

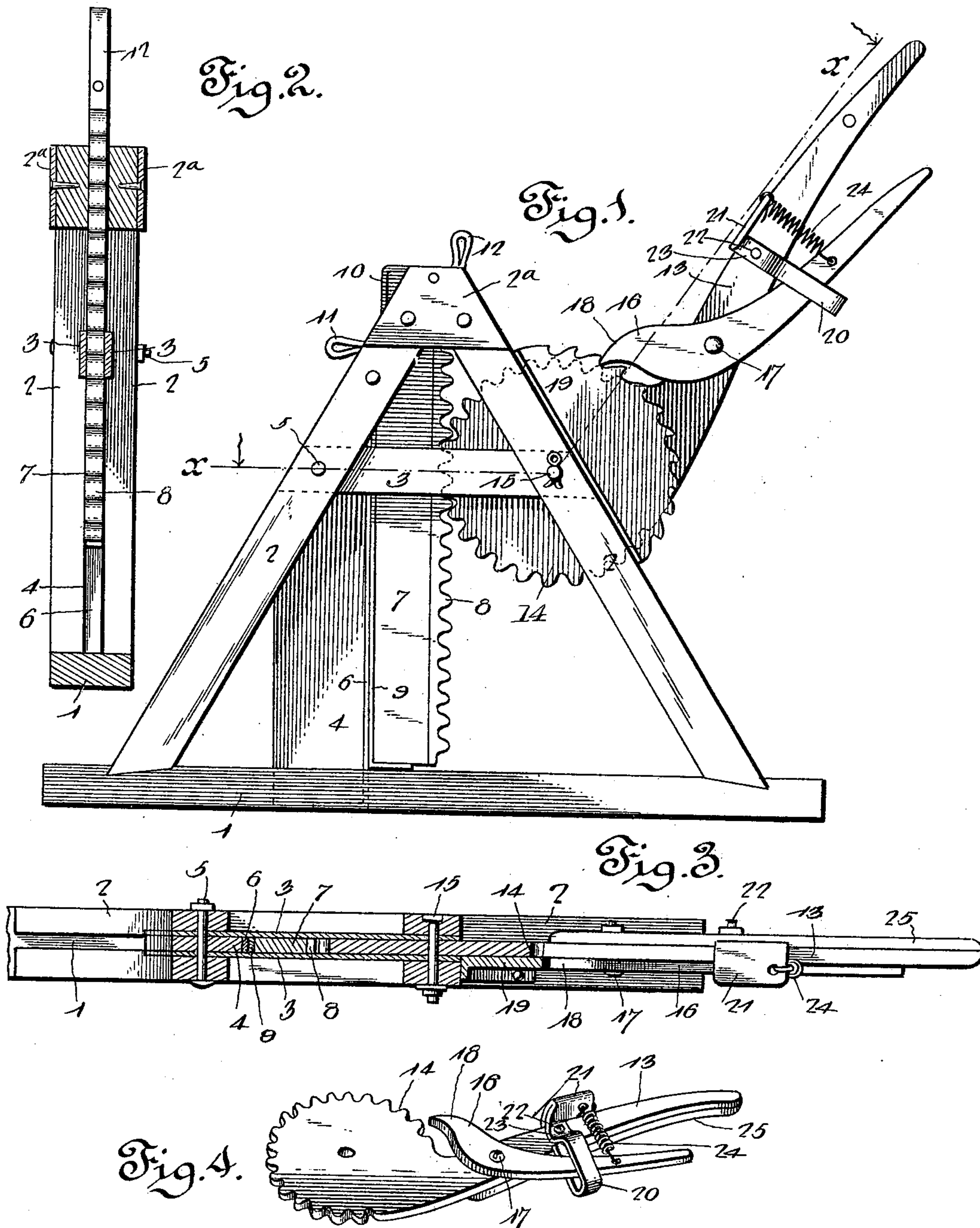
No. 636,678.

Patented Nov. 7, 1899.

W. LUKE.  
LIFTING JACK.

(Application filed Dec. 30, 1898.)

(No Model.)



Witnesses  
J. Frank Silverwell. By his Attorneys,  
O. B. Shepard.

W. Luke, Inventor.  
C. A. Snow & Co.



# UNITED STATES PATENT OFFICE.

WILLIAM LUKE, OF SAN ANTONIO, TEXAS.

## LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 636,678, dated November 7, 1899.

Application filed December 30, 1898. Serial No. 700,724. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM LUKE, a citizen of the United States, residing at San Antonio, in the county of Bexar and State of Texas, have invented a new and useful Lifting-Jack, of which the following is a specification.

This invention relates to lifting-jacks; and the object thereof is to provide an improved form of frame carrying and guiding the lifting-bar and improved actuating mechanism which exerts a powerful lifting force to elevate the lifting-bar.

To these ends the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, and particularly pointed out in the claims.

In the drawings, Figure 1 is a side elevation of the jack. Fig. 2 is a vertical transverse sectional view thereof. Fig. 3 is a horizontal transverse sectional view thereof, taken on the line *xx* of Fig. 1. Fig. 4 is a detail perspective view of the operating-lever.

Corresponding parts are designated by like reference-numerals in all the figures of the drawings.

Referring to the accompanying drawings, the frame of the jack is in the form of an isosceles triangle, having a flat base 1 and the converging sides 2, connected at their upper meeting ends by metallic plates 2<sup>a</sup>. As shown in Fig. 3, the sides of the frame each comprise two spaced bars, between which the operating parts of the jack are mounted. The opposite members of each side of the frame are connected together and braced by a transverse strap 3, and a post 4 extends from the base upwardly between the members of one side of the frame. A single fastening 5 serves to connect the post and the adjacent ends of the transverse straps 3 to the side members 2. The frame of the device thus arranged is preferably constructed of wood to form a comparatively light structure, and the inner edge of the post 4 is bound with a metal wear-strip 6, extending the entire length thereof.

The vertically-movable lifting-bar 7 is slidably mounted between the side members of the frame and the transverse straps 3 and against the post 4 as a guide. This bar is also preferably of wood, having a metallic

rack 8 upon one edge and a metallic wear-strip 9 upon the opposite edge, which is in slidable engagement with the metal-bound edge of the post 4. The upper or head edge of the bar is provided with a heavy metal strip 10, bent upon itself to provide a lifting-bracket 11 opposite the rack and extending along the top edge of the head and formed into a stop-shoulder 12 at the rack edge of the bar.

The means for operating the lifting-bar comprises an operating-lever 13, carrying at one end a segmental geared head 14 in mesh with the rack on the lifting-bar. This gear is pivoted or mounted at its radial center between the members of the side of the frame opposite the post 4. The single fastening 15, which connects the ends of the transverse straps to the respective members of this side of the frame, serves as the pivot or bearing for the segmental gear. A ratchet-lever 16 is pivoted intermediate its ends, as at 17, to one face of the operating-lever 13, having its catch end 18 extending above the operating-lever and in normal engagement with a fixed toothed segment 19, carried by one of the members of the adjacent side of the frame and alongside of the gear 14. A guide is provided for the operating end of the ratchet-lever 16, being formed from a single length of metal bent to form a depending guide-loop 20 at one end, embracing and confining the ratchet-lever, and a bracket 21 at the other end, engaging the upper edge of the operating-lever 13 and extending out beyond one side thereof. The guide is connected to the lever 13 by means of a suitable fastening 22 passing through the straight flat portion 23, which is between the bracket 21 and the loop 20. A coiled spring 24 is connected to the bracket and to the operating end of the ratchet-lever, whereby the catch end 18 of the latter may be normally engaged with the toothed segment 19. The gear 14 and lever 13 are preferably formed integral, and a wooden strip 25 is secured to one side of the lever to give size thereto and afford a substantial hand-grip in operating the lever.

In the operation of the device the head of the bar 7 or the bracket 11 is engaged under the axle or other object to be raised, and the lever 13 is forced downward upon its pivot



15, which revolves the gear 14 and raises the bar 7. The ratchet-lever 16 engaging the toothed segment 19 will prevent the bar from dropping if pressure is removed from the lever 13. The lifting-bar being mounted between the sides of the frame and held against the post 4 by the gear 14 is substantially mounted and guided in its movement and is prevented from having any lateral play.

10 The combination and arrangement of the several parts of the present device produce an improved and useful lifting-jack, in which changes in the form, proportion, and minor details of construction and arrangement may be made without departing from the spirit and scope or sacrificing any of the advantages of the invention.

Having thus described the invention, what is claimed is—

20 1. In a lifting-jack, the combination with a frame having a base and opposite sides each side being composed of spaced members, transverse braces connecting the respective members of opposite sides, a lifting rack-bar 25 located between the members of the sides and the transverse braces, a fixed guide-post arranged between and secured to the members of one side, the lifting rack-bar being slidable against one edge of the guide-post, and an 30 operating-lever having a gear mounted between the members of the side opposite the guide-post and in engagement with the rack of the lifting-bar, whereby the latter is held in place against the guide-post, substantially 35 as shown and described.

2. In a lifting-jack, the combination with a base, of a pair of upwardly-convergent sides forming a triangular frame each side being composed of spaced members, opposite transverse braces connecting the respective members of opposite sides, a lifting rack-bar 40 located between the transverse braces and extending upward through the apex of the frame and between the sides thereof, a fixed guide-post supported upon the base, received between the members of one side of the frame 45 and the transverse braces and connected thereto by the fastening which connects the braces, the lifting rack-bar being slidable against one edge of the guide-post, and an 50 operating-lever having a gear in mesh with the rack-bar, pivoted between the members of the side of the frame opposite the guide-post and upon the fastening which connects

the adjacent ends of the transverse braces, 55 substantially as shown and described.

3. In a lifting-jack, the combination with a frame having a lifting-bar which is provided with a rack, of an operating-lever having a segmental gear mounted upon the frame in 60 mesh with the rack of the lifting-bar, a ratchet-lever mounted upon the operating-lever, a guide carried by the operating-lever, and comprising a loop embracing the ratchet-lever, and a bracket extending outwardly from the 65 operating-lever, a spring connected to the bracket and the ratchet-lever, and a toothed segment provided upon the frame, substantially as shown and described.

4. In a lifting-jack, the combination with 70 a frame and a slidable lifting rack-bar, of an operating-lever having a gear, a fixed toothed segment carried by the frame alongside of the gear, a ratchet-lever pivoted intermediate its ends to the operating-lever and having its 75 handle lying beneath the handle portion of the operating-lever, and a spring normally drawing the handle of the ratchet-lever toward the handle of the operating-lever, whereby the ratchet-lever is normally engaged with 80 the toothed segment, substantially as shown and described.

5. In a lifting-jack, the combination with a base, a pair of upwardly-convergent sides formed of spaced members, and transverse 85 braces connecting the respective members of the opposite sides, of a lifting rack-bar arranged between the transverse bars and extending above the frame, a guide-post supported upon the base and secured to one side 90 of the frame between the members thereof, the lifting rack-bar being in slidable engagement with one edge of the guide-post, an operating-lever having a gear in mesh with the rack-bar and pivoted between the members 95 of the side of the frame opposite the guide-post, a ratchet-lever mounted upon the operating-lever, and a fixed toothed segment provided upon the outer edge of one of the side members alongside of the gear, substantially 100 as shown and described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM LUKE.

Witnesses:

THOS. JOHNSON,  
EARL SCOTT.