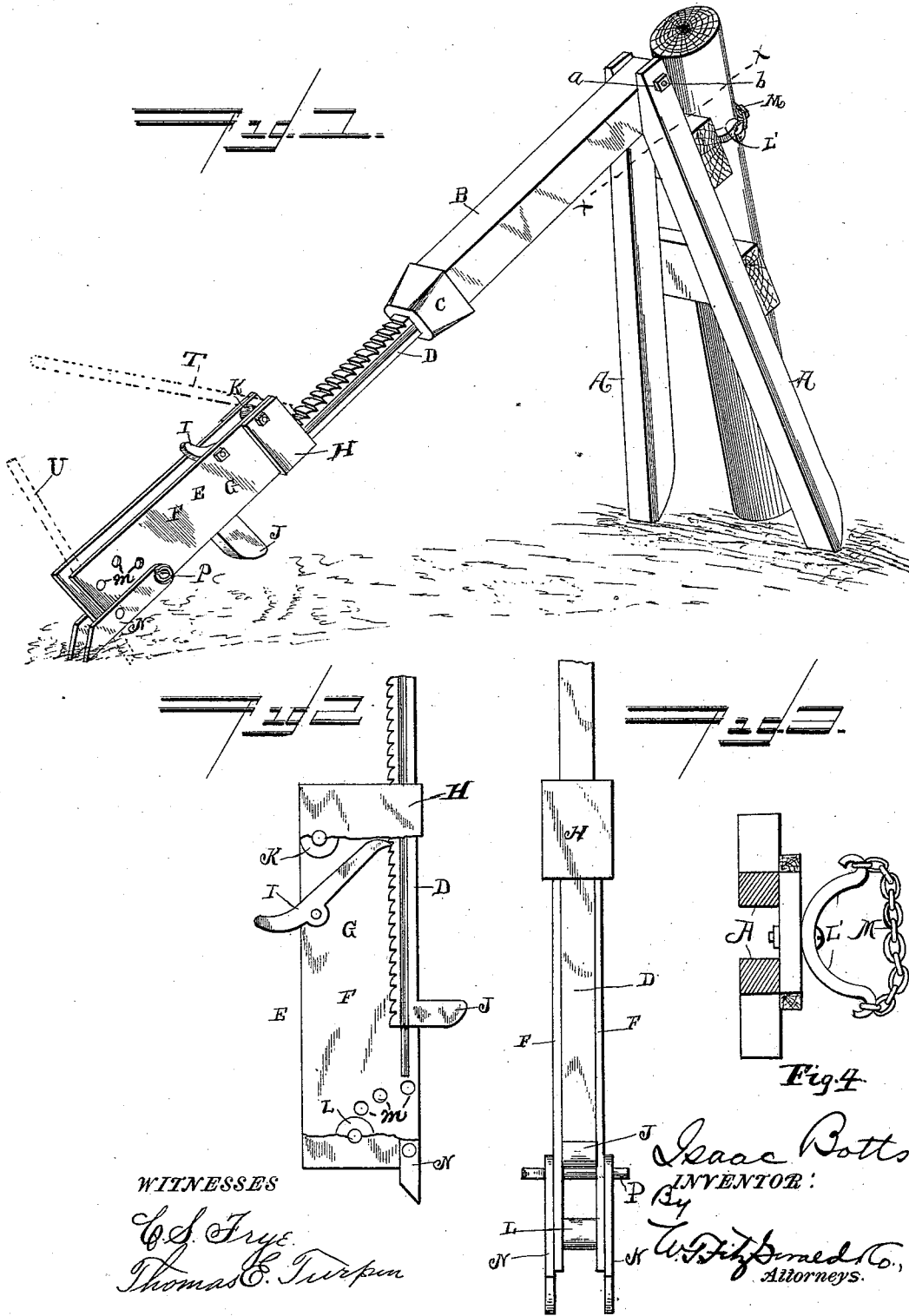


(No Model.)

I. BOTTS.
LIFTING JACK.

No. 469,116.

Patented Feb. 16, 1892.



UNITED STATES PATENT OFFICE.

ISAAC BOTTS, OF COLDWATER, KANSAS, ASSIGNOR OF ONE-HALF TO VERNON
J. MILLER, OF SAME PLACE.

LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 469,116, dated February 16, 1892.

Application filed October 9, 1891. Serial No. 408,227. (No model.)

To all whom it may concern:

Be it known that I, ISAAC BOTTS, a citizen of the United States, residing at Coldwater, in the county of Comanche and State of Kansas, have invented certain new and useful Improvements in Lifting-Jacks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has relation to an improved apparatus for lifting heavy poles, logs, pillars, &c., into a perpendicular position and for raising stone and other heavy substances; and it consists in the peculiar construction, certain novel combinations, and the adaptation of parts hereinafter described, and particularly pointed out in the claims appended.

In the annexed drawings, Figure 1 is a perspective view of my apparatus complete in an operative position. Fig. 2 is an enlarged side elevation, partly in section, of a lifting-jack forming part of my improved apparatus; and Fig. 3 is an enlarged rear elevation of the same. Fig. 4 is a detail transverse section taken in the plane indicated by the line $x x$ on Fig. 1, looking downwardly.

In the said drawings, similar letters designate corresponding parts throughout the several views, referring to which—

A indicates the upwardly-converging legs of the tripod-frame of my improved apparatus, which legs are rigidly connected in a suitable manner and are provided adjacent to their upper ends with transverse bolt-holes a to receive a fulcrum-bolt b , which takes loosely through an aperture in the short adjustable leg B of the frame, whereby said leg may be swung to and from the converging legs A, for a purpose presently disclosed. The lower end of the adjustable leg B of the tripod-frame is preferably tapered or reduced to conform with the shape of the socket C, which is formed integral with or connected to the upper end of an adjustable rack-bar D, which forms part of the lifting-jack E, which I will now proceed to describe. The casing F of my improved jack E is preferably of a rectangular form in cross-section, and comprises the vertical side walls G and the transverse wall H, which connects the rear edges of the side walls

G adjacent to the upper ends thereof, and serves in addition as a keeper or guide for the vertically-adjustable rack-bar D. The teeth upon the inner transverse side of the rack-bar D are beveled, as illustrated, whereby it will be seen that when said bar is moved upward or out of the casing the gravitating pawl I will ride freely over the same; but the said pawl I, which is loosely mounted upon a transverse shaft between the side walls of the casing, will, in its normal position, positively engage the teeth of the rack-bar and prevent a downward movement of the same. The free end of the gravitating pawl I is preferably extended from the front of the jack, whereby it will be seen that said pawl may be readily disengaged from the teeth of the rack-bar, when said bar may be readily lowered by pressure of the foot upon the angular pedal branch J, which is formed integral with or suitably connected to the same.

Mounted upon a suitable transverse shaft between the side walls of the casing F, adjacent to the upper end thereof, is a loose friction-roller K, which serves as a fulcrum for a lever T, (illustrated in dotted lines,) which lever engages the teeth of the rack-bar and is designed to be manipulated by hand to raise the said rack-bar.

Mounted between the side walls of the casing F, adjacent to the lower end thereof, is a friction-roller L, similar to the roller K, which roller L is designed to serve as a bearing for a lever U, (shown in dotted lines,) which lever is fulcrumed at its end upon the ground and is designed to be manipulated by hand to move the jack and the movable leg B toward the converging legs thereof, whereby the said converging legs and the burden carried thereby will be raised.

To provide against a casual displacement of the pole or pillar that is to be elevated from the converging legs of the frame, I have provided on one of the branches connecting said legs a fork-shaped keeper L', to one branch of which is connected a chain M, which is designed to be passed around the post or pillar and connected at its opposite end to the other branch of the keeper, whereby it will be seen that the pole or pillar will be prevented from falling off the frame.

Pivottally connected at an intermediate point in their length to the side walls of the casing F, adjacent to the lower ends thereof, are sharpened feet N, which are provided adjacent to their upper ends with transverse bolt-holes to receive a transverse pin or bolt P, which takes through the apertures *m* in the wall of the casing and serves to fix the sharpened feet at various angles with respect to the said casing. The apertures *m* of the casing are arranged in the arc of a circle for a purpose presently disclosed. These feet N serve in practice to prevent a casual slipping of the jack during operation.

In operation, when a pole, pillar, or the like is to be raised, it is connected to the legs A through the medium of the devices described, while said legs are in a low position, after which the jack operating and moving levers are successively manipulated until the pole is raised to the position desired. When a heavy stone or the like is to be raised, the same is connected in a suitable manner to the legs A, adjacent to the connected ends thereof, after which the operation described for raising a pole or the like is repeated.

By the provision of an apparatus such as described it will be readily perceived that a single operator is enabled to exert a great leverage and raise a heavy pole into a perpendicular position, or raise stone or other heavy substance from the ground.

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

1. In a lifting apparatus, substantially as described, the combination, with the upwardly-converging legs of the frame rigidly connected together, of the movable leg pivottally connected to the upper ends of said converging legs, and the lifting-jack comprising the casing, having a series of transverse apertures arranged in the arc of a circle adjacent to its lower end, the rack-bar having a socket at its

upper end to receive the free end of the movable leg of the frame, a suitable means for adjustably fixing said rack-bar, the sharpened feet pivottally connected at an intermediate point in their length to the casing adjacent to the lower end thereof, a transverse pin or bolt for fixing said feet at various angles with respect to said casing, and a suitable means for manipulating the rack-bar and moving the jack and the movable leg of the frame toward the converging legs thereof, substantially as specified.

2. In a lifting apparatus, the combination, with the rigidly-connected and upwardly-converging legs of the frame and a suitable means for raising and lowering said legs, of the fork-shaped keeper secured to the converging legs, and a chain fixedly connected to one branch of said keeper and adapted to be detachably connected to the other branch thereof, substantially as and for the purpose specified.

3. In a lifting apparatus, the combination, with the upwardly-converging legs of the frame rigidly connected together, of the movable leg pivottally connected to the upper ends of said converging legs, and the lifting-jack comprising the casing, the rack-bar having a socket at its upper end to receive the free end of the movable leg of the frame, a suitable means for adjustably fixing said rack-bar, the bearing-rollers loosely journaled adjacent to the upper and lower ends of the casing, and a suitable means for manipulating the rack-bar and moving the jack and the movable leg of the frame toward the converging legs thereof, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ISAAC BOTTS.

Witnesses:

BENJ. HOWARTH,
A. HUMMER.