

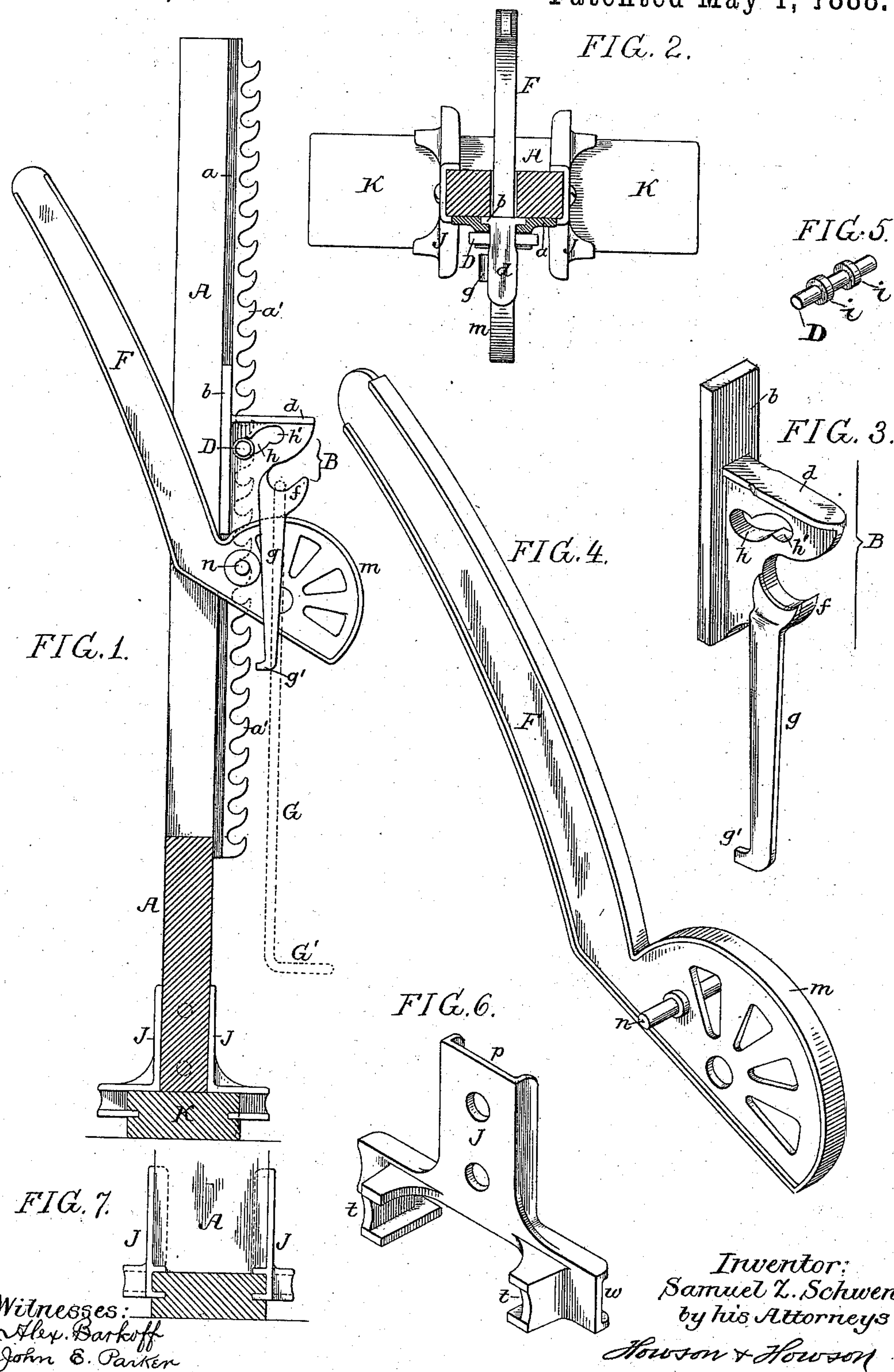
(No Model.)

S. Z. SCHWENK.

LIFTING JACK.

No. 382,194.

Patented May 1, 1888.



Witnesses:
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UNITED STATES PATENT OFFICE.

SAMUEL Z. SCHWENK, OF POTTSTOWN, PENNSYLVANIA.

LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 382,194, dated May 1, 1888.

Application filed January 26, 1888. Serial No. 261,995. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL Z. SCHWENK, a citizen of the United States, and a resident of Pottstown, Montgomery county, Pennsylvania, have invented certain Improvements in Lifting-Jacks, of which the following is a specification.

My invention relates, mainly, to that class of jacks in which a cam lever acts upon a sliding foot, the fulcrum-pins of the cam-lever being adapted to the notches of a rack on the standard, and being adjustable to different notches of said rack.

The objects of my invention are to facilitate the shifting of the lever, to provide for holding the lifting-foot in position independently of the lever, to permit the descent of the lifting-foot when desired, and to so construct the base-plate of the standard that it is equally adapted for the reception of either a longitudinal or a transverse bar.

In the accompanying drawings, Figure 1 is a view, partly in section and partly in elevation, of a lifting-jack constructed in accordance with my invention. Fig. 2 is a sectional plan view of the same. Fig. 3 is a perspective view of the lifting-foot and parts connected thereto. Fig. 4 is a perspective view of the lifting-lever. Fig. 5 is a perspective view of the retaining-pin for the lifting-foot. Fig. 6 is a perspective view of the base-plate of the standard, and Fig. 7 is a view illustrating a plan of using the base-plate differing from that shown in Fig. 1.

A is the vertical standard of the jack, to the front of which are secured two angle-bars, *a*, forming guides for the stem *b* of the lifting-foot B, as shown in Fig. 3, this foot having a projecting toe, *d*, beneath which is a hook, *f*, with a depending bar, *g*, having an inturned lower end, *g'*. In the web of the toe *d* is a slot, *h*, which receives a pin, D, the opposite ends of which project laterally beyond the toe and engage with the teeth of a rack, *a'*, formed by notched projections on the angle guide-bars *a*.

Lateral displacement of the pin D is prevented by means of collars, *i*, formed thereon, as shown in Fig. 5, the outer end of the slot *h* being enlarged, as shown in Fig. 1, so that these collars may pass through the same in in-

serting the pin in the first instance. In the extreme outer portion of the slot *h* is formed a seat or pocket, *h'*, for a purpose described hereinafter.

The under side of the foot B is acted upon by a cam, *m*, forming the short arm of the operating-lever F, said lever having a fulcrum-pin, *n*, projecting laterally on each side of the lever and adapted to the notches of the rack *a*.

The under face of the foot B is curved, so as to form a proper bearing for the cam *m* of the operating-lever and permit the use of a long stem, *b*, on the foot, thereby insuring the rigid bracing of the latter when under load.

In operating the jack the lever F is held so that its fulcrum-pin is clear of the rack, and said lever, with the foot resting thereon, is raised until said foot comes in contact with the article to be lifted, the fulcrum-pin of the lever being then permitted to drop into the adjacent notches of the rack, the lever being in the position shown in Fig. 1. On depressing the long arm of the lever, therefore, the cam *m*, forming the short arm of the lever, acts on the lifting-foot B and raises the same, and with it the article supported thereby, the hooked teeth of the rack forcing the pin D outward in the slot *h* as the lifting-foot is raised, but said pin, as soon as it passes a tooth, falling back into the notch above the same. The pin thus serves to support the lifting-foot independently of the lever F; hence when the foot has been lifted as far as possible with one operation of the lever the fulcrum-pin of the lever is removed from the notches in which it rested, the lever being first moved outward, so that its pin clears the teeth of the rack, and then elevated, so as to permit the adaptation of the pin to higher notches of the rack prior to a further elevation of the lifting-foot by the action of the cam *m* of the lever.

The depending bar *g* of the lifting-foot facilitates the adjustment of the lever, as it limits the outward movement of the same and serves as a guide for the fulcrum-pin during the vertical movement, the inturned end *g'* of the bar, moreover, serving, by engagement with the fulcrum-pin, to catch and hold the lever in case it is accidentally dropped while being shifted.

The outward movement of the retaining-pin

D, under the action of the teeth of the rack, is not sufficient to cause it to enter the seat or pocket h' ; but when it is desired to lower the foot the pin D is moved outward by hand until it rests in said pocket, and thus offers no obstacle to the descent of the foot.

The hook f on the under side of the toe d of the lifting-foot is intended for the reception of a skeleton frame, G, (shown by dotted lines in Fig. 1,) this frame having at the bottom a toe, G' , so as to provide for taking hold of an object at a point close to the ground.

The standard A is secured at the bottom by base-plates J J to a transverse base-bar, K, each of said base-plates having a vertical groove, p , for receiving the edge of the standard A, and having also transverse grooves t and a longitudinal groove, w , the transverse grooves receiving the edges of the transverse base-bar K, and the lower flanges of the grooves entering recesses in said bar, as shown in Fig. 1, while, when a longitudinal base-bar is employed, the same is adapted to the groove w of the base-plate, as shown in Fig. 7.

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

1. The combination of the standard and its rack, the cam-lever having a fulcrum-pin adapted to said rack, and a lifting-foot having a stem guided in the standard, and a curved base forming a bearing for the cam-lever, all substantially as specified.

2. The combination of the standard and its rack, the operating-lever having a fulcrum-pin adapted to said rack, and the lifting-foot having a depending bar serving as a stop and guide for said fulcrum-pin, all substantially as specified.

3. The combination of the standard and its rack, an operating-lever having a fulcrum adapted to said rack, and the lifting-foot having a depending bar with intumed lower end, whereby it serves as a stop, guide, and catch for the fulcrum-pin of the lever, all substantially as specified.

4. The combination of the standard and its rack, the operating-lever, the lifting-foot having an inclined slot, and a retaining-pin engaging with the teeth of the rack and free to slide in said slot, all substantially as specified.

5. The combination of the standard and its rack, the operating-lever, a lifting-foot having an inclined slot enlarged at the outer end, and a retaining-pin adapted to said slot and having opposite stop-shoulders, all substantially as specified.

6. The combination of the standard and its rack, the operating-lever, the lifting-foot having an inclined slot forming a seat or pocket at the outer end, and the retaining-pin adapted to engage with the teeth of the rack, but free to slide in the slot and to enter the pocket at the outer end of the same, all substantially as specified.

7. The base-plate having a vertical groove for the reception of the vertical bar of the standard, and transverse and longitudinal grooves, each adapted for the reception of a base-bar, all substantially as specified.

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

SAMUEL Z. SCHWENK.

Witnesses:

W. J. BINDER,
L. H. DAVIS.