

J. W. SHAW.
Boring-Machines.

No. 134,009.

Patented Dec. 17, 1872.

Fig. 1.

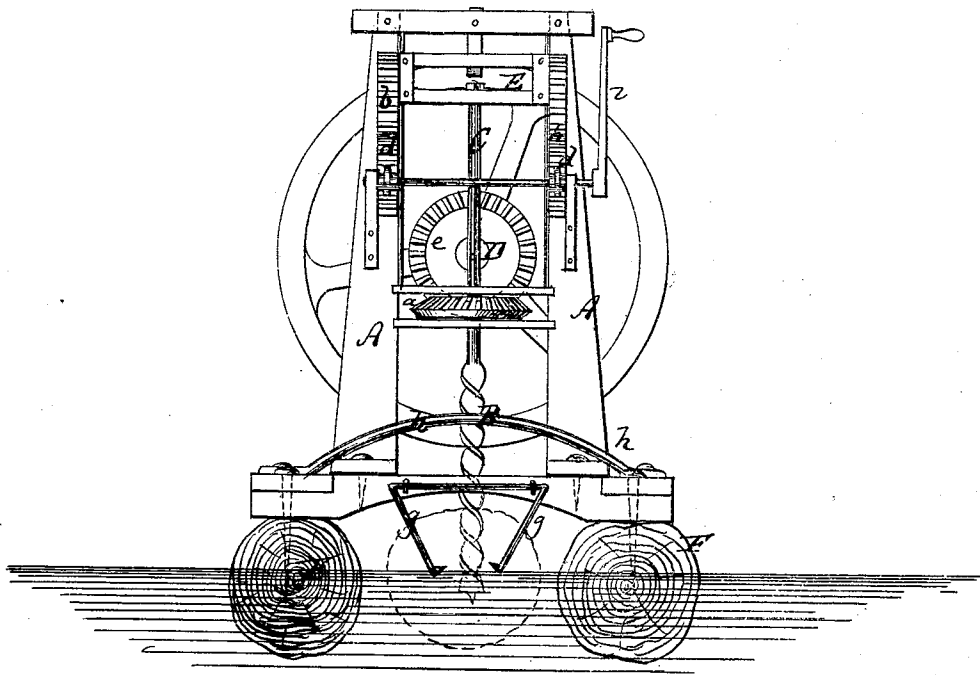
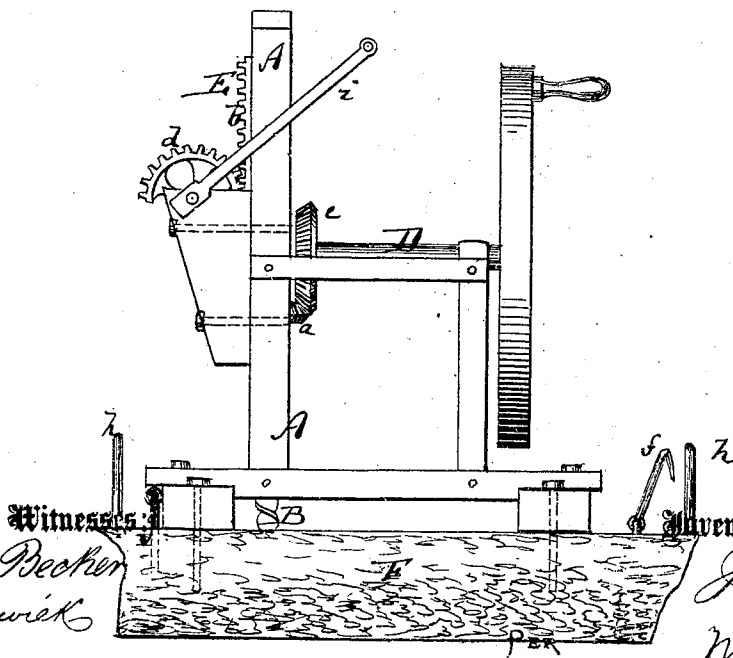


Fig. 2.



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UNITED STATES PATENT OFFICE.

JAMES W. SHAW, OF WENONA, MICHIGAN.

IMPROVEMENT IN BORING-MACHINES.

Specification forming part of Letters Patent No. 134,009, dated December 17, 1872.

To all whom it may concern:

Be it known that I, JAMES W. SHAW, of Wenona, in the county of Bay and State of Michigan, have invented a new and Improved Boring-Machine for rafting purposes, of which the following is a specification:

In the accompanying drawing, Figure 1 is a front elevation, and Fig. 2 a side elevation, of my improved boring-machine.

Similar letters of reference indicate corresponding parts.

This invention relates to a new machine for boring holes in the ends of logs and pieces of long timber, in order to make them up into rafts, which is done by stringing chains through them.

There are immense quantities of logs thus rafted in lumbering districts, and the boring is all done by hand, which is a laborious operation, as well as an expensive one.

A great saving will be effected both in labor and cost by the use of this machine. It consists of a frame with which is connected the auger and the machinery for operating the same, the shaft of the auger being revolved by machinery secured to the frame.

In the drawing, the letter A represents the frame of the machine; B, the auger; C, the vertical auger-shaft, grooved along its entire length. The shaft C is revolved by means of a bevel-gear wheel, *a*, through which the shaft passes, a feather or key being made fast in the wheel to fit the groove in the shaft and cause the same to be turned with the wheel, at the same time allowing the auger to be raised and lowered while in operation, which is accomplished by means of a rack, *b*, and pinion or segment *d*, as shown, the rack *b* being attached to a sliding frame, E, in which the upper end of the shaft C is hung. The wheel *a* is turned by gear-connection *e* with a shaft, D, that hangs in the frame A. This embraces the construction of the machine.

The manner of using it is as follows: The machine is secured upon two or more logs, F, which form a float and leave a space of about four feet in width between them, directly under the auger. At each end of the float is a curved iron rod which connects the logs F, as shown, in order to keep them in place. The machine is placed in position and the floating logs to be bored are run under the machine, turned one-quarter over, and secured thus by means of dogs, one of which, *f*, is attached to the float, and the other, *g*, a double one, at-

tached to the machine, directly in front of the auger, and driven into the end of the log to be bored.

The object of these dogs is to keep the object to be bored from moving up and down and to secure it in its place while being bored, which could not be accomplished without this device, and also to prevent the log from rolling.

The object in turning the log one-quarter is this: When logs are put in the water they assume a position which they retain as long as they remain there. The lower part of the log, from its contact with the water, in a short time becomes much the heavier. Consequently, when the boring is done by hand the hole is bored through the log as it lies in the water—*i. e.*, perpendicularly. When the raft is made up it is necessary to turn the logs, bringing the hole in a horizontal direction, in order to pass the chain through.

One man is thus required to turn and hold the logs while this is being done, the chain is then tightened, and a wedge inserted to keep it so, in order to prevent the logs from rolling back to their original position until the raft is completed and the chain secured to the outside logs of the raft.

Now, it is apparent, if the logs were turned when they were bored, when they were released they would assume their former position, thus bringing the holes in a line with the water, or in the position required in order to string them. It would much facilitate the labor of rafting, enabling it to be done with less help and in less time. It will also lessen the strain upon the chains while towing the raft, as the logs will not have a tendency to turn over, as is the case with logs rafted in the old manner.

While the auger is being turned it is slowly fed down by turning the segments or pinions *d* by a crank-handle, I.

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

A boring-machine, arranged on floats F F and provided with dogs *g g*, as described, so as to allow floating logs to be bored in the manner set forth.

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Witnesses:

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