Dec. 7, 1926. 1,609,333

S. J. VESELY

GARAGE JACK

Original Filed April 27, 1925

Fig. 1.

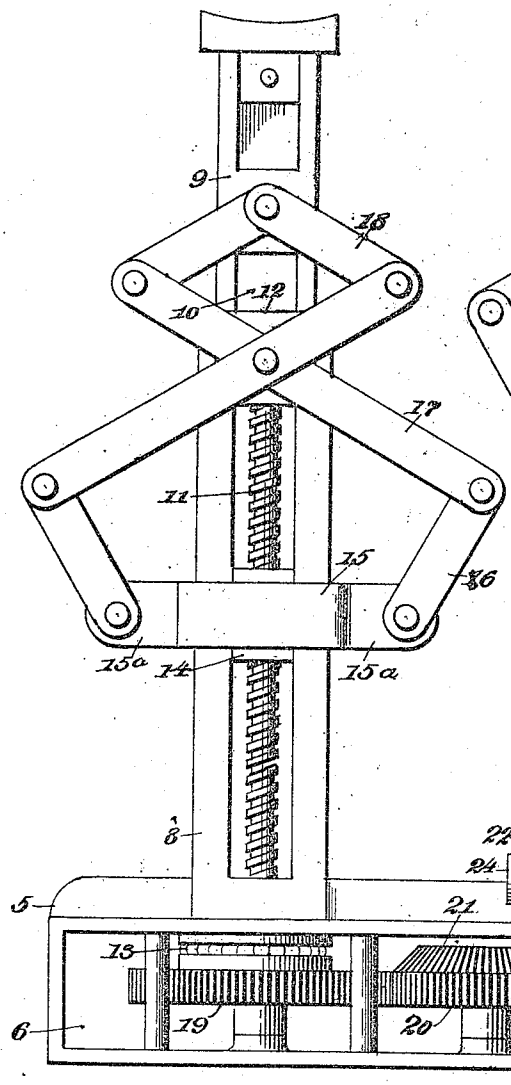
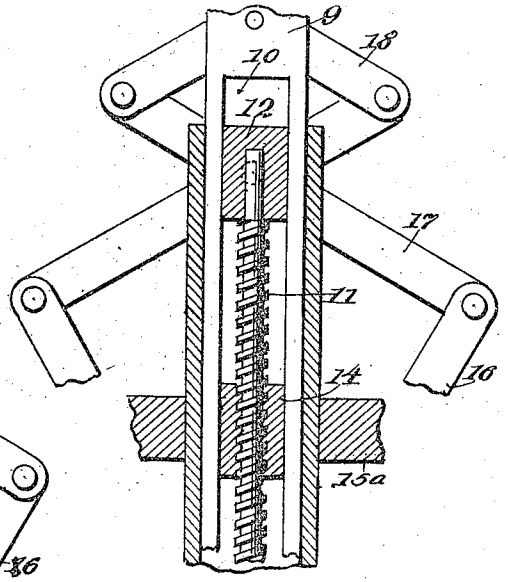


Fig. 2.



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UNITED STATES PATENT OFFICE.

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GARAGE JACK.

Application filed April 27, 1925, Serial No. 25,994. Renewed May 1, 1926.

This invention relates to vehicle lifting jacks of the general type illustrated an described in my former application for patent, No. 688,401, filed January 25, 1924, and the object of the invention is to improve such jacks so as to render them more efficient and serviceable.

The invention is fully set forth in the description and claims following, reference being had to the accompanying drawing, in which:

Fig. 1 is a side elevation of a jack embodying the invention. Fig. 2 is a sectional view of the upper portion of the jack, showing details in the connection of the lifting screw with the toggle levers and sliding post.

In the drawing, the numeral 5 designates the base of the jack, which is formed with a horizontal space 6 and a vertical space 7 to receive transmitting gearing to be described presently. From the base rises a channeled standard 8, and in this is slidably mounted a post 9, which is slotted at 10 to receive a vertical screw 11. The upper end of this screw enters a bearing 12 attached to or forming a part of the standard, and the lower end is journaled in bearings in the base. One of these bearings is a ball thrust bearing 13 to take the pull of the screw in lifting. The screw runs in a nut 14 attached to a slide 15. The slide connects by its arms 15ª by links 16, with the lower members 17 of a toggle lever, whose upper members 18 connect pivotally with the lifting post. It will be apparent that the turning of the screw to the right will draw down the slide and correspondingly elevate the post, through the extension of the toggle. As the screw bears the whole weight of the load the thrust-bearing should preferably be of the ball-bearing type, as indicated.

Secured to the lower end of the screw is a gear 19 in mesh with an idle gear 20, formed in part as a miter gear 21. Another miter gear 22 attached to a short shaft 23 mounted in bearings 24 serves for the transmission of motion to the train of gears and screw by the turning of a hand-lever shaft 25. This connects with a socket 26 by a universal joint 27, the outer end of the shaft 23 being squared at 28 to engage said socket.

The jack is both powerful and quick-acting, and combines in these respects the characteristics of the screw and toggle. It is evident that the load may be supported at any desired point without locking apparatus, and when supplied with a long hand-lever shaft, as it is supposed to be for garage use, the jack is easily and quickly manipulated, and well adapted for the expeditious handling of automobiles.

Having thus described my invention, I claim:

1. In a lifting jack, a base adapted to hold gearing for turning a screw, a standard rising therefrom, slotted for a sliding nut, a vertical screw engaging the nut, a slide attached to the nut and movable on the standard, a post slidable in said standard, toggle levers connecting the post and the slide, gearing connecting with the screw, and means adapted for the rotation of the gearing.

2. In a lifting jack, a base chambered to receive horizontally disposed spur and bevel gears and a vertically disposed bevel gear, gears as aforesaid disposed therein, the vertical gear having a shaft adapted for connection with a hand-lever shaft, a vertical screw attached to one of the spur gears, a ball bearing for said screw, a slotted standard rising from the base, a slide thereon provided with a nut engaging said screw, a lifting post slidable in said standard, and toggle levers connecting the post and slide.

3. In a lifting jack, a base chambered to hold horizontally disposed spur and bevel gears and an engaging vertically disposed bevel gear, gearing as aforesaid disposed therein, the vertical gear being adapted for engagement with an operating hand-lever, a hollow, slotted standard rising from the base, a vertical screw therein attached to one of the gears, a slide and nut engaging the screw, a forked post slidable in the standard, bearings for the lower and upper ends of the screw, and toggle levers connecting the slide and post.

In testimony whereof I affix my signature.

STANLEY J. VESELY.