

LE ROY WILLOUR.
JACK.

APPLICATION FILED JAN. 31, 1912.

1,044,718.

Patented Nov. 19, 1912.

2 SHEETS-SHEET 1.

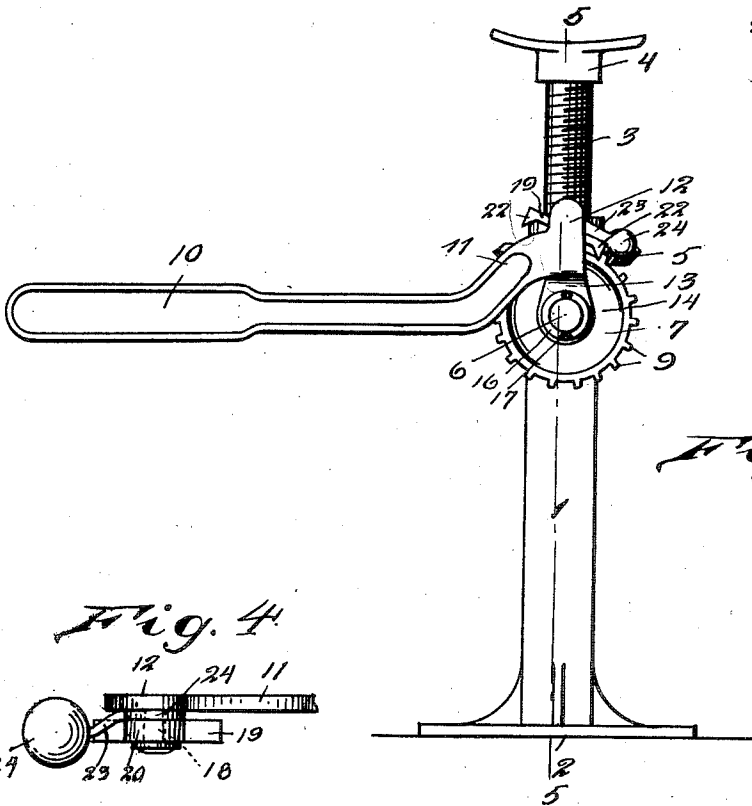


Fig. 1.

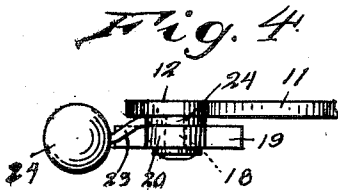


Fig. 4.

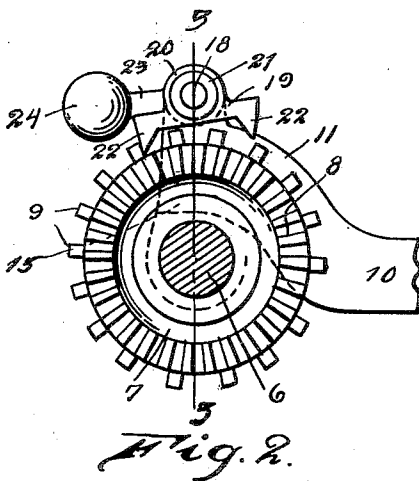


Fig. 2.

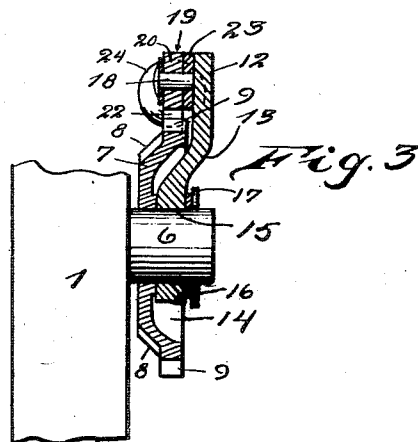


Fig. 3.

Witnesses

J. Milton Lester
B. W. McIlhenny

Inventor
LeRoy Willour

By

C. L. Parker

Attorney

LE ROY WILLOUR.

JACK.

APPLICATION FILED JAN. 31, 1912.

1,044,718.

Patented Nov. 19, 1912.

2 SHEETS—SHEET 2.

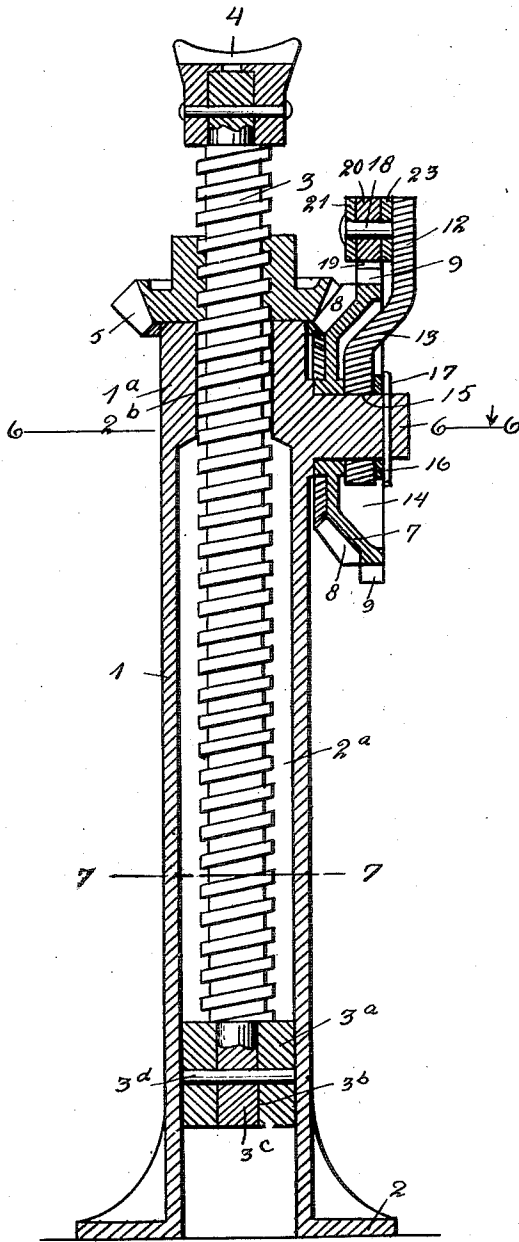


Fig. 5.

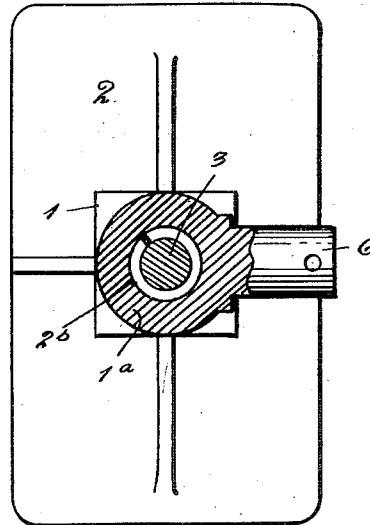


Fig. 6.

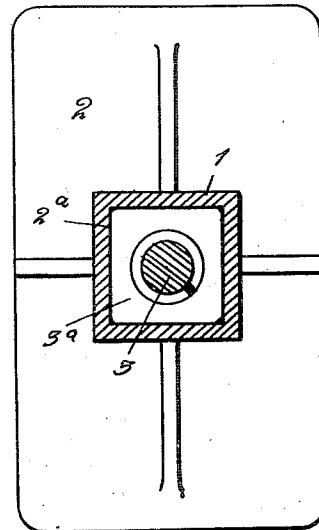


Fig. 7.

Witnesses

J. Milton Jester.
J. H. Fickelmeier

By

Inventor
Le Roy Willour

C. H. Parker

Attorney

UNITED STATES PATENT OFFICE.

LE ROY WILLOUR, OF ASHLAND, OHIO, ASSIGNOR TO THE ASHLAND MANUFACTURING COMPANY, OF ASHLAND, OHIO, A CORPORATION OF OHIO.

JACK.

1,044,718.

Specification of Letters Patent.

Patented Nov. 19, 1912.

Application filed January 31, 1912. Ferial No. 674,471.

To all whom it may concern:

Be it known that I, LE ROY WILLOUR, a citizen of the United States, residing at Ashland, in the county of Ashland and State of Ohio, have invented certain new and useful Improvements in Jacks, of which the following is a specification.

The present invention relates to lifting jacks, which are particularly adapted for use in connection with automobiles and other vehicles.

An important object of my invention is to provide a jack of the above mentioned character, which is simple in construction, compact, strong, easy to operate, and durable.

A further object of the invention is to provide novel means whereby a swinging lever may be employed to intermittently rotate a wheel in either direction.

A further object of the invention is to provide novel means to prevent the turning of the lift screw.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numerals are employed to designate like parts throughout the same, Figure 1 is a front elevation of my improved jack, Fig. 2 is an inner end view of the actuating wheel and means for intermittently rotating the same, Fig. 3 is a transverse sectional view taken on line 3—3 of Fig. 2, Fig. 4 is a detail plan view of a balanced pivoted arm carrying teeth at its ends and a swinging weight to bring either tooth into operative engagement with the actuating wheel. Fig. 5 is a longitudinal sectional view taken on line 5—5 of Fig. 1, Fig. 6 is a horizontal sectional view taken on line 6—6 of Fig. 5, parts being shown in elevation and parts being omitted, and, Fig. 7 is a similar view taken on line 7—7 of Fig. 5.

In the drawings wherein is illustrated a preferred embodiment of my invention, the numeral 1 designates a standard of a jack, which standard is formed upon a base 2. This standard is formed square in cross-section for the greater portion of its length, the same having a reduced upper cylindrical portion 1^a. The standard 1 is provided with an axial opening 2^a, which is square in cross-section and leads at its upper end into a

reduced cylindrical axial opening 2^b, which is formed through the cylindrical portion 1^a. A lift screw 3, carrying at its upper end a head 4, extends through the cylindrical opening 2^b and into the large square opening 2^a. The opening 2^b is not screw-threaded and is formed sufficiently large in diameter to permit of the free longitudinal movement of the lift screw therein. Means are provided to prevent the lift screw from turning axially, comprising a block 3^a, of the proper size to fit snugly and move freely within the opening 2^a. This block is provided with an axial opening 3^b, for receiving a reduced stem 3^c formed upon the lower end of the lift screw 3. This reduced stem is held in the opening 3^a by a transverse pin 3^d or the like. The numeral 5 designates a driving bevel-gear, which slidably engages the upper end of the standard 1 and has a screw-threaded axial opening for receiving the lift-screw 3. It is thus seen that by rotating the bevel-gear 5 the lift screw 3 may be raised or lowered. The standard 1 is provided near its upper end with a horizontal laterally extending stub-shaft 6, upon which is rotatably mounted an actuating bevel-gear or wheel 7. This bevel gear is provided upon its inner face with teeth 8 which engage the teeth of the bevel-gear 5 and upon its periphery with teeth 9, for a purpose to be explained.

My invention also resides in the provision of novel means for rotating the actuating gear or wheel 7. Such means comprises an oscillatory lever 10, provided at its inner end with an approximately T-shaped portion, comprising an angularly disposed arm 11 and a radially disposed arm 12, which is preferably disposed at right angles to the lever 10, as shown. The inner portion of the radially disposed arm 12 is offset inwardly, as shown at 13, so that its inner end will fit within a recess 14 formed in the outer face of the actuating wheel 7. The inner end of the radially disposed arm 12 is apertured, as shown at 15, to receive the stub-shaft 6. In this manner the lever 10 is pivotally mounted upon the stub-shaft and disposed adjacent the outer face of the actuating wheel 7. Means are provided to prevent the arm 12 from moving longitudinally of the stub-shaft 6, comprising a washer 16, held in place by a cotter-pin 17 or the like.

At its outer end the radially disposed arm 12 carries an inwardly extending pin 18, upon which is freely pivoted a balanced arm 19. This freely pivoted balanced arm is provided midway its ends with an upwardly extending apertured head 20, through which the pin 18 extends, such pin carrying at its extreme inner end a washer 21, held against displacement by spreading the free end of the pin. The freely pivoted balanced arm 19 is provided at its ends with inwardly extending teeth or lugs 22, having their inner faces beveled, so that they can trip over the teeth 9 when moved in one direction, but of course will operatively engage the teeth to rotate the wheel 7 when moved in a reverse direction. Attention is called to the fact that the arm 19 is not gravity operated but is balanced so that the two teeth 22 will not have operative engagement with the teeth 8 unless additional means are provided to force either end of the arm inwardly toward the actuating wheel 7. The means for controlling the operation of the balanced arm 19 is in the form of an arm 23, having its inner end provided with a head 24 which is freely pivoted upon the pin 18. This arm 23 is off-set or bent inwardly so that it will engage either end of the balanced arm 19, depending upon the direction in which it is swung. At its outer end the arm 23 carries a weight, preferably in the form of a ball 24.

In the operation of the device, by swinging the controlling arm 23 forwardly to occupy the position shown in Fig. 1, the forward tooth 22 will engage the teeth 9 and the oscillatory movement of the lever 10 will impart a clockwise intermittent rotary movement to the actuating wheel 7. By swinging the controlling arm to the left so that it engaged the opposite end of the balanced arm 19, the rear tooth 22 will engage the teeth 8 and upon the oscillation of the lever 10 the actuating wheel 7 will be intermittently rotated in a reverse direction. By the operator taking hold of the weight 24, the controlling arm 23 may be moved to assume a radial position so that it will not engage either end of the arm 19. When this is

done it will be seen that the arm 19 is balanced and that it will not gravitate to bring either of the teeth 22 into operative engagement with the teeth 9.

I wish it understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same and that certain changes in the shape, size, and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claim.

Having thus described my invention, I claim:—

In a jack, a standard provided with a stub-shaft, a wheel rotatably mounted upon the stub-shaft and provided upon its periphery with a single set of teeth which are substantially rectangular in cross-section, said wheel having its outer face provided with a large recess so that the stub-shaft extends for the greater portion of its length exposed in the large recess, an operating lever having its inner portion made in the form of a slightly curved arm disposed adjacent the teeth of the rotatable wheel and extending beyond the same to serve as a guard, a crank formed upon the curved arm of the operating lever and having its inner portion apertured to receive the stub-shaft and off set inwardly so that the same is substantially flush with the outer surface of the rotatable wheel, an arm provided at its ends with inwardly extending teeth which are beveled upon their inner surfaces and are adapted to alternately engage with the single set of teeth formed upon the rotatable wheel, an arm carrying a weight at its end which is adapted to be swung into engagement with either end of the arm carrying the teeth, and a common pin passing through the arm provided with the teeth and the arm provided with the weight and attached to the crank.

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

LE ROY WILLOUR.

Witnesses:

ARTHUR L. VANOSDALL,
J. F. WELTY.