

J. FINN.

Machines for Molding the Edges of Marble Slabs.

No. 138,079.

Patented April 22, 1873.

Fig. 1

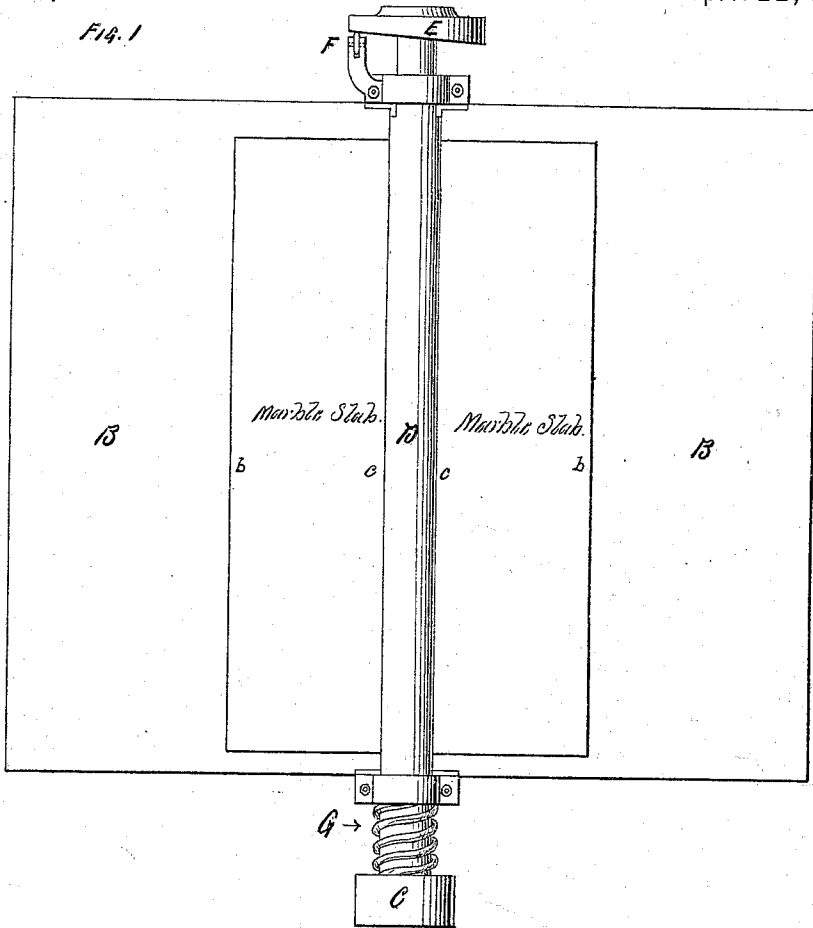
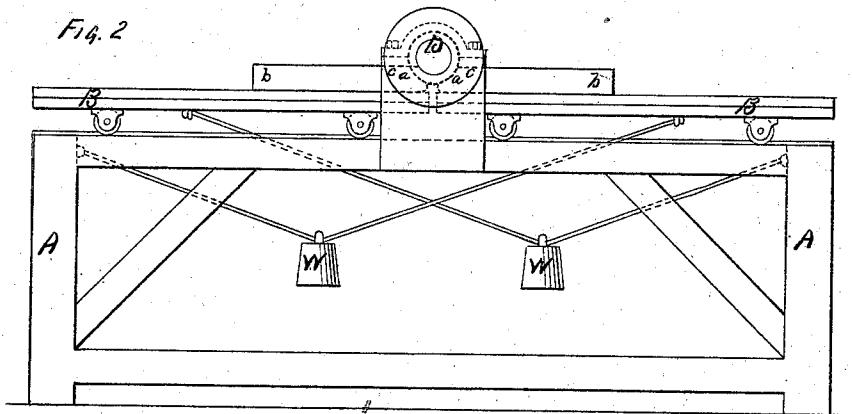


Fig. 2



WITNESSES.

Samuel Wells
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JAMES FINN, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR MOLDING THE EDGES OF MARBLE SLABS.

Specification forming part of Letters Patent No. **138,079**, dated April 22, 1873; application filed May 2, 1872.

To all whom it may concern:

Be it known that I, JAMES FINN, of Boston, in the county of Suffolk and Commonwealth of Massachusetts, have invented a Machine for Molding the Edges of Marble Slabs, of which the following is a specification:

My invention relates to a combination of a rapid rotating and reciprocating shaft with a table on which to lay the marble slabs, which table is made movable so as to press the edges of the marble slabs against the revolving shaft; the object of this invention being to cut an edge-molding on the whole of one edge of each of two slabs of marble at one time.

Figure 1 is a horizontal plan of a machine embodying my invention. Fig. 2 is a vertical plan of the same.

A is the frame of the machine, which frame should be substantially constructed to resist the vibrations liable to be produced by the rapid movements of the shaft. B B are tables, placed one on each side of the shaft D, and resting on rollers, which run on the cross-pieces of the frame. W W are weights hung by ropes. One end of each rope is fastened to the frame, and the other end to one of the tables. The size and number of the weights must be varied according to the amount of pressure required between the marble and the shaft. C is the driving-pulley, communicating a rotary motion to the shaft D. On the opposite end of the shaft is a face-cam, E, pressing against a roller, F, which is fixed to the frame. A spring, G, keeps the cam against the roller.

If it is desirable to lessen the number of reciprocating movements in proportion to the rotary, the cam may be placed on a separate bearing, and revolved at a less rate of speed than the shaft D, against the end of which it can play.

The shaft D should be about two and one-half inches in diameter, and about five feet eight inches long, preferably of wrought-iron, and should revolve about three hundred times a minute, with a reciprocating motion of one-half an inch, or thereabout.

In operating this machine a marble slab is laid upon the table B, on one side of the shaft D; and at the same time, if it is desired to operate on two slabs at once, another slab is laid on the table B on the other side of the shaft

D. The weights W W then press both slabs against the shaft D, on which is fed fine sand and water. The shaft D, with the aid of the sand and water, cuts a groove in the edge of the slabs, as shown at *a* on Fig. 2. When the groove is sufficiently deep the slabs may be drawn back, raised up at the edge *b* by wedges or other equivalent devices, and pressed against the shaft again, when the sharp edge left on the top by the first cut is rounded off. By drawing back the slab again, and raising the edge *c*, and pressing the sharp edge at the lower part of the cut against the shaft, the lower edge will be rounded off, and thus a complete molded edge or ogee can be formed, ready for polishing.

In the ordinary cutting-machines, in which the marble traverses before the cutter, the edge must be rubbed with fine sand by hand before polishing; but in my machine the molded edge is not only cut, but rubbed with fine sand at the same time, and is ready for polishing when taken off the table.

I make no claim to a longitudinally-reciprocating and rotary grinding-cylinder. Nor do I claim a marble-grinder made as described in the United States Patent No. 58,852, dated October 16, 1866, and granted to J. W. Haley, as that machine has but one table for supporting the slab of marble; and such table is inclined to the horizon, so as to support the slab in an inclined position, and cause it to descend by its own gravity toward the grinding-cylinder. It will be evident that with such a machine a slab cannot be supported horizontally and moved by gravity or any mechanism up to the grinding-cylinder, as in my machine; also, that only one slab can be channeled at a time; whereas with my machine, having two carriages and a single grinder, and mechanism for automatically moving the carriages toward the grinder, two slabs may be molded at one and the same time with one grinder while it may be in revolution. Furthermore, it will be seen that for a slab of marble to descend in an inclined plane by the action of gravity alone the plane must be very much inclined, as the friction of the slab on the plane is very great. Therefore the advantage of a horizontally-moving carriage or table, supported by friction rollers or wheels resting on the main ta-

ble, will be apparent. Nor do I claim rotary disk-cutters and movable tables, arranged and combined together, and with a frame, as shown in the United States Patent No. 53,845 to J. W. Maloy. Nor do I claim a movable platform and rotary disk or molding cutters, arranged as shown in Hiram L. Houghton's rejected application, withdrawn December 6, 1855. I do not make use of rotary wheel or disk cutters, but employ a grinding-cylinder, to cut at once or act against the entire length of a stone to be molded.

I therefore claim—

In the marble-grooving machine described, the combination of the longitudinally-reciprocating and rotary grinding-cylinder D with a single horizontal carriage, B, and mechanism, as described, for automatically moving such carriage toward the grinder while the latter may be in operation.

JAMES FINN.

Witnesses:

SAMUEL WELLS,
JOHN S. GANNETT.