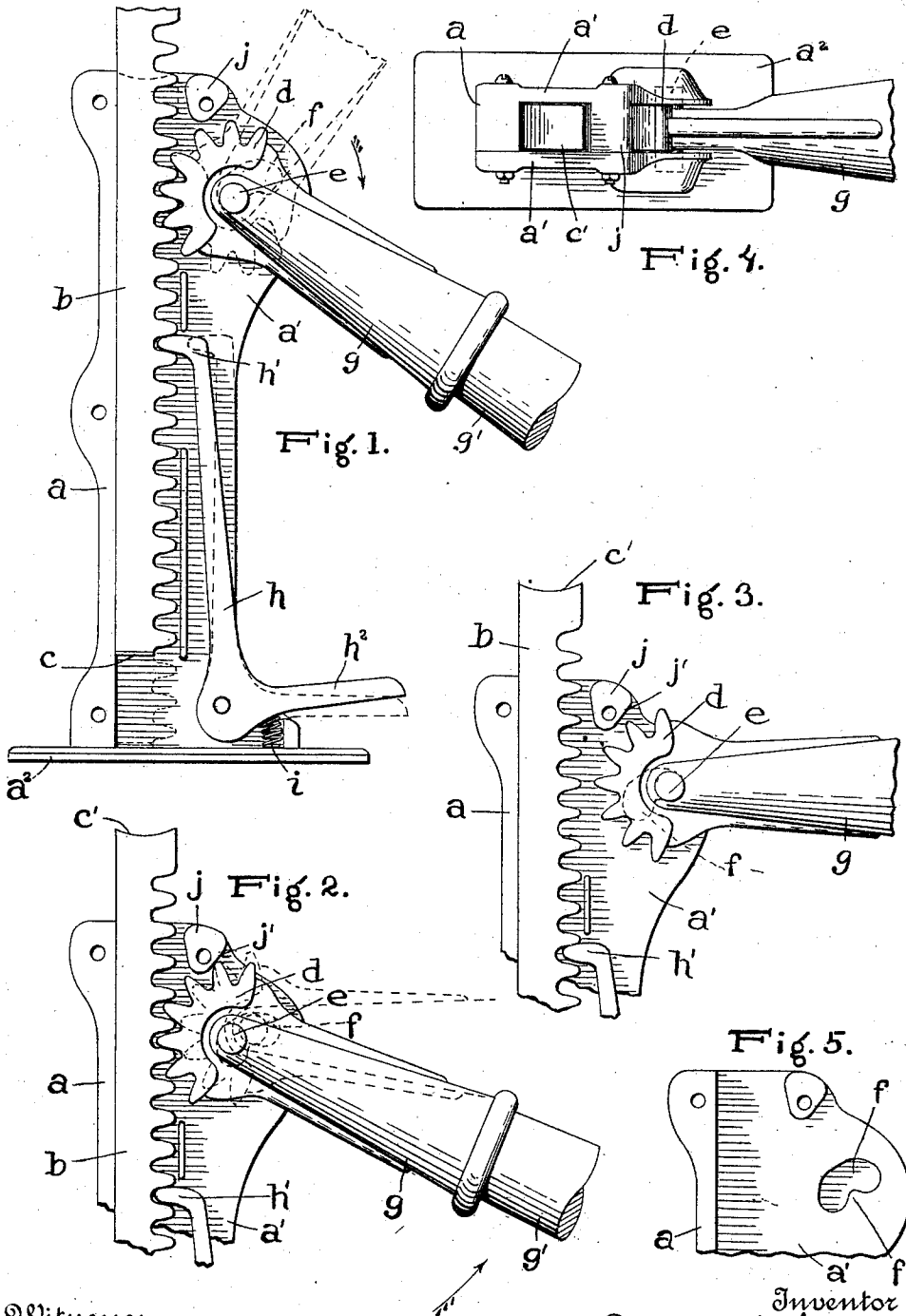


R. M. FRALEY.
LIFTING JACK.

APPLICATION FILED OCT. 13, 1909.

964,905.

Patented July 19, 1910.



Witnesses
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UNITED STATES PATENT OFFICE.

ROBERT M. FRALEY, OF CHAMPAIGN, ILLINOIS.

LIFTING-JACK.

964,905.

Specification of Letters Patent.

Patented July 19, 1910.

Application filed October 13, 1909. Serial No. 522,438.

To all whom it may concern:

Be it known that I, ROBERT M. FRALEY, a citizen of the United States, resident of Champaign, in the county of Champaign and State of Illinois, have made a certain new and useful Invention in Lifting-Jacks; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the invention, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 is a side view of my lifting jack with one cheek piece of the standard removed, parts being broken away. Fig. 2 is a fragmentary view of a similar nature showing the position taken by the arc rack when it fulcrums upon the cross piece. Fig. 3 is a similar view showing the arc rack and operating lever of which it forms a part thrown back by such fulcrum engagement. Fig. 4 is a plan view of the jack, partly broken away. Fig. 5 is a detail side view showing one of the lateral fulcrum recesses.

The invention has relation to lifting jacks, and it consists in the novel construction and combinations of parts as hereinafter set forth.

In the accompanying drawings, illustrating the invention, the letter *a*, designates the incasement standard in which loosely works the upright lifting rack bar *b*, having a cushioned lower end *c*, and a concave upper end *c'*. The bar *b*, is lifted by engagement therewith of an arc rack *d*, having concentric lateral fulcrum extensions *e*, *e*, having somewhat loose journal engagement with opposite lateral bearing recesses *f*, *f*, of the cheek pieces *a'*, *a'*, of the standard *a*. The arc rack has also a rearward extension *g*, of hollow character, for the reception of a handle lever *g'*.

An angle lever *h*, is fulcrumed between the cheeks of the incasement standard at the lower portion thereof, said lever having a toothed upper end *h'*, at about right angles thereto, designed for engagement with the rack bar to hold it in position as raised by the arc teeth of the operating lever, and a lower treadle extension *h²*. This treadle extension is held depressed by the operator during the downward stroke of the operating lever, whereby the tooth of the angle lever is held disengaged from the lifting

rack bar, which is free to move upward. At the end of the downward stroke of the operating lever the treadle lever is released and the tooth thereof engages itself with the rack bar to retain it in raised position under the influence of the coiled spring *i*, located between the treadle extension and the base *a²*, of the standard.

The fulcrum recesses *f*, *f*, of the cheek pieces of the standard are of elongated double bearing character, the top wall being straight and the bottom wall double concave, having a shoulder *f'*, between the two parts thereof. These recesses are arranged upon an angle of about thirty degrees to the horizontal and are composed each of cylindrical bearing portions having the wall between the same cut away, except the intermediate shoulder *f'*, aforesaid.

At the upper portion of the standard incasement is provided a cross-piece *j*, connecting the standard cheek pieces and located with its inclined rear wall about in line with the forward wall of the journal recesses. The cross-piece is separated from the arc rack teeth of the operating lever by a narrow interval which is slightly less than the width of the teeth of such arc rack and its inclined bearing wall *j'*, is substantially normal to the radius of said arc-rack. In this way, it is designed that when the downward stroke of the operating lever, in moving the rack bar, is completed, and the operating lever handle moved upward at the start of the upward stroke, the rack bar being held stationary by the angle lever engaged therewith, the operating lever will at first fulcrum upon the teeth of the rack bar, its arc rack teeth engaging the teeth of the lifting bar to first raise the arc rack head in the elongated journal recesses until the upper arc rack teeth are brought in contact with the downward and rearward inclined wall *j'*, of the cross-piece *j*, when a new fulcrumage will be taken upon this wall of said cross-piece *j*, to swing the arc toothed head backward in the journal recesses until the teeth thereof are disengaged from the teeth of the lifting bar, as shown in Fig. 2 of the drawings in dotted lines, when the lever will fall slightly until the journal extensions or pins thereof rest in the rear portions or concavities of the journal recesses, as shown in Fig. 3 of the drawings. The upward movement of the operating lever is continued and completed and the operating lever being pushed

the arc toothed head thereof will move downward and forward in the journal recesses and the arc teeth reengaged with the teeth of the lifting bar for a repetition of the effective or lifting stroke.

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

10 In a lifting jack, a standard having cheek pieces provided with inclined double bearing elongated recesses, a rack bar in said standard, an operating lever having an arc-rack, and lateral journals engaging said re-

cesses, a fulcrum cross-piece connecting said cheeks above said recesses and having a 15 bearing wall substantially normal to said arc-rack, and movable means for supporting the rack-bar during the lifting stroke of said lever.

In testimony whereof I affix my signature, 20 in presence of two witnesses.

ROBERT M. FRALEY.

Witnesses:

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