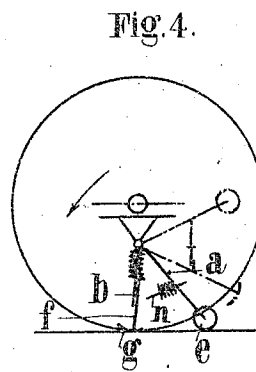
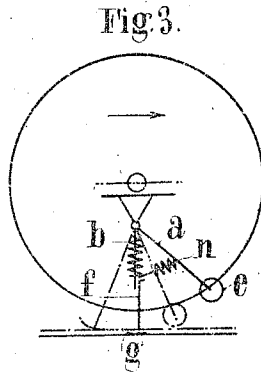
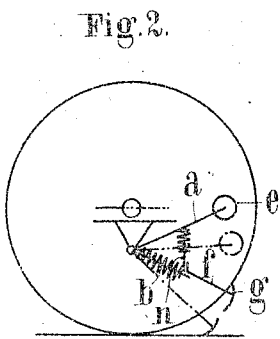
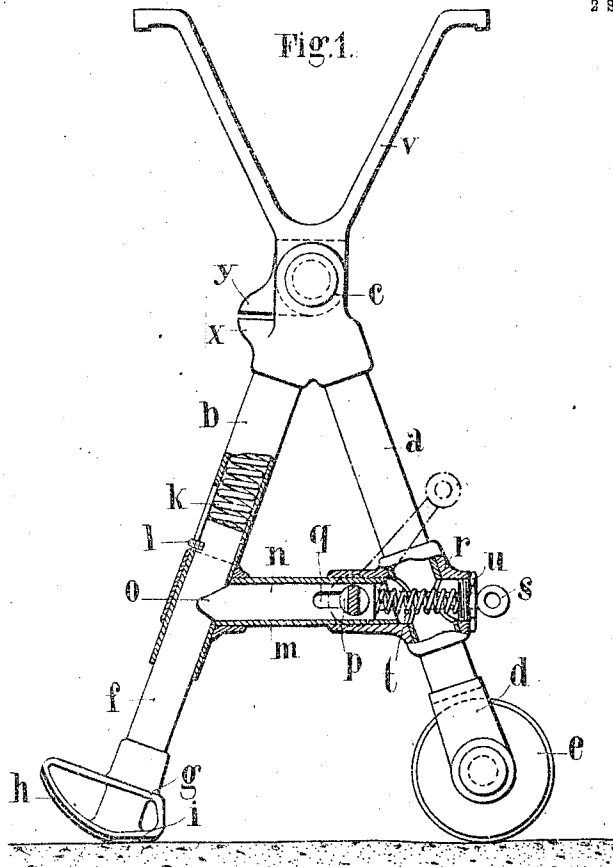


F. BRIAULT.
 APPARATUS FOR AUTOMATICALLY RAISING VEHICLES.
 APPLICATION FILED APR. 23, 1910.

972,502.

Patented Oct. 11, 1910.

2 SHEETS—SHEET 1.



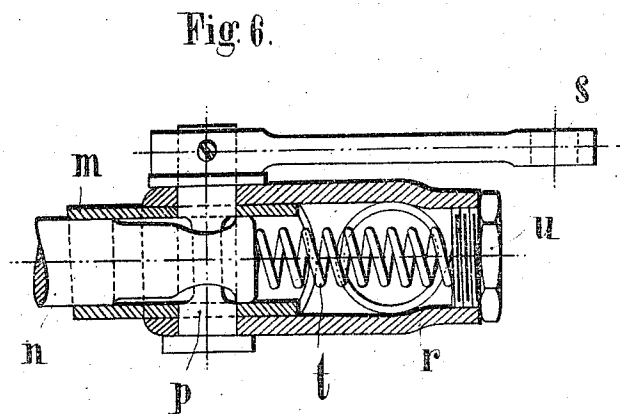
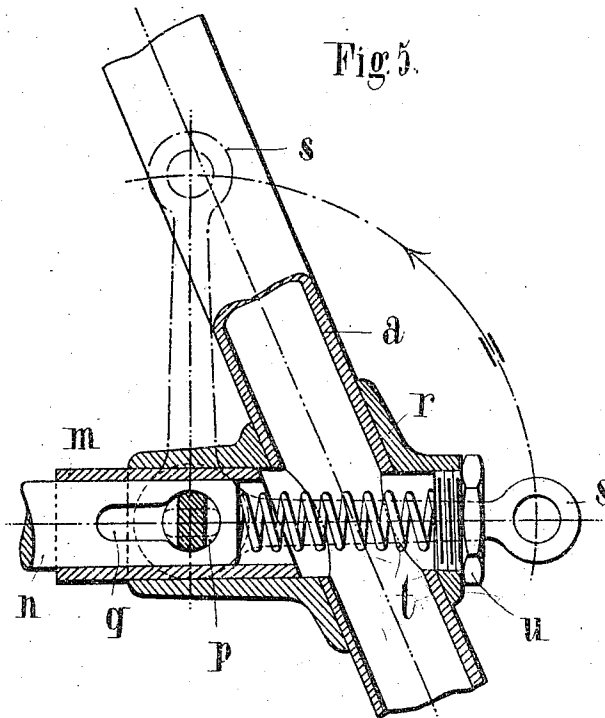
WITNESSES:
 Helen S. Morris
 Mary J. Taylor

INVENTOR
 Fernand Briault
 BY *Quile Briney*
 ATTORNEY

F. BRIAULT.
 APPARATUS FOR AUTOMATICALLY RAISING VEHICLES.
 APPLICATION FILED APR. 23, 1910.

972,502.

Patented Oct. 11, 1910.
 2 SHEETS—SHEET 2.



WITNESSES:
Edwin S. Morris
Mary J. Taylor

INVENTOR
Fernand Briault
 BY *Guile B. B. B.*
 ATTORNEY.

UNITED STATES PATENT OFFICE.

FERNAND BRIAULT, OF VILLEMOMBLE, FRANCE.

APPARATUS FOR AUTOMATICALLY RAISING VEHICLES.

972,502.

Specification of Letters Patent.

Patented Oct. 11, 1910.

Application filed April 23, 1910. Serial No. 557,219.

To all whom it may concern:

Be it known that I, FERNAND BRIAULT, residing at Villemomble, Seine, France, have invented new and useful Improvements in Apparatus for Automatically Raising Vehicles, which improvements are fully set forth in the following specification.

It is well known that the usual method for raising vehicles, and more particularly motor cars, the tires of which are to be repaired or changed, is to employ jacks acting by raising a vertically movable toothed rack in a fixed frame, operated by hand by means of any suitable mechanism. The manipulation of such an apparatus, more particularly when used for raising heavy loads, necessitates the expenditure of considerable labor and time.

This invention relates to an apparatus by means of which the vehicle can be raised simply by moving it.

The apparatus in question consists essentially of a trestle which remains rigid during the raising operations which operations are effected by the rotation of the said trestle about a pivot at its top, carried by a support or bracket secured to the vehicle, and by bringing into contact with the ground a shoe forming the end of a two-part telescopic locking leg with which the said trestle is provided, combined with another leg having its end supported on a roller. The vehicle is again lowered in order to resume its normal position, by unlocking the two telescopic parts forming the leg carrying the shoe by means of an external operating device, so that they slide relatively to each other.

In the accompanying drawing given by way of example, Figure 1 shows the apparatus partly in elevation and partly in section, and Figs. 2 3 and 4 are diagrammatic views showing the apparatus in various stages during operation. Figs. 5 and 6 are detail sectional views on an enlarged scale, showing the lock releasing device herein-after described.

The apparatus consists of a trestle, the uprights *a b* of which, preferably of tubular form, are secured together at one of their ends so as to form the apex of a triangular system by means of a two-way coupling terminating in a shackle *c*. The branch *a* terminates at its other end in a shackle *d* carrying

the spindle of a roller *e*. The other leg *b* which is shorter than the leg *a* forms a receptacle and guide for a bottom rod *f* which telescopes with the same and carries at its bottom end a shoe *g*, having a curved portion *h*, and a flat bearing surface *i*. A compression spring *k* is arranged in the leg *b* and bears against the rod *f* carrying the shoe. This rod is prevented from turning by the pin *l* with which it is provided and which coöperates with a suitable slot made in the wall of the leg *b*. The legs *a b* are braced by means of a horizontal tube *m* which insures the rigidity of the triangular system and in which is slidably mounted a bolt *n*, the projecting end *o* of which, with double bevel faces, coöperates with a suitable recess made in the telescopic rod *f*. The bolt *n* is perforated transversely for affording passage to a spindle *p* the axis of which is at right angles thereto. This spindle is flattened where it passes through the bolt, the thickness of such flattened portion corresponding with the width of a mortise *q* arranged longitudinally in the said bolt *n*. The spindle *p* rotates in two transverse bosses which are provided on a union *r* secured to the leg *a*, and is rotated by means of a crank *s* connected by any proper means to a lever which the driver of the vehicle can operate without leaving his seat. On the front portion of the sliding bolt *n* bears one of the ends of a spring *t* passing through the leg *a* and having its other end bearing against a stop nut *u* which is also used when assembling. The trestle thus constituted, is fixed either permanently or detachably to a bracket *v* secured to the vehicle, for instance to the axle or to the spring, the shackle *c* at the top of the trestle being connected to the tenon of the bracket by means of a pin. The shackle *c* is provided moreover with a stop *x* coöperating with a corresponding stop *y* with which the tenon of the bracket is provided.

The apparatus can be applied to the vehicle either only at the back, or in front and at the back, so as to enable the vehicle to be completely or partly raised. When the vehicle is traveling, the trestle is held in a horizontal position into which it is brought by means of a cable (not shown) acting on the lever *s* (Fig. 2). When, after stopping, it is desired to raise one of the wheels from

the ground, the apparatus is lowered, so as to bring the shoe *g* into contact with the ground (chain dotted lines in Fig. 2). A backward movement imparted to the vehicle, owing to the slope *h* of the curved portion of the shoe, enables the trestle to turn about its upper pivot and the vehicle to be raised on the shoe *g* such shoe forming the point of rest (Fig. 3.)

Equilibrium is obtained when the hub of the wheel, passing the vertical line drawn through the leg *b*, brings the roller *e* into contact with the ground as well as the bearing surface *i* of the shoe *g* (chain dotted lines in Fig. 3). The system thus arranged, is rigid, the spindle *p* being in the position shown in Figs. 1 and 5 and preventing any longitudinal movement of the bolt *n* (Fig. 1). If an excessive effort, or the state of the ground, have the tendency to cause the trestle to pass beyond the position of equilibrium, the stops *x* *y* limit the movement by coming into contact, the effort acting on the leg *a* merely causing the roller *e* to roll on the ground, which results in a backward movement and protects the apparatus against any excessive strain.

For restarting, the driver pulls the cable controlling the apparatus for bringing the lever *s* into the position shown in dotted lines (Fig. 5). The spindle *p* is thus caused to rotate and presents its flattened portion edgewise to the mortise *q* with which the bolt *n* is provided. At the same time the weight of the vehicle has the tendency to telescope the rod *f* in the tubular leg *b*, pushing backward, by means of its beveled face, the projection *o* of the bolt *n* which is free. The leg *b* *f* becoming shorter, the weight of the vehicle causes the apparatus to turn about the point of contact of the roller *e* with the ground (Fig. 4), the said roller *e* also moving backward thus lowering the top of the trestle so as to bring the wheel into contact with the ground.

A forward movement of the vehicle enables the apparatus to be disengaged completely and brought into the non-operative position (shown in dotted lines in Fig. 4); the springs *k* and *t* act at that moment so as to bring the rod *f* and the bolt *n* into their operative position, and replace the parts in the position similar to that originally occupied, by the engagement of the projection of the bolt *n* with the corresponding recess of the rod *f*. When it is desired to raise a vehicle completely, two apparatus secured at the back could be combined with a simple central front leg.

What I claim is:—

1. In a device of the character described, a trestle or support comprising a pair of converging legs rigidly secured together at one end, a roller journaled at the other end of one leg, a telescoping member carried by

the other end of the other leg, and a shoe carried by said telescoping member.

2. In a device of the class described, a V-shaped trestle or support comprising a pair of tubular legs, a roller rigidly mounted at the end of one leg, a bar arranged to telescope within the other leg, and a shoe secured to the end of said bar.

3. In a device of the character described, the combination with a fixed part of a vehicle, of a bracket adapted to be secured thereto, a V-shaped trestle or support pivoted to said bracket at its apex, and a shoe and roller fixed to the other end of said support and adapted to engage the ground.

4. In a device of the character described, the combination with a vehicle, of a bracket adapted to be secured thereto, a V-shaped support or trestle pivoted at its apex to said bracket, and stop lugs carried by said bracket and support to limit the pivotal movement of the latter.

5. In a device of the character described, a vehicle support comprising a V-shaped trestle, adapted to be attached at its apex to a vehicle, one of the legs of said trestle being of fixed length, and the other of said legs being extensible and collapsible, a spring tending to move said last mentioned leg to extended position, and means for locking it in such position.

6. In a device of the character described, a V-shaped support comprising a pair of legs, and adapted to be attached at its apex to the axle of a vehicle, one of said legs being extensible, means for normally locking such leg in extended position, and means operable from the driver's seat for releasing said lock, and permitting the leg to collapse under the influence of the weight of the vehicle.

7. In a device of the character described, a V-shaped support comprising a pair of legs, and adapted to be secured at its apex to the axle of a vehicle, one of said legs being extensible, means for normally locking such leg in extended position, means for releasing said lock so as to permit said leg to collapse under the influence of the weight of the vehicle, and means for automatically restoring the parts to normal position when such weight is removed.

8. In a device of the character described, an A-shaped support or trestle comprising a pair of legs and a connecting brace, all rigidly united, and adapted to be secured at its apex to the axle of a vehicle, one of said legs being of fixed length, and the other of variable length, a roller carried at the extremity of one leg, and a curved shoe at the end of the other, said shoe and roller being adapted to engage the ground.

9. In a device of the character described, an A-shaped support comprising a pair of legs and a connecting brace, all rigidly

united, and adapted to be secured at its apex
to the axle of a vehicle, one of said legs and
said brace being hollow, a rod arranged to
telescope within such hollow leg, and pro-
5 vided with a notch, and a locking bolt slid-
ably mounted in said brace and adapted to
engage said notch.

In testimony whereof I have signed this
specification in the presence of two subscrib-
ing witnesses.

FERNAND BRIAULT.

Witnesses:

EMILE LEDRET,
H. C. COXE.