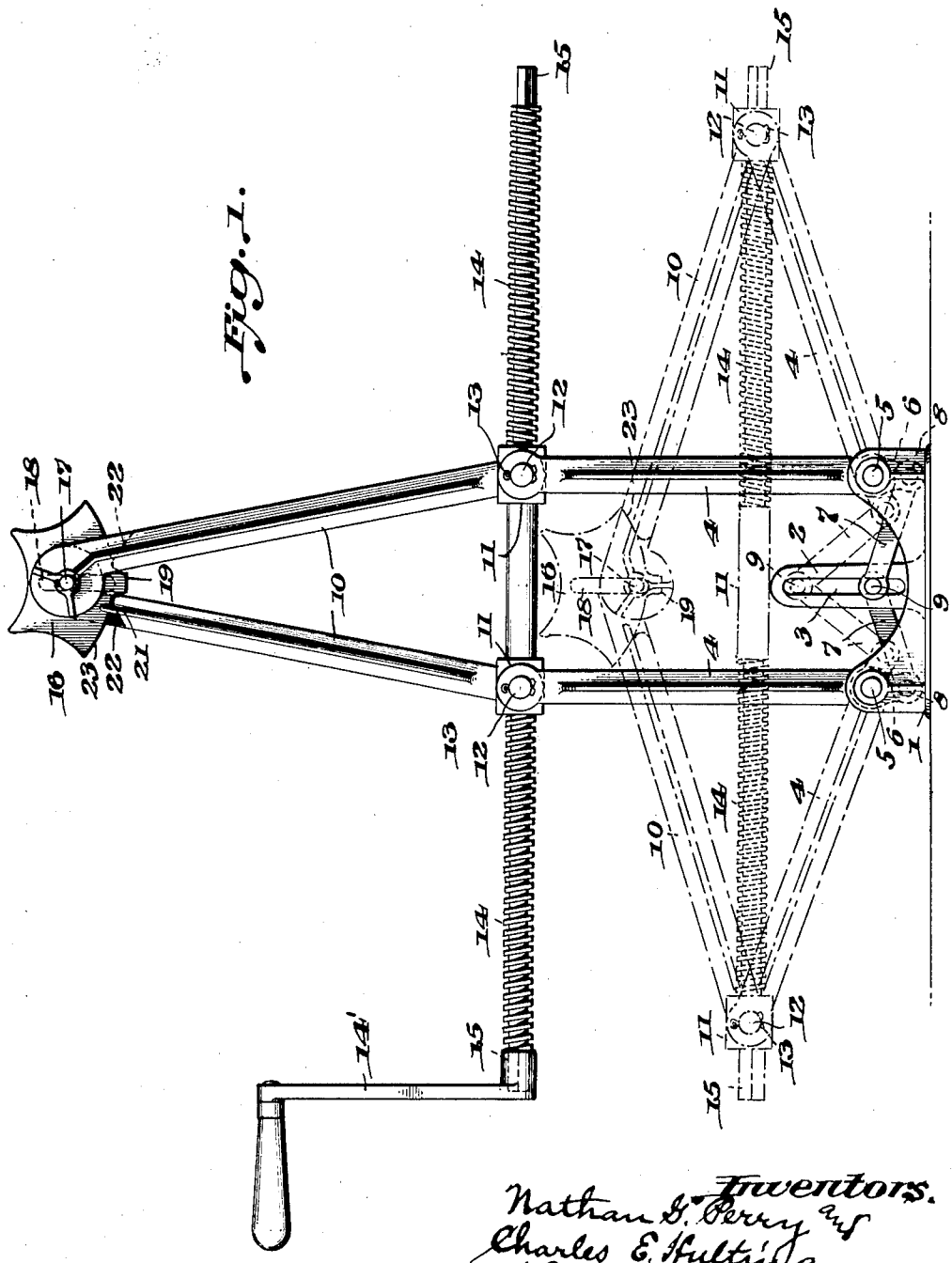
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N. G. PERRY ET AL

LIFTING JACK

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Fig. 1.



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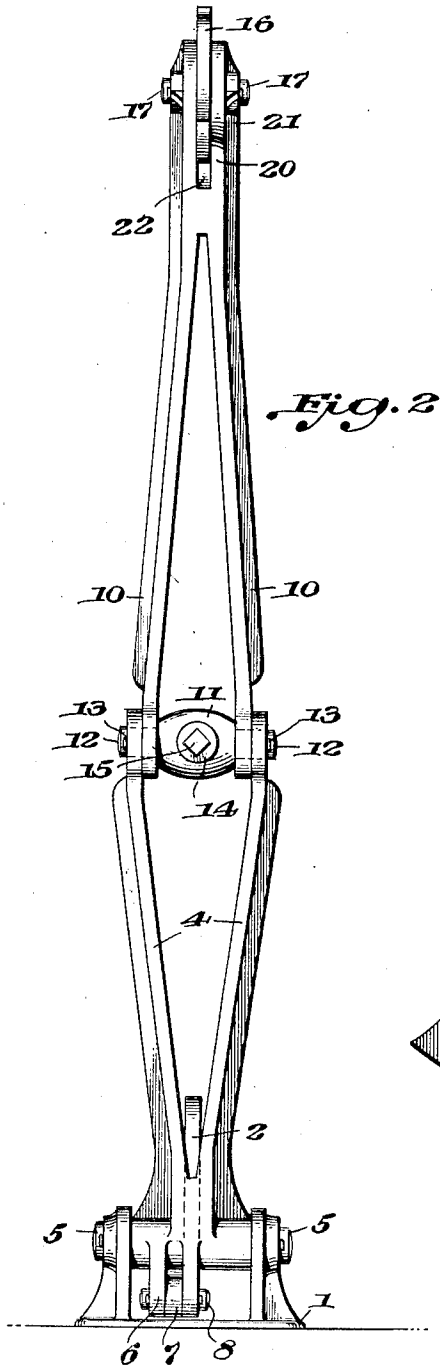


Fig. 2

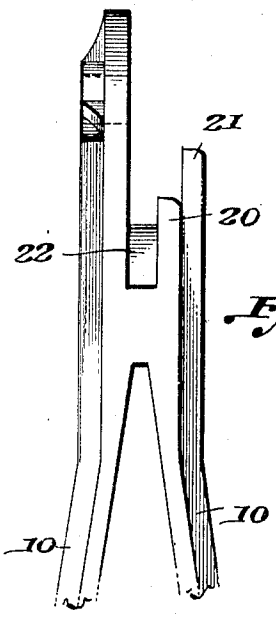


Fig. 3.

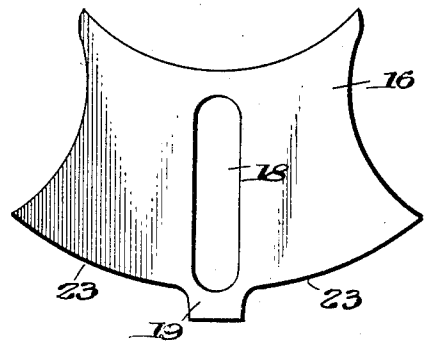


Fig. 4.

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UNITED STATES PATENT OFFICE.

NATHAN G. PERRY, OF LOS ANGELES, CALIFORNIA, AND CHARLES E. HULTING, OF NOGALES, ARIZONA.

LIFTING JACK.

Application filed September 14, 1921. Serial No. 500,639.

To all whom it may concern:

Be it known that we, NATHAN G. PERRY, a resident of Los Angeles, county of Los Angeles, State of California, and CHARLES E. HULTING, a resident of Nogales, county of Santa Cruz and State of Arizona, citizens of the United States, have invented certain new and useful Improvements in Lifting Jacks, of which the following is a specification.

This invention relates to an improvement in lifting jacks.

The present invention is of the general type in which a right and left thread is used in connection with toggles, with a base for the pivotal support of the operative parts, and a head block constructed and adapted to have a slidable bearing upon the upper ends of the toggles, so that any weight and strain is removed from the pivot.

This lifting-jack is designed to give efficient service under severe strains, such as raising a vehicle when mired in soft, gummy or sandy soil, or a wrecked wheel without the necessity of blocking, as with the ordinary jack, the present jack being constructed and adapted to raise a load a distance equivalent to about 140% of its own height or from its lowest point, all in one operation.

A further object is to so construct this jack that the weight and strain is thrown upon solid shoulders rather than upon the pins pivoting the various parts together.

In the accompanying drawings:

Fig. 1 is a view in side elevation showing the jack in raised position in full lines, and in lowered position in dotted lines;

Fig. 2 is a view taken at right-angles to Fig. 1;

Fig. 3 is an enlarged fragmentary view of the upper end of one of the toggles;

Fig. 4 is a view of the head block upon which the weight to be raised is adapted to rest.

The numeral 1 represents the base, from the center of which is erected the vertically-disposed stay-column 2, which latter has an elongated guide-slot 3 extending vertically therein.

The lower toggle 4, of which there are two as shown in Fig. 1, (and preferably in the form shown in Fig. 2) are pivotally connected with the base by means of the pins 5, and these toggles have lugs 6 extending downwardly, to which the stay-rods 7 are pivotally connected by pins 8. These stay-rods extend inwardly on opposite sides of the stay column where they are connected together by the pin 9 extending through and guided by the elongated vertical slot 3.

Upper toggle joints 10, of which there are two, shown in Figs. 2 and 3, in the general form of the letter A are pivotally connected with the upper ends of the lower toggles 4 by means of the trunnion-blocks 11 and trunnion-pins 12, which latter are integral with the trunnion-blocks and extend through the holes in the ends of the toggles which are held in place by cotter-pins 13. These trunnion-blocks are provided with internal right and left threads, and the right and left screw 14 extends therethrough and turns therein, it being provided with a movable crank 14 capable of being placed on either of the squared ends 15 of the right and left screw, whereby to make it possible to operate the jack from either end, or from both ends at once.

The head-block 16 is slidably and pivotally mounted at the upper end of the upper toggle 10 by means of the pin 17, and this pin is guided vertically by passing through a slot 18, as shown in Fig. 4.

The head-block is provided with a tail-piece 19 at its lower end forming a stop against which the upper ends of the upper toggles 10 impinge when the jack is raised to its highest point, as shown in Fig. 1.

The projections 20 and 21 at the upper ends of the upper toggles form lateral support for the upper end of the opposite upper toggle, and for the head-block as shown in Fig. 2; and the shoulders 22 form supports which have sliding contact with the rounded lower edges 23 of the head-block, so that all weight and strain is borne thereby rather than by the pin 17, which is one of the advantageous features of our present invention, thus transferring the strain from a comparatively weak part to one that is capable of withstanding wear and tear.

In this way, we have provided a powerful, durable, quick-acting lifting jack of simple construction, easy to operate, and not likely to get out of order.

We claim:

1. A lifting-jack including upper and lower toggles connected by trunnion-blocks and pivots, a screw operating therein, a

head-block resting slidably upon the upper ends of the toggles, and means for guiding the head-block vertically in its movements with respect to the toggle.

2. A lifting-jack including upper and lower toggles connected by trunnion-blocks and pivots, a right and left screw operating therein, a head-block resting slidably upon the upper ends of the toggles, and a pivot pin for guiding the head-block vertically in its movements with respect to the toggle.

3. A lifting-jack including a base, a head-block, two sets of toggles connected by trunnion-blocks and pivots, the lower toggles pivoted to the base, a head-block slidably supported and guided by the upper ends of the upper toggles, and a pivot-pin for guiding the head-block vertically in its movements with respect to the toggle.

4. A lifting-jack including a base, a head-block, upper and lower toggles, trunnion-blocks and pivots connecting them together, and a right and left screw extending through the trunnion-blocks for actuating the lifting-jacks, the head-block having sliding support upon the upper ends of the upper toggles, the upper toggles having projections which form lateral support for the upper end of the opposite toggle and for the head-block.

5. A lifting-jack including a base, a head block, upper and lower toggles, trunnion-blocks and pivots connecting them together, a right and left screw extending through the trunnion-blocks for actuating the jacks, the head block having sliding support upon the upper ends of the upper toggles, the upper toggles having projections which form lateral support for the upper end of the opposite toggle and for the head block, the head block having a vertical slot and a pin extending through the slot and pivotally connecting the upper ends of the upper toggles together.

6. In a lifting-jack, the combination with a base having a vertically slotted stay column, upper and lower toggles, trunnion blocks and pivots pivotally connecting the upper and lower toggles together, the lower toggles pivoted to the base and provided with lugs, stay rods extending from the lugs in the direction of the stay column, a pin extending through the inner ends of the rods and through the slot in the stay column, a slotted head block resting slidably upon the upper ends of the upper toggles, said head block having a stop and provided with slide rests upon which the lower edges of the head-block rest, and a pin extending through the upper ends of the upper toggles and the slot in the head block.

In testimony whereof we hereunto affix our signatures.

NATHAN G. PERRY.
CHARLES E. HULTING.