Feb. 12, 1924. 1,483,251

A. A. SWAIM

VEHICLE JACK

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Fig. 1.

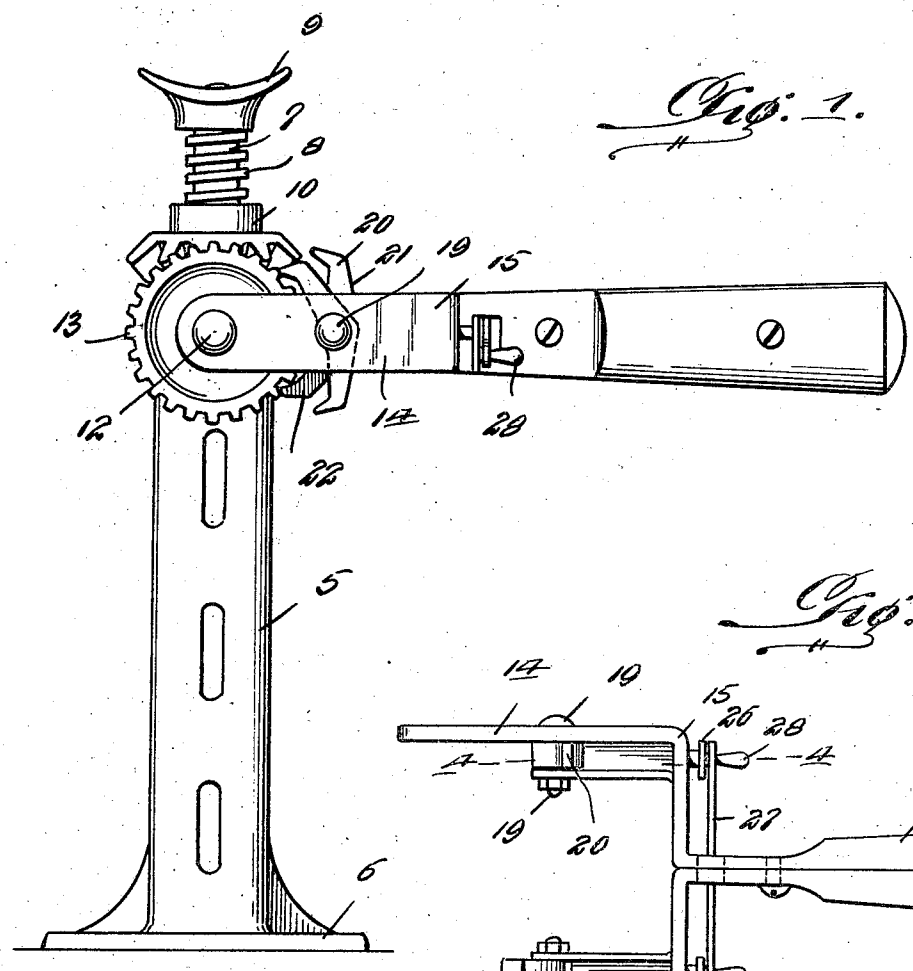


Fig. 3.

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Fig. 2.

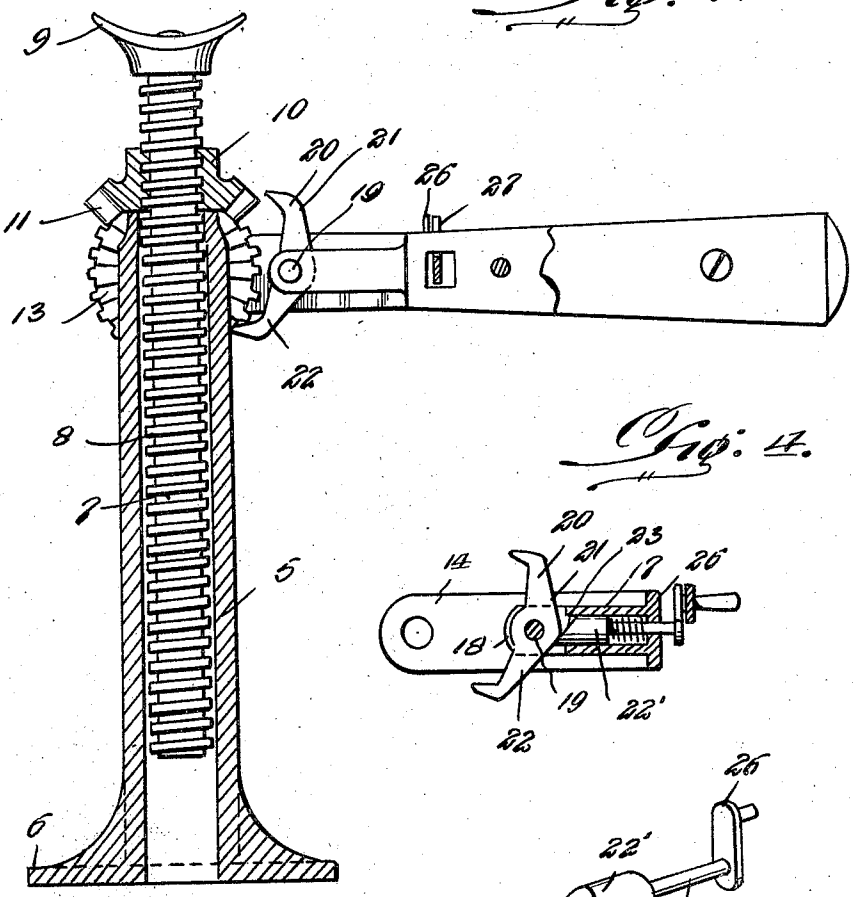


Fig. 4.

Fig. 5.

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UNITED STATES PATENT OFFICE.

ANGUS A. SWAIM, OF SUNSET, TEXAS.

VEHICLE JACK.

Application filed February 28, 1923. Serial No. 621,942.

To all whom it may concern:

Be it known that I, ANGUS A. SWAIM, a citizen of the United States, residing at Sunset, in the county of Montague and State of Texas, have invented certain new and useful Improvements in Vehicle Jacks, of which the following is a specification.

My invention relates to improvements in vehicle jacks, the primary object thereof residing in the provision of such a device wherein the vertical movable element of the jack is actuated by the movement of the operating handle in reverse directions.

A further object of my invention resides in the provision of such a jack that is comparatively simple of construction, and easy of operation, the same constituting relatively few parts and these so co-related as to reduce the liability of disarrangement to a minimum.

The nature and advantages of the invention will be better understood when the following detailed description is read in connection with the accompanying drawings, the invention residing in the construction, combination, and arrangement of parts as claimed.

In the drawings forming part of this application, like numerals of reference indicate similar parts in the several views, and wherein:—

Figure 1 is a side elevational view of the jack constructed in accordance with my invention.

Figure 2 is a detail vertical cross sectional view thereof.

Figure 3 is a fragmentary plan view of the operating handle per se.

Figure 4 is a detail cross sectional view upon the line 4—4 of Figure 3, and

Figure 5 is a perspective view of one of the dog reversing plungers forming a component part of the present invention.

Referring to the drawings in detail, 5 designates the plunger casing of my jack, the same being in the form of a relatively elongated tube formed with a supporting plate 6 at its lower end. Within the casing 5 is the usual plunger 7, formed with screw threads 8, the upper end of this plunger carrying the usual swiveled head 9, in engagement with the said plunger 7 is the usual nut 10, the same being formed with beveled gear teeth 11, it being, of course, understood that this worm nut rests upon the upper end of said plunger casing 5.

Adjacent the upper end of casing 5, and upon opposite sides thereof are formed laterally extending pintles 12, and upon each of these pintles are beveled gears 13, the same being in mesh with the gear teeth 11 of said worm nut 10. Pivotally disposed upon these pintles 12 and outwardly of each beveled gear 13 are the side legs 14 constituting the yoke end 15 of an actuating hand lever 16.

Each of these legs 14 of the said yoked end of the lever 16 are formed upon their inner sides with cylinders 17, the front end of the same being split as at 18, and having pivotally secured thereto as at 19 double ended dogs 20, the inner edges of which are formed with beveled surfaces 21 and 22′ respectively. Within the said cylinders 17 are plungers 22, the front ends thereof being beveled as at 23, and normally forced outwardly of the cylinders into engagement with one of the respective beveled edges of the dogs 20 through the instrumentality of coil springs 24. Each of these plungers 22 are formed with rearward extensions 25, which engage outwardly through openings in the said yoked end 15 of the hand lever 16 and have formed upon their ends right angularly extending plate members 26. Loosely pivotally connected to the ends of these plate members is a cross arm or rod 27, the ends of the said pivotal connections being formed with handles 28, whereby through a rotation of these handles, the plungers 22 within the cylinders 17 are rotated for consequently reversing the position of the dogs 20 with respect to each other, whereby when the dogs are in the position shown in Figure 1, a movement of the handle in reverse directions will occasion the rotation in one direction of the worm nut 10, for consequently controlling the upward movement of the plunger 7. By rotating either one of the handles 28 so as to reverse the position of the dogs 20 with respect to each other, a similar movement of the handles in reverse directions will cause a continuous rotation of the worm nut 10 for consequently drawing the said plunger 7 back into the casing 5.

In view of the above description, it will at once be apparent that I have devised an improved form of jack, wherein the plunger thereof is actuated by a movement of the operating lever in reverse directions, thereby overcoming the usual lost motion occasioned

in an upward movement of the jack actuating levers of the types of jacks with which I am now familiar.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

A jack comprising a casing, a screw plunger movably mounted in the casing, a nut mounted upon the casing and having a thread engaged with the plunger, a yoke pivotally connected with the casing, gear wheels mounted upon the pivots of the yoke and engaging the nut, double ended dogs pivotally mounted upon the arms of the yoke, other dogs slidably mounted upon the arms of the yoke and engageable with the first mentioned dogs at points opposite the pivots upon which the first mentioned dogs are mounted, the second mentioned dogs having beveled edges which are reversely disposed, cranks connected with the second mentioned dogs and a rod pivotally connected with the said cranks and holding the beveled surfaces of the second mentioned dogs in reverse position with relation to each other.

In testimony whereof I affix my signature.

ANGUS A. SWAIM.