H. SENSEMAN & W. F. PAGETT.

Improvement in Combined Lifting-Jack and Derrick.

No. 130,079. Patented July 30, 1872.

Fig. 1.

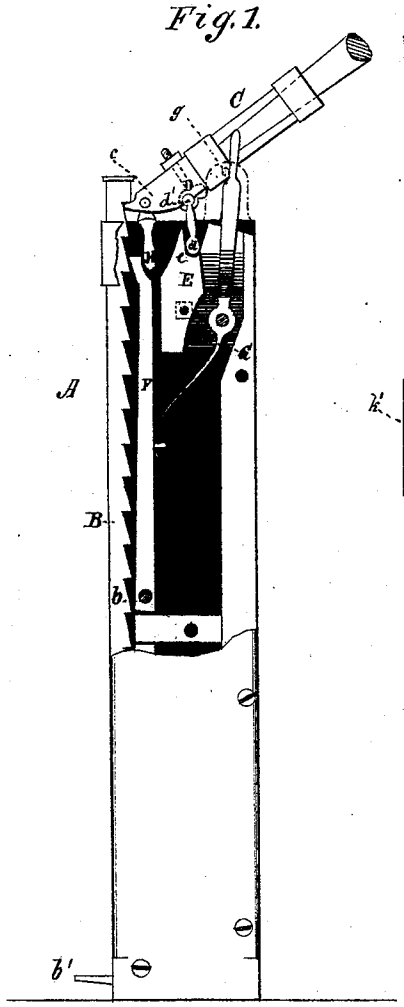


Fig. 3.

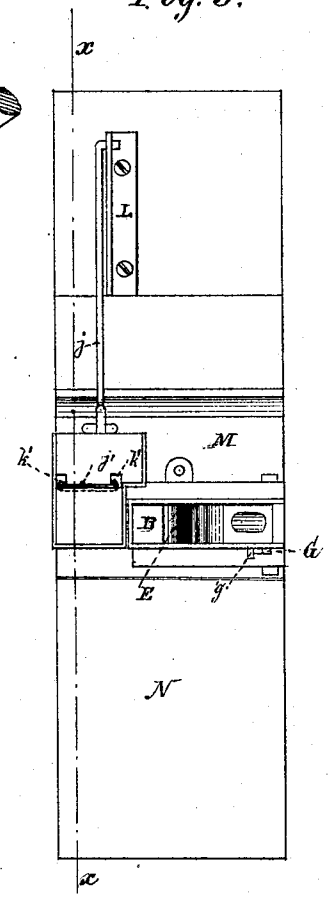
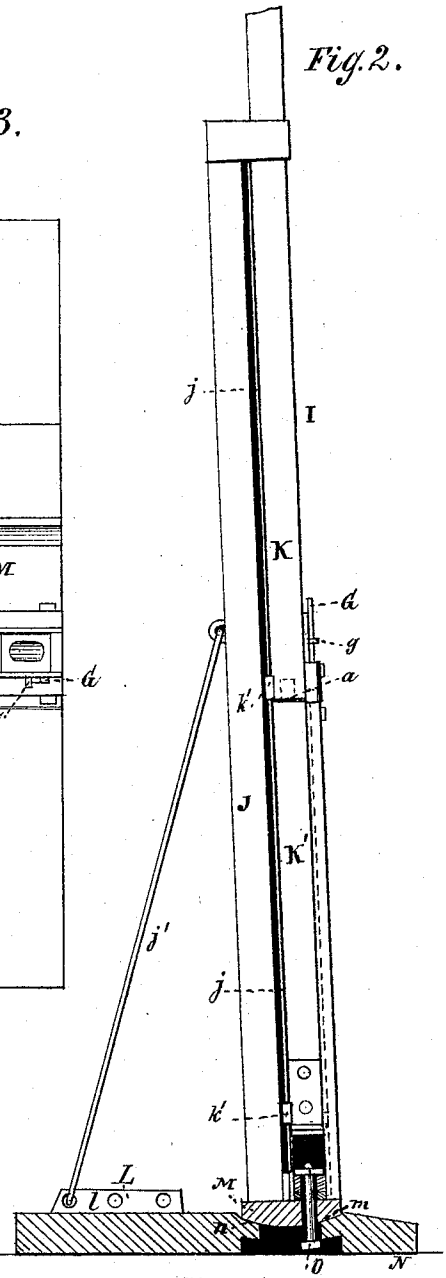


Fig. 2.



Witnesses:
G. Mathys.
Solon C. Kemon

Inventor:
Hiram Senseman
Washington F. Pagett
Per
Attorneys.

UNITED STATES PATENT OFFICE.

HIRAM SENSEMAN AND WASHINGTON F. PAGETT, OF TREMONT, OHIO.

IMPROVEMENT IN COMBINED LIFTING-JACKS AND DERRICKS.

Specification forming part of Letters Patent No. **130,079**, dated July 30, 1872.

Specification describing a Combined Lifting-Jack and Derrick, invented by HIRAM SENSEMAN, M. D., and WASHINGTON F. PAGETT, of Tremont, in the county of Clark and State of Ohio.

The invention consists in forming a jack with a movable fulcrum, a spring that either retracts or presses forward the detent, and a pawl-presser that forces the pawl into and holds it to rack while the lever is taking a new position to let down weights. It consists, also, in combining a jack with a derrick, so that it may be braced in any position, or weights elevated to any altitude desired.

In the drawing, Figure 1 is a side elevation of the lifting-jack with the side plate broken out. Fig. 2 is a sectional elevation of derrick in line *x x* of Fig. 1, and Fig. 3 is a top view of derrick on a larger scale than in Fig. 2.

A represents the lifting-jack as an entirety; B, the lifter, having rack *b* on its back, and the horizontal-apertured platform *b'* on the front end of its bottom. C is the power-lever, having concaved small end *c*, which fits into the notches of rack and fulcrum pieces D, pivoted thereunder, and provided with cylindrical journal *d* on lower end and fulcrum *d'* on upper end. E is a bearing-block, having circular recess for journal *d*. F is a detent-pawl held to its work by a pivoted spring, G, which is fastened at one end to pawl, and does or does not press forward on the pawl, according as its upper end is placed on the one or the other side of a pin, *g*. H is a pivoted pawl-presser.

The operation is as follows: The article or weight to be lifted having been placed on the platform *b'*, the end *c* of lever C is placed in one of the notches of rack-bar, while the other end of lever is pressed down. At every lift the lever or spring G forces the detent F into a lower notch. The fulcrum *d'* is furthest from the rack at the beginning of the lift, and travels in the arc of a circle whose center is journal *d*, reaching its furthest throw at the same time with the end *c* of lever. This allows the end *c* to move in a straight line with the rack-bar, and not to lose or lessen its bite thereon at any time, while it equally allows an easy drawback to said lever. By successive lifts the weight is carried to the height required. When it is desired to lower a weight the upper end of spring G is shifted to the front of pin *g*, so that the lower end tends to draw back the pawl against the pivoted presser H. Now, the weight being placed on platform *b'*, while the lever is lowering the platform one notch of the rack the piece H presses the pawl until it enters a notch. The withdrawal of the end *c* only increases this pressure, and it does not cease until the said end has been thrust into a higher notch of rack-bar. Then ceasing, the spring G draws back the pawl and allows the rack-bar to descend another notch. I is a derrick, of which J is the stationary post and K the sliding bar. The bar K is provided with a platform, *k*, and curved ears *k'*, which embrace a guide-plate, *j*, on the post J, while the latter has a hinged hook, *j'*, which fastens in one of the holes *l* of an angled plate, L. The bar is fixed at any position by pins, which pass through the holes of each. M is a base-piece, curved on the lower side *m*, and having derrick and lifting-jack attached to the upper side. N is a bed-piece, in whose concavity *n* the curve *m* of base-plate M fits, no matter at what inclination it may be set by the clamp screw and nut O. K is a section of sliding bar, of which as many may be employed as are necessary to reach the height desired. It has a pin, *a*, on top and ears *k' k'* near bottom. Being placed in position near the building that is being erected or repaired, the stone or other material is fastened on the platform *k* of sliding bar K, which itself rests on the platform *b'* of rack-bar G, is moved on the guide-plate *j*, and may also pass through a yoke-guide, *j'*, near top of post J. After the sliding bar K has been raised to the full throw of rack-bar, (or less,) the former is made fast to post by a pin through holes in each, and a section, K', inserted beneath. This is continued until the right altitude has been attained.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The fulcrum-piece D, having curved ends *d d'*, employed in connection with block E, rack-bar, and lever C, as and for the purpose set forth.

2. The combination, with detent-pawl F, of a pivoted spring, G, adjustable to press forward or retract it, as and for the purpose described.

3. The combination, with rack-bar, power-lever, and spring-retracted detent-pawl, of the pawl-presser H, pivoted to lever and operating as and for the purpose described.

4. The combination, with the lifting-jack A, of the derrick I, having post J and sliding platform-bar K K′, arranged and adapted to be used as and for the purpose set forth.

5. A combined lifting-jack, A, and derrick I, fast to an under-curved base-plate M, *m*, and arranged upon a correspondingly-concaved bed-plate, N *n*, as and for the purpose set forth.

HIRAM SENSEMAN, M. D.
WASHINGTON F. PAGETT.

Witnesses:
J. E. DINGLEDINE,
S. H. JONES.