(No Model.)

H. R. FERRIS.

LIFTING JACK.

No. 261,596 Patented July 25, 1882.

Fig. 1.

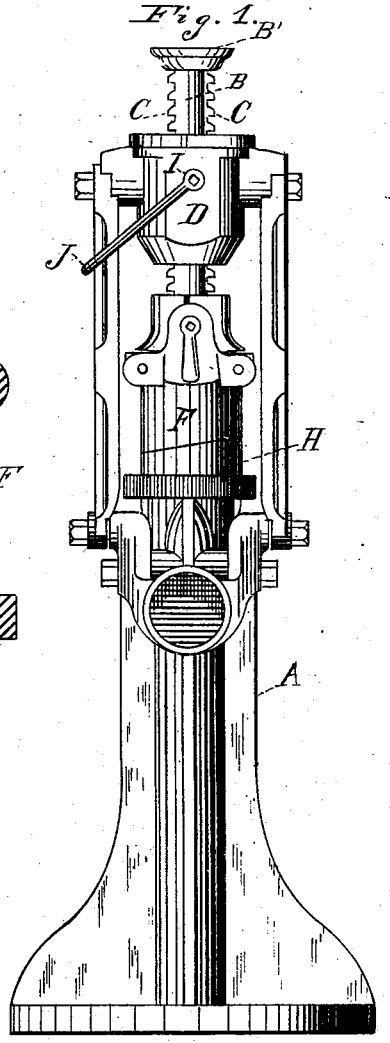


Fig. 2.

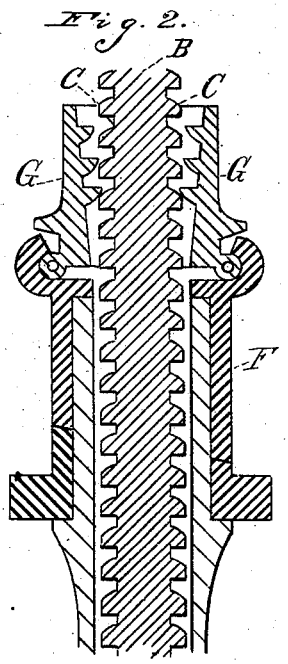


Fig. 3.

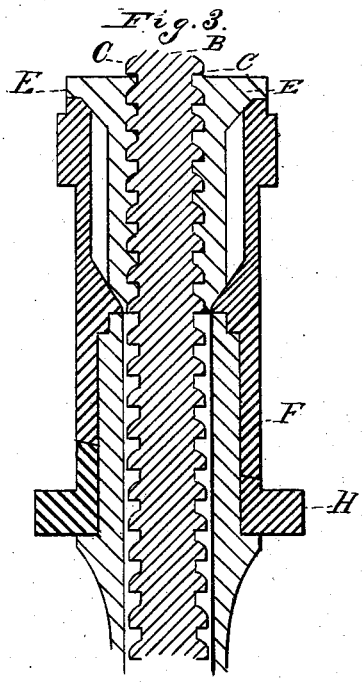
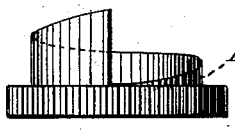


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

HIRAM R. FERRIS, OF CLEVELAND, OHIO.

LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 261,596, dated July 25, 1882.

Application filed June 2, 1882. (No model.)

To all whom it may concern:

Be it known that I, HIRAM R. FERRIS, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Lifting-Jacks; and I do hereby 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 pertains to make and use the same.

My invention relates to lifting-jacks; and it consists in the peculiar construction of the same, as will be hereinafter fully set forth and claimed.

In the drawings, Figure 1 is a view in elevation of a lifting-jack embodying my invention. Fig. 2 is a vertical section taken through the locking mechanism of my jack. Fig. 3 is a vertical section, showing another manner of constructing my locking device. Fig. 4 is a view in elevation of the inclined collar, which is used to adjust the locking mechanism of my jack.

A is the frame of my jack, which is made hollow for the reception of the lifting-shaft.

B is the lifting-shaft, which is adapted to have a vertical movement, and is provided at its top with a suitable bearing-surface, B′. The lifting-shaft has formed upon its sides ratchet-teeth C C.

D is a head which surrounds the shaft B. This head D contains the grasping device for raising the shaft B, said grasping device consisting of two jaws, E E, which act as pawls and engage with the ratchet-teeth C C on the shaft B. As the construction and operation of these jaws are fully shown and explained in a patent issued to me November 8, 1881, No. 249,235, I will not here describe them more fully.

F is a collar, which surrounds and rests upon the upper end of the frame A. This collar F is provided with two pawls, G G, which are adapted to engage with the teeth of the ratchets C C, and thus act to retain the shaft B in any desired position after the upper head, D, has released its grasp upon the said shaft.

I prefer to pivot the pawls G G to the upper end of the collar F, as shown in Fig. 2, and provide a lock, I J, to hold the said jaws apart. The construction of this lock and its operation are the same as of the lock I, described in my hereinbefore-mentioned patent.

The collar F is adapted to slide vertically on the end of the frame A, and may be adjusted higher or lower, as needed, by any suitable adjusting device, one manner being shown, which consists of a collar, H, with an inclined upper end. (Shown more clearly in Fig. 4.) The operation of this collar H will be readily understood without any further explanation.

The operation of my jack is fully explained in my former patent hereinbefore mentioned, with the exception of the device for supporting the shaft B; but the operation of this device will be readily understood.

The raising of the shaft B acts, by means of the inclined shape of the teeth of the ratchets C C and pawls G G, to disengage the said pawls from the ratchets; but when the shaft B starts on its downward movement the pawls G G are caused to engage with the ratchets C C and support the said shaft B. Now, if it is desired to have the shaft B held at a point a trifle higher—viz., a space less than the distance between the teeth of the ratchet—I raise the collar F the required distance by turning the inclined collar H, or by any suitable adjusting device.

If desired, instead of the pawls G G shown in Fig. 2, I may employ pawls constructed as shown in Fig. 3, which construction is fully described in my patent of November 8, 1881, hereinbefore mentioned.

What I claim is—

1. In a lifting-jack, the combination with a lifting-shaft provided with ratchet-teeth, of a shaft-supporting device located above the frame, said shaft-supporting device being provided with a means of adjustment, substantially as shown and described.

2. In a lifting-jack, the combination, with a lifting-shaft provided with ratchet-teeth, of an adjustable supporting device substantially as and for the purpose shown and described.

3. In a lifting-jack, the combination, with a lifting-shaft provided with ratchet-teeth, as described, of the upper and lower automatic engaging devices, one of said devices being adapted to engage with the said shaft for the purpose of raising it, and the other being adapted to engage said shaft for the purpose of supporting it, substantially as shown and described.

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

HIRAM R. FERRIS.

Witnesses:

JNO. CROWELL, Jr.,

S. G. NOTTINGHAM.