

No. 708,408.

Patented Sept. 2, 1902.

J. G. SCHMIDT & W. P. MUELLER.
COMBINED LIFTING JACK AND AIR PUMP.

(Application filed Oct. 25, 1901.)

(No Model.)

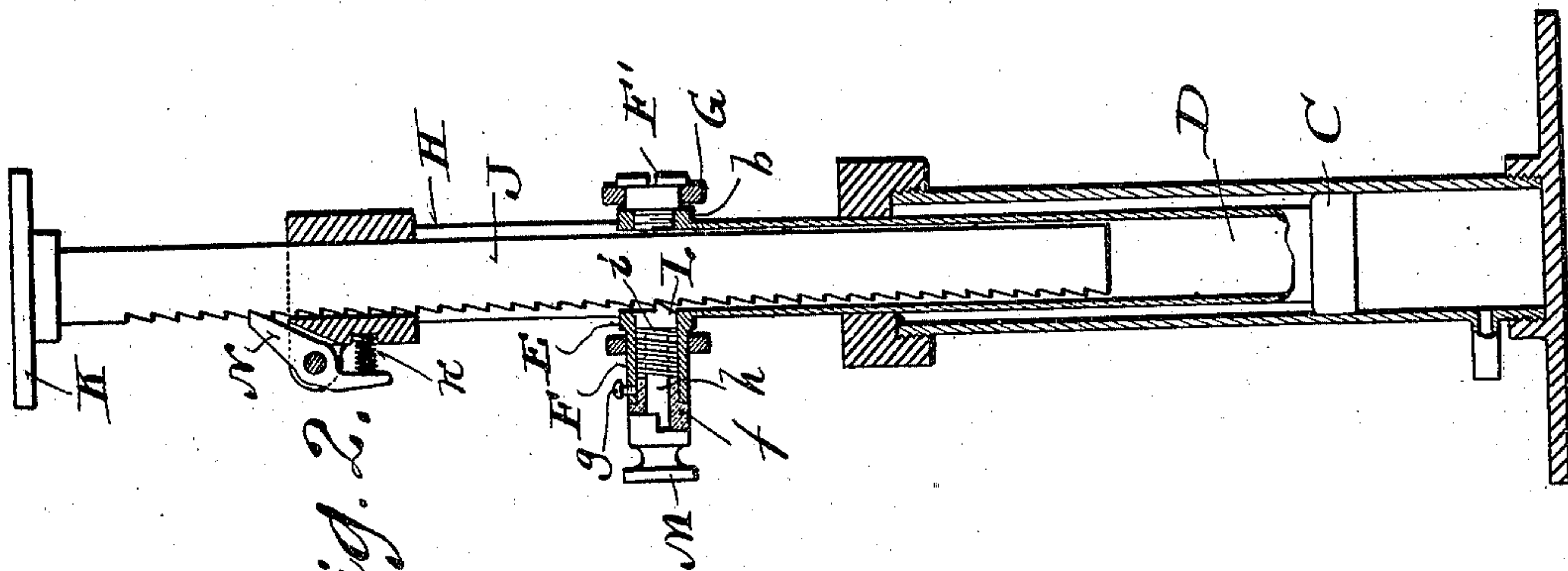


Fig. 2.

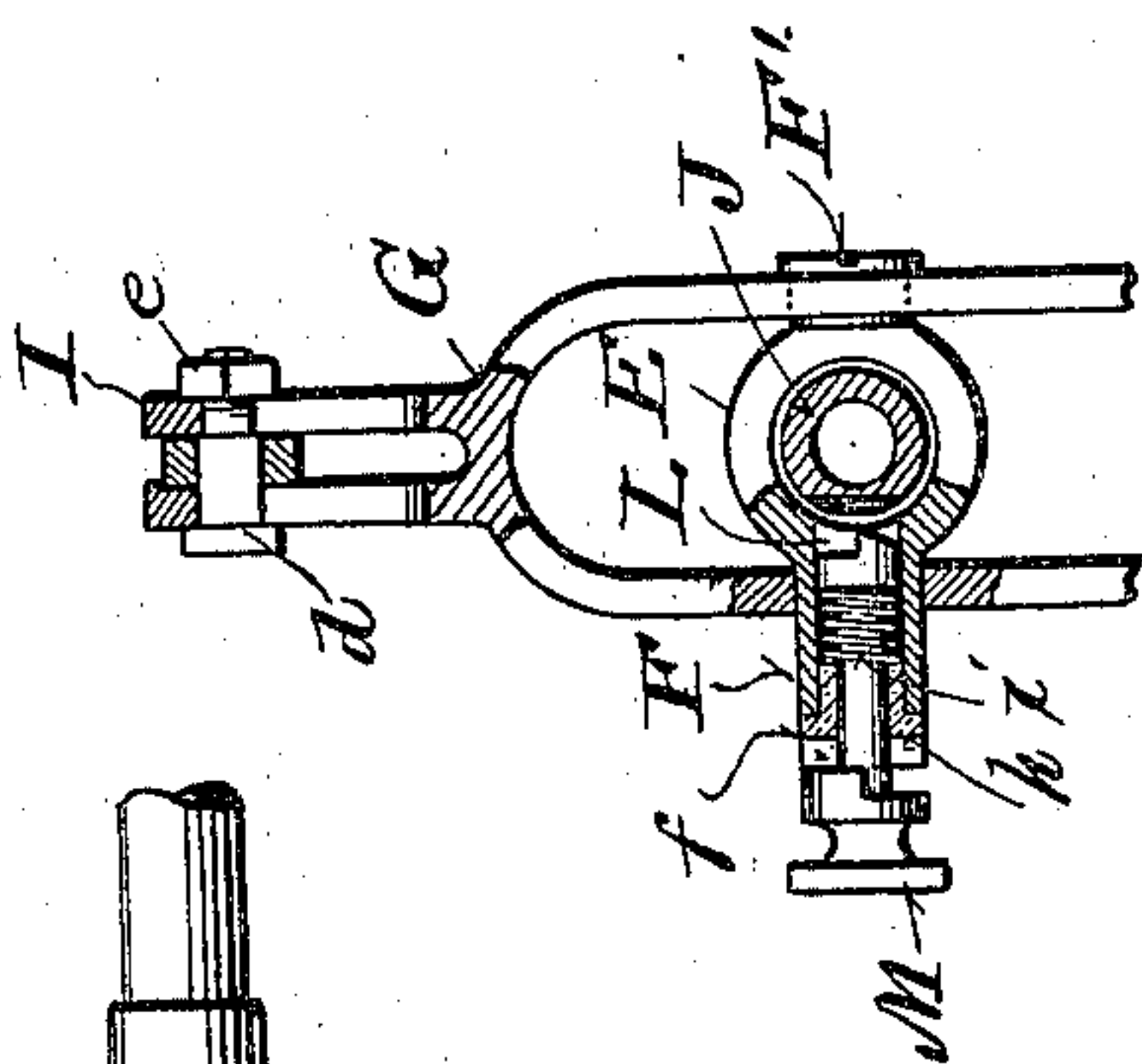


Fig. 3.

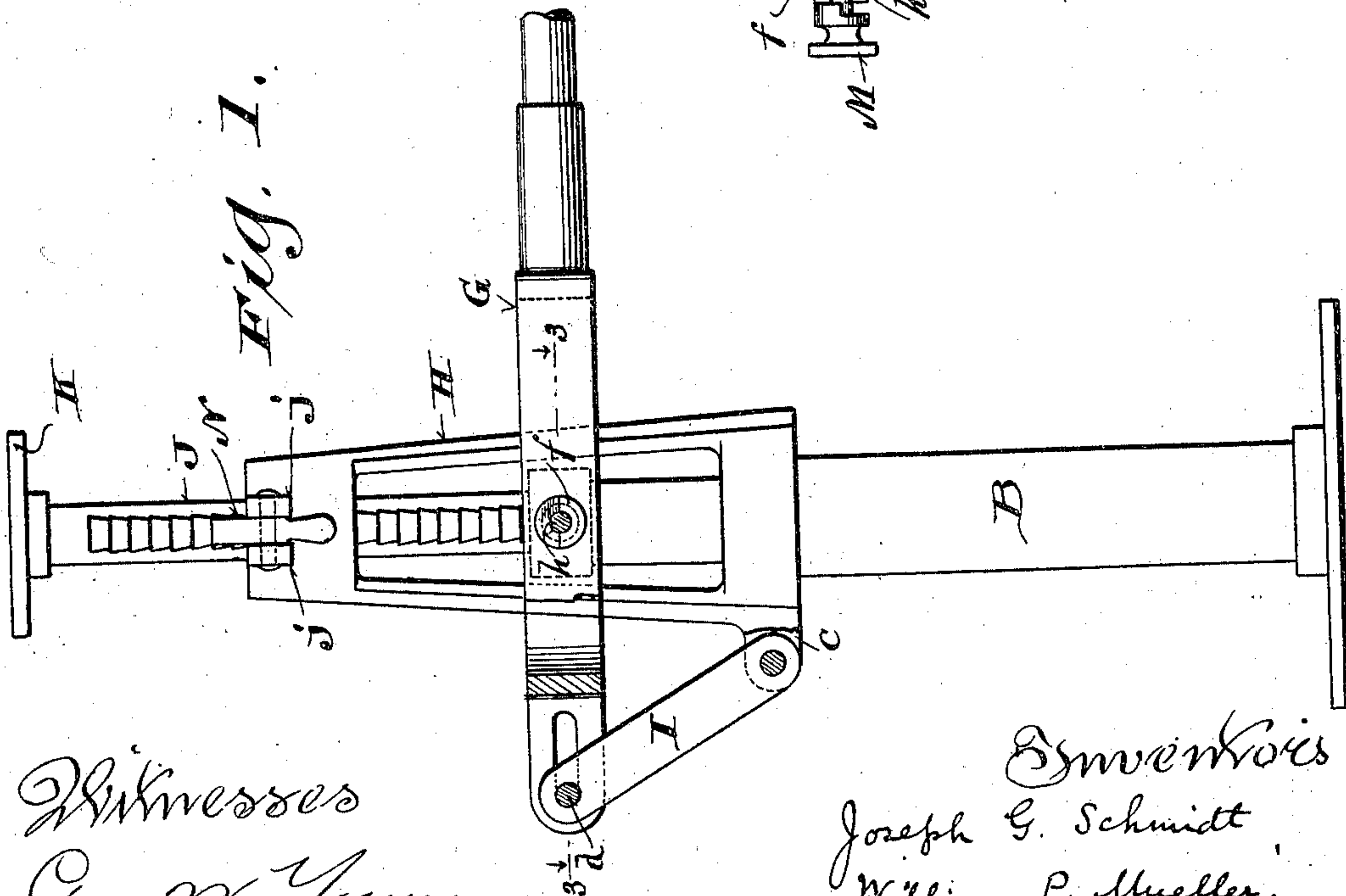


Fig. 1.

Witnesses
Geo W Young
H.E. Oliphant

Inventors
Joseph G. Schmidt
William P. Mueller.
By H.E. Underwood
Attorney

UNITED STATES PATENT OFFICE.

JOSEPH G. SCHMIDT AND WILLIAM P. MUELLER, OF MILWAUKEE,
WISCONSIN, ASSIGNORS OF ONE-THIRD TO CHARLES P. HERR-
MANN, OF MILWAUKEE, WISCONSIN.

COMBINED LIFTING-JACK AND AIR-PUMP.

SPECIFICATION forming part of Letters Patent No. 708,408, dated September 2, 1902.

Application filed October 25, 1901. Serial No. 79,927. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH G. SCHMIDT and WILLIAM P. MUELLER, citizens of the United States, and residents of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in a Combined Lifting-Jack and Air-Pump; and we do hereby declare that the following is a full, clear, and exact description thereof.

Our invention has for its object to provide a combined air-pump and lifting-jack especially designed as a sundry for the automobile trade; and it consists in certain peculiarities of construction and combination of parts hereinafter particularly set forth with reference to the accompanying drawings and subsequently claimed.

Figure 1 of the drawings represents a partly-sectional side elevation of a combined air-pump and lifting-jack in accordance with our invention; Fig. 2, a vertical section view of same, and Fig. 3 a plan view for the most part in horizontal section on the plane indicated by line 3 3 in the first figure.

Referring by letter to the drawings, A indicates the base, B, the cylinder, C, the piston, and D the piston-stem, of an upright air-pump. Stem D is made hollow above piston C and provided with an upper collar E, having trunnions F F' engaging apertures in yoke sides of a lever G, astraddle of a head-bracket H in screw-thread connection with the upper end of the pump-cylinder. To facilitate assemblage of the pump, the piston-lever trunnion F' is shown made to have screw-thread connection with a boss b of the plunger-stem collar.

A fulcrum-link I has one end pivoted between the branches of a split lug c at the lower end of the head-bracket H, and the other end of the link is likewise connected to an end of the piston-lever. The pivot connecting the link and lever is preferably a bolt d, having a set-nut e run thereon. The lever is preferably slotted lengthwise thereof, so as to provide for adjustable set of link pivot-bolt d and corresponding variation of throw on the part of said lever. The hollow piston-stem has play through the open lower end of head-

bracket H, and the upper end of said bracket is made to form a guide for a lifting-jack shank J, that engages said stem and is rack-toothed for the greater portion of its length, a head K being provided on the upper end of said shank.

Collar-trunnion F is made hollow and closed at the outer end with a plug f, held in place by a set-screw g, the outer end of the plug being clutch-faced. A slip-pawl L, engageable with the rack side of the lifting-jack shank J, has a stem h, guided in plug f, and a spiral spring i is arranged in collar-trunnion F between the pawl and said plug. A knob M on the outer extremity of the pawl-stem has its inner end clutch-faced for match-fit engagement with the plug aforesaid, and a detent N, engageable with the rack side of lifting-jack shank J, is pivoted between ears j of the upper end of the head-bracket, a spring k being arranged to hold the detent in working position. The knob M being in match fit with plug f of collar-trunnion F, the pawl L is set for automatic engagement with the rack side of lifting-jack shank J, and by operating lever G said shank, its head, and anything rested thereon are lifted to the desired elevation and held in adjusted position by the detent N, above specified. Pawl L being retracted against resistance of spring i and held out of working position by turning knob M to have the highest portion of its clutch-face abut that of the clutch-face of plug f operation of lever G will result in the pumping of air, shank J with its head K, if not already elevated, being lifted a limited distance by piston C on the first upstroke of same, or, if desirable, the shank J, with its head K, can be withdrawn from engagement with the head-bracket and the hollow piston-stem of the pump when not needed for service.

From the foregoing it will be readily understood that the mechanism herein set forth may be utilized either as an air-pump or a lifting-jack or as both at the same time and will be found especially useful as a convenient appurtenance to an automobile for jacking up the wheels and inflating their pneumatic tires, the one appurtenance serving for both operations.

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

1. An upright air-pump having a hollow piston-stem and an attachment in the form of a shank vertically adjustable in said stem.
2. An upright air-pump having a head-bracket, a hollow lever-controlled piston-stem, a retractive spring-controlled pawl carried with said piston-stem for the engagement of a rack-toothed shank engageable with said bracket and stem to be vertically adjustable therein, a shank-detent in connection with the aforesaid bracket, and means for holding the pawl in retracted position.
3. An upright air-pump having a hollow piston-stem provided with an upper collar, lever-trunnions extending from the collar, a pawl in one of the trunnions for engagement with a rack-toothed shank guided in the piston-stem, a trunnion-plug having an outer clutch-face and constituting a guide for a stem of the pawl, a spiral spring intermediate of the pawl and trunnion-plug, a clutch-faced knob on the pawl-stem for match-fit engagement with said plug, a shank-guide head-bracket in connection with the pump-cylinder, and a spring-controlled shank-detent in connection with said bracket.
4. An upright air-pump having its piston-stem made hollow for the engagement of a shank vertically adjustable therein, a lever in connection with the piston-stem, and means for regulating throw of the lever.
5. An upright air-pump having its piston-stem made hollow for the engagement of a

shank vertically adjustable therein, a head-bracket on the pump-cylinder, a lever in connection with said stem, and an adjustable fulcrum-link connecting the lever and bracket.

6. An upright air-pump having a lever-controlled hollow piston-stem and a head-bracket, a rack-toothed headed shank guided in the bracket and piston-stem, a spring-controlled detent in connection with said bracket, a retractive spring-controlled pawl carried with said piston-stem to engage said shank, a spring-controlled shank-detent in connection with the aforesaid bracket, means for holding the pawl in retracted position, and a fulcrum-link connecting the piston-stem lever with said bracket.

7. An air-pump having an attachment in the form of a vertically-adjustable lifting-jack.

8. An air-pump, a rack-toothed lifting-jack engageable with the piston-stem of the pump, an actuating-lever for the piston-stem, a pawl carried with the lever to be engageable with the lifting-jack shank, and a detent for holding said shank in vertically-adjusted position.

In testimony that we claim the foregoing we have hereunto set our hands, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

JOS. G. SCHMIDT.
WM. P. MUELLER.

Witnesses:

H. E. OLIPHANT,
B. C. ROLOFF.