

(No Model.)

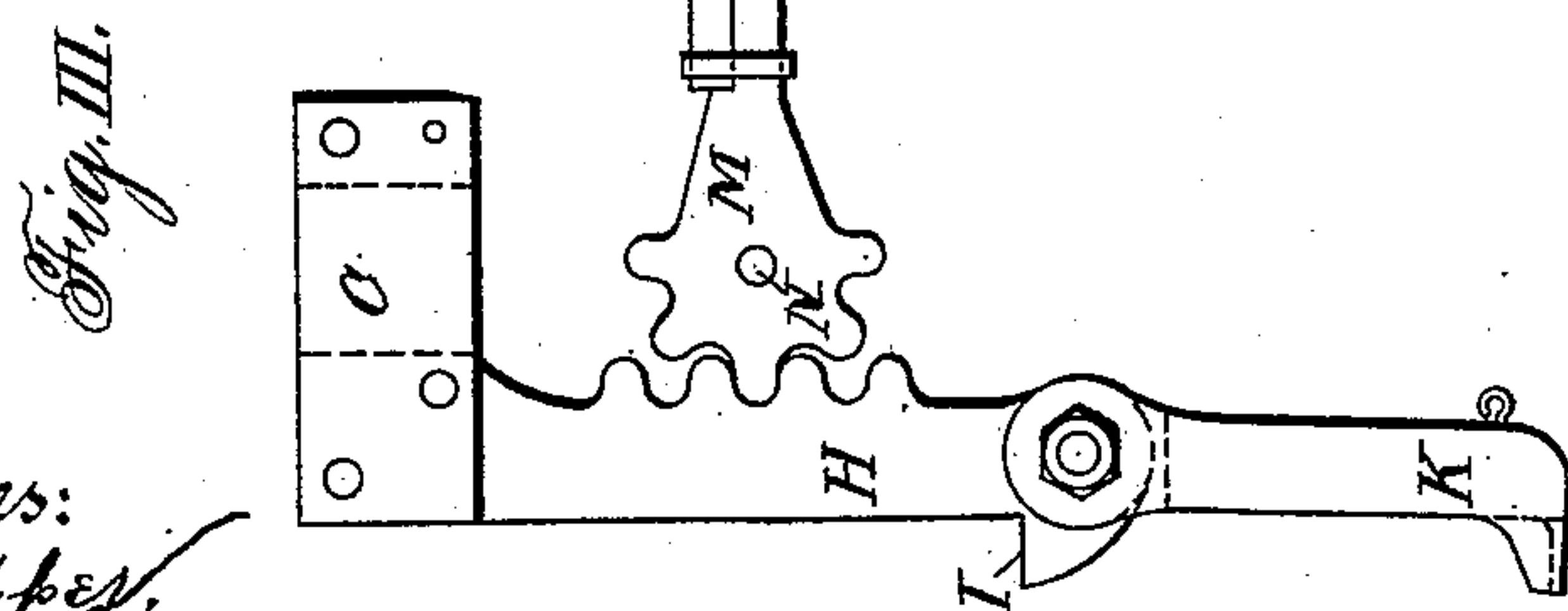
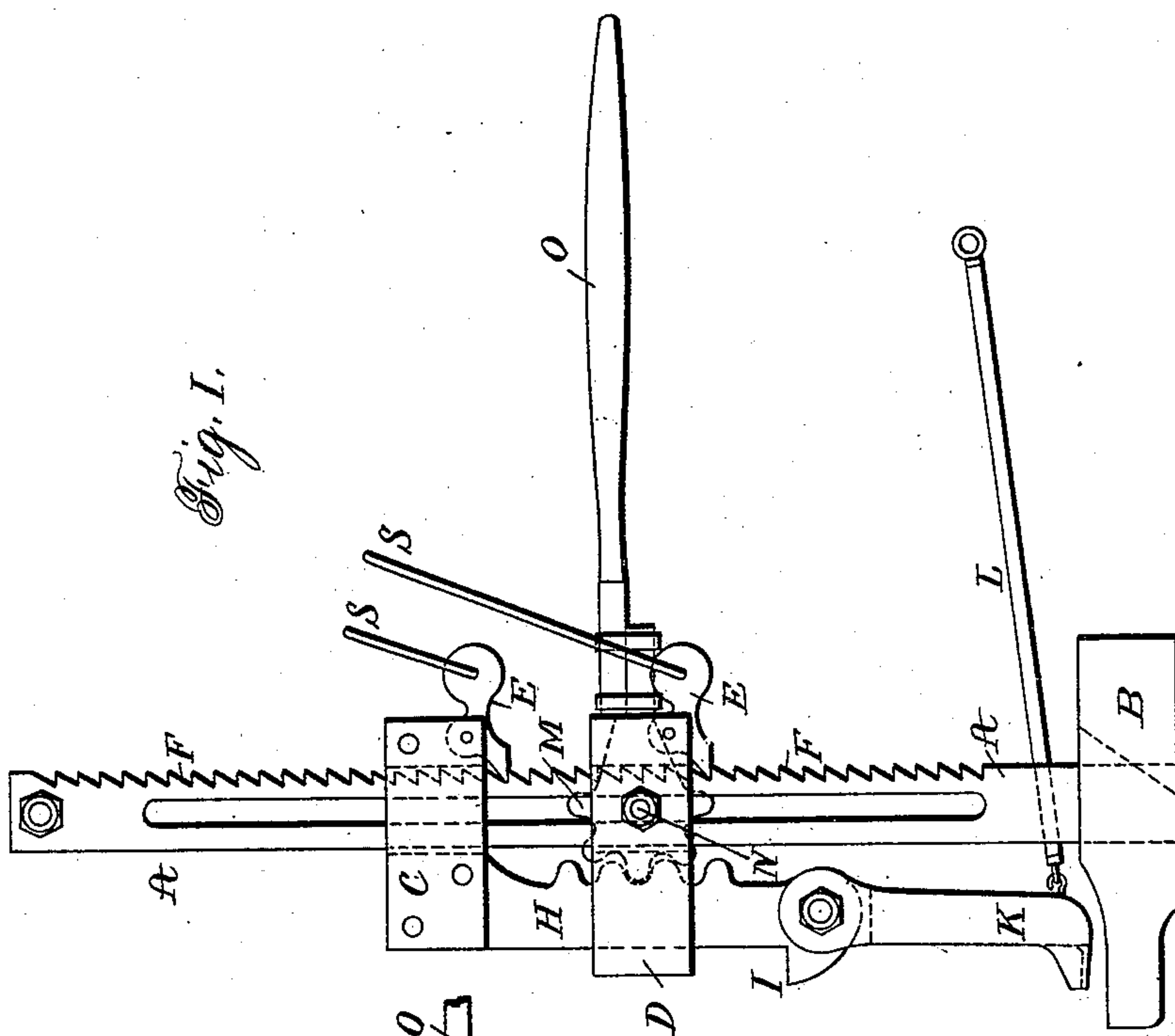
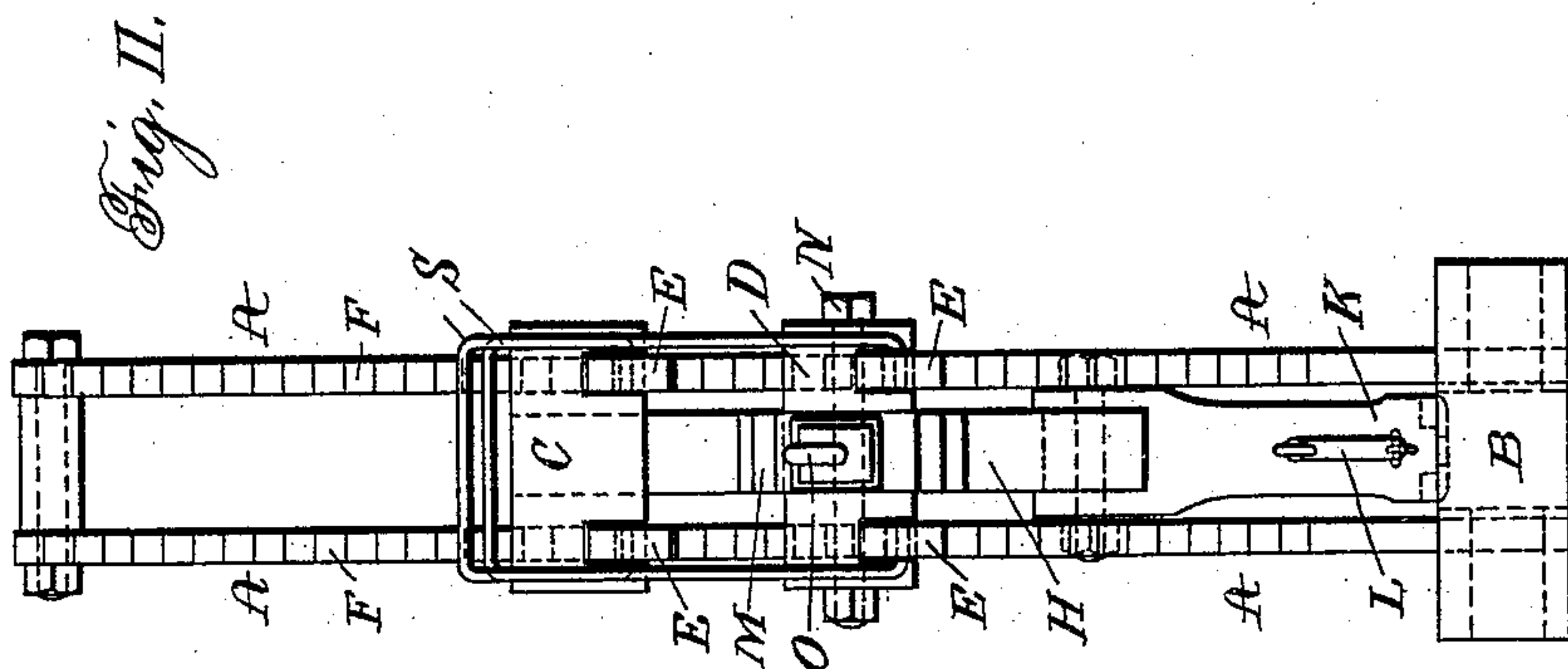
2 Sheets—Sheet 1.

C. M. EDWARDS.

CONVERTIBLE SPIKE EXTRACTOR OR LIFTING JACK.

No. 444,427.

Patented Jan. 13, 1891.



Witnesses:
J. G. Lepper
S. H. Knight

Inventor:
C. M. Edwards.

By his Attorneys
Knight Bros

(No Model.)

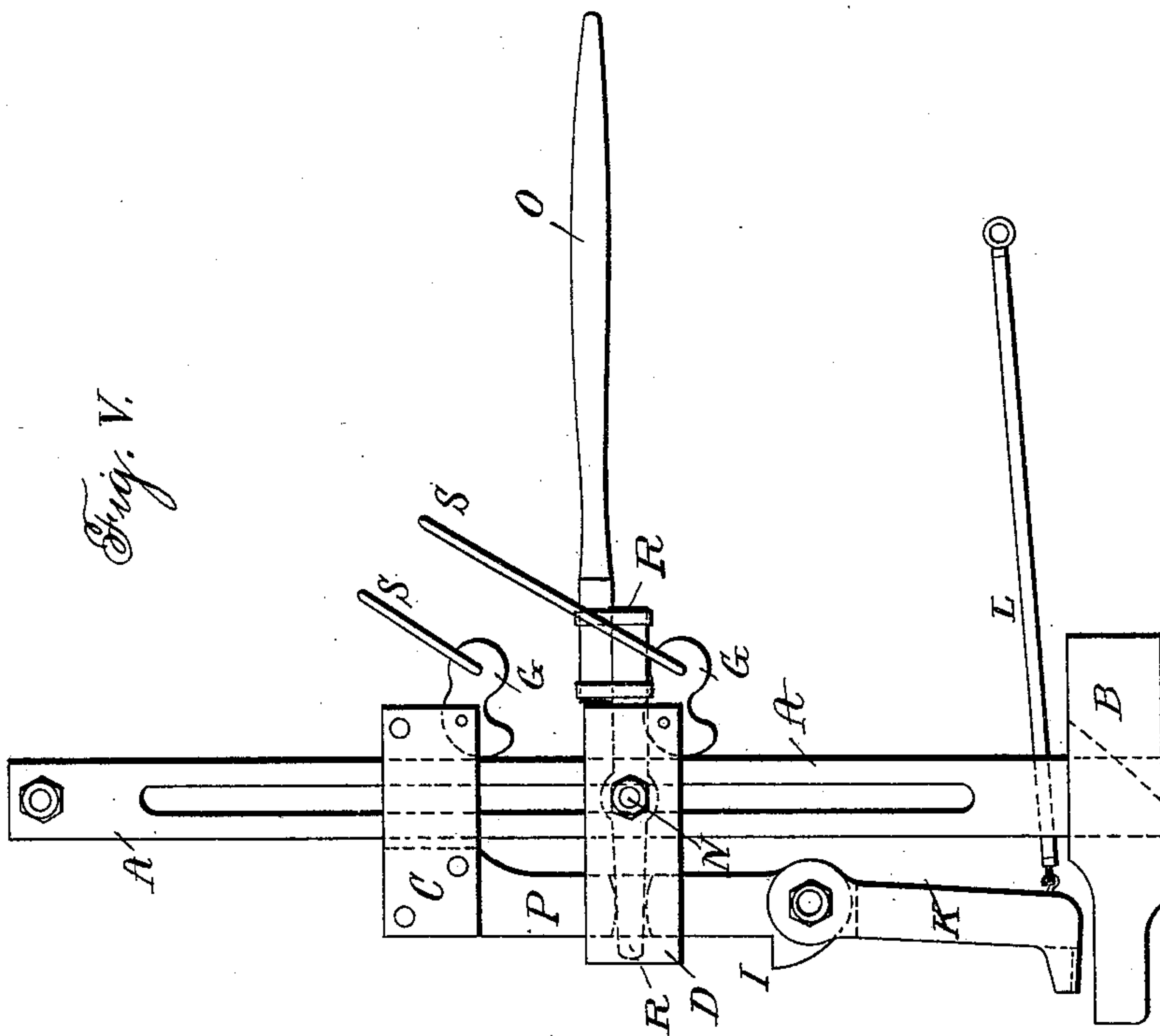
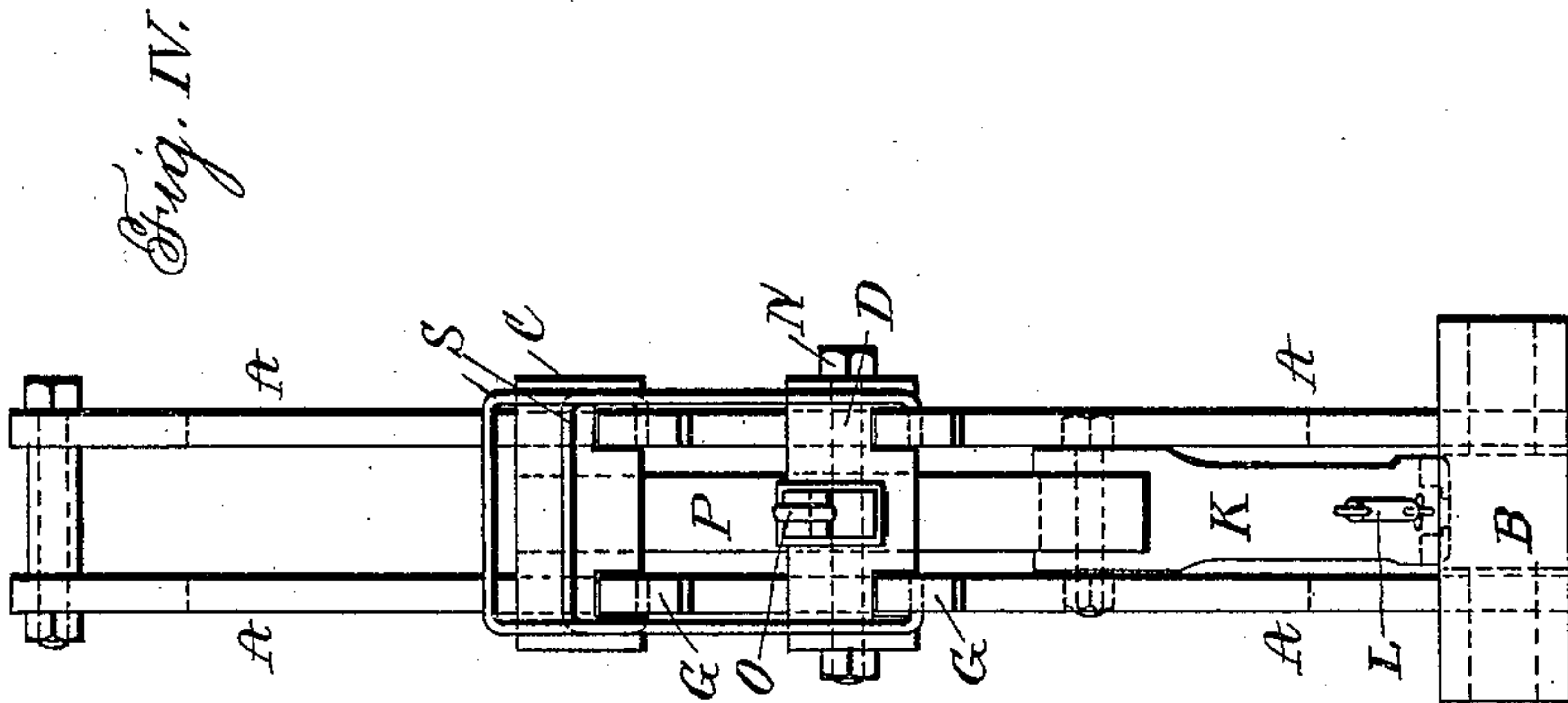
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UNITED STATES PATENT OFFICE.

CHARLES M. EDWARDS, OF BLOOMINGBURG, OHIO, ASSIGNOR TO JAMES H. JEFFERSON, OF SAME PLACE.

CONVERTIBLE SPIKE-EXTRACTOR OR LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 444,427, dated January 13, 1891.

Application filed March 12, 1890. Serial No. 343,581. (No model.)

To all whom it may concern:

Be it known that I, CHARLES M. EDWARDS, a citizen of the United States, residing at Bloomingburg, in the county of Fayette and State of Ohio, have invented certain new and useful Improvements in Convertible Spike-Extractors or Lifting-Jacks, of which the following is a specification.

My invention relates to improvements in the construction and operation of lifting-jacks, which I will proceed to describe with reference to the accompanying drawings, in which—

Figure I represents a side view of my lifting-jack. Fig. II is a front view of the same. Fig. III shows the upper block with its attached rack-bar and claw in combination with the pinion and handle. Fig. IV and V show modifications.

A A are the two slotted standards mounted in the bifurcated base B and braced above in any suitable manner.

C D are two traveling blocks on the standards, and are provided with means for preventing retrograde movement thereof. These means may consist of pawls E engaging with a ratchet F on the standards, or of any other suitable means, such as eccentrics G, as shown in Fig. V.

H is a rack-bar mounted in one traveling block and engaging with the other, and is provided with shoulder I for lifting purposes. A claw K, employed in extracting spikes and controlled by a detachable handle L, is swung from the rack-bar H. Projecting portions of the travelers may also be used for lifting.

A pinion M, mounted on a pin N, passed through the slots in the standards and one of the traveling blocks, engages with the rack-bar. A handle O is applied to this pinion for operating the device. If desired, a bar P, carried by the upper traveler, and a lever R, fulcrumed on the lower traveler and engaging in said bar, as shown in Fig. V, may be substituted for the rack-bar and pinion, which will give the same results, as the pinion is but a continuously-operating lever.

In the drawings I have shown the rack-bar mounted in the upper traveler and the pinion or lever in the lower one; but it is obvious

that the device will work equally well if this arrangement be reversed.

The operation of my device is as follows: The claw being engaged with the spike to be withdrawn or the weight to be lifted being applied, the handle of the lever is depressed. The traveling block on which the lever or pinion is mounted will remain stationary, being held by the means provided for preventing its retrograde movement, and consequently the rack-bar will be elevated, carrying with it the spike or weight and the traveling block on which it is mounted. When the lever has reached the limit of its downward movement, the motion is reversed, when the traveling block carrying the rack-bar becomes stationary and the other traveling block is elevated. This process is continued until the spike is withdrawn or the load is raised to the desired height. The traveling blocks are then lowered by releasing the pawls or eccentrics, and the process can be repeated. The pawls or eccentrics used to prevent the retrograde movement of the traveling blocks are provided with wires or yokes S, which connect each pair of pawls or eccentrics and serve as handles in releasing them from the standards.

I have shown and described a lever for working the pinion; but by using a crank a greater range of movement could be obtained, as the same could then make one or more revolutions.

I do not claim, broadly, as of my invention a standard, traveling blocks, bar, and lever; but what I do claim is the pair of standards in combination with the pair of traveling blocks with means for preventing retrograde movement of said blocks, the rack-bar, and means for engaging said rack-bar.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. In a lifting device, the combination of a pair of slotted standards having suitable ratchets, a pair of blocks carrying a rack-bar and engaging lever, respectively, and each having passages for the standards, said lever being secured in the block between the standards by a pin passed through the lever, the

block, and the standard-slots, substantially as set forth.

2. In the convertible device described, a swinging claw and a handle for controlling the claw.

3. The convertible device described, comprising a pair of slotted standards mounted in a bifurcated base, said standards being provided with ratchets, a pair of traveling blocks having openings through which the standards pass, each block having pawls for engagement with said ratchets and suitable controlling-wires attached to the pawls, a

rack-bar mounted on the upper block and passing through the lower block, said rack- 15 bar having a shoulder, and a pinion mounted on bearings passing through the slotted standards and lower traveler, said pinion engaging with the rack-bar and having a suitable controlling-handle, all substantially as shown 20 and described.

CHARLES M. EDWARDS.

Witnesses:

IRA J. GARINGER,

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