

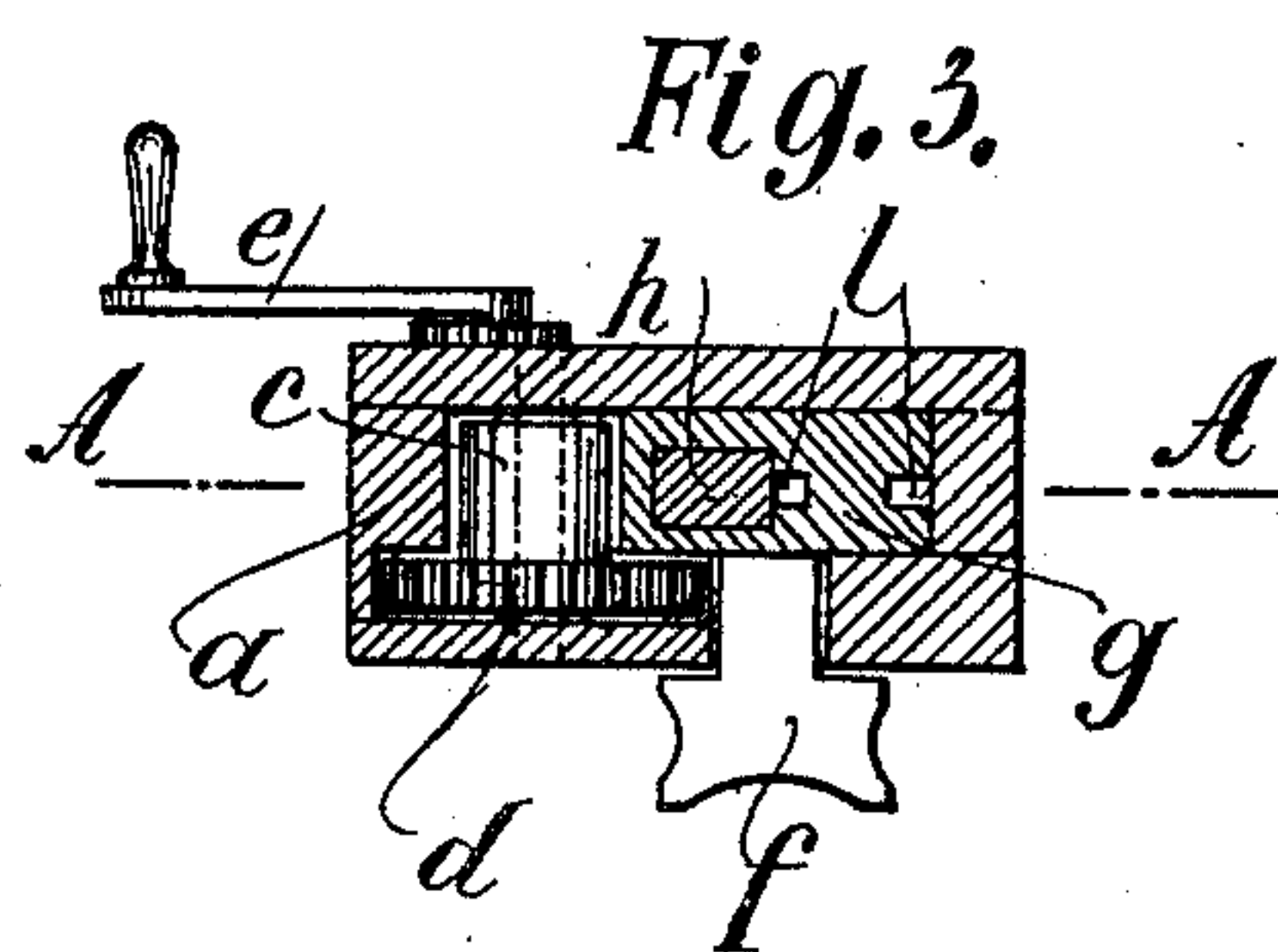
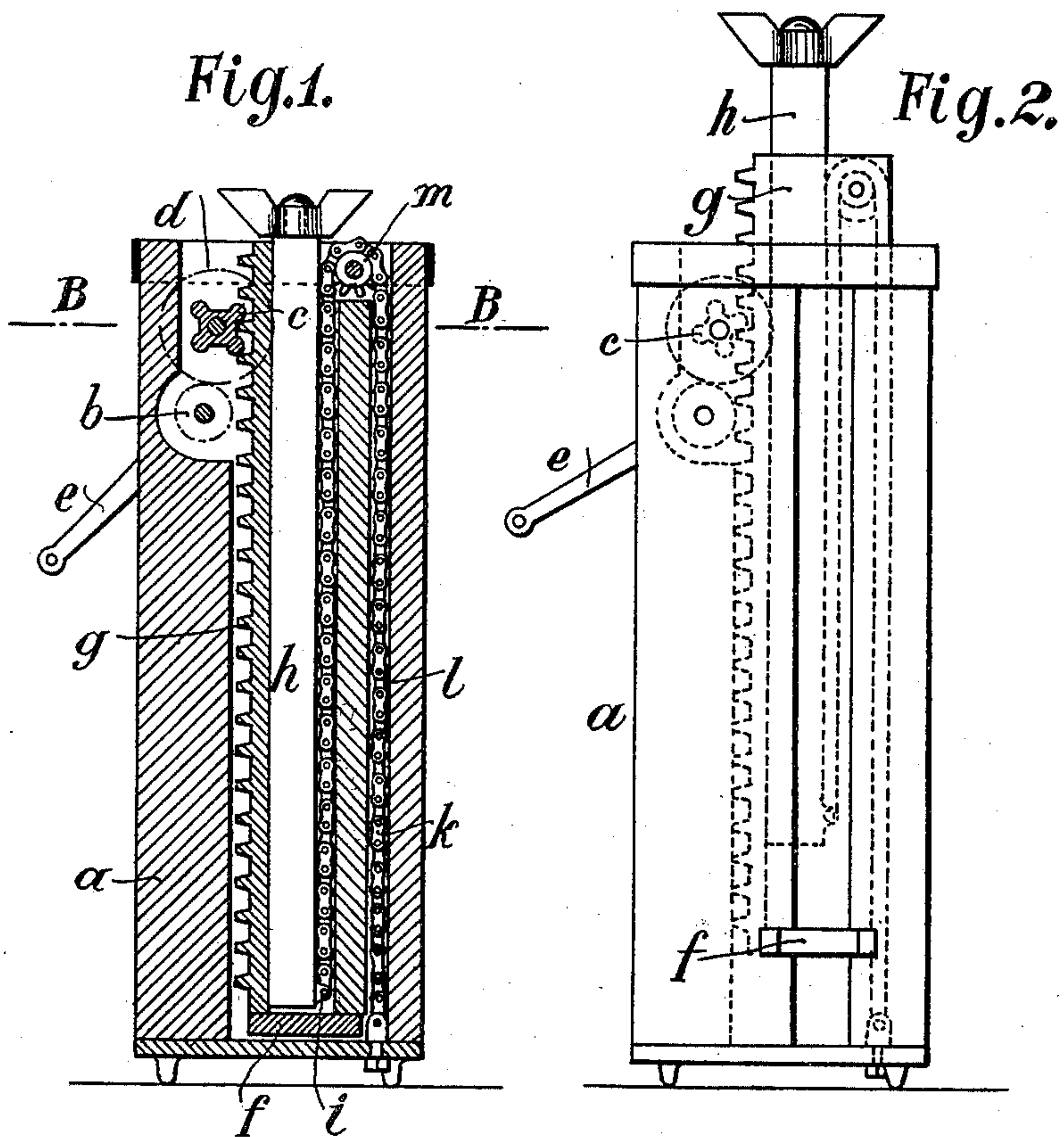
No. 704,683.

Patented July 15, 1902.

J. HÜPPI.
LIFTING JACK.

(Application filed Nov. 27, 1900.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHANN HÜPPI, OF RÜMLANG, NEAR ZURICH, SWITZERLAND.

LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 704,683, dated July 15, 1902.

Application filed November 27, 1900. Serial No. 37,921. (No model.)

To all whom it may concern:

Be it known that I, JOHANN HÜPPI, a citizen of the Republic of Switzerland, residing at Rümlang, near Zurich, Switzerland, (whose post-office address is Sawworks, Rümlang, near Zurich, Switzerland,) have invented new and useful Improvements in Lifting-Jacks, (for which I have made application for patents in Austria, dated September 14, 1900; in Germany, dated September 14, 1900; in Italy, dated November 2, 1900; in France, dated November 3, 1900, and in Great Britain, dated November 3, 1900, No. 29,728,) of which the following is a specification.

My invention relates to improvements in lifting-jacks, and has for its object to provide means whereby the lift of such jacks is increased. I attain this object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section at line A A of Fig. 3; Fig. 2, a front view, and Fig. 3 a cross-section at line B B of Fig. 1, of my improved lifting-jack.

Similar letters refer to similar parts throughout the several views.

In the body *a* of the jack are mounted the spur-pinions *b* and *c*, the spur-wheel *d*, and the crank-handle *e*, by means of which the rack *g*, furnished with a foot *f*, can be raised and lowered. In the said rack a lifting-bar *h* is rendered longitudinally movable, having secured to its lower end *i* a chain *k* or the like flexible connection. This chain is guided in grooves *l*, formed in the rack *g*, and runs over a wheel *m*, mounted in the latter, while its other end is secured to the body of the jack. In turning the handle *e*, and thereby raising the rack *g* and with it the chain-wheel *m* a certain distance, the distance from the center of the chain-wheel *m* to the lower end of the body of the jack will increase, and as

the length of the chain is constant the part thereof at the left of the chain-wheel *m* will decrease in length proportionately—*i. e.*, the lifting-bar *h* is longitudinally displaced in the rack—which doubles the range of lift. When moving in the said rack and bar, the action described is reversed, as will be readily understood from the drawings.

Comparing my improved lifting-jack with such as have hitherto been in use and assuming that they are geared at the same ratio and the number of turns imparted to the crank-handle is the same, in my invention the speed at which the lifting-bar moves is doubled, while the lift of the rack is less half that of the lift and the speed of the lifting-bar, so that when applying the said bar to the load the latter will be raised quicker and greater power required, while when applying the foot *f* of the said rack the load will be raised slower and less power required, so that it is preferable to raise light loads by the said bar and heavy loads by the said rack.

What I claim as my invention, and desire to secure by Letters Patent, is—

In a lifting-jack, the jack-body *a*, the rack *g* and the bar *h* adapted to slide in each other, the pulley *m* mounted upon the top of the said rack and the chain *l* passing over the said pulley and having one end secured to the lower end of the said bar and the other end to the lower end of the said body, the pinion *c* mounted in the body *a* in gear with the said rack and means for rotating the said pinion by hand, all combined substantially as and for the purpose set forth.

In witness whereof I have hereunto set my hand in presence of two witnesses.

JOHANN HÜPPI.

Witnesses:

A. LIEBERKNECHT,
FRITZ LAUENER.