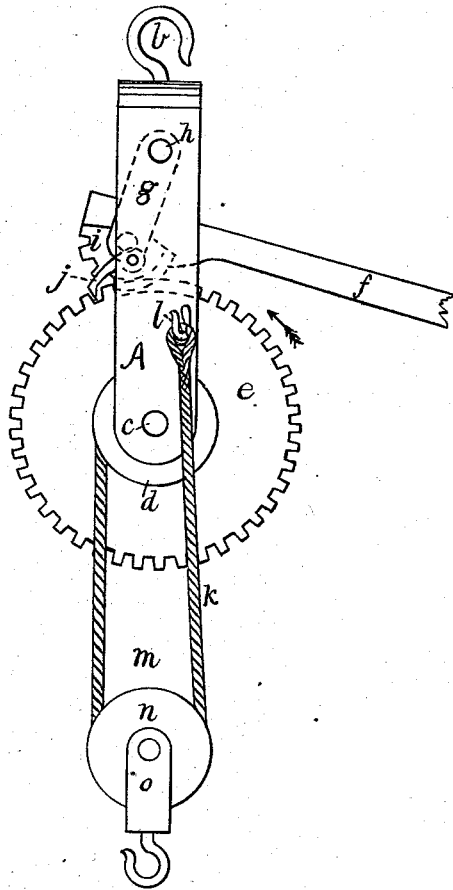


J. M. BATCHELOR.
Stump-Elevator.

No. 160,866.

Patented March 16, 1875.



Witnesses
W. E. Brown
E. K. Kelcey

Inventor
Joseph M. Batchelor
Per Atty. Owen Franklin Seavey

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.