(No Model.)

H. BARBER.

SPRING DRAFT ATTACHMENT FOR WAGONS.

No. 559,883. Patented May 12, 1896.

Fig. 1.

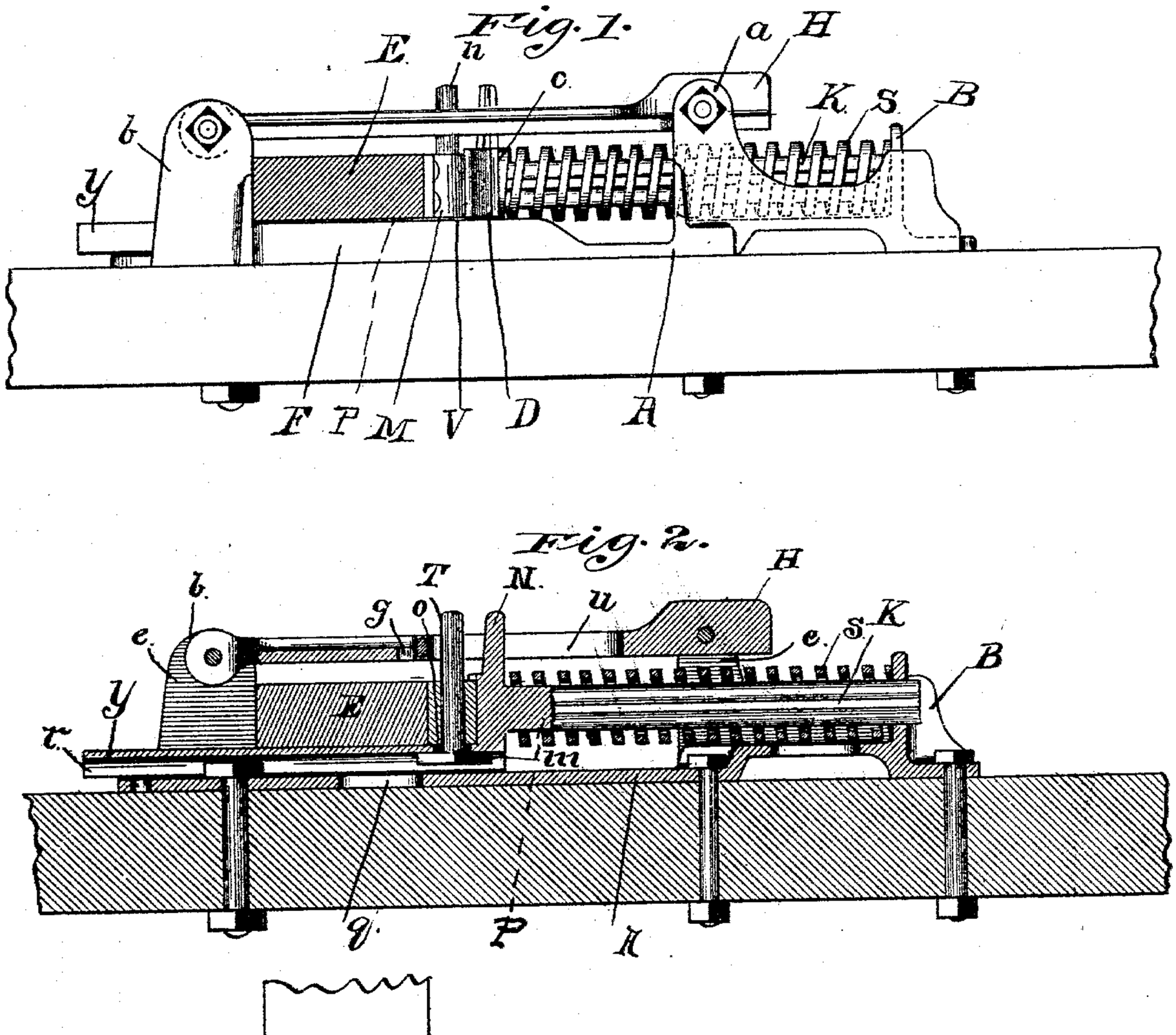

Fig. 2.

Fig. 3.

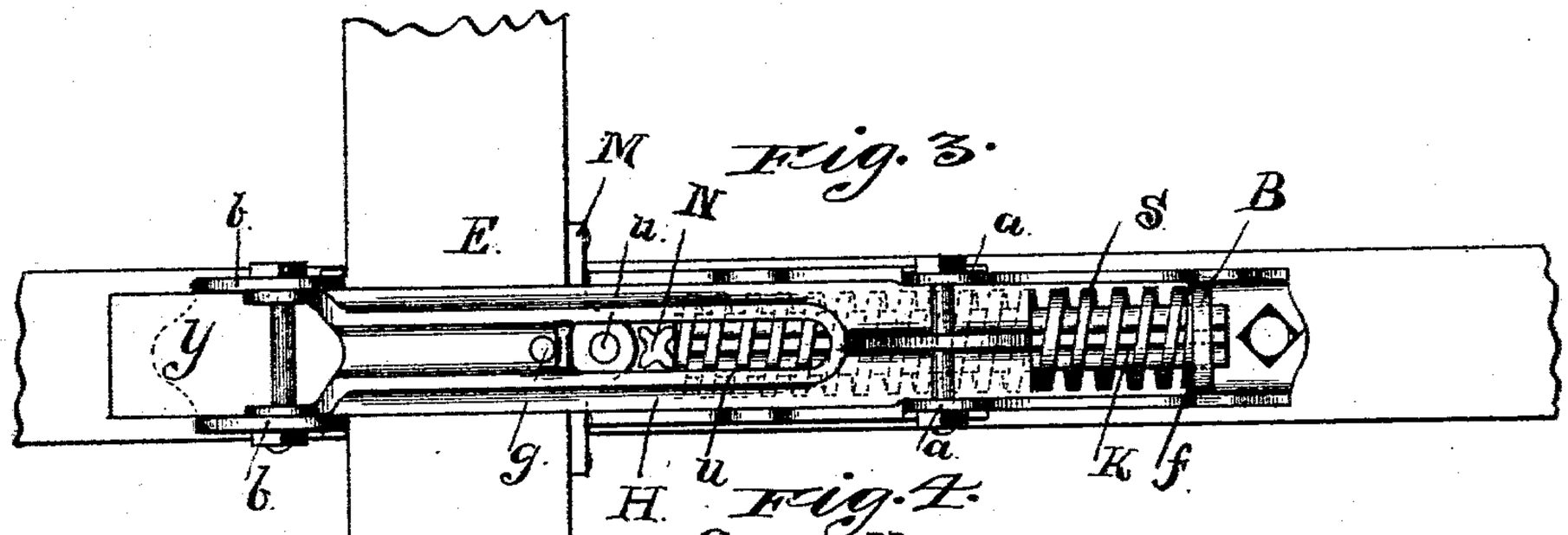

Fig. 4.

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SPRING DRAFT ATTACHMENT FOR WAGONS.

SPECIFICATION forming part of Letters Patent No. 559,883, dated May 12, 1896.

Application filed March 6, 1893. Serial No. 464,654. (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 county of Cook and State of Illinois, have invented certain new and useful Improvements in Spring Draft Attachments for Use on Wagons, Plows, &c.; and I do hereby 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.

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

In the drawings, Figure 1 is a side elevation of my improved draft attachment in position on the tongue of a vehicle. Fig. 2 is a longitudinal vertical section; Fig. 3, a plan view, and Fig. 4 a front end view.

The object of my invention is an improved yielding connection between the vehicle and draft-animals whereby the shock and strain may be reduced to a minimum, while at the same time simplicity of construction, economy, and durability are combined.

Another object is a construction whereby the evener and spring attachment may be easily and quickly removed when desired.

The improvement relates particularly to the method of constructing and operating the plunger, whereby its parts are formed integral and made to serve the desired purpose of supporting the evener at a sufficient point above the fixed bottom plate of the frame to afford a space between the bottom plate and plunger for the accommodation and movement of the head of the evener-bolt while the spring is being compressed between the head-block of the plunger and the buffer-wall of the frame. This object has been heretofore imperfectly accomplished in part in my former patent, No. 478,777, issued July 12, 1892, but other elements were required in the combination.

The purpose of the present improvement is to simplify the construction by which the object is attained.

Referring more particularly to the drawings, F is a frame rigidly fixed to the tongue or draft extension by bolts or otherwise, and consists of the bottom plate A, provided at its front end with a chambered buffer B, formed integral therewith, and composed of a transverse end wall centrally perforated and short vertical side walls terminating at their rear ends in upwardly-projecting ears *a*, parallel with each other and perforated at their ends. This buffer is designed to receive and hold the forward end of a spiral spring surrounding the shank of the plunger, which will presently be described. This plate A is also provided at the outer edges of its rear end, on opposite sides, with vertical standards *b*, parallel with each other, also perforated at their upper ends and corresponding in height with the ears *a*.

P represents the plunger, corresponding in length with the bottom plate A of the frame and adapted to be placed longitudinally within the frame between the side standards *a a* and *b b* above the bottom plate. This plunger is provided at an intermediate point with a head-block D of a width corresponding to that between the sides, having a plain front face *c*, from the center of which projects forwardly a shank K, the outer end of which rests in the perforation X in the front end wall of the chambered buffer B. This shank is preferably constructed with upper and lower vertical flanges and horizontal side flanges, and the perforation X in the end wall of the chambered buffer corresponds in shape to its cross-section, as shown in Fig. 4. The rear extension of the plunger consists of a horizontal plate, which extends from the lower edge of the block D rearward to the rear end of the frame. This rear extension I have termed the "shoe" Y.

On the rear under face of the shoe Y are two downwardly-projecting studs or ribs *r r*, arranged opposite each other, which rest upon the plate A and serve to hold the shoe away from the plate and afford a space between it and the plate sufficient to accommodate the head of a bolt, as shown in Fig. 2.

E represents the evener, which rests transversely and centrally across and upon the shoe immediately in front of the rear standards *b b* and in rear of the head-block D. Upon the front face of the center of the evener is secured a plate M, having at its cen-

ter a vertical sleeve V for the reception of the evener-bolt T. This evener-bolt is inserted from beneath through an opening in the shoe and projects upward through and beyond the top of the sleeve V, its head *m* resting upon the plate A and occupying the space between the plate and lower face of the shoe. The front convex side of the sleeve fits a vertical concave recess in the rear face of the head-block D, allowing the evener to turn upon its pivot-bolt T. Surrounding the shank K of the plunger is the spiral spring S, the front end of which bears against the rear face *f* of the front end wall of the chambered buffer and its rear end against the shoulder or front face of the head-block D.

H is the hammer-strap, the rear end of which is bifurcated and its members pivotally connected to the rear standards *b b*, as shown in Figs. 1 and 3, and its front end to the vertical ears *a a*. This hammer-strap is provided with a longitudinal guide-slot *u* or opening through which the stem *n* of the evener pivot-bolt T projects, and the head-block D is provided at its top with an upright stud N, which also projects through the guide-slot in the hammer-strap. The shoe Y is likewise provided with a longitudiual slot for the neck or headed end of the bolt T. By reason of the slots in the hammer-strap and shoe-plate the bolt T and projection N of the head-block are afforded free longitudinal movement backward or forward as the spring is compressed or extended.

Having described the various parts of my device in detail, I will now proceed to describe its operation.

The team is attached to the vehicle in the usual manner, and in starting the force or draft exerted upon the evener forces the head-block forward against the rear end of the spring S, causing the front end of the shank K to project through the opening X in the buffer B, thus compressing the spring between the head-block and buffer while the strain continues, forming a yielding cushion between the team and load, and when the strain is released the spring relaxes, forcing the evener back to its normal position, the longitudinal slot *u* in the hammer-strap and the slot *o* in the shoe-plate Y serving as guides for the evener-bolt and head-block.

It will be observed that the evener may be quickly and easily removed for detached service by releasing one end of the pivoted hammer-strap, or the spring and plunger readily removed and dispensed with and the evener attached in the ordinary manner by passing an evener-bolt down through the opening *g* in the hammer-strap and through the tongue, the plate A being provided with a slot or opening *q* for the purpose.

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

1. In a spring draft attachment for vehicles, the frame F, consisting of the horizontal bottom plate A, having the perforated side flanges *a a*, *b b*, and the perforated transverse buffer-wall B secured to the tongue; the plunger P consisting of the head-block N, having forwardly-projecting shank K and rearwardly-extending shoe Y, all made integral, and the latter having on its lower under face the downwardly-projecting ribs *r;* the spiral spring S surrounding the shank K, the evener E resting upon the shoe-plate in rear of the head-block; the evener-bolt T inserted from beneath through the shoe-plate and evener, with its head occupying the space between the former and the plate A of the frame F, and the slotted hammer-strap, secured between the standards *a a* and *b b* of the frame, all arranged and combined substantially as and for the purpose set forth.

2. In a spring draft attachment, the combination with the fixed frame F secured to the tongue of a vehicle and having the side standards *a a*, *b b*, and perforated end wall B, of the integral plunger P composed of the central head-block N, forwardly-projecting shank K, and rearwardly-extending horizontal shoe Y, having the downwardly-extending rib or stud *r;* the evener E resting upon the shoe Y; the plate M secured to the front of the evener and having the sleeve V; the evener-bolt T extending upward through the shoe Y, sleeve V and hammer-strap, its head resting upon the bottom plate A of the frame and adapted to occupy and move within the space afforded by the rib between the shoe Y and plate A; and the hammer-strap H, substantially as and for the purpose described.

Dated at Chicago, Illinois, this 3d day of March, A. D. 1893.

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Witnesses:
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