(No Model.)

G. A. SANDERS.

LOG ELEVATOR.

No. 368,975. Patented Aug. 30, 1887.

Fig. 1.

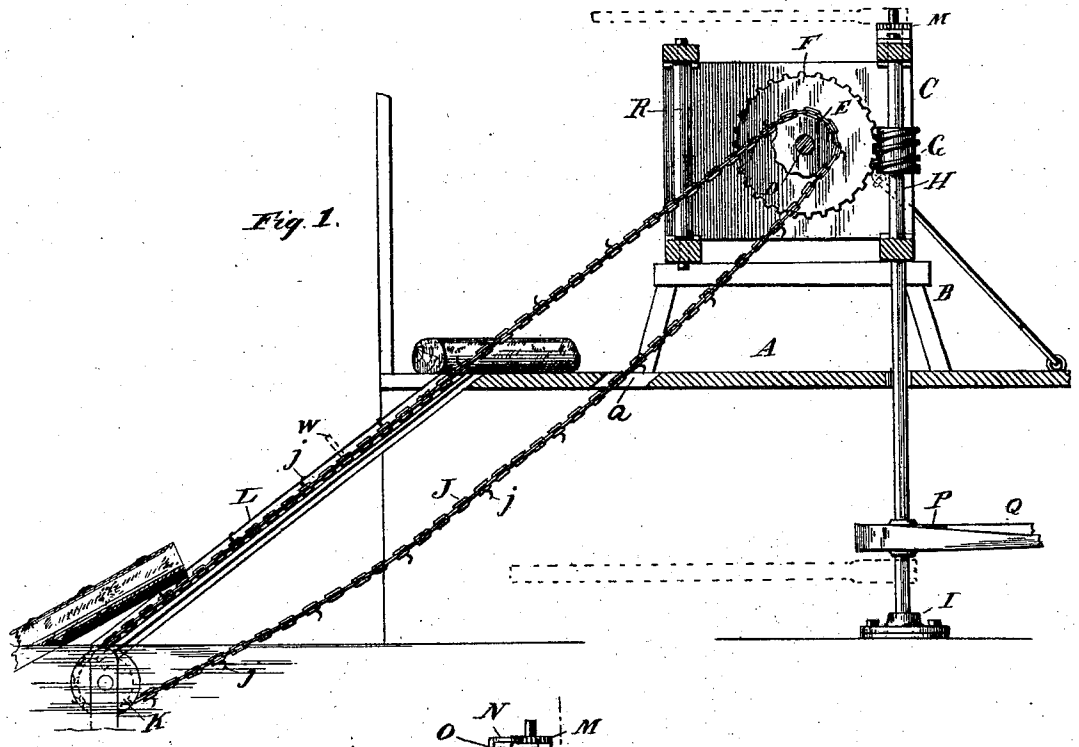
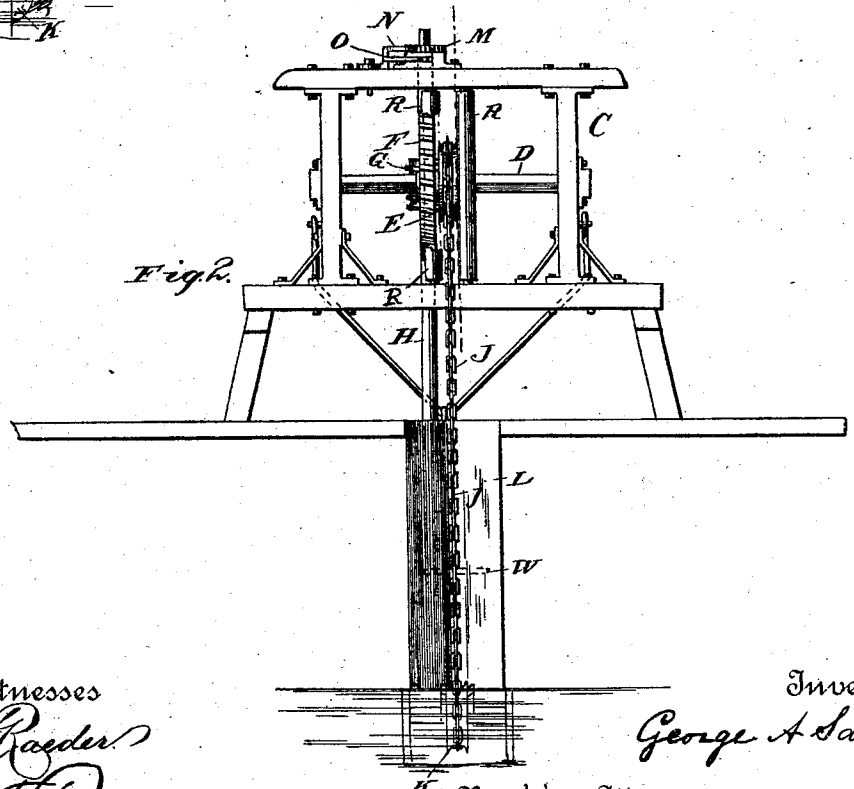


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE A. SANDERS, OF CARIBOU, MAINE.

LOG-ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 368,975, dated August 30, 1887.

Application filed December 16, 1886. Serial No. 221,757. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. SANDERS, a citizen of the United States, residing at Caribou, in the county of Aroostook and State of Maine, have invented certain new and useful Improvements in Log-Elevators, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 represents a nearly-central vertical section of my improvement applied to raising logs from the water; and Fig. 2, a front elevation of the same, with part broken away.

This improvement relates to that class of elevators designed for raising logs, ice, &c., from the water, but may be employed for other purposes; and the invention consists in the peculiar combinations and the construction and arrangement of parts, hereinafter more particularly described, and then definitely pointed out in the claims.

Referring now to the details of the drawings, A represents the floor of a saw-mill, an ice-house, or other place where it may be designed to use an elevator.

B represents a stout supporting-platform suitably braced and secured in place, on which rests the frame C of the elevator. This frame C is provided with suitable bearings, in which runs the shaft D, carrying a sprocket-wheel, E, and worm-gear F, in the teeth of which works a screw, G, which is mounted on a shaft, H, running in suitable bearings in the frame C and in a step, I, below. Around the sprocket-wheel E runs a chain, J, provided with hooks *j* at appropriate distances apart, which chain passes around a grooved pulley, K, mounted in suitable bearings at the bottom of the slide L, over which the upper half of the chain runs, the other part being comparatively loose and drooping and working through an opening, *a*, in the floor A.

In the front of the frame, on each side of the chain, is a pair of guide-rollers, R, to keep the chain running true on the sprocket-wheel E. The shaft H carries at its upper end a ratchet-wheel, M, into which takes a pawl, N, which is held in contact with the ratchet-wheel by a spring, O.

At P is shown a band-pulley, which is driven by a belt, Q, or in any convenient manner, from an engine (not shown) set on the lower floor.

I may sometimes secure a horse-lever or sweep upon the shaft H, which may be arranged either upon the top or near the bottom, as shown in dotted lines, according to the circumstances of the case, so that I may use horse-power where steam or other motive force is not convenient.

The operation is as follows: Motion being imparted to the shaft H, the screw G rotates the wheel F, and consequently the shaft D and the sprocket-wheel E, carried by said shaft, which sprocket-wheel in its turn gives motion to the endless chain J, which will carry up the chute or slide anything—as a log, for instance—in which the hooks *j* may catch, or which may be attached in any convenient way. As soon as the logs or other article arrives at the end of the slide, so as to be no longer held upon the chain by the sides of said slide, it falls off upon the floor A, from whence it may be moved in any convenient manner.

For some purposes I may find it more convenient to use buckets, as shown in dotted lines at W in Figs. 1 and 2, which I should consider the equivalent of the hooks *j*.

The sprocket and pawl will be found very useful in preventing any retrograde motion of the chain, should the belt accidentally break or slip off, or to rest or relieve the horse, should one be employed.

It will be seen that by this construction an elevator may be made that will be found to be very powerful, and although comparatively cheap to construct, yet will be very durable and not likely to get out of order.

Having thus described my invention, what I claim as new is—

1. The combination, in an elevator, of the rotary shaft H, the screw G, mounted thereon, the shaft D, the worm-gear F and sprocket-wheel E, mounted on the shaft D, with the chain J, having hooks *j*, passing over said sprocket-wheel, and an inclined slide arranged substantially parallel with said chain and terminating below the frame, substantially as described.

2. The combination, in an elevator, of the rotary vertical shaft H, the screw G, mounted thereon, the shaft D, the worm-gear F and

sprocket-wheel E, mounted on said shaft D, a pair of guide-rollers mounted in front of the sprocket-wheel, with an endless chain having hooks *j*, passing around said sprocket-wheel and between the guide-rollers, and an inclined guide arranged substantially parallel with the chain, all constructed and arranged substantially as shown and described.

In testimony whereof I affix my signature, in presence of two witnesses, this 15th day of December, 1886.

GEORGE A. SANDERS.

Witnesses:
T. J. W. ROBERTSON,
M. P. CALLAN,