

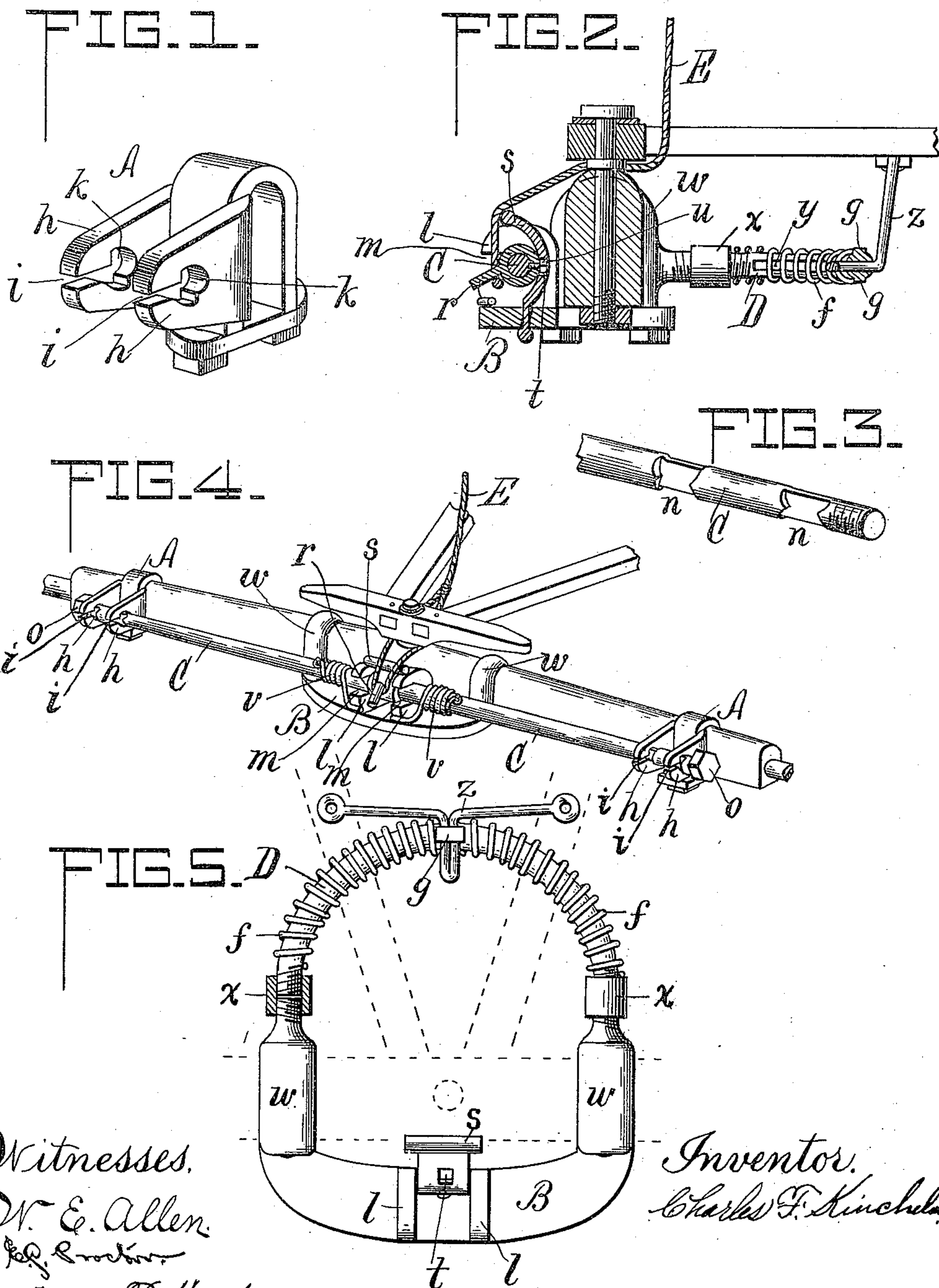
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Patented Jan. 31, 1899.

C. F. KINCHELOE.
HORSE DETACHER AND VEHICLE GUIDE.

(Application filed Jan. 12, 1898.)

(No Model.)



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HORSE-DETACHER AND VEHICLE-GUIDE.

SPECIFICATION forming part of Letters Patent No. 618,419, dated January 31, 1899.

Application filed January 12, 1898. Serial No. 866,426. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. KINCHELOE, a citizen of the United States, residing at Washington, in the District of Columbia, with legal residence at Quincy, in the county of Adams and State of Illinois, have invented a new and useful Horse-Detacher and Vehicle-Guide, of which invention the following is a specification.

My invention consists of a horse-detacher and vehicle-guide; and the objects of my invention are, first, to attach the tongue or thills to the vehicle so that they can be quickly and easily detached therefrom; second, to readily and easily detach from the vehicle the tongue or thills, together with the horse or horses attached thereto, in the event of the horse or horses becoming unmanageable or other emergency, and, third, to guide the vehicle in a straight course forward while it continues in motion after the horse or horses have been detached therefrom.

I attain these objects by means of the mechanism illustrated in the following drawings, in which—

Figure 1 is a view of one of the two similar axle-clips, showing the shape of the slots and expansions in which the rotating release-rod operates. Fig. 2 is a central transverse section of the invention and the front axle of a vehicle to which it is attached. Fig. 3 is a view of one end of the transversely-grooved rotating release-rod, showing the thin and partially-flat sections thereof. Fig. 4 is a perspective view of the detacher in proper position on the front axle of a vehicle, and Fig. 5 is a top view of the guide and the front central support of the detacher.

Referring to Fig. 1 of the drawings, A (the entire figure) is one of the two similar axle-clips which fit upon and are attached to the front axle of the vehicle and which support the tongue or thills in the ordinary manner, as will be seen by reference to Fig. 4.

The parts marked *h* throughout the drawings are the four front extensions of the axle-clips, which extensions are broad, vertically, at their bases, thus giving increased strength over the ordinary form and preventing spreading of the upper and lower parts where separated by the slots marked *i* and hereinafter described.

The four horizontal slots above referred to and marked *i* extend back from the front and in to about the center of the front extensions of the axle-clips and there terminate in four peculiarly-shaped expansions, two of which expansions (marked *k*) are clearly shown in Fig. 1. These slots (marked *i*) and expansions (marked *k*) constitute one of the principal and important features of the invention.

The support B is for the double purpose of supporting the horizontal rotating release-rod C and to aid in attaching to the vehicle the half-circle D of the guide.

The upward extensions (marked *l*) of the support B are provided with horizontal slots, (marked *m*,) which slots are on a horizontal line with the four slots marked *i* and are large enough to admit the release-rod C.

Referring to Fig. 4, the release-rod C extends horizontally between and through the axle-clips A A and the support B, and the tongue or thills are supported by and on the said release-rod in the ordinary manner, said release-rod extending through the eyes or bolt-holes in the rear ends of the tongue or thills and taking the place of the usual thill-bolts used for the purpose.

An important feature of the rotating release-rod C is its similar thin and nearly flat sections, two of which are shown and marked *n* in Fig. 3. Each of these thin sections (marked *n*) of the release-rod is the result of a set of two opposite transverse grooves in said release-rod C, all of the grooves on the same side of the release-rod being directly in line, and the said sections (marked *n*) of the release-rod are so spaced on the release-rod as to coincide with the slots (marked *i*) in the front extensions of the axle-clips, thus permitting the release-rod C by means of the thin sections thereof, (marked *n*,) to be passed back through the said slots marked *i* and *m* and into the expansions, (marked *k*,) where on being rotated part way around the release-rod C fits in the said expansions in such manner that it cannot be further rotated in that direction and cannot be detached from the vehicle without first being rotated back to the position in which it entered. These expansions (marked *k*) are so shaped that the release-rod C can be rotated only one way upon entering said expansions; that it can be ro-

tated in that direction only part way around, in which position it so fits in said expansions as to hold the tongue or thills firmly in place, and that in being rotated back for the purpose of detaching the tongue or thills from the vehicle it cannot pass beyond the position in which it entered, thus securing absolute certainty of detachment when desired. The ends of the release-rod C are fitted with nuts *o o*, and the thin sections of the release-rod, (marked *n*,) together with the front extensions of the axle-clips, (marked *h*,) are so shaped as to prevent binding in case both ends of the release-rod should not be withdrawn exactly together.

The part *r* is a lever fitting on the release-rod by means of an eye and being firmly attached to said release-rod by a set-screw, to which lever *r* the operating-cable E is attached for operating the detacher, the lever being so shaped and the cable so attached thereto that the cable will be automatically detached from the lever when the tongue or thills are detached from the vehicle.

The part *s* is an upright steel spring attached to the base of the support B just back of and resting against the release-rod C. This spring *s* contains a slot *t*, in which works a pin *u*, extending from the release-rod, said pin thus constituting a safety-catch, preventing the rotation of the release-rod C and the detachment of the tongue or thills until desired.

The parts *vv* are coil-springs which fit upon the release-rod C, attaching thereto and to the support B in such manner as to hold the release-rod in place in case the safety-catch *s* should be temporarily displaced and so as to be automatically detached from the support B when the tongue or thills are detached from the vehicle.

The parts *ww* are two clips to be attached to the front axle of the vehicle, to which the support B is attached, and to which is also attached the half-circle D of the guide by means of the nuts *xx*, each of which nuts contains right and left threads in opposite ends. The half-circle D has a horizontal slot or groove *y*, separating it into two sections, with the exception of about three inches at either end, which ends are solid and threaded for the reception of the nuts *xx*.

The part *z* is a guide-pin which is attached

to the running-gears of the vehicle and works in the slot or groove *y*, compressing alternately as the front axle of the vehicle is turned to right and left the coil guide-springs *ff*, which springs fit upon either end of the half-circle D and by their tension guide the vehicle in a straight course forward after the horse or horses have been detached therefrom.

The parts *gg* are central expansions of the half-circle D, against which the guide-springs *ff* rest when not compressed by pressure against the guide-pin *z*.

The operation and action of the detacher and guide are as follows: With the detacher and guide in position, as shown in Fig. 4, the operating-cable E is drawn upward, and in being so drawn it forces back the spring safety-catch *s*, thus leaving the release-rod C free (with the exception of the force exerted by the springs *vv*) to be rotated back to the position in which it entered, in which position it is by the slightest degree of force at once withdrawn through the slots *iii* and *mm* and, together with the tongue or thills attached thereto, completely detached from the vehicle. Upon the tongue or thills, together with the horse or horses attached thereto, being detached from the vehicle the guide-springs *ff*, being compressed on either side of the guide-pin *z*, continue the vehicle in a straight course forward.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A detachable coupling for vehicles consisting of a rod supported in the rear shaft or tongue end, and adapted to turn therein, said rod having thin parts, or sections, and being provided with means for turning, in combination with slotted clips on the front axle adapted to receive the thin parts, or sections, of said rod, and to hold the same when turned, substantially as described.

2. In combination with a detachable coupling of a vehicle, the half-circle D secured directly to the forward axle, and having springs thereon, and a guide-pin attached to the running-gear and interposed between the springs, substantially as described.

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