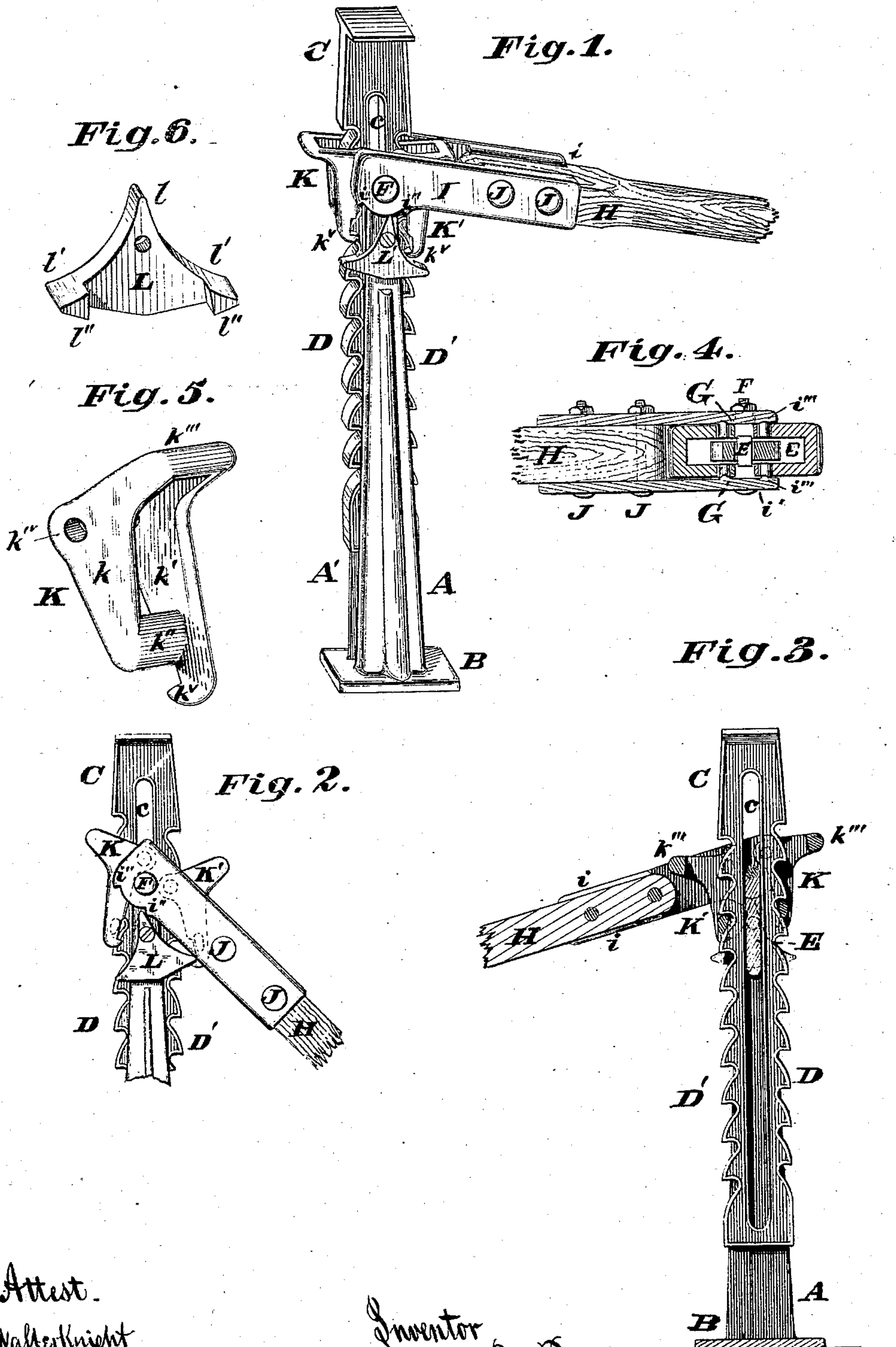


A. B. PROBASCO.
Lifting Jack.

No. 232,367.

Patented Sept. 21, 1880.



Attest.
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UNITED STATES PATENT OFFICE.

ABRAHAM B. PROBASCO, OF LEBANON, OHIO.

LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 232,367, dated September 21, 1880.

Application filed January 5, 1880.

To all whom it may concern:

Be it known that I, ABRAHAM B. PROBASCO, of Lebanon, Warren county, Ohio, have invented a new and useful Improvement in Lifting-Jacks, of which the following is a specification.

My improvement relates to the class of lifting-jacks in which pawls depending from a lever operate alternately on ratcheted edges upon opposite sides of the lifting-bar so as to elevate said bar.

A distinguishing feature of my invention is a vibratory tappet whose engagement by the lever at certain portions of its stroke operates to lift and hold each pawl alternately away from the ratchet and permit the descent of the lifting-bar when so desired.

The construction and arrangement of the parts are such that a moderate vibration of the lever operates to elevate the lifting-bar, and such that a wider vibration of the lever operates to permit the gradual descent of the lifting-bar through the instrumentality of the said tappet coacting with the same pawls which have served to lift the bar.

In the accompanying drawings, Figure 1 is a perspective view of my jack as employed for lifting. Fig. 2 is a side elevation, in which the releasing-tappet is shown in action so as to permit the descent of the lifting-bar. Fig. 3 is a vertical section of the apparatus in its locked condition. Fig. 4 is a section through the pawl-pivots in the locked position of the lever. Fig. 5 shows one of the pawls detached. Fig. 6 is a rear view of the releasing pawl or tappet.

A A' represent two similar standards, which rise vertically from a base or foot, B. The portions A A' B may constitute a single integral casting, as shown.

My lifting-bar consists of a casting, C, whose opposite edges have ratchet-teeth D D', so located that the teeth of one edge are opposite the intervals of the other edge. The lifting-bar C occupies the space between the standards A A', and is guided longitudinally thereof by a brace-piece, E, which occupies a slot, e, in said bar, and is screwed fast to the standards by a through-bolt, F, occupying sleeves or thimbles G, which collectively constitute the fulcrum of the operative lever. My pre-

ferred construction for this lever is shown in the drawings, and comprises a wooden handle, H, which is firmly secured by flanges i and bolts J within the cheeks I, which cheeks have orifices at i' to receive the said thimbles G, and one of which cheeks has spurs i'', for a purpose hereinafter explained.

Projecting from the inner face of each cheek I are two studs, i''', which constitute the points of suspension of two similar pawls, K K'. These pawls are identical in form, save in being made right and left to suit the two opposite sides of the jack, and consequently the construction of both may be understood from a description of either one. Fig. 5 represents the left-hand pawl K, or that most remote from the handle.

k k' are two cheeks, connected at bottom by a bar, k'', fitted to engage with the teeth of the appropriate rack, and connected at top by a bar, k''', which serves as a counterpoise to cause the bar k'' to seek and engage with the rack-teeth. Orifices k''v receive the stud-projections i''' from the lever. One cheek, k, is prolonged downward, and terminates in a hook, k'', for a purpose which will now be explained.

Depending from a stud or pivot, L', on the standard A is a tappet, L, having an upwardly-presented tongue, l, which, when the handle is vibrated beyond a certain point, engages with one or other spur, i'', of the lever. Said tappet has also two laterally-projecting tongues, l', of which each has a rearwardly-projecting spur, l'', of which each spur in turn engages with the corresponding hook k'', and remains so engaged until released by the impact of the corresponding spur on the other side of the tappet with the edge of the standard, as hereinafter explained.

In operating my jack for elevating the lifting-bar the handle is vibrated only sufficiently to alternately engage the respective pawls with their appropriate racks, the handle being reversed immediately after the engagement with the opposite pawl, so as to bring it into active service, and at the same time permit the other pawl to slip down and engage with a new tooth on its rack. If, on the contrary, it be desired to lower the lifting-bar, the handle, instead of being reversed at the above-mentioned juncture, is vibrated onward until one of its

spurs i'' engages the tongue l of the tappet L , so as to cause the hook k^v to slide outward over and engage behind and underneath the tongue l' nearest to it. This having been accomplished, the handle is now reversed, so as to permit the descent of the lifting-bar, the said hook operating in the meantime to hold the said pawl out long enough to permit a rack-hook to drop past it unopposed. A farther onward motion of the handle in the new direction repeats this operation on the other side, and so on alternately until the lifting-bar is completely lowered, or sufficiently so to permit the object to rest upon the ground and the jack to be withdrawn, after which the lifting-bar may be dropped the remaining distance, if desired, by grasping the upper part of each pawl so as to liberate both pawls from the rack. When the lifting-bar has been raised to the desired height it becomes self-locked thereto by leaving the lever at that position, which causes both pawls to engage with rack-teeth, as shown in Fig. 3.

I claim as new and of my invention—

1. The combination, with the standard $A A'$ 25
 B , brace-guide E , and double-ratchet lifting-bar C , of the lever $H I i i' i'' i'''$, the pawls K , cheeks $k k'$, bars $k'' k'''$, hook k^v , and the double-acting tappet $L l l' l''$, substantially as described. 30

2. In a lifting-jack whose lifting-bar is provided with double ratchet, a pair of pawls and operating-lever, the tappet L , pivoted to the upper part of the standard, and having an upwardly-presented tongue, l , laterally-projecting tongues $l' l''$, and rearwardly-projecting spurs $l'' l'''$, for coacting with projections $k^v i'' i'''$ on the pawls and lever, substantially as and for the purpose set forth. 35

In testimony of which invention I hereunto 40
 set my hand.

ABRAHAM B. PROBASCO.

Attest:

GEO. H. KNIGHT,
 W. TYSON JUDKINS.