

(No Model.)

J. M. HARDEN.
HORSE DETACHER.

No. 446,866.

Patented Feb. 24, 1891.

Fig. 1

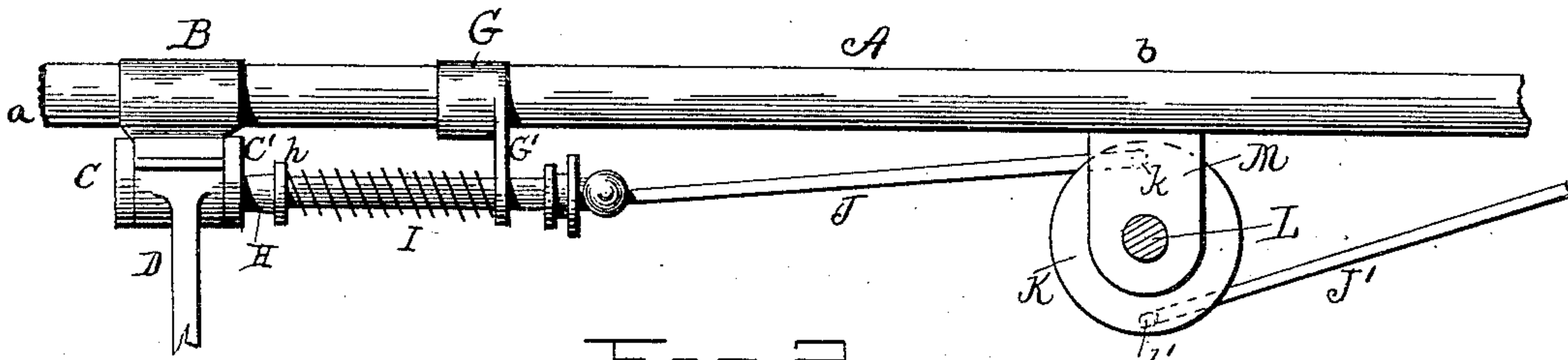


Fig. 2

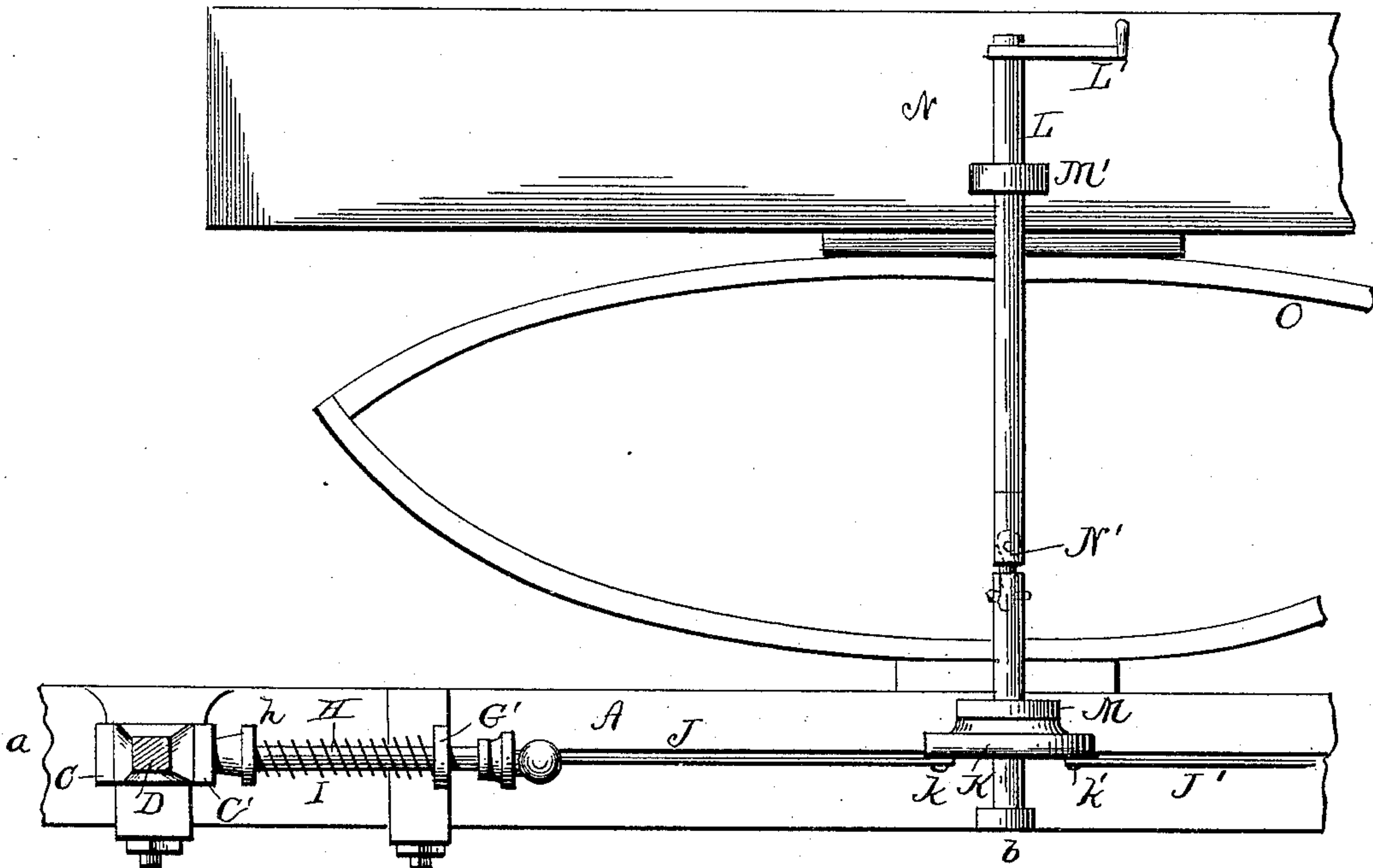
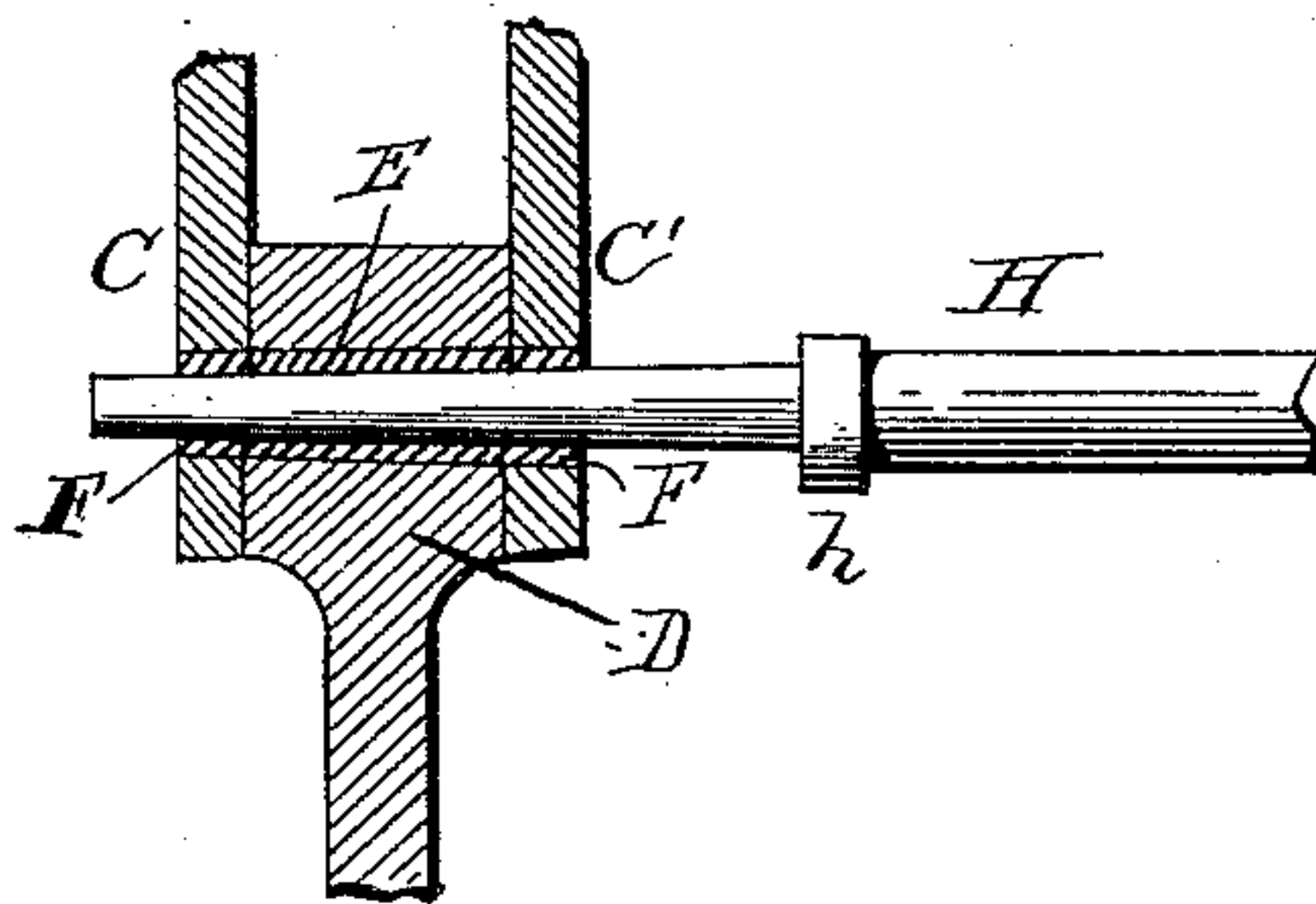


Fig. 3



Witnesses

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UNITED STATES PATENT OFFICE.

JESSE M. HARDEN, OF REISTERSTOWN, MARYLAND.

HORSE-DETACHER.

SPECIFICATION forming part of Letters Patent No. 446,866, dated February 24, 1891.

Application filed May 21, 1890. Serial No. 352,615. (No model.)

To all whom it may concern:

Be it known that I, JESSE M. HARDEN, a citizen of the United States, residing at Reisterstown, in the county of Baltimore and State of Maryland, have invented certain new and useful Improvements in a Combined Thill-Coupling and Horse-Detacher; 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 of reference marked thereon, which form a part of this specification.

My invention relates to combined thill-couplings and horse-detachers, and has for its object to furnish a device of this class which shall possess valuable characteristics, as follows: First, it will always take up the wear of the coupling, thus preserving a tight joint and preventing rattling when in use; second, the pin, being always pressed home, is not liable to drop out and thus cause trouble, and, third, it is so arranged that the horse, with the thills, can be at any instant detached from the axle, thus preventing injury from runaway unmanageable horses.

With these objects in view my invention consists in the improved construction and arrangement of parts hereinafter fully described, and afterward specifically pointed out in the appended claims.

In the drawings, Figure 1 is a top plan view of so much of the axle of a vehicle as is necessary to show with my invention applied thereto, the rest being broken away, and the clips and shaft-iron being shown in horizontal section. Fig. 2 is a front view of the central portion of the axle, showing the means for operating my device as a horse-detacher in vertical section. Fig. 3 is a detail sectional view.

Like letters of reference mark the same parts wherever they occur in the figures of the drawings.

Referring to the drawings by letters of reference, A is the axle, the broken-away end *a* being the wheel end and the point *b* being the center, and inasmuch as my devices on each side of the center are precisely alike in con-

struction and function it is not deemed necessary to illustrate but one set.

B is the ordinary thill-coupling clip, having perforated forward projections C C', said clip being secured to the axle in the ordinary way by bolts and nuts. (Not shown.) The perforations in these forward projections are slightly tapering or conical, becoming smaller toward the outer end of the axle, and form, with the perforation in the shaft-iron D, a continuous taper from end to end. Within this tapering opening of the shaft-iron a tapering steel thimble E is placed. Similar short tapering steel thimbles F F' are placed in the tapering openings in the forward projections C C' of the coupling-clip B.

G is another clip on the axle, nearer to the middle of the axle than clip B, having a forward projection G' perforated in the line of the axle.

H is the pin which I use instead of the ordinary bolt to connect the clip and shaft-iron. This pin is cylindrical in form from its inner end to near the inner side of the coupling-clip, and tapering from that point to its outer end to fit the three steel thimbles hereinbefore described.

I is a spiral spring wound around this pin, having a bearing at its inner end against the projection G' of clip G and at its outer end against a pin or shoulder *h*, placed in or formed on the pin H, thus tending to normally hold the said pin H always in its proper place in the coupling-clip and shaft-iron. At its inner end the pin H is formed with a hole, a hook, or other suitable appliance by which to attach a wire, rope, or chain J, which at its inner end is secured to a pin *k*, projecting up from a horizontal disk K, mounted on a vertical shaft L, pivoted in a clip M, secured to the central portion of the axle, which shaft projects up to a position to be within ready reach by the driver, and is provided with a crank or handle L'.

On the opposite side of the disk K from pin *k* is a pin *k'*, to which is connected a cord, wire, or chain J', connecting with a similar arrangement of devices to be used in connection with the other shaft of the vehicle.

The operation of the steel thimbles and tapering pin will be readily understood, the

spring always holding the pin up into its seat, and the thimbles taking the wear off the pin and the coupling-clip. These of course can much more readily be replaced when worn
5 than can the other parts. Three thimbles are necessary to the proper action of the device as a horse-detacher. Should it be desired to attach an unmanageable horse, all that is necessary is for the driver to give a slight turn
10 to the crank L', which will cause the pins in both couplings to be drawn inward, thus freeing the horse from the vehicle and avoiding the destruction of it. The shaft L also passes through a plate M', attached to the body N
15 of the vehicle, and has in it a universal joint at N' to permit of the usual movement due to spring O.

Having thus fully described my invention, what I claim as new, and desire to secure by
20 Letters Patent of the United States, is—

1. In combination, the axle, the coupling-clip having forward projections with tapering perforations, the shaft-iron having a corresponding tapering perforation, the thimbles, the tapering pin, the subsidiary clip, and
25 the spring on the pin, as and for the purpose set forth.

2. In combination, the central vertical shaft with handle in reach of the driver, the horizontal disk on said shaft, the vertical pin in
30 said disk, the tapering coupling-pin, the subsidiary clip, the coupling-clip and shaft-iron with tapering perforations, the three thimbles, and the spring around the coupling-pin, as and for the purpose set forth. 35

3. In combination with the axle, the clip or plate M thereon, the body N, the plate M', and the shaft L, having universal joint N', as set forth.

4. In combination, the axle, the shaft-clips, 40 the spring-actuated pins, the disk K, connected thereto by means of pins k k' and rods or cords J J', the axle, the wagon-body, the wagon-spring, and the shaft L, attached to the axle and body and provided with universal joint to compensate for the movement of
45 the body relative to the axle, as set forth.

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

JESSE M. HARDEN.

Witnesses:

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