No. 745,803. PATENTED DEC. 1, 1903.

# H. EDELINE.

## STRUT FOR TWO WHEELED VEHICLES.

APPLICATION FILED OCT. 3, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig: 2.

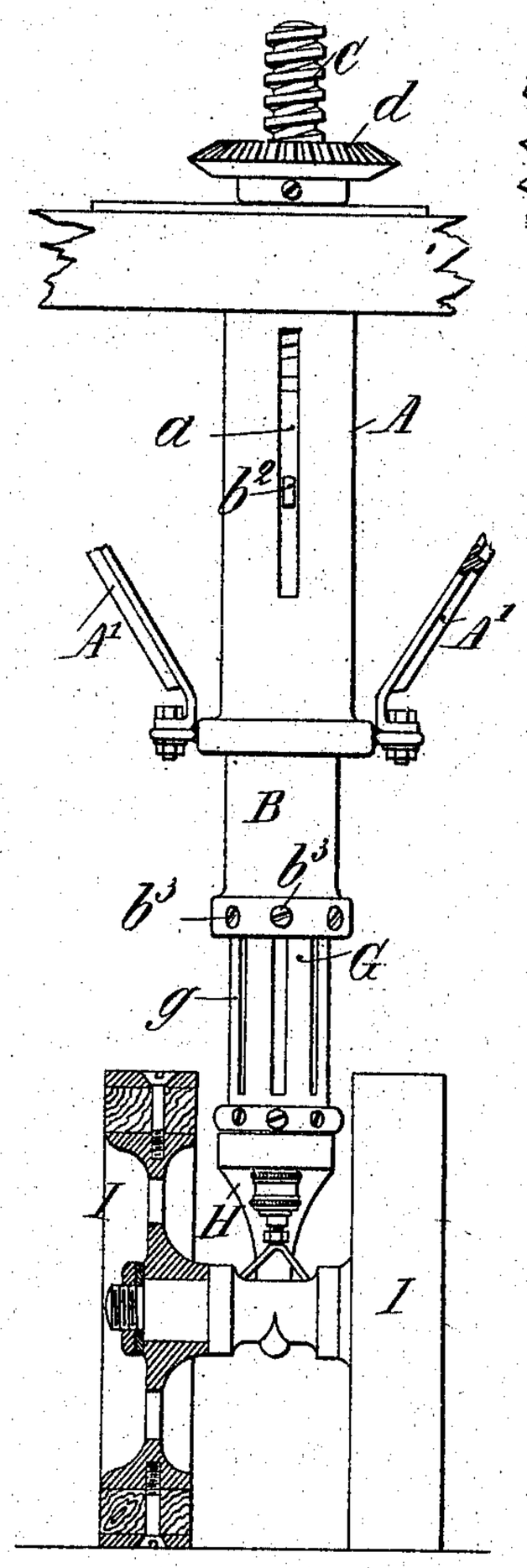
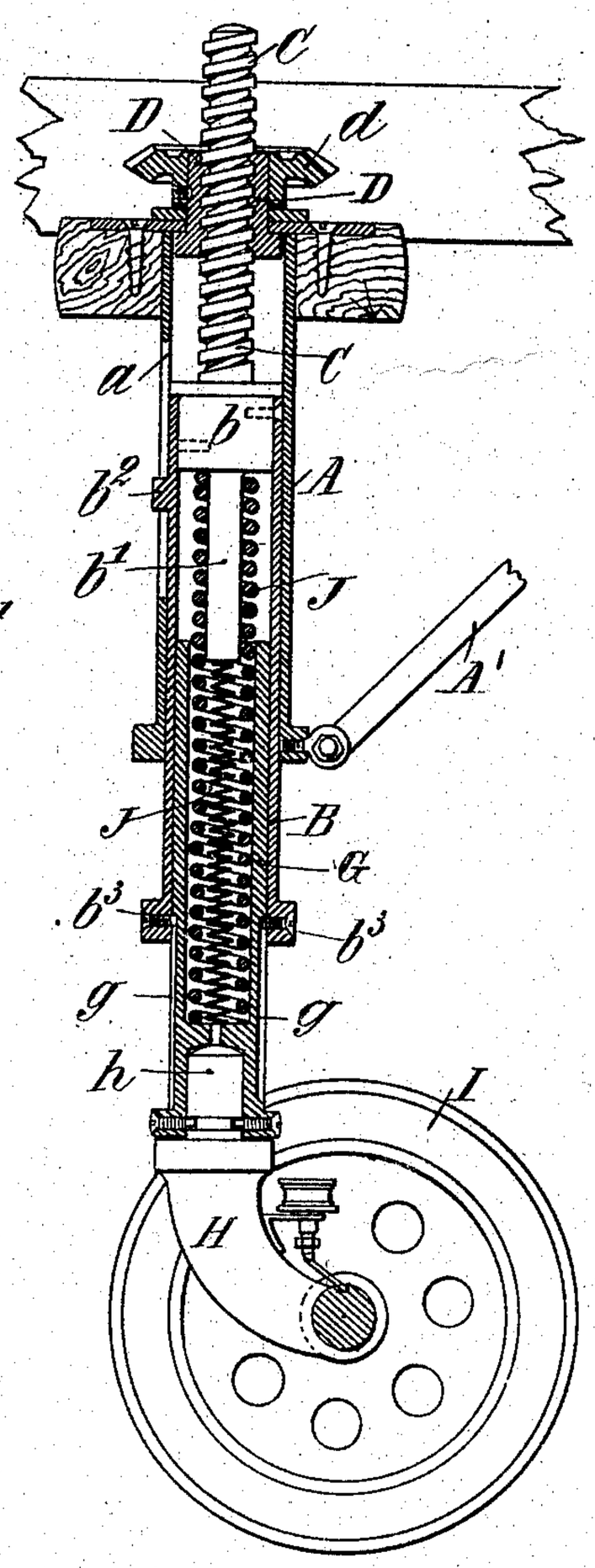



Fig: 1.




WITNESSES:
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NO MODEL. 2 SHEETS—SHEET 2.

Fig: 3

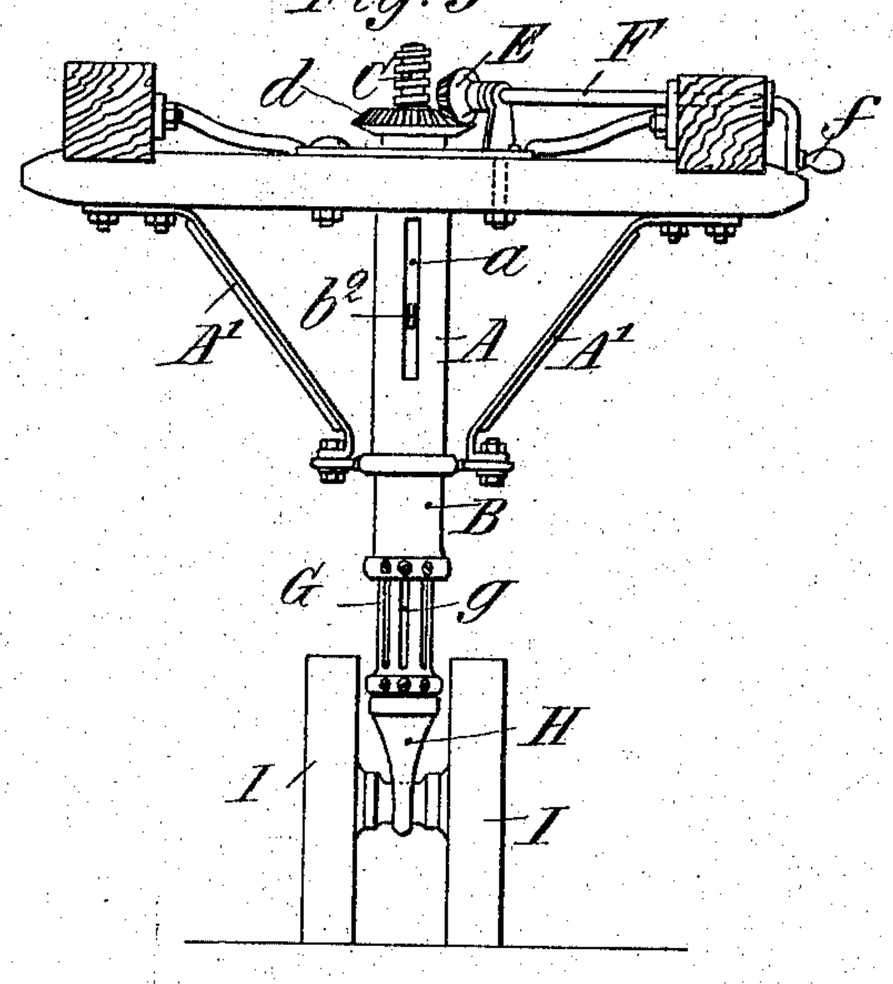



Fig: 4

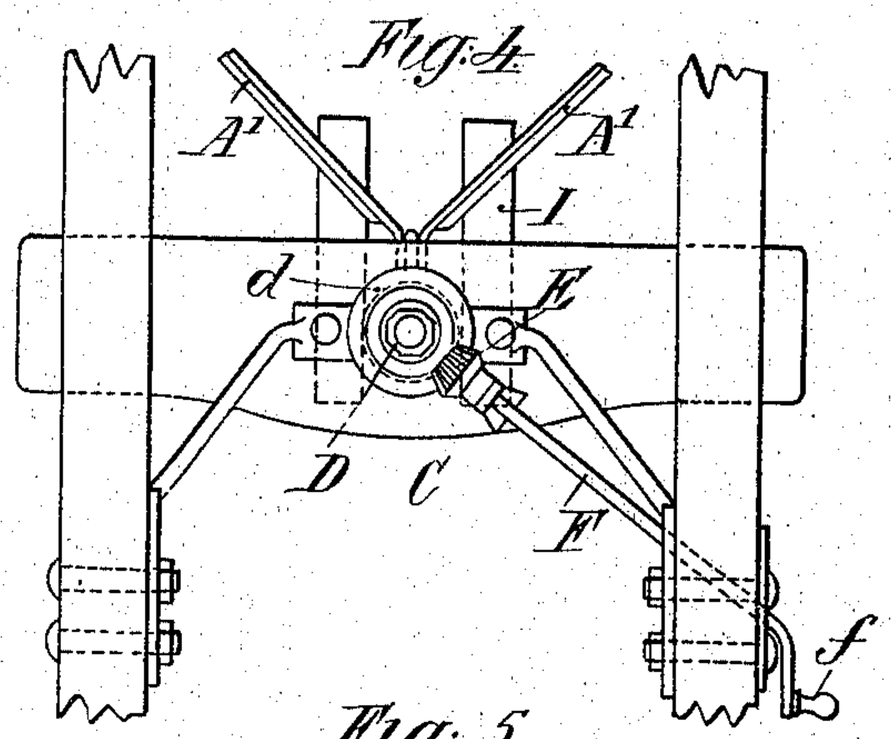
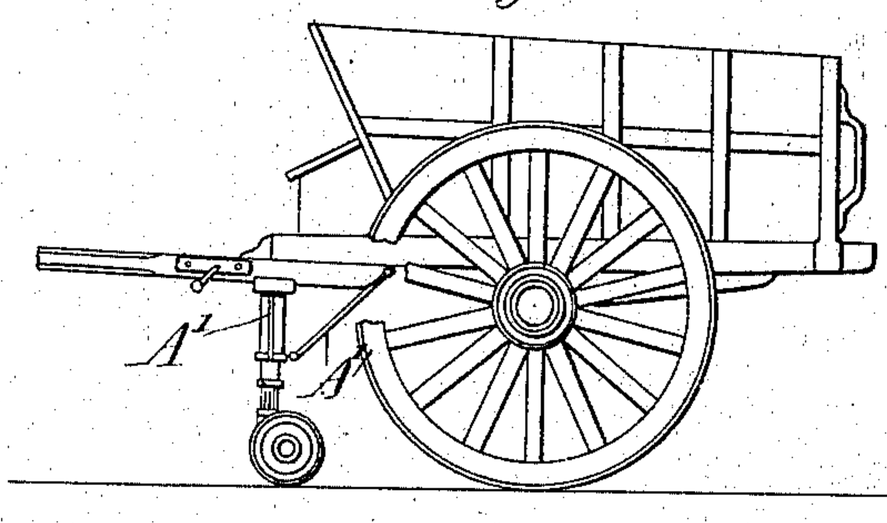



Fig: 5

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# UNITED STATES PATENT OFFICE.

HENRI EDELINE, OF PARIS, FRANCE.

## STRUT FOR TWO-WHEELED VEHICLES.

SPECIFICATION forming part of Letters Patent No. 745,803, dated December 1, 1903.

Application filed October 3, 1903. Serial No. 175,622. (No model.)

*To all whom it may concern:*

Be it known that I, HENRI EDELINE, engineer, of 108 Rue de la Reunion, Paris, in the Republic of France, have invented certain new and useful Improvements in Struts or Rest-Bars for Two-Wheel Vehicles, of which the following is a specification.

This invention relates to a strut or rest-bar, the length of which can be varied, for two-wheeled vehicles—such as carriages, tip-carts, tumbrils, &c.—which strut will serve also as a third wheel.

The strut of the usual type presents serious inconveniences, for in order that it shall be efficacious it is necessary that it should have such a length that its lower end should be a very short distance from the ground, and under these conditions it happens that on broken ground it is found too long, and consequently causes inconveniences. Again, it may wound the hind quarters of the draft-animal.

The strut which forms the object of this invention is such that its length may be regulated, and this may be varied, according to the character of the ground over which the vehicle has to pass. Besides it may serve as a third wheel, its lower end being provided with a wheel or roller which will roll on the ground, and thus provide a third point *d'appui* for the vehicle and avoid that the load shall weigh too heavily on the draft-animal. The connection between the wheel and the fixed part of the strut is made by means of springs, which give a certain elasticity to the system when the carriage rests on its strut. In this manner the rolling of the wheel on the inequalities of the ground does not cause shocks. This strut is represented in the annexed drawings, in which—

Figure 1 is a sectional elevation. Fig. 2 is an elevation, partly in section and at right angles to Fig. 1. Fig. 3 shows on a reduced scale and in front elevation the application of the strut to a tip-cart looking from the front of the vehicle. Fig. 4 is a corresponding plan view, and Fig. 5 is a side elevation, of the tip-cart with the invention applied thereto.

This apparatus is adapted to the frame of the vehicle in any suitable position, according to the class of vehicle. For a tip-cart, for instance, it is placed at the back of the shafts, but in front of the axle, connecting the shafts to the body.

The apparatus includes a tube or support A, which is slotted at *a* and is fixed to the cross-piece of the shafts and containing a second tube or carrier B, provided with a lug $b^2$, which works in the slot, so that this tube B is prevented from turning. To a head or block *b* at the top end of this tube B is attached a screw C, which extends upward through a nut D, to which a miter-wheel *d* is attached, the said miter-wheel *d* being driven by a pinion E, operated by the attendant by means of a handle *f* on the pinion-shaft F. (See Figs. 3 and 4.) A third tube G, to the lower end of which is pivoted at *h* in any convenient manner a caster or wheel frame H, carrying a wheel I, (or it may be a pivoted frame for two wheels,) is inclosed in the tube B, the said tube G containing a strong spring J, which has its abutment at one end at the bottom of the tube and at the top against the head *b* of the screw C, which head is provided with a guide-rod *b'* for the spring J. Thus the wheel-frame H is elastically supported.

The tube G is formed with vertical slots *g*, in which engage lugs $b^3$ on the tube B, an arrangement which assures the guiding of this tube G in its vertical displacement and prevents it from becoming disengaged from the tube B under the pressure of the spring J.

The tube A is held perfectly rigid by means of suitable stays A' from the shafts and cross-piece or any other part of the vehicle.

The working of the apparatus is as follows: The attendant actuating the handle *f*, and thus turning the geared nut D *d*, regulates the maximum length of the strut computible with the nature of the ground on which the roller is to run. By turning the geared nut D *d* so as to draw the tube B into the tube A the tube G will be raised by the lugs $b^3$, which act on the upper part of the slots *g*, and the total maximum length of the strut will be diminished. Inversely, by pushing out the tube B from the tube A the length will be increased. In this manner, the length of the strut having been regulated for the wheel to roll on a good road, when the cart arrives at an uneven part of the road the attendant will diminish the length of the strut to any required ex-

tent. On good ground the strut will rest on the ground by its rollers or wheels I and constitutes a third wheel, which eases considerably the draft-animal, which is known as the "shaft-horse." By reason of the springs J the tube G, with its rollers, can be displaced vertically and automatically in the tube B, according to the inequalities of the road, which gives an easy movement.

This apparatus suppresses the employment of rest-bars, seeing that the shafts will be supported. When the shaft-horse stumbles or falls, it will find itself suspended, and the action of the springs will assist in raising it to its feet again. Further, when the vehicle is tipped to discharge the contents the strut remains vertical and supports the weight of the shafts. These various characteristics of the apparatus give considerable relief to the draft-animal.

It may be here remarked that it is not intended that the invention shall be confined to the details of construction herein given, which may be varied considerably so long as the same general effect is produced.

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

1. A strut or rest-bar for vehicles, comprising a fixed tube having a rotating nut and means for driving the same, a second tube sliding in the first and having a screw taking into the nut and means for preventing the rotation of the tube, a third tube sliding in the second, having at its lower end a swinging wheel-frame with wheel and a spring contained in said tube, substantially as described.

2. A strut or rest-bar for vehicles, comprising a tube, a vertically-movable wheel-carrier in said tube and a wheel therefor, a spring within the tube adapted to bear on said carrier, and means for adjusting the position of the spring, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRI EDELINE.

Witnesses:
GUSTAVE DUMONT,
PAUL F. PÂQUET.