No. 780,979. PATENTED JAN. 31, 1905.

C. L. CORRELL.

LIFTING JACK.

APPLICATION FILED JUNE 23, 1904.

Fig. 4.

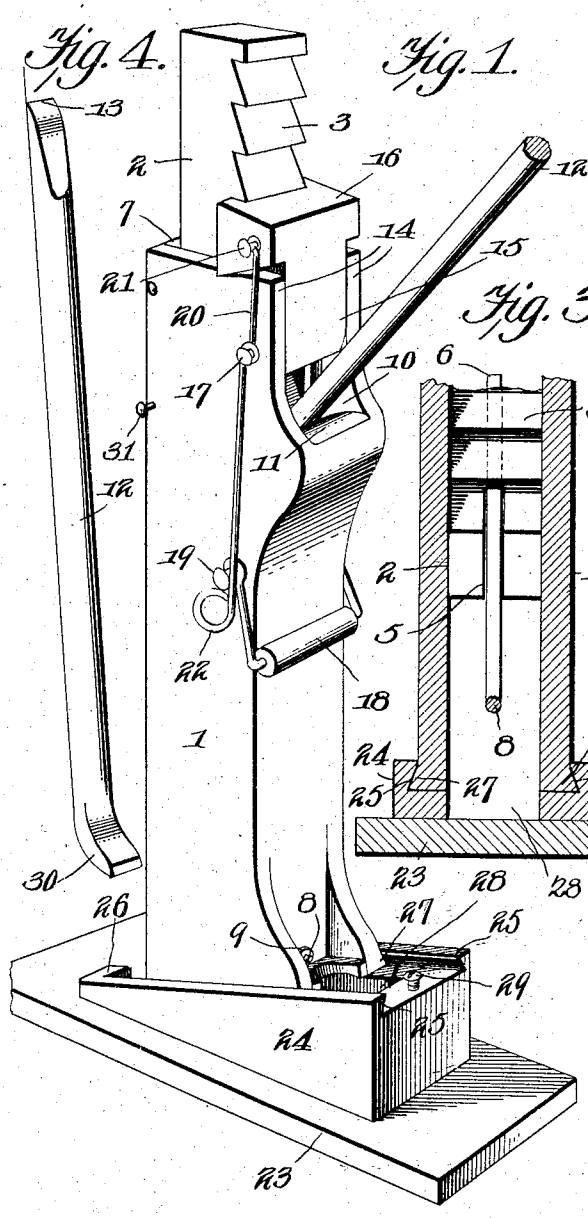


Fig. 1.

Fig. 3

Fig. 2.

Witnesses

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UNITED STATES PATENT OFFICE.

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LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 780,979, dated January 31, 1905.

Application filed June 23, 1904. Serial No. 213,866.

To all whom it may concern:

Be it known that I, CLARENCE L. CORRELL, a citizen of the United States, residing at Lecompton, in the county of Douglas and State of Kansas, have invented a new and useful Lifting-Jack, of which the following is a specification.

This invention relates to lifting-jacks, and has for its object to provide for conveniently manipulating the same to elevate the lifting-bar and to have the same housed and guided in a durable and effective manner.

It is furthermore designed to provide for conveniently shifting the jack, with a load thereon, in a simple and convenient manner without disturbing the load or any of the parts of the jack.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a perspective view of a lifting-jack embodying the features of the present invention. Fig. 2 is a longitudinal sectional view thereof. Fig. 3 is a detail cross-sectional view on the line 3 3 of Fig. 2. Fig. 4 is a detail perspective view of the operating-lever.

Like characters of reference designate corresponding parts in each and every figure of the drawings.

In carrying out the present invention there is provided a hollow standard 1, which is open at its top and throughout its front and constitutes a guide and housing for the upright lifting-bar 2, provided upon its rear face with the usual ratchet-teeth 3, forming a rack. The lower end of this lifting-bar is provided with a toe 4, which projects through the open front of the standard and is provided with a longitudinal slot or bifurcation 5, receiving an upright guide-rod 6. This guide-rod is preferably of metal and terminates at its upper end in a plate 7, fitted within and closing the upper portion of the open front of the standard, while its lower end is provided with a transverse arm 8, that pierces the back of the standard and is terminally screw-threaded for the reception of a nut 9 to hold the bar in place. It will here be noted that the bifurcation or slot 5 in the toe also extends a suitable distance into the lifting-bar, and the back of this slot engages the arm 8 as a stop to limit the downward movement of the bar, while the lower end of the plate 7 constitutes a stop for engagement by the toe 4 to limit the upward movement of the lifting-bar. By this construction and arrangement the lifting-bar is effectually guided in its vertical movement and is also limited, so as to prevent endwise displacement thereof.

In the back of the standard and near the upper end thereof is an opening 10 to expose the rack of the lifting-bar, and the lower edge or bottom 11 of this opening is extended downwardly and rounded or beveled to form a fulcrum-bearing for the operative lever 12, which is separate from the standard and has one end flattened, as at 13, to enter the opening 10 and engage the rack, so as to elevate the latter by pressing down upon the outer end of the lever. At each side of the opening 10 and extending above the fulcrum edge 11 is an upstanding flange 14, and between these two flanges is fitted the shank 15 of a ratchet-dog having an enlarged head 16 disposed across the top of the standard in coöperative relation with the rack of the lifting-bar and designed to engage the top of said standard, so as to be braced thereby. A suitable pivot 17 pierces the flanges 14 and the lower terminal

of the shank 15, while the head of the dog or pawl is cut away upon its inner and under sides, so as to receive the adjacent tooth of the lifting-bar. A handle 18 in the form of a bail embraces the rear side of the standard immediately below the opening 10 and has each end pivoted thereto, as indicated at 19. To yieldably maintain the dog or pawl in engagement with the rack of the lifting-bar, there is a spring-bar 20, which has its intermediate portion coiled or twisted around one end of the pivot 17 of the dog, its upper end being connected to the adjacent end of the head of the dog, as at 21. The lower end of the spring is bent to form a handle 22 and is adapted to be sprung back of the adjacent pivot 19 of the handle 18, which is projected a suitable distance to constitute a keeper for the spring, and thereby maintain a suitable tension upon the dog. In addition to its function as a spring the bar 20 is also in the nature of a lever capable of being swung upon its pivotal engagement with the pivot 17 when disengaged from the pivot 19 for the purpose of swinging the dog away from the ratchet-teeth of the lifting-bar when it is desired to quickly elevate or drop the latter.

It is an important object of the present invention to provide for shifting the jack with a load thereon, and this is accomplished through the medium of a shoe 23, which is in the nature of a flat plate of suitable size provided with an intermediate block 24, which has its upper face inclined to the vertical and provided with opposite overhanging flanges 25, constituting guideways which are open at their upper ends and closed at their lower ends by means of stop-shoulders 26. The base or bottom of the standard of the jack is inclined in accordance with the inclination of the guideways and is provided at each side with a transverse flange 27 to engage one of the guideways and slidably connect the standard with the shoe. A longitudinal seat or recess 28 is formed in the top of the block to accommodate the lower end of the standard, and a removable stop 29—as, for instance, a screw-threaded pin—is provided at the upper end of the block intermediate of the guideways to prevent displacement of the standard through the open upper ends of the guideway. The stop 29 is removable in order that the standard may be detached from the shoe whenever desired. In using the shoe the standard is moved to its upper limit in the guideway and then engaged with the load, the weight of the latter being sufficient to frictionally bind the bottom of the standard against the guideway and prevent the standard from moving downward. After the load has been elevated to the desired extent the standard, with the load thereon, may be pushed so as to slide the standard downwardly upon the guideway until stopped by the shoulders 26, thereby shifting the device in a forward direction. This shifting of the standard is a very important feature of the present invention, particularly when used in connection with railway-tracks where it is desired to shift the latter, as one of the rails may be lifted upon the jack, and then the hook or claw end 30 of the lever may be inserted beneath the opposite rail and the upper end of the lever depressed, so as to shift the entire track with the standard of the jack to the extent of the slidable movement of the latter upon the shoe.

As indicated in Fig. 1, one of the fastenings 31 which secures the plate 7 within the standard is projected externally of the latter and forms a keeper with which the spring-arm 20 may be engaged when the pawl or dog 15 is swung out of engagement with the lifting-bar 2, so as to hold the dog disengaged from the bar.

Having thus described the construction and operation of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a lifting-jack, the combination of a shoe having an inclined guideway, a standard slidable in the guideway, and a lifting-bar carried by the standard.

2. In a lifting-jack, the combination of a shoe having a guideway inclined to the vertical with its upper end open and its lower end closed, a standard slidable in the guideway, and a lifting-bar carried by the standard.

3. In a lifting-jack, the combination of a shoe including a base, a block thereon having its upper face inclined to the vertical and provided with opposite overhanging flanges constituting a guideway, a standard having flanges underlying the flanges of the guideway and slidable therein, and a lifting-bar carried by the standard.

4. In a lifting-jack, the combination of a shoe having an inclined upper face provided with a vertical recess and having guideways at opposite sides of the recess, a standard having flanges working in the guideways, and a lifting-bar carried by the standard, the recess in the shoe being disposed to receive the lower end of the lifting-bar at the lower limit thereof.

5. A lifting-jack comprising a hollow standard which is open at one side, a lifting-bar working in the standard and provided with a slotted toe projected through the open side of the standard, and an upright guide-rod in the open side of the standard and projected through the slot of the toe of the lifting-bar, the lower end of the bar having a transverse arm constituting a stop to limit the downward movement of the lifting-bar.

6. A lifting-jack comprising a hollow standard having an open side, a lifting-bar working in the standard and provided with a slotted toe projected through the open side of the standard, an upright guide-rod in the open

side of the standard and projected through the slot of the toe, the upper end of the rod having an enlargement connected to the standard in the path of the toe and constituting a stop to limit upward movement of the lifting-bar.

7. A lifting-jack comprising a hollow standard having an open side, a lifting-bar working in the standard and provided with a slotted toe projected through the open side of the standard, and an upright guide-rod in the open side of the standard and projected through the slot of the toe, the upper end of the rod being enlarged and connected to the standard in the path of the upward movement of the toe, and the lower end of the rod being provided with an arm connected to the opposite side of the standard and disposed in the path of the downward movement of the lifting-bar.

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

CLARENCE L. CORRELL.

Witnesses:

E. L. RAINES,

V. C. RAINES.