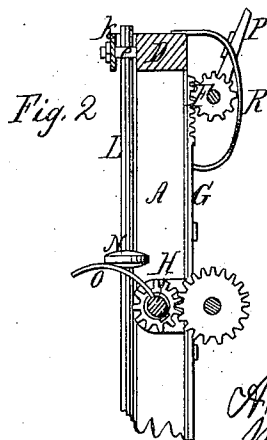
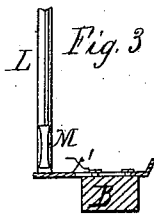
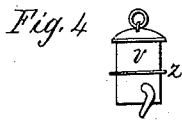
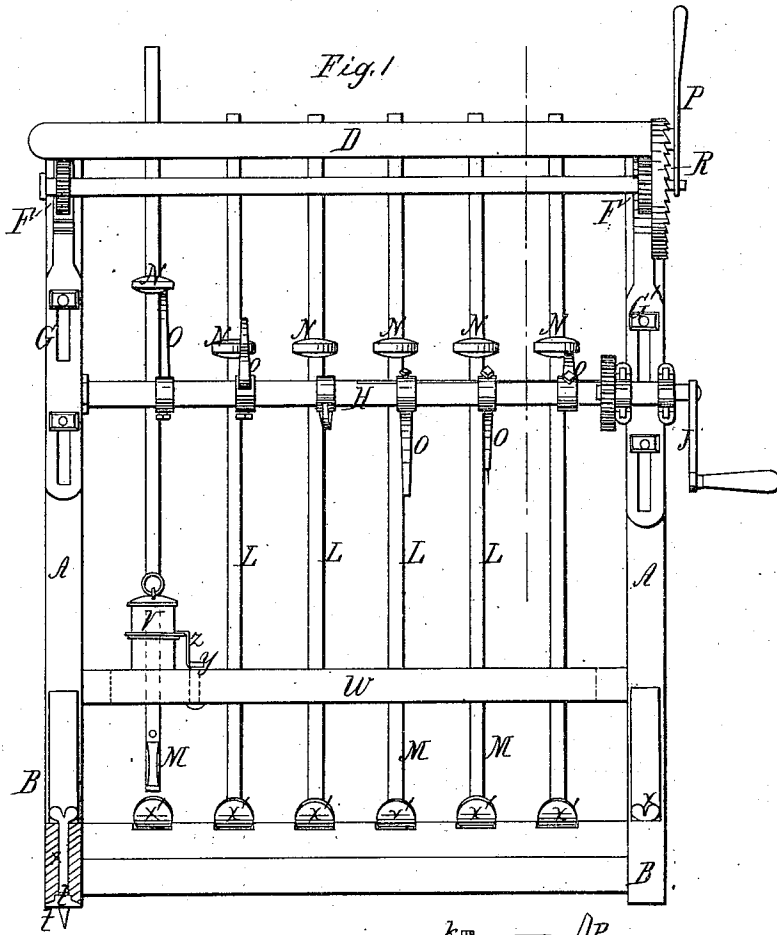


*Southard & Hobson,
Stone Drill.*

N^o 77,330.

Patented Apr. 28, 1868.



Inventor
A. M. Southard
W. J. Hobson
per
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Att'y.

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United States Patent Office.

A. M. SOUTHARD AND W. J. HOBSON, OF SAVANNAH, MISSOURI.

Letters Patent No. 77,330, dated April 28, 1868.

IMPROVED STONE-DRILLING MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, A. M. SOUTHARD and W. J. HOBSON, of Savannah, in the county of Andrew, and in the State of Missouri, have invented certain new and useful Improvements in Stone-Drilling Machines; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

In the annexed drawings, A A represent two uprights, which are erected at a suitable distance apart upon the base, B. This base is provided with a headed bolt, *x*, working through a nut at each of its four corners for the purpose of adjusting and regulating the position of the drilling-machine. The uprights and base are suitably braced together, as seen.

G G' represent two metallic plates, which are secured upon the rear faces of the standards A A, near the upper ends thereof, and are provided with rack-bars at their upper ends. These plates are slotted, as seen, and are secured to the standards A A by headed bolts, which pass through said slots, thus allowing a vertical or endwise movement of the plates up and down the standards the length of their slots.

E represents a horizontal shaft, which is secured at the upper portion of the frame by means of suitable bearings, and is provided with a cog-wheel, F F, at each end, which meshes into the rack-bar in each of the slotted plates, and also with a lever, P, for operating the same.

R represents a curved metal plate, having cog-teeth, and extending around one end of the shaft, to allow the lever to act upon, as hereinafter stated.

H represents a horizontal shaft, having its bearings on small metal plates between the uprights A A, which extend inwards from the slotted plates G G', and moves up and down whenever the plates are so moved. One end of this shaft has a pinion upon it, which meshes into a small gear-wheel upon the inner end of a short shaft having a crank-handle, J. Said shaft and cog-wheel are secured upon one of the uprights A in front of the plate G', as seen.

Upon the shaft H there is a series of curved arms, O O, having collars at their end, by which means they are attached to the shaft by set-screws. These arms are placed upon the shaft in a spiral form.

L L represents a series of vertical iron rods, with drill-teeth M M at their lower ends. These bars pass through eyes *e e*, which are secured at one side of the frame by means of nuts upon a shank, attached or forming part of them, within a slot in a bar, K, the other side of the eye resting in a groove in the bars C D of the frame. These eyes slide in their grooves and slots, and are adjustable by means of their nuts.

N N represent smooth metallic disks upon each of the rods or bars L L. These disks are so placed with reference to the shaft H as to be operated upon by the curved arms O O.

When the shaft H is revolved, the curved part of the arms O O catches under the disks N N, and raises them, with their bars, a certain distance, and after the points of the arms pass under the disks, the bars are partially rotated, and fall. The plates G G', with their shaft H, are raised and lowered by means of the shaft F with its pinions, and thus the drills M M are caused to cut deeper into the stone. The bars L L may be adjusted laterally by means of the movable eyes heretofore described.

It will be seen that the arms O O, being placed upon the shaft H in a spiral form, cause the bars L L to be raised successively, and but one at a time. The points M M can be removed for sharpening and other purposes, whenever so desired.

Upon the lower brace of the frame, between the standards, is placed a series of slotted metal plates, *x'*, which are secured by set-screws, and intended to be slid under the ends of the bars L L when the machine is to be moved, or not in use.

Upon the brace W of the frame, we place a water-can, V, opposite each of the bars L. This brace W is slotted nearly its entire length, within which slot is placed a headed bolt, Y, by which means the cans are connected to the brace, being provided with a band of wire around each one for that purpose. These cans are provided with suitable spouts, as shown in dotted lines, that project outward and then down, so as to convey the

water down the side of the drills on to the stone. A small band of thin metal is first passed around each can, and the wire afterwards wound around the tin, so as to keep the can in place and prevent it from slipping off. By means of these bolts working in the slot in the brace, the cans can be adjusted to suit the drills.

The device herein specified is an improvement upon a patent for a similar device, granted to us, September 3, 1867.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The arrangement of the cans V upon the slotted brace W, by the bands z and bolts y, for adjusting the same to operate with bars L L, as set forth.
2. The slotted plates x' x', when constructed and used in combination with the bars L L, for the purposes described.

In testimony that we claim the foregoing, we have hereunto set our hands, this 2d day of December, 1867.

A. M. SOUTHARD,
W. J. HOBSON.

Witnesses:

C. M. ALEXANDER,
J. M. MASON.