(No Model.)

N. OLEY.

PUMP BORING MACHINE.

No. 356,848. Patented Feb. 1, 1887.

Fig. 1.

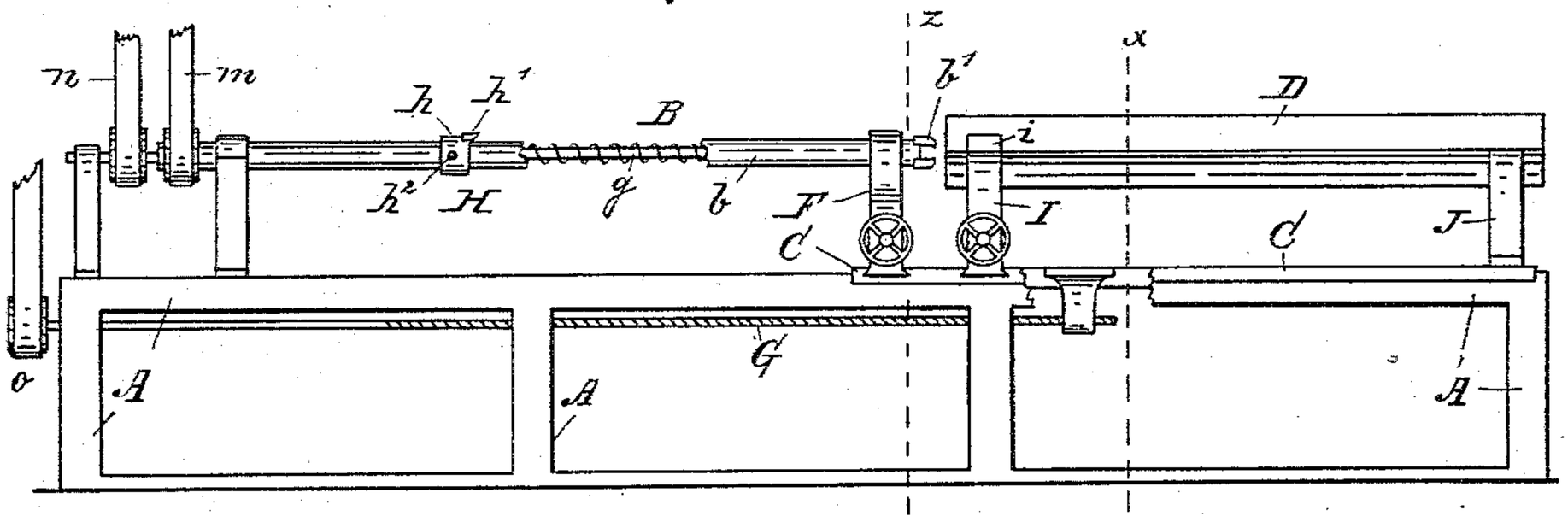


Fig. 2.

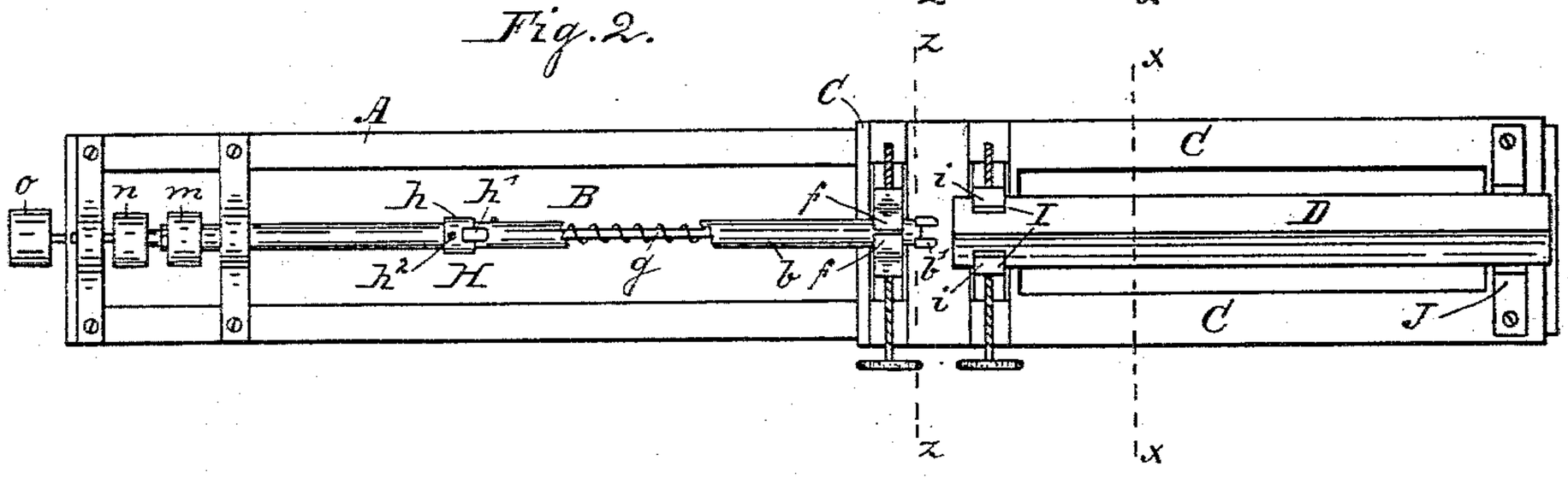


Fig. 3.

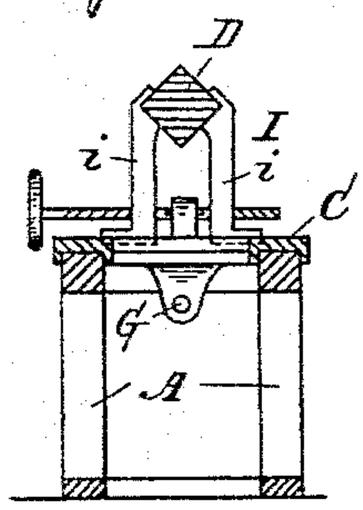


Fig. 4.

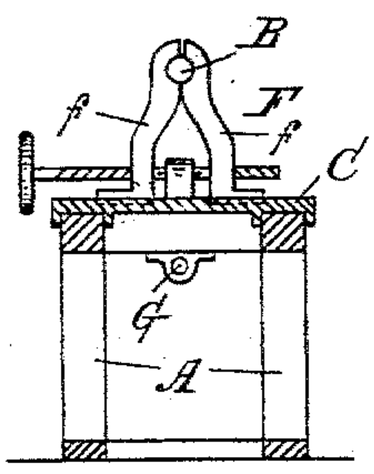
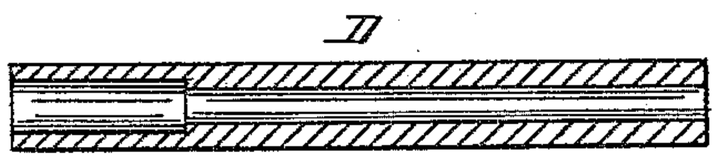


Fig. 5.



WITNESSES:

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UNITED STATES PATENT OFFICE.

NICKOLAS OLEY, OF INDIANAPOLIS, INDIANA.

PUMP-BORING MACHINE.

SPECIFICATION forming part of Letters Patent No. 356,848, dated February 1, 1887.

Application filed August 13, 1886. Serial No. 210,771. (No model.)

To all whom it may concern:

Be it known that I, NICKOLAS OLEY, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Pump-Boring Machines, of which the following is a specification.

My invention relates to machines such as are used to bore out timbers for pump-stocks; and it consists in the features of construction hereinafter described and claimed.

Figure 1 is a side view of my improved pump-boring machine; Fig. 2, a top view of the same; Fig. 3, a vertical cross-section on line *x x* on Figs. 1 and 2; Fig. 4, a vertical cross-section on line *z z* on Figs. 1 and 2; Fig. 5, a section through a pump-stock when bored out by my machine.

Similar letters refer to similar parts throughout the several views.

A is the frame-work which supports the pump-auger B, and upon which slides the carriage or frame C, that supports and holds the timber or pump-stock D.

The auger B is constructed in the usual manner, having a hollow barrel, *b*, provided with a cutter-head, *b'*, operated by a pulley and belt, *m*, and a spiral chip-removing rod, *g*, inside of the barrel *b*, operated by another pulley and belt, *n*.

The timber D is held in position on the carriage C by the supports I J, the one of which, I, toward the auger *b'*, forms a universal clamp having two separate jaws, *i i*, sliding laterally in a groove on the frame C and being operated by a clamp-screw with a wheel at one end, a fixed center between the jaws, and screw-threads cut in diverging directions from the fixed center and passing through the jaws *i i*, so that turning the wheel in one direction opens the clamp, while turning it in the other shuts the same.

The frame C is moved up to the auger B, feeding the timber to the same, by an endless screw, G, that is secured to the frame A and operated by a pulley and belt, *o*, the said screw gearing with a worm-wheel firmly attached to the sliding frame C or operating in a screw-threaded shoulder on the frame C.

The machine described so far is old. My improvements consist in the following. Instead of supporting the fore end of the auger-barrel on a fixed boxing extending up from the sliding frame C, I use a universal boxing, F—that is, one which can be disengaged from the barrel, so that it will clear the reamer H when the frame C moves up to the same. This reamer H is constructed in the following manner: A metal sleeve, *h*, is secured to the barrel *b* by means of set-screws, bolts *h'*, or the like, at a distance from the cutter-head *b'* equal to the desired length of the lower narrower tubing of the pump-stock. To the sleeve *h* are secured one or more reaming bits, knives, or cutters *h'*.

The device operates as follows: After the timber has been put in position on the supports I J, and the machine has been set in motion, the timber being fed up to the auger *b'* is bored out the diameter of the auger-bit until the reamer H is reached. From thence the timber is reamed out the diameter of said reamer H. Thus the entire pump-stock, with its small-diameter lower tubing and its large-diameter upper stock, is bored out and finished without being removed from its supports and without stopping the machine and changing the auger-bits.

To make the boring of the pump-stock as aforesaid possible, the boxing F, which supports the cutter-head *b'* of the auger-barrel, must be constructed in such a manner that it can be disengaged from the said barrel before the reamer H is reached, or, in other words, the boxing must open and pass clear of the reamer to the rear end of the auger-barrel. This is accomplished by making the boxing a universal boxing, consisting of two sidewise-opening brackets, *f f*, operated by a fixed endless screw, threaded in opposite directions from a fixed point in the center between the two brackets *f f* in the same manner as the universal clamp I, described hereinbefore; or the brackets *f f* may be hinged or pivoted to the sliding frame C in such a manner that they can be unfolded or opened when passing the reamer H.

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

The combination, with a supporting-frame, of a sliding timber-supporting frame provided with a clamp for the stock, an auger, B, provided with a cutter-head, b', the expansible boxing F, mounted on the carriage C, a sleeve, h, secured to the tube b of the auger, and cutters h', secured to said sleeve, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

NICKOLAS OLEY.

Witnesses:
CHARLES N. STANLEY,
THEODORE LANGBEIN.