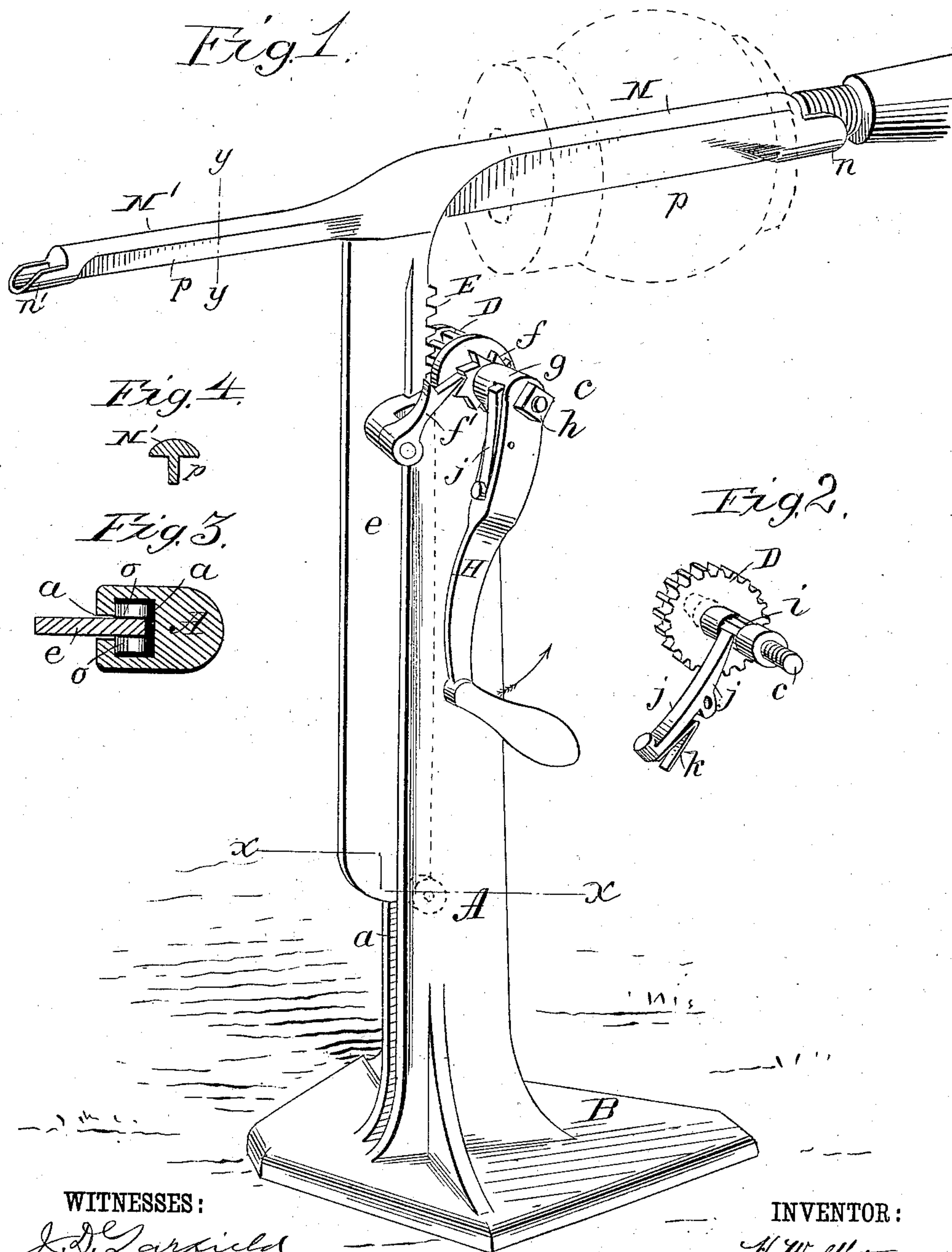


(No Model.)

H. WALTHER.
LIFTING JACK.

No. 335,859.

Patented Feb. 9, 1886.



WITNESSES:

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UNITED STATES PATENT OFFICE.

HENRY WALTHER, OF CLINTON, INDIANA, ASSIGNOR TO HIMSELF AND
ISAAC JOYNER, OF SAME PLACE.

LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 335,859, dated February 9, 1886.

Application filed September 19, 1885. Serial No. 177,564. (No model.)

To all whom it may concern:

Be it known that I, HENRY WALTHER, of Clinton, in the county of Vermilion and State of Indiana, have invented a new and Improved Lifting-Jack, of which the following is a full, clear, and exact description.

This invention pertains to improvements in lifting-jacks; and it consists of the combinations of parts, including their construction, substantially as hereinafter set forth, and pointed out in the claims.

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

Figure 1 is a perspective view of my improved lifting-jack. Fig. 2 is a detail perspective view illustrating the construction of the pawl carried by the crank-handle, and also of the ratchet with which said pawl engages. Fig. 3 is a sectional view taken on line *x x* of Fig. 1, illustrating the construction of the lower end of the toothed rack; and Fig. 4 is a sectional view taken on line *y y* of Fig. 1, illustrating the formation of the extending arms.

The general construction of my improved lifting-jack will be readily understood from the illustration of the device given in Fig. 1, wherein A represents the standard, which is vertically slotted, as shown at *a*. This standard projects upward from a base, B, the two parts being preferably made of malleable iron, and cast in one piece, a bottom or base board being secured beneath the base B when necessary to increase the stability of the standard. A shaft, C, is journaled in bearings formed in the top of the standard, and to this shaft there is secured a pinion, D, which is so arranged and proportioned that its teeth project within the slot *a* of the standard, as best shown in Fig. 1.

A toothed rack, E, formed with a strengthening-flange, *e*, rides in the slot *a*, in a position such that its teeth engage with the pinion D, while the strengthening-flange projects outward through the slot *a*, which slot, as shown in Fig. 3, is T-shaped.

The shaft C, upon which, as before stated, the pinion D is mounted, carries a ratchet, *f*,

while a pawl, *f'*, is secured to the standard A, as shown. The crank-handle H is not fast upon the shaft C, but is formed with a large boss, *g*, which encircles the shaft, the crank-arm being prevented from lateral displacement by the nut *h*, which engages with the threaded end of the shaft.

Referring now to Fig. 2, it will be seen that the shaft C is formed with a second set of ratchet-teeth, (shown at *i i*,) said teeth being engaged by a pawl, *j*, which is centrally pivoted in the crank-handle H, its lower end being upheld by a spring, *k*, which, although shown as a bent band-spring, might be a spiral spring, so that the catch-tooth of the pawl will be pressed hard down upon the ratchet-teeth *i i*. From this construction it will be seen that the crank may be freely revolved in the direction of the arrow, but that if turned in the other direction the pawl *j* will engage with the teeth *i i* and rotate the shaft C. It will also be seen that such rotation of the shaft C will, through the medium of the pinion D, elevate the rack E, which will be held in the elevated position by the engagement of the pawl *f'* with the teeth of the ratchet *f*.

Two projecting arms, N N', are rigidly secured to the top of the rack E, the arm N being considerably larger and heavier than the arm N'. Although these arms N N' might be simple round bars, I greatly prefer to make them in the form shown in Fig. 4—that is, with a rounded upper surface and a downwardly-projecting strengthening rib or flange, *p*. The arms N N' are cast with scoop-shaped sockets *n n'* at their ends, the purpose of which is to fit beneath the threaded end of the axle of a vehicle after the retaining-nut has been removed.

When one of the scoop-shaped sockets has been placed beneath the threaded end of an axle, as just described, and as shown in Fig. 1, the crank H is rotated and the rack E elevated, thus raising the wheel carried by the axle free from the floor or ground, when, in order to get at the axle to grease it, the wheel is pulled forward onto the arm N or N', where it is held during the operation of greasing the axle, after which it is returned to its normal position.

To lower the wheel to the ground, the crank

is moved slightly forward to loosen the pawl f' , which is thrown back and the crank gradually turned until the wheel strikes the floor or ground again.

5 In order to steady the rack E, and at the same time lessen the friction caused by moving it in the slot a , I secure two friction-rollers, o o , to its lower end, and one on each side of the rib e , and these rollers ride in the slot and bear
10 against its sides as the rack is raised or lowered.

The arms $N N'$ are made the one small and the other large, to adapt them for use on heavy and light wagons, as will readily be understood.

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

1. The combination, with the toothed rack E, mounted in a standard, A, of a pinion, D,
20 and crank-arm H, secured to the shaft of the

pinion, said shaft carrying a ratchet, f , arranged to engage with a pawl, f' , and said rack E carrying two arms, $N N'$, formed with sockets $n n'$, substantially as described, and for the purpose specified.

25 2. In a lifting-jack, the combination of the following elements, viz: standard A, toothed rack E, arm N, formed with socket n , pinion D, shaft C, ratchets f and i and their pawls, and a crank-handle, H, substantially as de- 30 scribed, and for the purpose specified.

3. The combination, with the rack E and its standard, of the rollers $o o$, arms $N N'$, formed with scoop-shaped sockets $n n'$, respectively, pinion D, shaft C, and crank-arm H, substan- 35 tially as described.

HENRY WALTHER.

Witnesses:

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RUFUS H. WASHBURN.