I. LAGASSE & N. NORMAND

PACK OR LIFTING DEVICE.

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Inventors
Isidore J. Lagasse
Norcissee Normand

Witnesses
J. Milton Fister
C. H. Graumann

Attorneys
To all whom it may concern:

Be it known that, ISIDORE J. LAGASSE and NORCISSE NORMAND, citizens of the United States, residing at New Bedford, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Jacks or Lifting Devices; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to jacks or lifting devices, and it has for its object to produce a device which will be simple, compact, and durable, with a greater efficiency or lifting power than such devices as generally constructed.

The accompanying drawings illustrate an embodiment of the invention.

Figure 1 is a side elevation of our improved lifting jack in its operative position; Fig. 2 is a longitudinal sectional view of the same; Fig. 3 is a top view showing the preferred form of the ratchet mechanism for operating the same.

Referring more particularly to the drawings which are not drawn to scale, but are for illustrative purposes only,—the numeral 1 indicates the body or main portion of our improved jack which is preferably formed as a hollow metallic column with its interior provided with a screw thread 2, and an extended foot or base 3.

Mounted within the column is a hollow screw 4 with a head 5 at its upper end and having its interior provided with screw threads 6 of a different pitch from the pitch of the thread 2. Mounted within the screw 4 is a screw 7 having threads to correspond with the threads 6, and having a head 8 at its upper end which is adapted to be placed in engagement with the object to be raised or lifted, as the sill of a building. The upper face of the head 8 is preferably roughened or corrugated in the usual manner, as shown at 9, to prevent its slipping when the device is being used.

In operation the jack is placed upon any suitable foundation with the head 8 in engagement with the object to be moved, and power is applied to the screw 4 in any suitable manner, preferably by means of any suitable lever which may be inserted in suitable openings in the head 5, as shown in dotted lines at 10, but we prefer to use a double acting ratchet lever, as shown at 11.

When using the ratchet its rotary member 12 is passed down over the head 8 of the screw 7, and its angular opening 13 caused to engage with the angular head 5, the head 8 being made small enough to permit of the placing or removal of the lever 11. The member 12 is provided with teeth or projections 14 its periphery with which either prong 15 of a double acting pawl 16 is adapted to engage for rotating the screw 4 in either direction. The pawl is kept in yielding engagement with said teeth by means of a spring 17 arranged on the stem 18 a plate 19 which it forces against either one of the flat faces 18 on the rear portion of the pawl 15. This stem 17 is mounted to slide in spaced lugs depending from the lever 11, and the spring 16 engages at one end a projection or pin 20 on the stem and the outer lug 11, whereby the plate 17 is held against one of the flat faces 18 of the pawl 15. The lever 11 is then reciprocated, which will cause the screw 4 to be rotated in the desired direction, the 80 threads upon its exterior causing it to be moved in one direction within the main portion 1, and also causing the threads upon its interior to move the screw 7 in the same direction relatively to the body or main portion 1 of the invention, but at a greater speed than the movement of the screw 4, the movement of the screw 7 being equal to the sum of the pitches of the two threads upon the interior and exterior of the screw 4. For instance, if the threads are of the same pitch the upper screw 7 will be moved longitudinally relatively to the body portion 1 with twice the speed with which the screw 4 is moved. With such a structure it is evident that greater speed can be secured in raising an object than where an ordinary screw is used with a plate swiveled to its upper end, and the object can be raised a greater distance without having to stop and block it up for the purpose of readjusting the jack, owing to the fact that by telescoping the screws, as shown, they are susceptible of being extended to a greater length than where but one screw is used.

Greater speed is also obtained by using the ratchet mechanism than with the ordinary lever, as it is in position upon the head 5, whereas the ordinary bar must be removed.
and inserted in one of the openings in said head for each stroke or movement in rotating the screw.

Although we have shown and described what we consider the most desirable form for manufacturing our improved jack, yet it is evident that such changes in the shape, form and construction of the same as come within the scope of the claims can be made without departing from the spirit of our invention.

Having described our invention, we claim:

1. In a lifting jack, a hollow interiorly screw-threaded body portion; a hollow screw mounted therein, having threaded engagement therewith, a central screw within said hollow screw and having threaded engagement with the same, and having a head upon its upper end integral therewith, a head provided with an angular portion in the upper end of said hollow screw, a toothed ratchet head having an angular opening fitting over said angular portion of said head, a lever with an annular opening rotatably mounted on said ratchet head and a pawl on said lever for cooperation with the teeth of said ratchet head, said lever being removable from said ratchet head and both said lever and said ratchet head being adjusted to be removed from the lifting jack over the head of said central screw.

2. In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

ISIDORE J. LAGASSE,
NORCISSE NORMAND.

Witnesses:
LOUIS Z. NORMANDIN,
ALEX. C. PETIT.