J. A. MILLS.

LIFTING JACK.

APPLICATION FILED SEPT. 5, 1908.

912,270.

Patented Feb. 9, 1909.

FIG. 1.

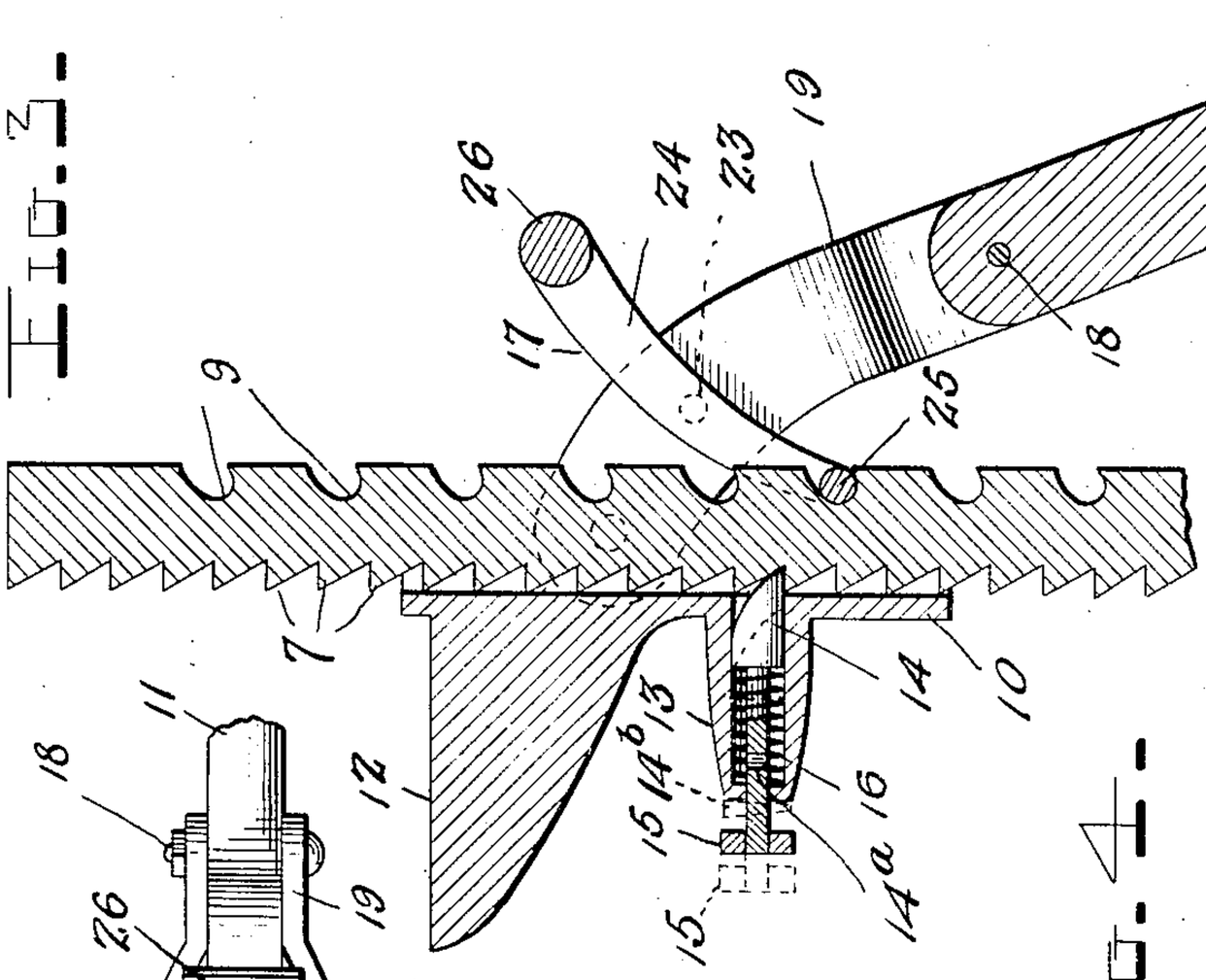


FIG. 2.

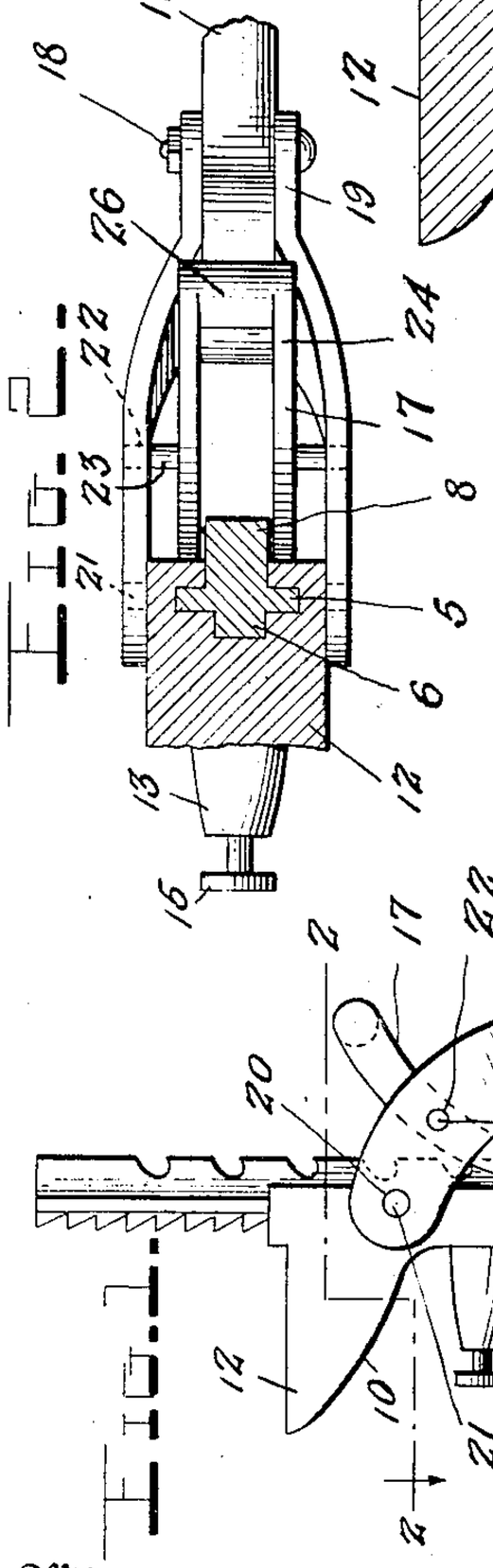


FIG. 3.

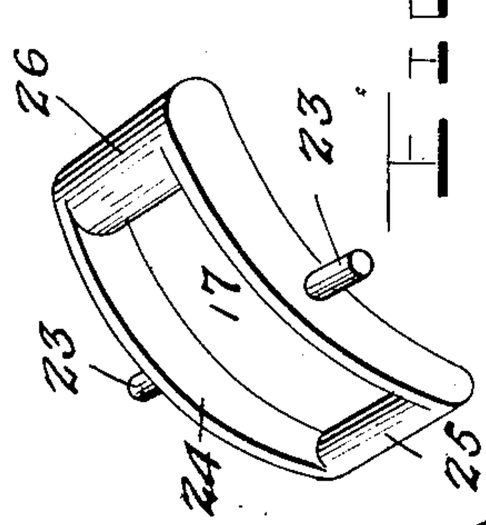
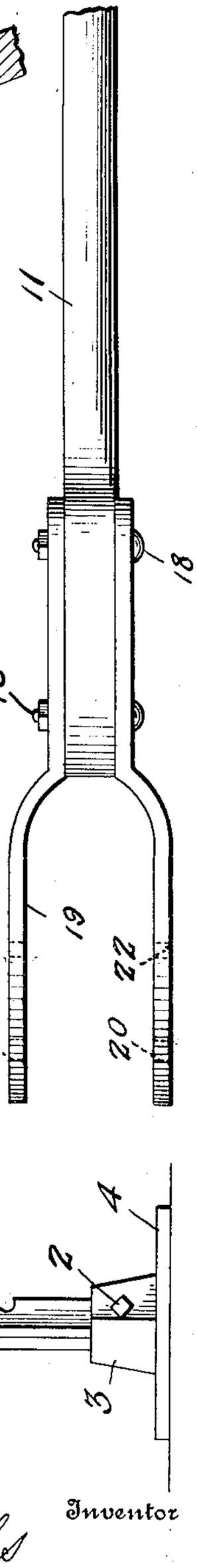


FIG. 4.

FIG. 5.



Witnesses

Chas. L. Griesbauer.

L. O. Little

Inventor

John A. Mills

By Watson E. Coleman

Attorney

UNITED STATES PATENT OFFICE.

JOHN A. MILLS, OF PALESTINE, ILLINOIS.

LIFTING-JACK.

No. 912,270. Specification of Letters Patent. Patented Feb. 9, 1909.

Application filed September 5, 1908. Serial No. 451,845.

To all whom it may concern:

Be it known that I, JOHN A. MILLS, a citizen of the United States, residing at Palestine, in the county of Crawford and State of Illinois, have invented certain new and useful Improvements in Lifting-Jacks, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in lifting or wagon jacks and consists of the novel features of construction and the combination and arrangement of parts hereinafter fully described and claimed.

The object of the invention is to provide a device of this character which will be simple and comparatively inexpensive in construction and strong, durable and efficient in operation.

The above and other objects of the invention are attained in its preferred embodiment illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the improved lifting jack; Fig. 2 is a horizontal section taken on the plane indicated by the line 2—2 in Fig. 1; Fig. 3 is a detail vertical section; Fig. 4 is a detail view of the lever; and Fig. 5 is a detail perspective view of the pivoted pawl or dog.

In the drawngs 1 denotes the upright body or standard of the lifting jack which is of substantially T-shape in cross section and has its lower end bolted, as at 2, in a socket formed in an enlargement 3 on a rectangular base 4. Formed upon the center of one face of the T-shaped standard 1 and midway between its cross arms or flanges 5 is a longitudinally extending rib 6, the outer edge of which is notched to provide V-shaped ratchet teeth 7, each of the latter having its upper face disposed in a horizontal plane and its lower face inclined downwardly and inwardly. Upon the third arm or flange 8 of the T-shaped standard 1 is formed a longitudinal series of curved notches 9 which provide a second rack.

10 denotes a lifting head which is slidable upon the standard and adapted to be actuated by a hand lever 11. Said head has its inner face formed with an undercut or T-shaped channel to receive the cross-arms 5 of the T-shaped standard so that said head will be retained upon the latter and may slide freely thereon. Projecting outwardly from the upper portion of the opposite side of the head 10 is a projection 12 adapted to take under the axle or any other object which is to be lifted by the jack. Formed also upon said face of the head 10 beneath the projection 12 is a tubular enlargement 13 which contains a slidable pawl 14 having at its inner end a beveled portion to co-act with the ratchet teeth 7. The stem of the pawl 14 projects out of the enlargement or guide 13 and is provided with a finger piece 15 by means of which it may be readily retracted; and it is engaged with teeth 7 by means of a coil spring 16 which surrounds said stem within the enlargement 13.

Located near the outer end of the stem of the pawl 14 is an aperture 14^a to receive a pin 14^b holding the pawl out of engagement with the ratchet teeth 7, as shown in dotted lines in Fig. 3. The pawl 14 serves to prevent the head 10 from moving downwardly upon the standard and said head is moved upwardly through the instrumentality of a swinging pawl 17 arranged upon the lever 11 and adapted to co-act with the rack 9. The inner end of the lever 11 has bolted upon its opposite sides, as shown at 18, two plates 19 which provide a fork and which are provided at their outer ends with apertures 20 to receive pivot studs 21 formed upon the opposite sides of the head 10. The plates 19 are also formed at points suitably distant from their outer ends with apertures 22 to receive pivot studs 23 formed at opposite points and midway between the ends of the two side plates 24 of the pawl 17. The latter is of substantially rectangular form consisting of the two side plates 24 which are curved longitudinally and which are united at their inner and lower ends by a cylindrical fulcrum pin 25 to enter the ratchet notches 19 and at their outer and upper ends by an enlarged cross bar 26 which serves as a weight to maintain the pawl normally in engagement with said rack. The side plates 24 and the fulcrum or pivot pin 25 of the pawl are so disposed that the flange 8 of the T-shaped standard projects between the lower portions of said plates, as clearly shown in Fig. 2 of the drawings.

In operation, the load is applied to the portion 12 of the head and the lever 11 is oscillated. When the lever is moved downwardly the pawl 17 will lock it to the standard and will serve as its fulcrum so that the head 10 will move upwardly and the pawl 14 will slip over the ratchet teeth 7. When

the lever 11 is moved upwardly the pins 21 on the head 10 serve as the fulcrum and the pawl 17 will move upwardly and engage the next ratchet notch 9.

From the foregoing it will be seen that the invention provides an exceedingly simple lifting jack which may be produced at a comparatively small cost and which will be strong and durable. Its parts may be quickly and easily assembled and disconnected and in the event of the breakage of any part it may be quickly replaced.

Having thus described the invention what is claimed is:

1. A lifting jack comprising a standard T-shaped in cross section and having in one flange a longitudinal series of curved notches to provide a rack, a second rack upon the standard having substantially V-shaped teeth, a lifting head shaped to receive and slide upon the standard, a pawl carried by the head to engage the V-shaped ratchet teeth, an operating lever having a forked end fulcrumed upon the head, and a pawl fulcrumed intermediate its ends in the forked portion of the lever and having its outer and upper end weighted and its lower and inner end shaped to engage the curved ratchet notches in the standard.

2. A lifting jack comprising a standard T-shaped in cross section and having in one flange a longitudinal series of curved notches to provide a rack, a second rack upon the standard having substantially V-shaped teeth, a lifting head shaped to receive and slide upon the standard, a slidably mounted spring pressed pawl arranged in the head to engage the V-shaped ratchet teeth, an operating lever having a forked inner end fulcrumed upon the opposite sides of the head, and a pawl fulcrumed intermediate its ends in the forked portion of the lever and consisting of side plates having their upper ends united by a weight and their lower ends connected by a fulcrum pin adapted to enter the curved notches in the standard.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

JOHN A. MILLS.

Witnesses:

V. STEELE,

HENRY O. SMITH.