

No. 816,035.

PATENTED MAR. 27, 1906.

C. PAY.
WAGON TIPPING DEVICE.
APPLICATION FILED OCT. 12, 1905.

FIG. 1.

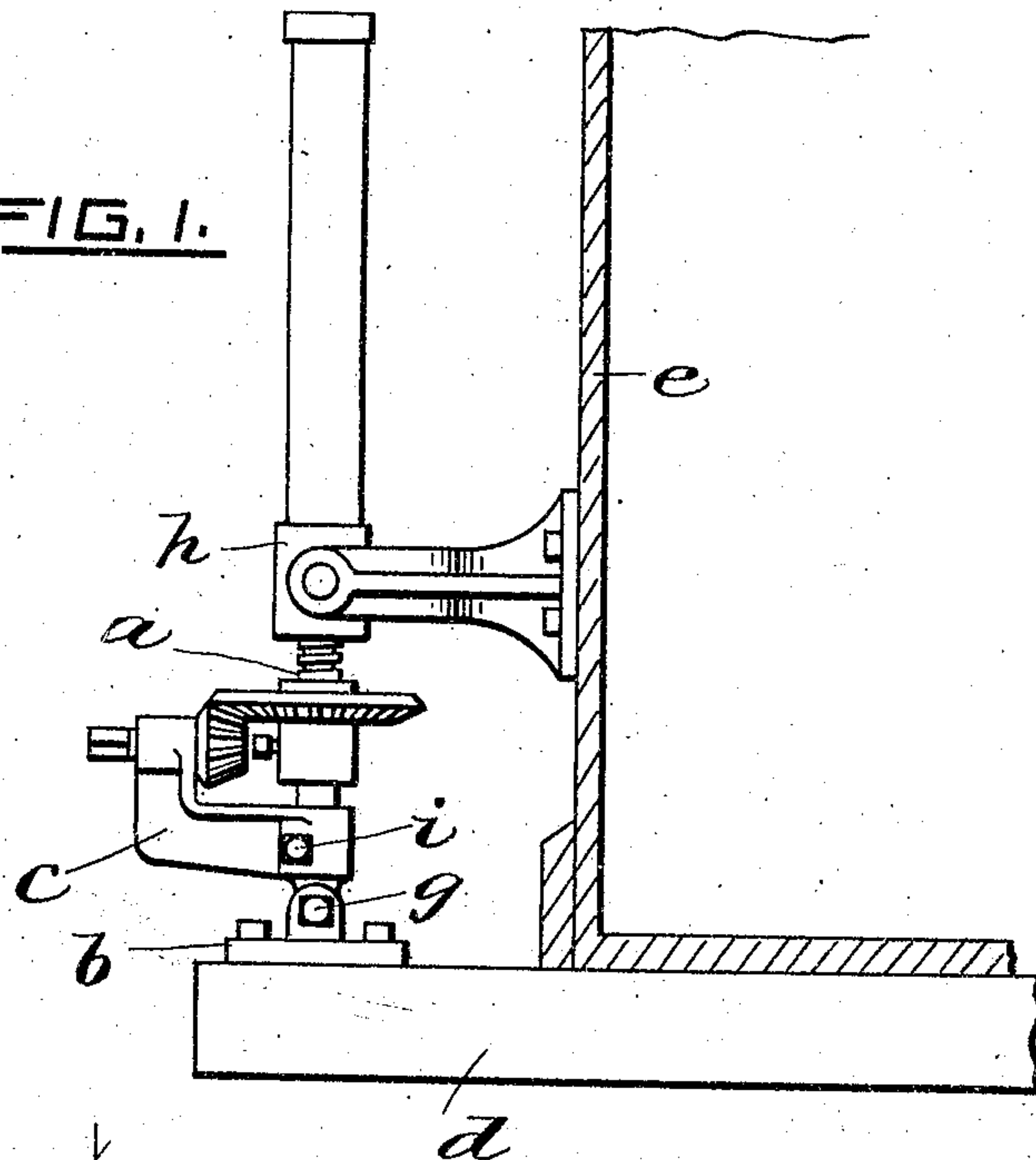


FIG. 2.

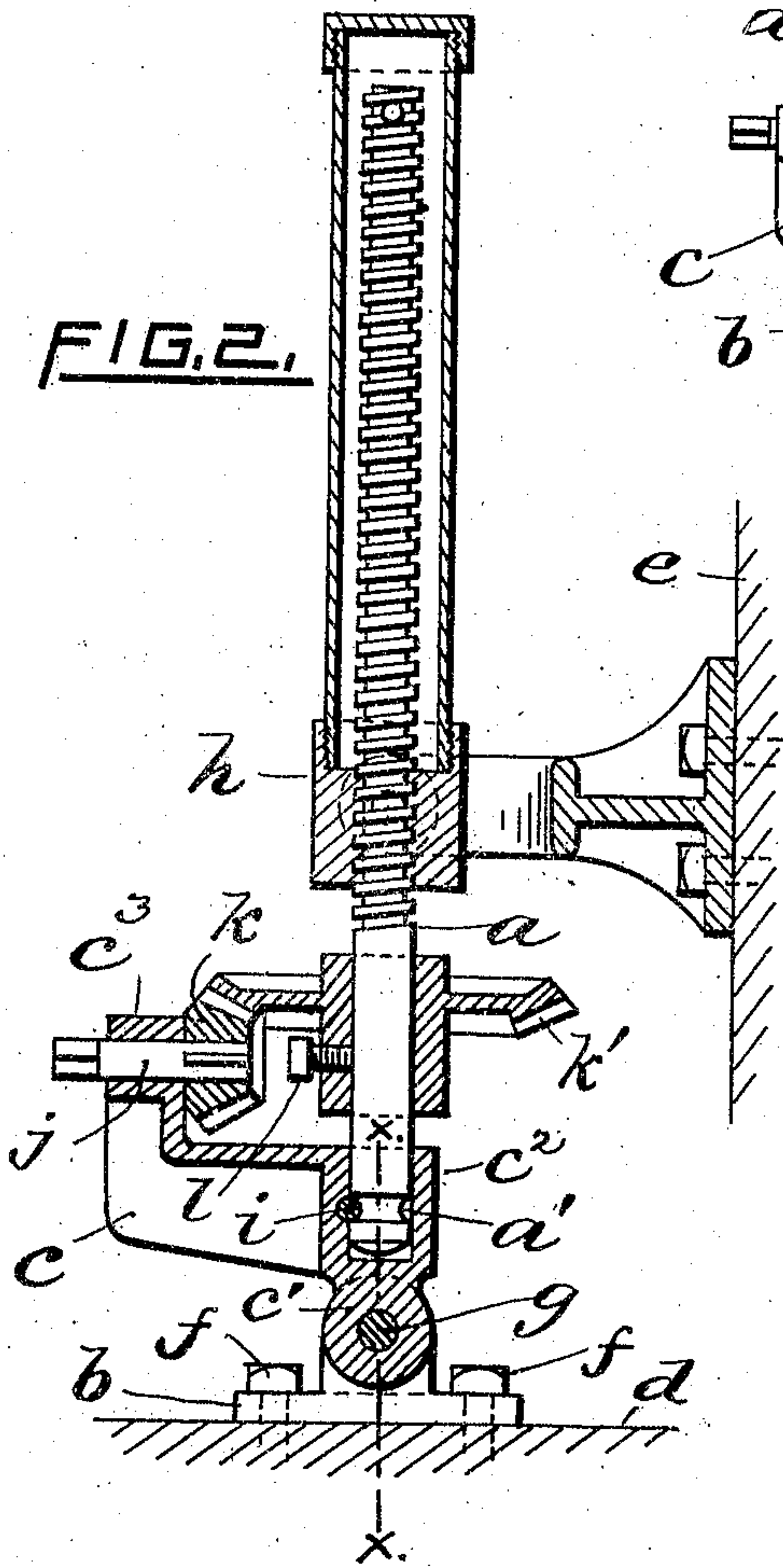
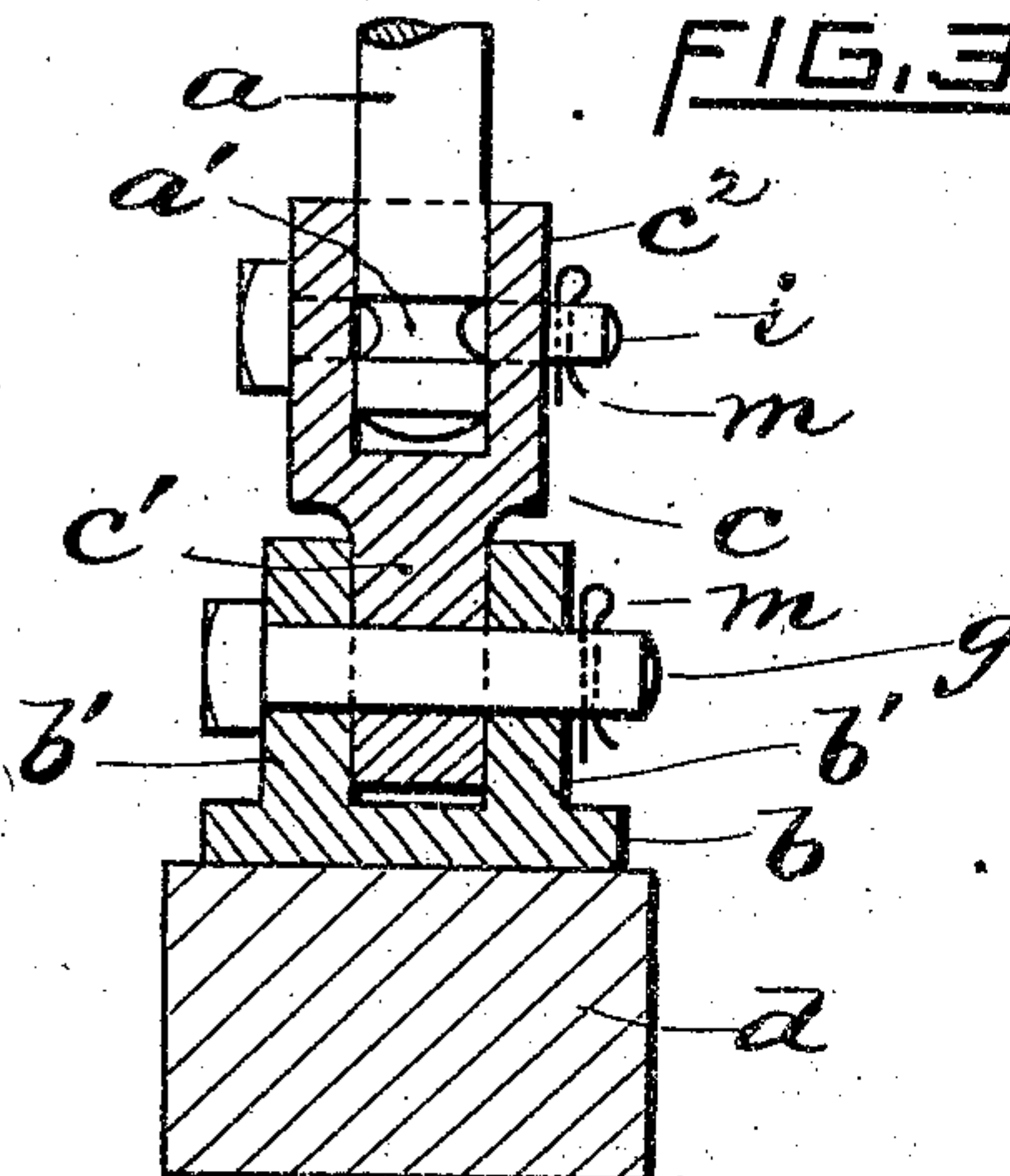


FIG. 3.



WITNESSES.

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WAGON-TIPPING DEVICE.

No. 816,035.

Specification of Letters Patent.

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Application filed October 12, 1905. Serial No. 282,500.

To all whom it may concern:

Be it known that I, CHARLES PAY, a citizen of the United States, residing at the city of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Wagon-Tipping Devices, of which the following is a specification.

In the ordinary construction of parts forming a tipping device for wagons, such as tip-carts, it frequently happens that the hoisting screw-shaft will become bent or broken by reason of the great strain put upon it by the wagon-load, with the result that considerable time and labor is required on the part of a blacksmith to withdraw the screw from its position in the device, thus resulting in quite an expense to the owner of the vehicle.

The object of my invention is to simplify the structure in a wagon-tipping device whereby the hoisting screw-shaft of the same may be readily disconnected when desired.

My invention consists of the novel construction, combination, and arrangement of parts hereinafter described and claimed.

In the accompanying sheet of drawings, which illustrate my improvements, similar characters of reference indicate like parts.

Figure 1 is a side elevation of a wagon-tipping device embodying my improvements and illustrating the normal position of the device upon the frame-body of a wagon. Fig. 2 is a view, partly in section and partly in elevation, of my improved wagon-tipping device on an enlarged scale; and Fig. 3 is a detail sectional view taken in line *xx* of Fig. 2.

My improvements are confined, essentially, to the hoisting screw-shaft *a*, its supporting-block *b*, and crank-shaft hanger *c*, respectively.

d designates the wagon-frame, upon which is mounted the tipping body *e*.

The block *b* is secured by bolts *ff* upon the projecting portion of the wagon-frame *d*, and said block has two integral ears *b'* *b'* arranged to extend longitudinally of the wagon-body, and each of these ears is provided with a circular opening formed opposite each other to receive a stud *g*, which forms the pivot center of the screw-shaft *a*. At one end of the crank-shaft hanger *c* is formed an ear *c'*, which fits between the ears of the block *b*, and this ear of said hanger is provided with a circular opening to register with the size of the stud *g*.

The hoisting-screw *a* I make from a cylin-

drical shaft having a straight surface from end to end thereof, its threaded portion terminating below the usual fixed nut *h*, and in the opposite or bearing end portion of this screw-shaft is formed a shallow semicircular groove *a'*, which extends straight around the peripheral surface of said shaft.

The crank-shaft hanger *c* has an integral hub at each end thereof, as at *c²* and *c³* in Fig. 2, the hub *c²* being arranged above and centrally of the ear *c'*, and this hub is provided with a circular aperture vertically arranged and forming a socket to receive the groove portion of the screw-shaft *a*.

The groove is formed in the shaft *a* to receive the side of a pin *i*, which projects through a circular opening formed in the hub *c²* and entering the aperture of the same. Thus the crank-shaft hanger is secured to the screw-shaft and at the same time the latter is made free to turn in said hanger in the manner shown in Figs. 2 and 3.

The hub *c³* of the crank-shaft hanger is bored longitudinally with relation to the screw-shaft to receive its crank-shaft *j*, one projecting portion of which is square shape in cross-section to receive the usual hand-lever (not shown) for operating the device, while on the opposite portion of said crank-shaft is keyed a pinion bevel-gear *k*, which meshes with the large bevel-gear *k'*, that is secured by a set-screw *l* to the screw-shaft.

The stud *g* and pin *i* have each an enlarged head at one end thereof, while their opposite projecting portions are each provided with a small opening within which is mounted an expansible snap-spring, as at *m m* in Fig. 3, arranged to hold both said members in place.

The nut *h* of the screw-shaft *a* is pivotally mounted in the usual manner upon a yoke extension of the bracket *n*, which is secured to the cart-body, as shown. On this nut *h* is secured a tube which forms a common housing for the threaded portion of the screw-shaft.

From this description it will be readily understood that my construction and arrangement of parts permit of the main members of the device to be easily disconnected in case of repair by simply withdrawing the stud *g* and pin *i*.

By constructing the hoisting screw-shaft as set forth it is evident I produce this principal member in a much simpler, stronger, and cheaper manner over the ordinary screw-shaft otherwise constructed and having a

ball end arranged to fit a socket-bearing, and which construction is costly to manufacture. Furthermore, by mounting my improved screw-shaft in a bifurcated support to obtain a fore-and-aft or swinging motion longitudinally with the wagon-body overcomes the undue lateral strain of the cart-load as given by a screw-shaft having a ball-and-socket construction.

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

1. In a wagon-tipping device, the combination with a nut pivotally mounted in a suitable bracket of the wagon-body, of a screw-shaft mounted in said nut and having a circular groove formed straight around in its peripheral surface, near one end thereof; a gear made fast on said screw-shaft; a block secured to the wagon-frame, and having two integral ears to extend longitudinally with the same, and each ear provided with a circular opening; a stud mounted in the ear-openings of said block; a crank-shaft; a gear keyed on said crank-shaft and in mesh with first-mentioned gear; a hanger having an ear to surround said stud between the ears of said block, a socket-hub to receive the groove portion of said screw-shaft, and a bored hub to surround said crank-shaft, respectively;

and a pin mounted in first-named hub of said hanger and arranged to fit in the groove of said screw-shaft, substantially as set forth.

2. In a wagon-tipping device, the combination of a screw-shaft provided with a circular groove formed straight around in its peripheral surface, near one end thereof; a gear made fast on said screw-shaft; a block having two ears provided each with a circular opening; a stud passing through the openings of said block; a crank-shaft; a gear keyed on said crank-shaft and in mesh with first-mentioned gear; a hanger pivotally mounted on said stud between the ears of said block and having two hubs, one of which hubs has an aperture which forms a socket to receive the groove portion of said screw-shaft, and the other hub bored to receive said crank-shaft, respectively; and a pin passing through first-mentioned hub of said hanger and entering the groove of said screw-shaft, substantially as shown and for the purpose specified.

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

CHARLES PAY.

Witnesses:

C. S. EDWARDS.
E. F. JAMESON.