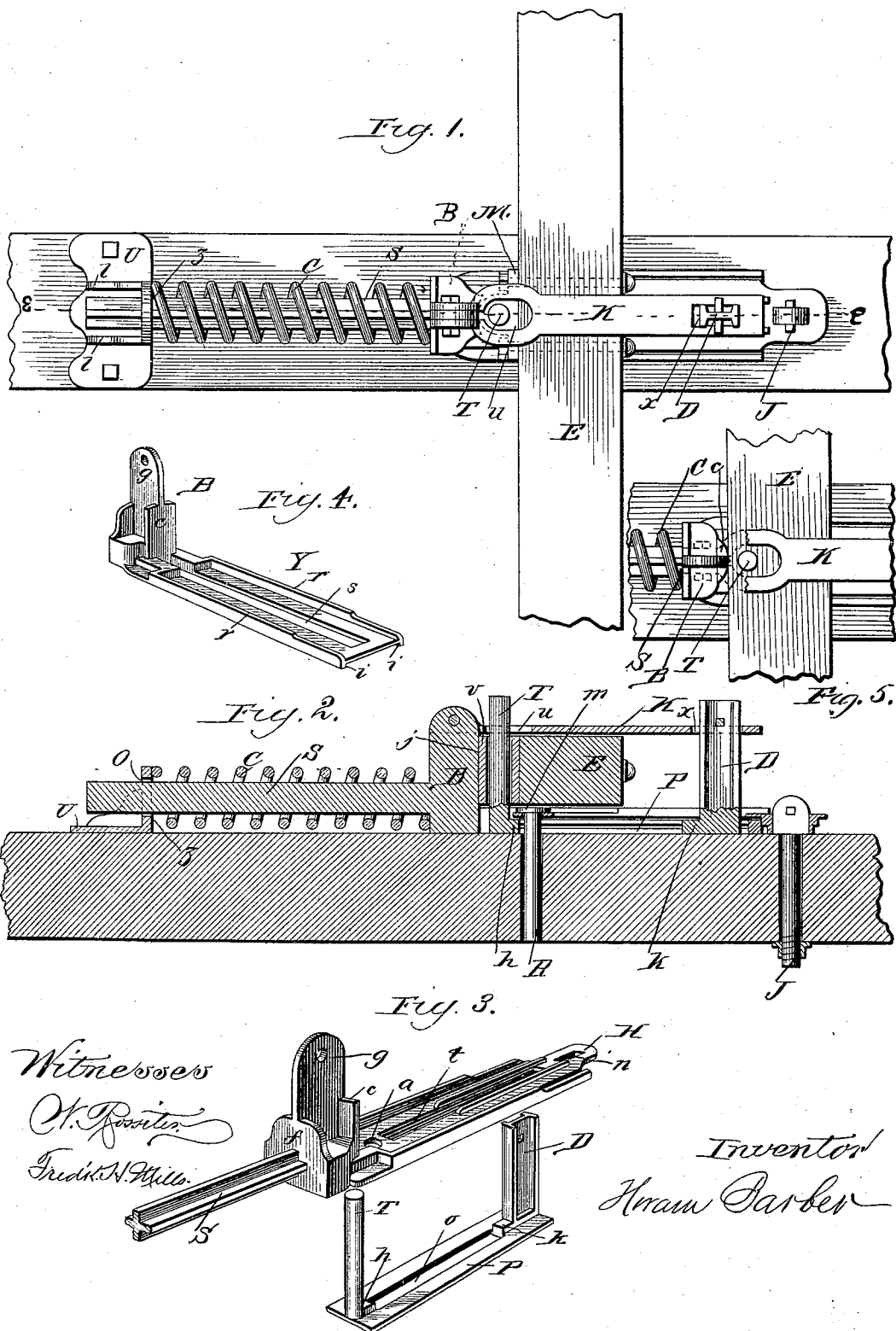
(No Model.)

H. BARBER.

SPRING DRAFT ATTACHMENT FOR VEHICLES.

No. 478,777.

Patented July 12, 1892.



UNITED STATES PATENT OFFICE.

HIRAM BARBER, OF CHICAGO, ILLINOIS.

SPRING-DRAFT ATTACHMENT FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 478,777, dated July 12, 1892.

Application filed July 31, 1889. Serial No. 319,261. (No model.)

To all whom it may concern:

Be it known that I, HIRAM BARBER, a citizen of the United States, residing at Chicago, in the State of Illinois, have invented certain new and useful Improvements in Spring-Draft Attachments for Vehicles, of which the following is a full, clear, and exact specification, reference being had to the accompanying drawings.

My invention relates to spring-draft attachments for vehicles; and it consists in certain details of construction and arrangement of parts, hereinafter more specifically described in the specification, illustrated in the drawings, and set forth in the claims.

In the drawings herewith submitted, Figures 1, 2, 3, and 4 are intended to show the several parts of my spring-draft attachment in its preferable form.

Fig. 1 is a plan view of my spring-draft attachment. Fig. 2 is a sectional view of my spring-draft attachment on the dotted line *ee*. Fig. 3 is a combination view in perspective of the central buffer B, provided with the engaging-shank S and the slotted shoe Y, the slotted hammer-strap H, and the upright bolt T, slotted strap P, and standard D, showing their relative positions when being adjusted or put together on the upper surface of the pole of a wagon. Fig. 4 is a rear view in perspective of the central buffer B and the slotted shoe Y. Fig. 5 is a view in perspective of the rear face *c* of the central buffer B, made convex in cross-section, and of a section of the evener, showing its face plain and the aperture therein for the reception of the upper section of the upright bolt T in a modified form of my spring-draft attachment where the plate M is dispensed with.

It will be observed that in my spring-draft attachment, as shown by the accompanying drawings, I make use of the forward buffer U, the central buffer B, provided with the shank S and the slotted shoe Y, of the coil spring C, the upright bolt T, and standard D, united by the strap P, provided with the longitudinal slot *o*, the hammer-strap H, provided with the front aperture *a*, the central longitudinal slot *t*, and the end slot *n*, the evener E, the plate M, provided with the sleeve *v*, and the hammer-strap K, provided with the slots *u* and

x. The shank S is projected at right angles from the front face *f* of the central buffer B. The slotted shoe Y is projected rearward from the lower section of the central buffer B and is provided with the central longitudinal slot *s*. The rear face *c* of the central buffer B is at right angles to the upper surface of the slotted shoe Y, and in the preferable form of my spring-draft attachment the rear face *c* of the central buffer B is made concave. The hammer-strap H is provided with the front aperture *a* for the passage of the stem of the bolt R, also with the central longitudinal slot *t* for the reception and movement therein of the body of the standard D and with the rear end slot *n* for the reception of the upper section of the bolt J. The strap P, which unites the upright bolt T and the standard D, is provided with the longitudinal slot *o* for the passage of the stem of the bolt R and its movement therein. The plate M, which is attached to the front face of the evener E, is provided with the sleeve *v* for the reception of the upper section of the bolt T. The face *j* of the sleeve *v* in the preferable form of my spring-draft attachment is made convex to correspond with the rear concave face *c* of the central buffer B. The hammer-strap K is hinged or pivoted to the upper section *g* of the central buffer B and is provided with the slot *u* for the introduction and movement of the upper end of the upright bolt T, also with the slot *x* in the rear end thereof, which passes over the upper end of the standard D.

The forward buffer U is composed of two plates united at the edges at right angles to each other. In the interior angle formed by the union of the plates are placed the two brackets *ll* as supports to the upright plate. The forward buffer U has thus two outward faces, one of which may be styled the "lower" and the other the "rear" face thereof. The rear face *z* of the forward buffer U is provided with the aperture O for the reception of the forward end of the shank S of the central buffer B, the brackets *ll* being placed one on each side of this aperture. When in position, the lower face of the forward buffer U rests upon the upper surface of the tongue of the wagon and is rigidly attached thereto. The rear face *z* of the forward buffer U is thus at right an-

gles to and across the upper surface of the tongue. The central buffer B is placed longitudinally upon the upper surface of the tongue with the forward end of the shank S inserted into the aperture O in the rear face *z* of the forward buffer U, while the slotted shoe Y extends rearward upon the upper surface of the tongue with the strap P and the heads *h k* of the upright bolt T and standard D beneath the same, with the upper section of the bolt T projected upward through the forward end of the slot *s* and the upper section of the standard D projected upward through the rear end of the slot *s*. The coil-spring C when in position is placed longitudinally between the front face *f* of the central buffer B and the upright face *z* of the forward buffer U, the shank S passing longitudinally through the core thereof. The front end of the shank S is held in the aperture O in the rear face *z* of the buffer U and has free forward and backward movement therein. The lower surface of the shoe Y is on the same line with the lower surface of the central buffer B.

In the preferable form of my spring-draft attachment the outer edges of the lower surface of the shoe Y are provided with longitudinal ribs *i i*, by means of which the lower surface of the shoe Y is raised sufficiently above the upper surface of the tongue to form a longitudinal recess on the under surface of the shoe Y for the reception of the strap P and the heads *h k* of the bolt T and the standard D. The shoe Y is designed to move longitudinally forward and backward on the upper surface of the tongue of the wagon and to carry with it in such movement the upright bolt T, the strap P, and the standard D. The shoe Y, the bolt T, strap P, and standard D are held in position upon the upper surface of the tongue of the wagon by means of the slotted hammer-strap H and the bolts R and J. When in position, the forward end of the hammer-strap H rests upon the upper surface of the shoe Y, the stem of the bolt R passing down through the aperture *a* and also down through the slots *s* and *o* into the tongue below, with the under portion of the head *m* resting upon the upper surface of the hammer-strap H, while the rear end of the hammer-strap H extends rearward beyond the shoe Y and is rigidly attached to the tongue of the wagon by means of the bolt J. When in position, the rear end of the hammer-strap H is in contact with the upper surface of the tongue of the wagon, the slot *n* passing over the upper section of the bolt J. The forward end of the hammer-strap H is so adjusted as to permit the free forward and backward movement of the shoe Y and of the bolt T, standard D, and strap P. By this arrangement the free forward and backward movement of the shoe Y is secured and at the same time any rocking or lateral movement of the shoe Y, the bolt T, and the standard D are overcome by the rigidity of the bolt R and the hammer-

strap H. The sides *rr* of the shoe Y are raised sufficiently to form a longitudinal recess upon the upper surface of the shoe Y for the reception of the forward portion of the hammer-strap H and the head *m* of the bolt R. The evener E is placed between the bolt T and the standard D, where it is held, and rides upon the upper surface of the sides *rr* of the shoe Y. The plate M, provided with the sleeve *v*, is attached to the front face of the evener E. The sleeve *v* is for the reception of the upper section of the upright bolt T. The front face *j* of the sleeve *v* in the preferable form of my spring-draft attachment is convex to correspond with the concave rear face *c* of the central buffer B. When the evener E is in position, the lower surface thereof is immediately over the upper surface of the hammer-strap H and the head *h* of the bolt R and rests upon the upper edges of the sides *rr* of the shoe Y. The evener E is further secured in this position by the upper hammer-strap K, the rear end of which is securely keyed to the upper end of the standard D. The slots *uv* in the upper hammer-strap K are longitudinal and of sufficient length to permit the forward movement of the upright bolt T and standard D when the evener E is pressed forward against the rear face *c* of the central buffer B. When in position, the upright bolt T is immediately back of the rear face *c* of the central buffer B, while the upper surface of the slotted strap P, which unites the upright bolt T and the standard D, is in contact with the under surface of the shoe Y, the central slot *s* therein corresponding with the slot *o* in the strap P, except as to length, the central slot *s* in the shoe Y being longer than the slot *o* in the strap P and being of sufficient length to receive the upright bolt T and standard D and permit the passage of the front section of the sleeve *v* between the face *c* and the upright bolt T.

The operation of my spring-draft attachment may be briefly summarized as follows: When properly attached to the pole of a wagon with the several parts thereof in position, forward draft upon the evener E brings the front face *j* of the sleeve *v* of the plate M on the front side of the evener against the rear face *c* of the central buffer B, and thus presses the face *f* of the central buffer B against the rear end of the coil-spring C. The shank S of the buffer B is thereby driven through the aperture O, and the coil-spring C is thus compressed against the face *z* of the forward buffer U. Upon the compression of the coil-spring C the shank S, the buffer B, and shoe Y, the upright bolt T, standard D, and strap P are carried forward, the standard D moving forward in the slot T in the hammer-strap K and the bolt R moving rearward, so to speak, in the slot *s* in the shoe Y and the slot *o* in the strap P, and the yielding connection between the draft-animal and the fixed point of attachment to the vehicle is thus secured. The advantages of

such yielding connection are now very generally recognized. The utility thereof is undoubtedly very great.

By the arrangement herein described I have sought to overcome several difficulties hitherto encountered in the introduction of spring-draft-attachment devices. One of the most serious of these is that of securely attaching the device to the pole of the wagon without marring or unreasonably defacing the same.

In my spring-draft attachment herein described the bolt R, which passes through the aperture *a* in the hammer-strap H and also through the forward part of the central slot *s* in the shoe Y and the slot *o* in the strap P, is designed to occupy the same aperture or hole in the tongue of the wagon commonly provided for the evenner-bolt as now in use. In order, therefore, to attach my spring-draft attachment to the pole of a wagon, it is only necessary to fasten the forward buffer U rigidly to the pole in front and to insert into the pole the bolt J to which the rear end of the hammer-strap H is fastened. This may be readily done without injury to the pole. The forward buffer U may be attached to the pole by bolts or by a band or clip encircling the same, as the case may require, while the bolt J, which holds the rear end of the hammer-strap H, is fastened in place with equal facility.

Another very serious obstacle in the introduction of spring-draft-attachment devices has been found in the difficulty of removing the same from the vehicle in case of breakage and of replacing the evenner in that emergency.

By the device herein described I have sought to overcome this obstacle as far as may be.

It will be observed that by disengaging the rear end of the lower hammer-strap H, removing the evenner E and withdrawing the bolt R the central buffer B, with the shoe Y and shank S, and the coil-spring C, may be readily removed and the evenner E replaced upon the pole in the old-fashioned manner by the use of the hammer-strap H and the bolt R. To this end it is only necessary that the upper section of the bolt J, to which the rear end of the hammer-strap H is keyed, should be of sufficient height and provided with sufficient apertures to meet the varying degrees of thickness of the evenners in use. It will thus be seen that in case of breakage my spring-draft attachment may be readily removed and the customary method of attaching the evenner adopted, the machine itself having the necessary bolt and hammer-strap for that purpose.

Another difficulty in the introduction of spring-draft-attachment devices has been found in the inability to use in such devices an evenner provided with a staple. In some parts of the country hardly an evenner is to be found in use not thus provided. This is more especially true in the lumber regions and in some portions of the far West. It will be observed that in my spring-draft attachment an

evenner provided with a staple may be used with the utmost facility. All that is necessary for this is to have a sufficient distance between the upright bolt T and the standard D, in which space the evenner works.

Having thus explained the object and purpose of my spring-draft attachment, its mode of construction, and method of operation, what I claim as novel and as of my invention, and for which I seek Letters Patent, is—

1. In a spring-draft attachment, the central buffer B, provided with the shank S and the slotted shoe Y, in combination with the forward buffer U, rigidly attached to the tongue of the wagon, the coil-spring C, the upright bolt T, and standard D, united by the slotted strap P, the slotted hammer-strap H, the bolts R and J, the evenner E, and the plate M, provided with the sleeve V, all arranged substantially as and for the purpose herein set forth.

2. In a spring-draft attachment, the central buffer B, provided with the shank S and the slotted shoe Y, in combination with the forward buffer U, rigidly attached to the pole of the wagon, the coil-spring C, the hammer-strap H, the bolts R and J, and the evenner E, all arranged as and for the purposes herein set forth.

3. In a spring-draft attachment, the central buffer B, provided with the shank S and the slotted shoe Y, in combination with the forward buffer U, rigidly attached to the pole of the wagon, the coil-spring C, the upright bolt T, the hammer-strap H, the bolts R and J, and the evenner E, all arranged as and for the purposes herein set forth.

4. In a spring-draft attachment, the central buffer B, provided with a shank S and the slotted shoe Y, in combination with the forward buffer U, rigidly attached to the pole of the wagon, the coiled spring C, the bolts T and R, and the slotted strap P, all arranged as and for the purposes set forth.

5. In a spring-draft attachment, the central buffer B, provided with the shank S and the slotted shoe Y, in combination with the forward buffer U, rigidly attached to the pole of the wagon, the coil-spring C, the bolts T and R, the evenner E, and the plate M, provided with the sleeve *v*, all arranged as and for the purposes herein set forth.

6. In a spring-draft attachment, the central buffer B, provided with the shank S and the slotted shoe Y, in combination with the forward buffer U, rigidly attached to the pole of the wagon, the coil-spring C, the bolt T, and standard D, united by the slotted strap P, the bolt R, the evenner E, and the plate M, provided with the sleeve *v*, all arranged substantially as and for the purpose herein set forth.

7. In a spring-draft attachment, the central buffer B, provided with the shank S and the slotted shoe Y, in combination with the forward buffer U, rigidly attached to the pole of the wagon, the coil-spring C, the bolt T, and standard D, united by the slotted strap P, the

slotted hammer-strap H, attached to the pole of the wagon and held rigidly in position by means of the bolts R and J, the evener E, the plate M, provided with the sleeve *v*, and the
5 upper hammer-strap K, all arranged as and for the purposes herein described.

8. In a spring-draft attachment, the combination, with the central buffer B, shank S, spring C, slotted shoe Y, having downwardly-
10 projecting ribs *i i* at its sides, of the slotted strap P, located and held between said ribs and provided with the bolt T and standard D, substantially as and for the purpose described.

9. In a spring-draft attachment, the combination, with the spring C and hammer-strap H, having apertures *a* and *n*, of the slotted strap P, provided with a bolt T and standard D, and the confining-bolt J, whereby the device is secured to the tongue of the vehicle,
15 substantially as and for the purpose described. 20

In witness whereof I have hereunto subscribed my name this 29th day of July, A. D. 1889.

HIRAM BARBER.

Witnesses:

JAMES BARNETT,

GEO. BERRYEVILLE.