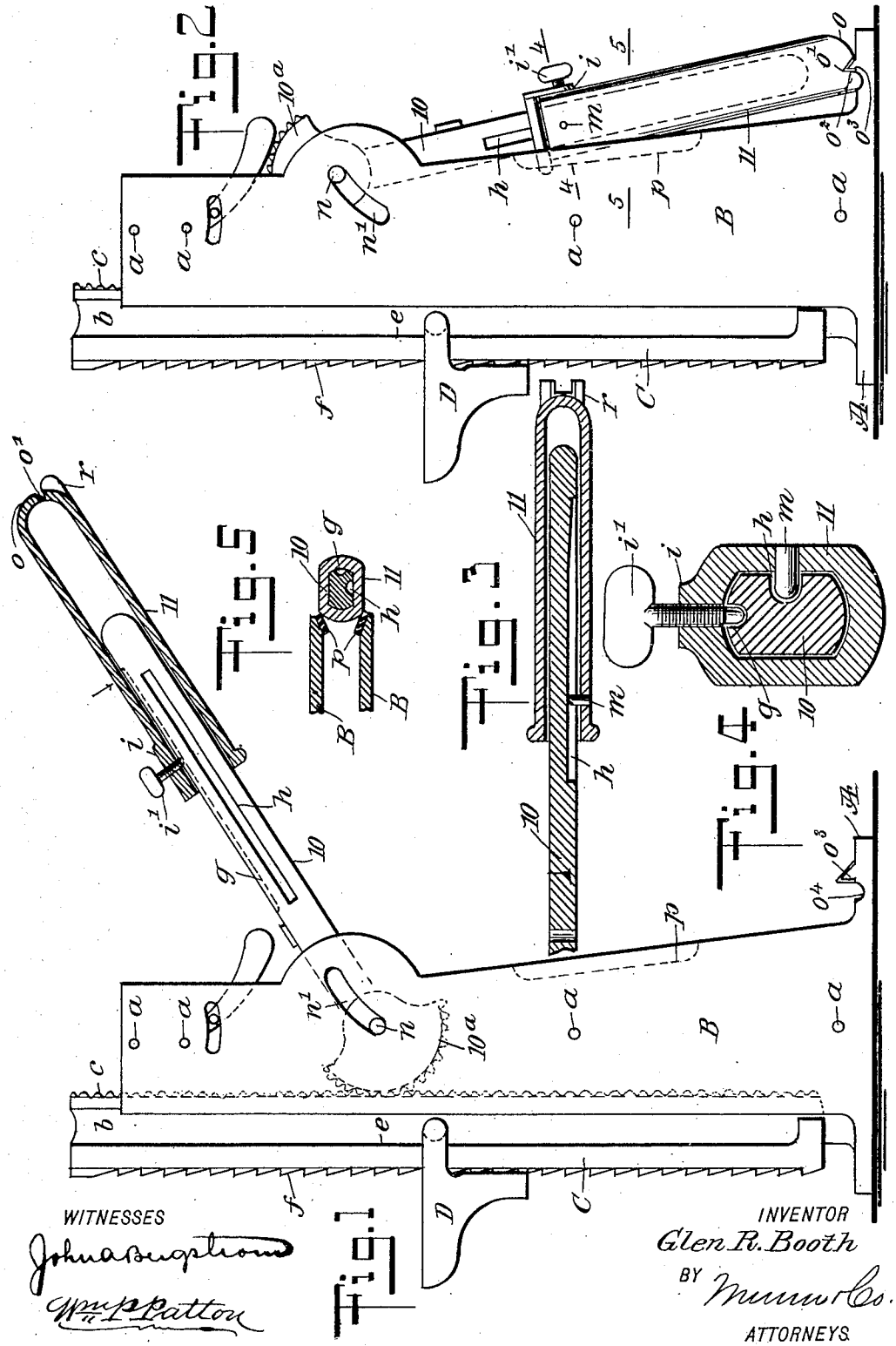
No. 882,447. PATENTED MAR. 17, 1908.

G. R. BOOTH.

LEVER FOR LIFTING JACKS.

APPLICATION FILED OCT. 23, 1907.



WITNESSES

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LEVER FOR LIFTING-JACKS.

No. 882,447. Specification of Letters Patent. Patented March 17, 1908.

Application filed October 23, 1907. Serial No. 398,721.

To all whom it may concern:

Be it known that I, GLEN RUSSELL BOOTH, a citizen of the United States, and a resident of Chana, in the county of Ogle and State of Illinois, have invented a new and Improved Lever for Lifting-Jacks, of which the following is a full, clear, and exact description.

This invention relates to lifting jacks, embodying a slotted standard, a block for supporting a load and carried by said standard, a rack on the standard, and an actuating lever engaging the standard for elevating or depressing it; and more particularly the improvement is designed to afford novel details of construction for an operating lever, that is especially well adapted for coöperation with the lifting jack of my invention, for which a patent was allowed August 30, 1907.

The invention consists in the novel construction and combination of parts, as is hereinafter described and defined in the appended claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side view of a lifting jack, and of the improved lever partly in section and applied thereon; Fig. 2 is a side view of the jack and lever but showing the lever depressed and locked in lowered adjustment; Fig. 3 is a longitudinal sectional view of the improved lever seen in direction of the arrow in Fig. 1; Fig. 4 is an enlarged transverse sectional view, substantially on the line 4—4 in Fig. 2; and Fig. 5 is an enlarged transverse sectional view, substantially on the line 5—5 in Fig. 2.

The lifting jack shown for illustrating the coöperative action of the lever which embodies the present invention, comprises essentially the following details: Upon a preferably flat base plate A, is erected a hollow standard B, that is formed of two side walls spaced apart and held separated by the base and transverse bolts *a*, thus affording a vertical slot in the front and also the rear of the standard. Slidable in the rear slot of the standard B, is a lifting bar C, that is channeled in its opposite sides, as at *b*, and on the front edge of the lifting bar a toothed rack *c* is formed. A lifting block D, is mounted upon the lifting bar C, and is made adjustable thereon by its engagement with a shoulder *e* on said bar, and a ratchet toothed rack *f* on the rear face thereof, and for a vertical adjustment of the lifting bar the improved lever is provided, comprising the following details: In this example of my invention, the lever is formed in two parts or sections 10, 11, one slidable in the other in the order named. The section 10 is preferably formed of solid metal and may with advantage be cast in a mold. At one end the lever section 10 is provided with a toothed segment 10^a, that is adapted for meshing engagement with the rack *c* on the lifting bar C, as will be hereinafter more fully explained. The lateral walls of the lever section 10 are flattened and parallel with each other, thus giving said section equal thickness throughout the length thereof; and as shown in Figs. 4 and 5, the upper and lower sides thereof are similarly convexed to afford a neat finish and render the same convenient for handling. A longitudinal groove *g* is formed in the normally upper side of the lever section 10, and a channel *h* in one side thereof extended intermediately of the ends, the function of said groove and channel appearing in the further specific description of the device.

The lever section 11 is hollow, and receives the said section 10, that fits neatly but slidably therein, and as shown, the lateral walls of the lever section 11 are parallel with each other, the remaining walls thereof being convexed to remove sharp corners and render this section of the lever convenient for handling.

The lever section 11, at or near the end thereof which receives the other section 10, is thickened as at *i*, and in said portion a threaded perforation is formed for the reception of a set screw *i'*.

The bottom of the groove *g* in the lever section 10 is preferably concaved or converged, as shown, and the point of the screw *i'* is slightly reduced in diameter below the thread of the screw and rounded on the extremity, so that upon an embedment of the screw, the point thereof will bear upon the bottom of the groove. This arrangement obviates the possibility of the end of the screw marring the top convex surface of the lever portion 10, as would be the case should the point of the screw be allowed to bear directly upon said surface. Thus by having the screw embedded within the groove *g*, the top convex surface of the lever portion 10 always remains smooth, and insures a perfect fit within the hollowing of the lever portion 11,

and the thread of the screw will be preserved from injury.

Near the open end of the lever section 11, in one side wall thereof, a keeper pin *m*, is inserted through a perforation and secured therein, said pin being disposed opposite the channel *h* in the lever section 10 and entering it.

Preferably the bottom of the channel *h* is concaved, as shown in Figs. 4 and 5, and the pin *m* may have contact with said bottom, the free end of the pin being rounded to conform therewith.

It will be seen that the channel *h* is of such length that the section 11 of the lever may be drawn out a considerable distance, and when so extended, the pin *m* will bear upon the bottom of the channel *h* and render the connection between the two sections of the lever firm, so that they will coact as one piece for the operation of the lifting jack; furthermore, the section 11 of the lever will be held from displacement when extended. The channel *h* while shown as being less in depth at one end, may be obviously modified, and made of even depth its entire length, as the set screw *i'* can be slightly tightened, which will produce a firm effect, regardless of the different extended positions of the lever portion 11.

A segmental gear 10^a is pivoted at its radial center between the side walls of the standard B, by means of a cross bolt *n*, that is secured in the segmental gear, and loosely engages opposite arcuate slots in the standard walls, as appears at *n'*, for one side wall thereof, in Figs. 1 and 2.

By means of the pivotal engagement just described, the two-part lever when it is contracted in length may be rocked on the pivot *n* downwardly, so that the closed and normally outer end *o* of the lever section 11 will be adapted for contact with the base plate A.

In the closed end *o* of the lever section 11, which is preferably convexed, a transverse notch *o'* is formed, having **V**-shape, and preferably said notch is lined with an elastic cushion o^2 formed of rubber fabric, or other available material.

Upon the base plate A, at a suitable point, an angular rib o^3 is formed or secured, that is the counterpart of the notch *o'*, and upon lowering the telescoped sections of the lever sufficiently, the rib may be inserted in the notch, and thus secure the lever from rattling, the sections of the lever being secured together so as to prevent improper looseness, by an adjustment of the set screw *i'*. The angular rib o^3 is preferably covered with a rubber fabric or other material, which may serve as a cushion thereon, as shown in Fig. 1.

As shown in Fig. 3, a projection *r* is formed on the end wall of the lever section 11, to facilitate the formation of the notch *o'*, and said projection, being slotted and disposed at one side of the notch, affords two spaced walls that are extensions of the walls of the notch, thus serving to guide the rib o^3 into said notch when the telescoped lever is depressed, and prevents said lever from having any side motion while interlocked with the rib o^3. The base A is recessed at o^4, see Fig. 1, to receive the section 11, the members of the projection *r* spanning the base A at that point, which further prevents side motion of the two-part lever.

It will be obvious that the lever, in contracted condition, when interlocked with the rib o^3, will be held from rattling or displacement when the jack is moved from place to place.

To further obviate rattling of the lever, it is preferred to place opposite rubber cushions *p* on the walls of the standard where the telescoped lever passes between said walls when folded downwardly, said cushions that appear sectionally in Fig. 5, by their enforced engagement with the convexed side of the lever section 11, serving to hold the lever from moving, and also enforce the locked engagement of the rib o^3 within the cushioned notch *o'*.

Having fully described my invention, I claim as new and desire to secure by Letters Patent:

1. The combination with a lifting jack, of a lever formed in two sections, one section being solid and the other section hollow but closed at one end, said end having a notch therein.

2. The combination with a lifting jack, of a lever formed in two sections, one section that engages the jack being solid, and the other section hollow but closed at one end, said end having an angular notch therein, and an elastic lining in said notch.

3. The combination with a lifting jack, of a lever formed in two sections, one solid the other hollow, the solid section having a longitudinal channel in one side that is converged in its bottom, and the other or hollow section a keeper pin that engages the channel and is shaped on its end to conform therewith, the pin by its contact with the channel preventing rattling between the lever sections.

4. A telescoping lever formed in two sections, one section solid and the other section hollow, the hollow section having an end wall, parallel side walls, and transversely curved upper and lower walls, the other section conforming in contour to that of the hollow section's internal surface and wherein it slides, the solid lever section having a longitudinal channel in one side, and the other section an insertible keeper pin that projects into the channel and contacts with its bottom to prevent rattling between the lever sections.

5. The combination with a lifting jack having a base and a vertically slotted stand-

ard, of an extensible lever pivoted by one end upon said standard and adapted for downward folding movement, and means for locking the depressed end of the lever upon the base of the jack.

6. The combination with a lifting jack having a base, and a slotted standard, of a sectional telescoping lever pivoted near one end between the side walls of the standard and adapted for downward folding movement, the lever having a notch in an end wall thereof, and the base a corresponding rib that will enter the notch when the lever is folded and longitudinally adjusted between its sections.

7. The combination with a lifting jack having a base and a slotted standard, of a telescoping two-part lever, one end thereof being pivoted between the side walls of the standard, the lever being adapted for downward folding movement when the parts thereof are slid together, one section of the lever having an end wall and a transverse angular notch therein, an elastic lining cushion in said notch, guard walls on the end wall leading to the notch, and on either side thereof, and a rib on the base that enters the notch when the lever is downwardly folded.

8. The combination with a lifting jack having a base and a slotted standard, of a two-part telescoping lever pivoted near one end between the walls of the standard, so as to traverse the slot, one end of the lever being closed, said end wall having a transverse V-shaped notch therein, and an elastic lining in said notch, the base having an angular rib thereon that fits within the cushioned notch when the lever is folded downwardly and longitudinally adjusted, said rib having an elastic cover.

9. The combination with a lifting jack, of a lever formed in two sections, one slidable in the other, the section that engages the jack having a longitudinal groove therein, the other section being perforated opposite the groove and threaded therein, and a set screw engaging the perforation and seating in the groove.

10. The combination with a lifting jack, of a lever formed in two sections, one slidable in the other, the section that engages the jack having a longitudinal groove therein that is converged in its bottom, the other section which receives the grooved one having a threaded perforation therein opposite said groove, and a set screw having a reduced and converged end portion that may seat in the groove.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GLEN RUSSELL BOOTH.

Witnesses:
G. E. WEST,
V. M. BOOTH.