

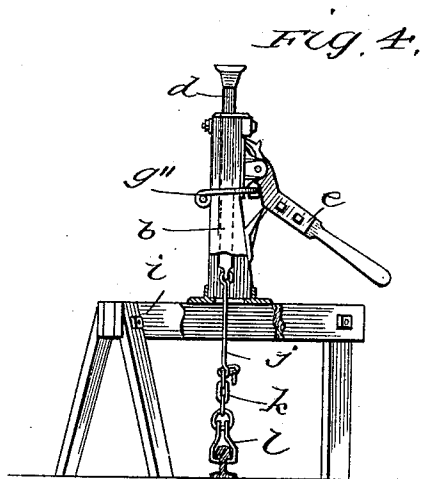
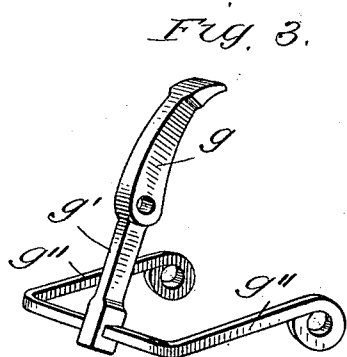
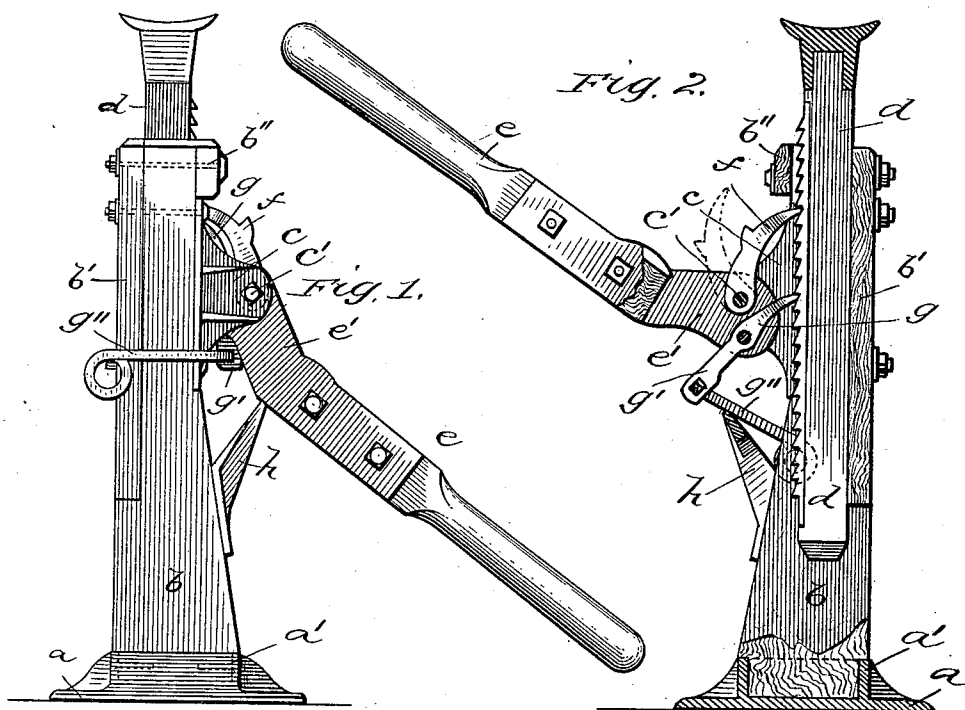
(No Model.)

H. W. CORNELL.

LIFTING JACK.

No. 464,454.

Patented Dec. 1, 1891.



Witnesses
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UNITED STATES PATENT OFFICE.

HARMON W. CORNELL, OF OWEGO, NEW YORK, ASSIGNOR OF ONE-HALF
TO NEWEL MORSE, OF SAME PLACE.

LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 464,454, dated December 1, 1891.

Application filed October 7, 1891. Serial No. 407,997. (No model.)

To all whom it may concern:

Be it known that I, HARMON W. CORNELL, a citizen of the United States, residing at Owego, in the county of Tioga and State of New York, have invented certain new and useful Improvements in Lifting-Jacks, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 represents a side elevation of the improved jack; Fig. 2, a vertical sectional view thereof; Fig. 3, a detail perspective view of the improved self-acting lifting-pawl, and Fig. 4 a reduced perspective view showing the jack applied to a railroad-rail.

The invention consists in certain novel features of construction, which will fully hereinafter appear, and be particularly pointed out in the claims appended.

In the drawings, *a* designates the cast base, having formed on it the sockets *a' a'*, in which the lower ends of the wooden standards *b b* fit and are secured. The standards are connected strongly together at their rear edges by a wooden strip *b'* and at their front edges, at their upper ends, by a short cross-bar *b''*. The lifting-bar *d* slides vertically between the standards and is provided with the usual teeth along its front side. Cast-iron brackets *c c* are bolted on the front edges of the standards and are connected together by a pivotal bolt *c'*, which passes through their outer ends. The operating-lever *e* has bolted on the opposite side of its inner end plates *e' e'*, which are pivoted on the bolt *c'* and which fit between the brackets *c*. Pivoted on the bolt *c'*, between the plates *e' e'*, is an upwardly-extending pawl *f*, whose upper end normally engages the teeth of the lifting-bar and serves to support it when elevated. Pivoted on a transverse pin connecting the inner ends of the plates *e'* is a lifting-pawl *g*, whose upper end normally engages the ratchet-teeth on the lifting-bar. This pawl is provided with a depending arm *g'*, to which is secured a pair of arms *g'' g''*, which project horizontally in opposite directions and are bent backward on either side of the standards, the ends of these arms terminating near the rear edge of the jack. These rearwardly-bent arms *g''* are preferably weighted by simply curling or

bending the ends into a loop or ring. The constant tendency of these weighted arms is to throw or swing the lower end of the pawl outwardly and the upper end inwardly against the lifting-bar, whereby the pawl will be kept in engagement with the lifting-bar at all times irrespective of the position of the lever.

In operation, when the lever is pressed downward, the lifting-pawl engages the lifting-bar and raises it, and when the lever is being raised again for another stroke the upper pawl supports the load. When the lever is pressed down to the limit of its stroke, it strikes against and rests upon an upwardly-extending stop-bracket *h*, secured to the standard, as shown in Fig. 1, whereby the lifting-pawl is prevented from disengaging the upper pawl. The rearwardly-projecting arms *g''* render the pawl self-acting without the use of springs or other devices. These arms enable the operator to disengage the pawl by hand when it is desired to lower the lifting-bar quietly and slowly without having to endanger his fingers by inserting them in under the lever. The lifting-bar may be let down without jar by simply disengaging the upper pawl and letting the outer end of the lever be raised slowly by the weight upon the lifting-bar. When the lever has reached the limit of its upward movement, the operator, in order to let it down without raising the bar, simply disengages the lifting-pawl by slightly raising the rear lower ends of the arms *g''*, as is evident. In this way the lifting-bar and the load may be let down easily and without jar. When the lever is raised to near a vertical position, the self-acting pawl is prevented from swinging out of position by its upper end coming in contact with the lower end of the upper pawl.

When the jack is used for the purpose of raising railroad-tracks, it is mounted on a horse *i*, straddling the rail to be raised, as shown in Fig. 4. In this instance the lower end of the lifting-bar is provided with an eye in which is removably hooked a lifting-rod *j*, which depends through a central opening in the base of the jack and is removably hooked to a depending chain *k*, which carries the rail-grasping hooks *l* at its lower end. The chain may be lengthened and shortened, as required,

by means of the hook on the lower end of the rod *j*, this hook being engaged with any one of the links desired, as is evident.

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

1. The combination of a pair of standards connected together, a toothed lifting-bar working between the standards, an operating-lever pivoted to the standards, an upper pawl *f*, engaging the teeth on the lifting-bar, a lower pawl *g*, pivoted to the inner end of the lever and provided with a depending arm *g'*, arms *g'' g''*, secured to the lower end of the arm *g'* and extending rearwardly on each side of the standards and provided with weights at their rear ends, substantially as described.

2. The combination of a base *a*, provided with a pair of separated sockets *a'*, a standard *b*, secured in each of these sockets, strip *b'* and cross-bar *b''*, connecting the front and

rear edges of these standards, a lifting-bar working between these standards and provided with teeth along its front side, brackets *c c*, secured on the front edges of the standards and connected by bolt *c'*, a lever provided with separated plates *e'* at its inner ends, these plates being pivoted on the bolt *c'* between the brackets, a pawl *f*, pivoted on the bolt and normally engaging the lifting-bar, a lifting-pawl pivoted between the plates *e'* and provided with a depending arm, this arm carrying weighted lateral arms which extend forward on each side of the standards, and a stop *h*, secured on the front edge of the standards, substantially as described.

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

H. W. CORNELL.

Witnesses:

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WM. R. DAVIS.