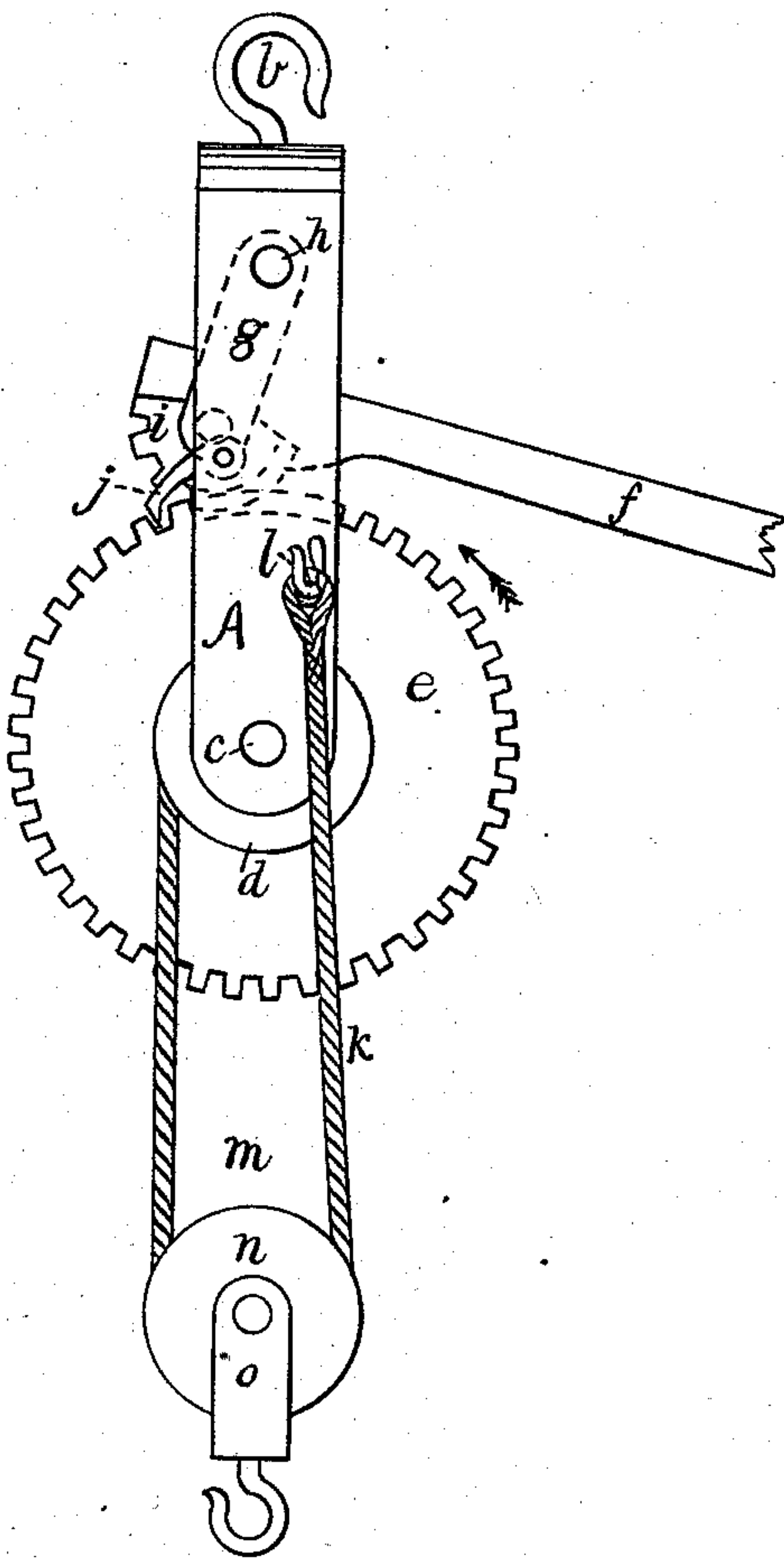


J. M. BATCHELOR.
Stump-Elevator.

No. 160,866.

Patented March 16, 1875.



Witnesses
W. E. Brown
E. K. Colcut

Inventor
Joseph M. Batchelor
 Per Atty. *Abraham Franklin Seaver*

UNITED STATES PATENT OFFICE.

JOSEPH M. BATCHELOR, OF FOXCROFT, MAINE, ASSIGNOR OF ONE-HALF
HIS RIGHT TO CYRUS HILL, OF SAME PLACE.

IMPROVEMENT IN STUMP-ELEVATORS.

Specification forming part of Letters Patent No. **160,866**, dated March 16, 1875; application filed
January 29, 1875.

To all whom it may concern:

Be it known that I, JOSEPH M. BATCHELOR, of Foxcroft, in the county of Penobscot and State of Maine, have invented certain new and useful Improvements in Machines for Raising Stumps, Rocks, &c.; and I do hereby declare that the following is a full, clear, and exact description thereof, that will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing forming a part of this specification, in which a side elevation of my invention is shown.

My invention is a machine for lifting stumps, rocks, &c.; and consists of a drum having a gear attached thereto, operated by a segmental gear at or near the end of a lever. A pawl serves to hold the drum in any desired position, and all the parts are contained in a strap designed to be suspended from a suitable frame-work. It also consists in the combination of the lever and its segmental gear with a swinging link, sustaining the lever, and serving as a fulcrum for it. Another feature of my invention consists in a peculiar arrangement of the hoisting rope or chain, one end of which is attached to some stationary part of the machine or frame-work, and the other to the drum, and its combination with a loose pulley working in the bight of said chain, to which pulley the hooks attached to the object to be raised are secured.

Referring to the drawing, A shows the strap, provided with a hook or other device for suspending it. Across the lower or open end of this strap is a shaft, *c*, upon which is placed a drum, *d*, which may be provided, if desired, with spurs or indentations for the reception of the links of a chain, to which drum is firmly attached a gear, *e*, so as to revolve with it. At *f* is the lever, having its fulcrum in the end of a link, *g*, attached to the strap *a* at *h*. On the

end of this lever, or near the end, is a segmental gear or pinion, *i*, meshing into the gear *e*. As the lever is worked this pinion *i* causes the gear *e* and drum *d* to revolve, winding up the rope or chain on the drum and raising the rock or stump, while a pawl, *j*, on the strap A engages with the teeth of the gear *e*, and retains it in place as it rises. The swinging link *g* allows the pinion *i* on the lever to be drawn back and readjusted to the teeth of the gear *e* as the lever is raised.

In order to increase the power of my machine when necessary, I attach one end of the hoisting rope or chain *k* to some stationary part of the machine, as at *l*, the other end passing over the drum and rising as it revolves. In the bight *m* thus formed I place a loose pulley, *n*. A strap, *o*, passes around this pulley, at the lower part of which is a hook, to which the object to be raised may be secured by chains or otherwise. As the drum *d* is turned one end of the chain is drawn up, shortening the bight *m*, and the pulley *n* and attached object are gradually lifted.

By this arrangement of the chain only half the power is needed at the lever to raise a given weight, thus doubling the lifting power of the machine.

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

In a lifting-machine, the combination of the drum *d*, attached gear *e*, fulcrum-link *g*, hanging lever *f*, pinion *i*, and pawl *j*, all arranged in a suspended strap, A, and operating substantially as herein set forth and shown.

In testimony that I claim the foregoing I have hereunto set my hand this 20th day of January, 1875.

JOSEPH M. BATCHELOR.

Witnesses:

W. S. PEARSON,

WM. FRANKLIN SEAVEY.