

(No Model.)

D. O'BRIEN.
STUMP EXTRACTOR.

No. 248,054.

Patented Oct. 11, 1881.

Fig. 1.

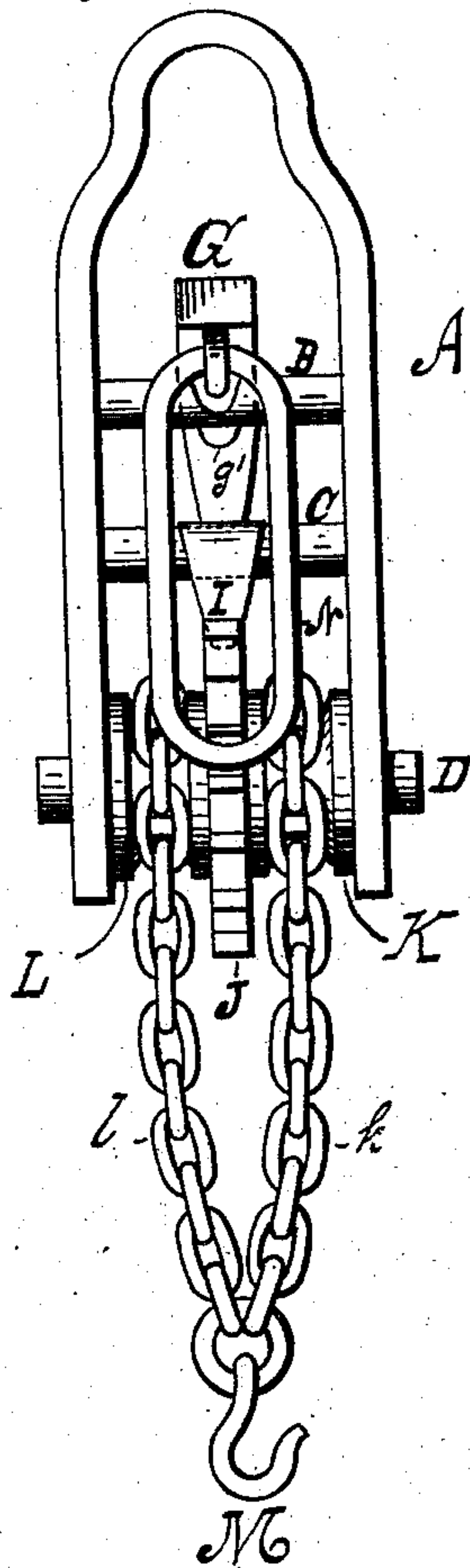
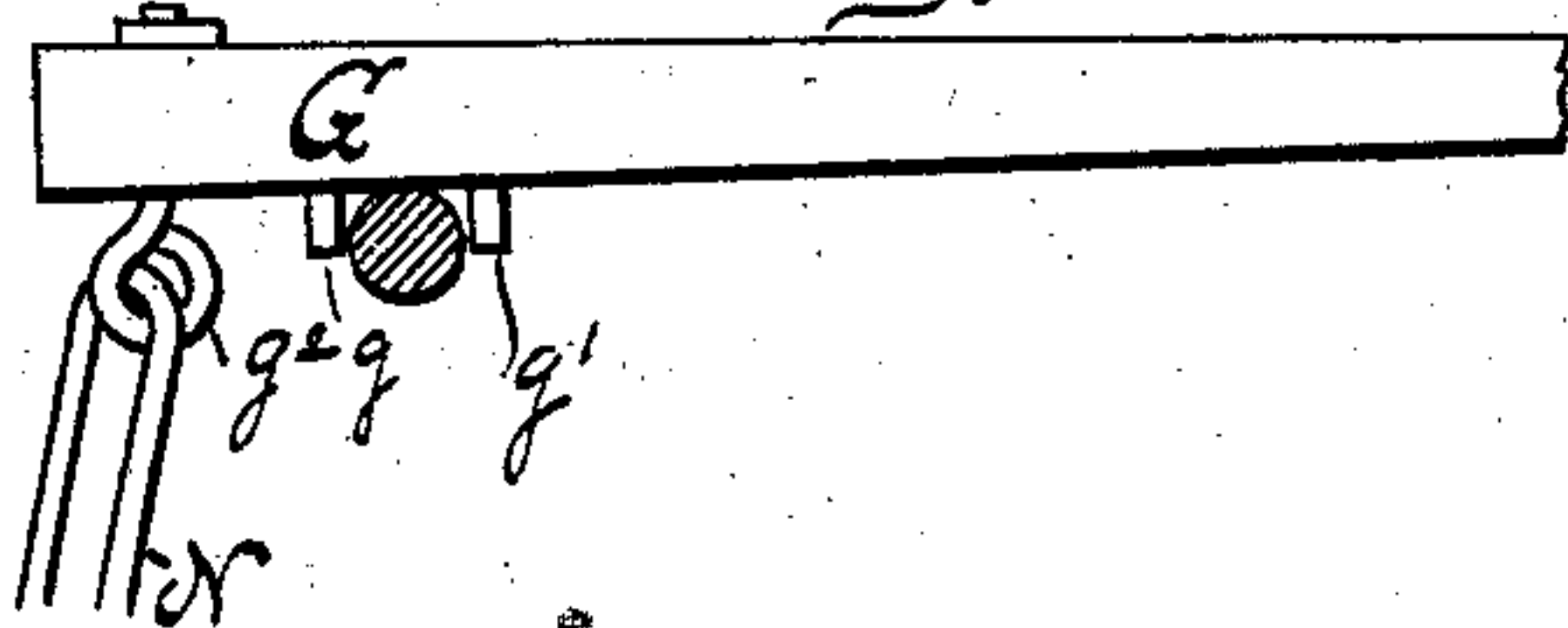


Fig. 2.



Witnesses:

Wm. Masson.
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Inventor.

By

[Signature]
Att'y.

UNITED STATES PATENT OFFICE.

DAVID O'BRIEN, OF WILLIAMSPORT, PENNSYLVANIA.

STUMP-EXTRACTOR.

SPECIFICATION forming part of Letters Patent No. 248,054, dated October 11, 1881.

Application filed August 26, 1881. (No model.)

To all whom it may concern:

Be it known that I, DAVID O'BRIEN, a citizen of the United States of America, residing at Williamsport, in the county of Lycoming and State of Pennsylvania, have invented certain new and useful Improvements in Stump-Extractors; 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to that class of stump-extractors which consists of a suspended frame-work provided with bearings for a transverse shaft upon which rotates a ratchet having a sprocket-wheel attached thereto and at one side thereof, and which frame-work is also provided with cross-bars, one for a pawl to operate with said ratchet and the other for the bearing or fulcrum of the operating-lever, the whole apparatus being suspended in a convenient manner—for instance, by means of the common tripod; and my invention consists in the location, combination, and arrangement of devices, as hereinafter described, and specifically set forth in the claims.

In the construction and arrangement of the devices, as hereinbefore explained, certain objections exist whereby loss of power by undue friction and a lacking of strength are suffered; and the object of my invention is to overcome these objections.

Referring to the drawings, of which Figure 1 is a front, and Fig. 2 a side, detail view, A represents the frame-work of the machine, and is formed with a loop at its upper end to facilitate its attachment to, for support by, an ordinary tripod. This frame is provided with cross-bars B and C, and a transverse shaft, D, adapted to revolve in bearings in the lower end of the frame. Upon the shaft D is the ratchet J, having attached firmly thereto on each side thereof a sprocket-wheel, K and L, respectively, over which pass the chains *k* and *l*, which are united and terminate in a hook, M. Upon the cross-bar C is a pawl, I, adapted to operate in the usual manner upon the ratchet J and upon cross-bar B. The operating-lever G is fulcrumed, it being provided with studs or pins

g g', to retain it on the bar and permit of its easy removal, and with the eyebolt *g*², for the attachment of the operating-link N. 55

The operation of my machine is as follows: The supporting-tripod being placed so as to support the apparatus over a stump, and the stump-chain being connected with the hook M, the long arm of the lever G is depressed, raising the link N, and thus rotating the ratchet and drawing evenly upon chains *k* and *l*, and through them drawing upon the stump-chain. At the end of the sweep of the lever G the pawl I retains the load while the lever is elevated at its longer arm, thus causing the link to pass over the ratchet and take into another tooth for another operation, as just described. 65

Now, it will be readily seen that in the construction heretofore used the strain upon the apparatus is expended directly upon one side of the frame and upon one bearing of the shaft, resulting in increased friction, and therefore loss of power employed and loss of strength in the machine itself, and, furthermore, the draft, strain, and operation of the entire machine is one-sided. These objections are entirely overcome by the improvement herein shown and described. The power is applied in a direct line to the center of the shaft, the friction of its bearings is evenly distributed and therefore reduced, the strain is evenly borne by each of the chains, and the lever has no tendency to swing toward one side or the other, as when the strain is expended upon only one or the other side of the machine. 75

Having described my invention and its operation, what I claim as new, and desire to secure by Letters Patent, is—

1. In a stump-extractor, the combination of the shaft D, ratchet J, and sprockets K and L, with means, substantially as shown and described, for their operation, as and for the purpose set forth. 90

2. The combination of the frame-work A, cross-rods B and C, shaft D, ratchet J, sprockets K L, chains *k l*, pawl I, lever G, and link N, substantially as shown and described. 95

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

DAVID O'BRIEN.

Witnesses:

FRANK H. MCCORMICK,
SETH T. MCCORMICK.