F. A. GRANT & W. P. CROUCH.

STONE DRILLING AND DRESSING MACHINE.

No. 176,132 Patented April 18, 1876.

Fig. 1.

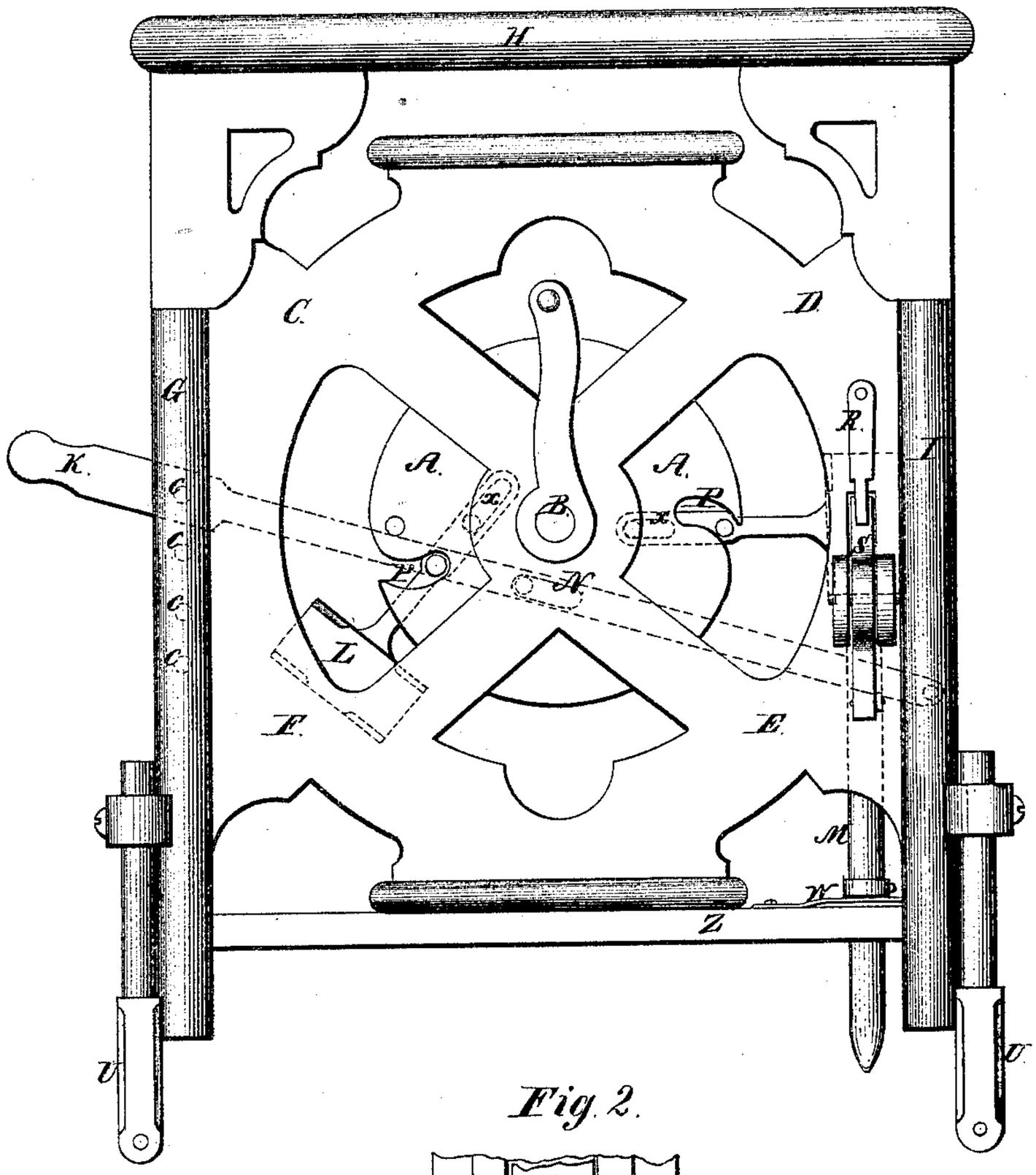


Fig. 2.

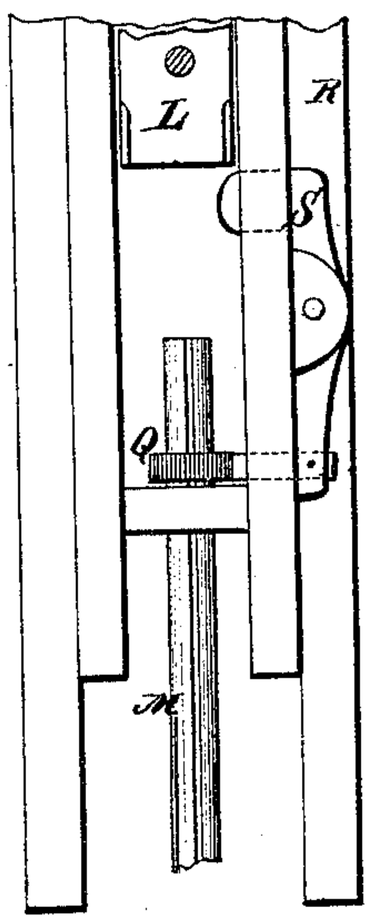


Fig. 3.

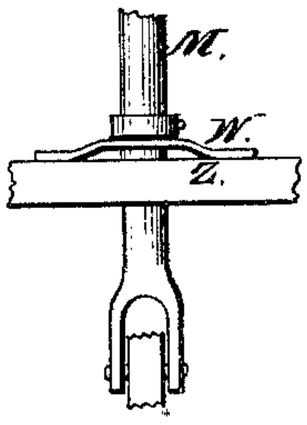


Fig. 4.

Fig. 5

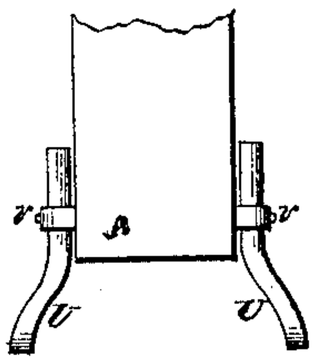
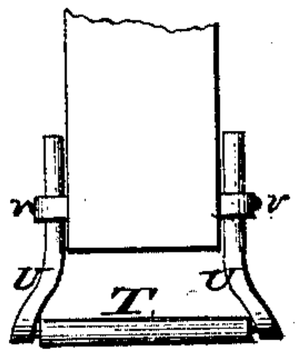


Fig. 6.



Witnesses.

Jim M. Amoss

John U. Pettit

Inventor.

Frederick A. Grant.

William P. Crouch.

UNITED STATES PATENT OFFICE.

FREDERICK A. GRANT AND WILLIAM P. CROUCH, OF WABASH, INDIANA.

IMPROVEMENT IN STONE DRILLING AND DRESSING MACHINES.

Specification forming part of Letters Patent No. **176,132**, dated April 18, 1876; application filed September 1, 1875.

To all whom it may concern:

Be it known that we, FREDERICK A. GRANT and WILLIAM P. CROUCH, of Wabash, in the county of Wabash and State of Indiana, have invented certain Improvements in Drilling and Dressing Stone, of which the following is a specification:

The purpose of our invention is in a new and useful way to drill or dress stone.

The force producing the effect is in the revolution of the wheel A A on the axis B, by hand or any other force. This wheel is set solidly in the inside frame C D E F, so accommodated in the external frame G H I that the inside frame containing the wheel can be lowered or lifted along the sides G H I by the lever K, on which the inside frame is suspended. Thus, as the work goes on, the adjustment of the blows of the hammers to the drill or dresser is accomplished by that lever lifting or lowering the inside frame which moves up and down the sides G H I of the external frame. Its elevation depends on the slip of the slot N and the pins *c c c c*.

The wheel A A on the axis B is made of two parallel sides, with sufficient spaces between, and no more, for the hammers to rise and fall. Between these sides, and between the axis and circumference of the wheel A A, one or more hammers L L are attached eccentrically, so as to be moved forward with the revolution of the wheel. The attachment of the hammers is by a slot, X X, allowing a play of the hammers backward and forward by the slot. This contrivance controls and directs the fall of the hammer exactly on the drill or dresser. M represents the drill or dresser, which plays free up and down in a shank, Z, which is part of the inside frame. As the wheel A A revolves the hammers L L are thrown forward by a blow on the head of the drill or dresser M. In the circumference of the wheel A A slots P P are cut, according to the number of hammers. As the hammer recoils from the blow, the revolution continuing, the hammer retires by the slot till it falls off the drill or dresser, and then goes forward in the continuing revolution.

Figure 1 represents the several parts above described.

To make the drill effective in drilling stone, it must be turned at every blow. This is done by means of the ratchet Q on the drill, as shown in Fig. 2, which ratchet is turned by the pendulum S, governed by the spring R, every blow of the hammer L striking the pendulum, and, by its action, throwing the pendulum forward, the pendulum returning to its place, after the hammer passes, by the force of the spring.

When the dresser is used, a spring, W, working with straddles, as shown in Figs. 3 and 4, is fixed onto the shank Z, so that at each blow the recoil of the spring will lift the dresser from the face of the stone.

The machine stands on the legs U U U U, as shown in Figs. 5 and 6, in loops, so that they may be set up or down to accommodate the machine to the surface of the stone, and then held in place by the screws V V V V.

When the dressers are used, rollers T T, as shown in Fig. 5, are fixed into the legs, so as to move it freely over the surface of the stone.

We claim as our invention—

1. The wheel with parallel sides, but with sufficient space between, and no more, with hammer attached, to allow the rise and fall of the hammer, substantially as and for the purpose hereinbefore set forth.

2. The attachment of the hammer to the revolving wheel eccentrically, and so as to be moved back and forth by the slots X X, substantially as and for the purpose set forth.

3. The revolution of the drill or dresser at the blow of the hammer, by the use of the pendulum and spring, substantially as and for the purpose set forth.

4. The combination of the several parts into a machine, substantially as and for the uses and purposes set forth.

FREDERICK A. GRANT.
WILLIAM P. CROUCH.

Witnesses:
N. D. MYERS,
J. P. ROSS.