E. J. VAN FLEET.

JACK LEVER CONNECTION.

APPLICATION FILED NOV. 25, 1918.

1,396,901. Patented Nov. 15, 1921.

Fig. 1

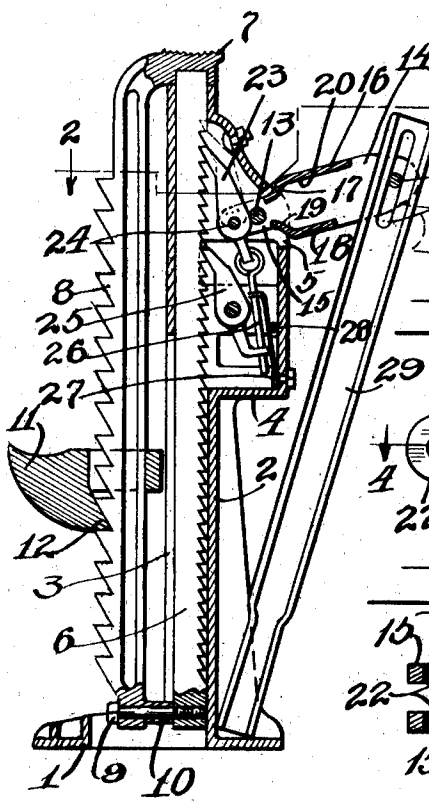


Fig. 3

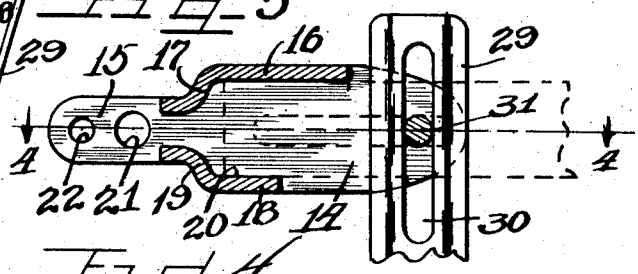


Fig. 4

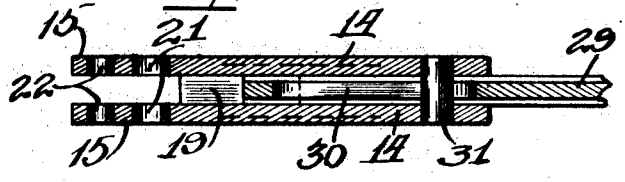
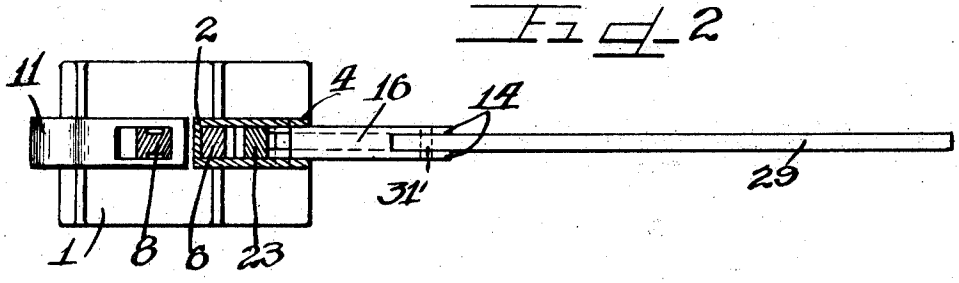


Fig. 2



Witnesses

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UNITED STATES PATENT OFFICE.

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JACK-LEVER CONNECTION.

1,396,901. Specification of Letters Patent. Patented Nov. 15, 1921.

Application filed November 25, 1918. Serial No. 263,981.

To all whom it may concern:

Be it known that I, ELON J. VAN FLEET, a citizen of the United States, and a resident of the city of Joliet, in the county of Will and State of Illinois, have invented certain new and useful Improvements in a Jack-Lever Connection; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the numerals of reference marked thereon, which form a part of this specification.

This invention relates to an improved type of lifting jack wherein a slotted handle is adjustably connected to a fulcrumed jack actuating lever in a manner to permit the handle to be readily engaged longitudinally in the lever for operating the jack, or to permit the same to be swung downwardly into a position out of the way without detaching the handle from the lever.

It is an object of this invention to construct a lifting-jack wherein an actuating handle is adjustably connected with a fulcrumed lever to permit the handle to be moved from an operating position to an inoperative position without detachment from the lever.

Another object of the invention is to construct a jack having an actuating handle pivotally and slidably connected with the jack lever to permit movement of the handle when not in use into a position out of the way alongside of the jack standard without necessitating detachment of said handle from the lever.

It is furthermore an object of the invention to provide a jack with a fulcrumed bifurcated lever having a slotted handle engaged on a pin carried by the lever to permit the handle to be disposed co-axially in said lever or at an angle thereto without necessitating detachment of the handle from said lever.

It is an important object of this invention to provide a lever actuated jack with a non-removable handle adjustably connected to the jack lever to permit the handle to be swung into a position out of the way when not in use or be slidably engaged in said lever when it is desired to operate the jack.

Other and further important objects of this invention will be apparent from the disclosures in the specification and drawings.

The invention (in a preferred form) is illustrated in the drawings and hereinafter more fully described.

On the drawings:

Figure 1 is a central vertical section taken through a jack embodying the principles of this invention, showing parts in elevation.

Fig. 2 is a sectional view taken on the line 2—2, of Fig. 1, showing the handle in position to permit operation of the jack.

Fig. 3 is an enlarged longitudinal section taken through the jack lever showing the handle connected therewith, and the handle operation in dotted lines.

Fig. 4 is a section taken on line 4—4, of Fig. 3, showing the handle in operating position inserted into the lever.

As shown on the drawings:

The reference numeral 1, indicates a base, having integrally formed thereon an upright hollow standard 2, open at its upper end and provided with a vertical slot 3, in the front side thereof extending upwardly from the base 1, to about half the height of the standard. Formed integrally upon the upper rear portion of the standard 2, is a box or housing 4, having an opening 5, in the upper portion of the rear wall thereof.

Slidably engaged in the standard 2, is a main rack 6, having rigidly secured on the upper projecting end thereof a rest or head 7. Integral with the head 7, is the upper curved end of an outer or auxiliary vertical rack 8, disposed to the front of the standard 2, and having the lower end secured to the lower end of the main rack 6, by means of a screw bolt 9, which projects through a sleeve 10, integrally formed on the lower inner side of the auxiliary rack. The sleeve 10, projects through the slot 3, of the standard. Adjustably engaged on the auxiliary rack 8, is a lifting foot 11, which is provided with an integral projection or heel 12, adapted to engage the upwardly directed teeth of the auxiliary rack to removably hold the lifting foot in an adjusted position on said auxiliary rack, as shown in Fig. 1.

A fulcrum pin 13, is secured transversely in the housing 4, at the level of the opening 5, and fulcrumed on said pin is an actuating lever comprising side walls 14, having the inner ends reduced to form arms 15. Integrally connecting the side walls 14, is a top wall 16, the inner end of which is bent or

curved to form a stop 17. The lower edges of the lever side walls are integrally connected by means of a short bottom wall 18, the inner portion of which is bent or curved to form a stop 19. The side, top and bottom walls of the lever form a chamber 20. As clearly shown in Fig. 3, the top wall 16, is longer than the bottom wall 18, and terminates at a distance from the outer end of the lever. The reduced lever arms 15, are each provided with an inner opening 21, and an outer opening 22. The fulcrum pin 13, projects through the lever openings 21, and holds the lever fulcrumed in position projecting outwardly through the housing opening 5.

An upper dog or pawl 23, adapted for engagement with the rack 6, is pivotally mounted in the housing 4, by means of a pin 24, between the lever arms 15. The pin 24, is engaged in the lever arm openings 22. A lower dog or pawl 25, is pivotally mounted within the housing 4, below the upper pawl, and is adapted for engagement with said rack 6. A rod 26, is pivotally connected to the lower end of the upper pawl 23 and slidably connected to the lower end of the pawl 25. Secured within the housing 4, is a spring 27, having the upper end thereof connected with the rod 26, for normally holding the pawls in engagement with the rack 6. Disposed within the housing 4, adjacent to the spring 27, is a member 28, adapted to be shifted from the exterior of the housing to cause said spring to move the pawls 23 and 25, out of engagement with the main rack 6.

Adjustably disposed between the outer portions of the lever side walls 14, is the inner end of an I-cross-sectioned handle 29, provided with a longitudinal slot 30, in the web portion at the inner end of said handle. To hold the handle 29, adjustably connected with the lever and to prevent detachment of the handle therefrom, a retaining bolt or guide pin 31, projects transversely through the handle slot 30, and has the ends thereof rigidly secured in the outer end portions of the lever side walls 14.

The operation is as follows:

The particular features of the jack disclosed are the novel construction of the jack lever and the handle which, as described, is adjustably connected against disengagement with the lever to permit the handle to be either slidably inserted longitudinally into the chambered lever when it is desired to operate the jack, or to permit said handle to be swung into a position out of the way with the outer end resting on the jack base 1, as shown in Fig. 1, when the jack is not in use. This arrangement permits the handle 29, to be associated with the fulcrumed lever at all times, and prevents loss of the handle.

The jack parts are normally positioned as shown in Fig. 1, with the handle 29, swung into its lowermost position out of the way. To operate the jack the handle is swung upwardly into alinement with the lever, so that the outer end of the handle slot 30, has the retaining pin 31, seated therein. In this position the handle is pushed longitudinally into the chamber 20, as shown in dotted lines in Fig. 3, with the inner end of said handle disposed between the upper lever wall 16, and the lower lever wall 18. The stops 17 and 19, serve to limit the inward movement of the handle, or the pin 31, may serve to limit the inward movement of the handle when the outer end of the slot 30, strikes said pin. The jack is operated to lift a load by swinging the handle 29, downwardly into the dotted line position shown in Fig. 1, and then upwardly, repeating the operation whereby the main rack 6 and the auxiliary rack 8, are simultaneously raised a notch at a time. The load to be lifted may either rest upon the rack head 7, or upon the lifting foot 11. To release the jack the member 28, is actuated from the exterior of the housing 4, to shift the spring 27, for urging the pawls 23 and 25, out of engagement with the teeth of the main rack 6, thus permitting the racks to slide downwardly into normal position on the standard 2. When the jack is not in use the handle 29, is pulled outwardly and then swung downwardly into a position out of the way alongside of the standard 2, with the outer end of the handle resting on the base 1. The pin 31, serves as a means for preventing detachment of the handle from the jack lever.

I am aware that numerous details of construction may be varied through a wide range without departing from the principles of this invention, and I therefore do not purpose limiting the patent granted otherwise than necessitated by the prior art.

I claim as my invention:

A jack lever connection embracing a pivoted lever comprising side walls, means integrally connecting said side walls forming a chamber, a pin rigidly disposed transversely between said side walls to the outside of said means, stops formed on said means, and a slotted handle engaged on said pin between said side walls adapted to be longitudinally inserted into said chamber and against said stops, or be pulled out of said chamber and swung at an angle to said lever without requiring detachment from said pin.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

ELON J. VAN FLEET.

Witnesses:

F. H. KEELER,

J. W. BEAMAN.