(No Model.)

S. S. MARSHALL.

SLATE GRINDING OR DRESSING MACHINE.

No. 376,537. Patented Jan. 17, 1888.

Fig. 1.

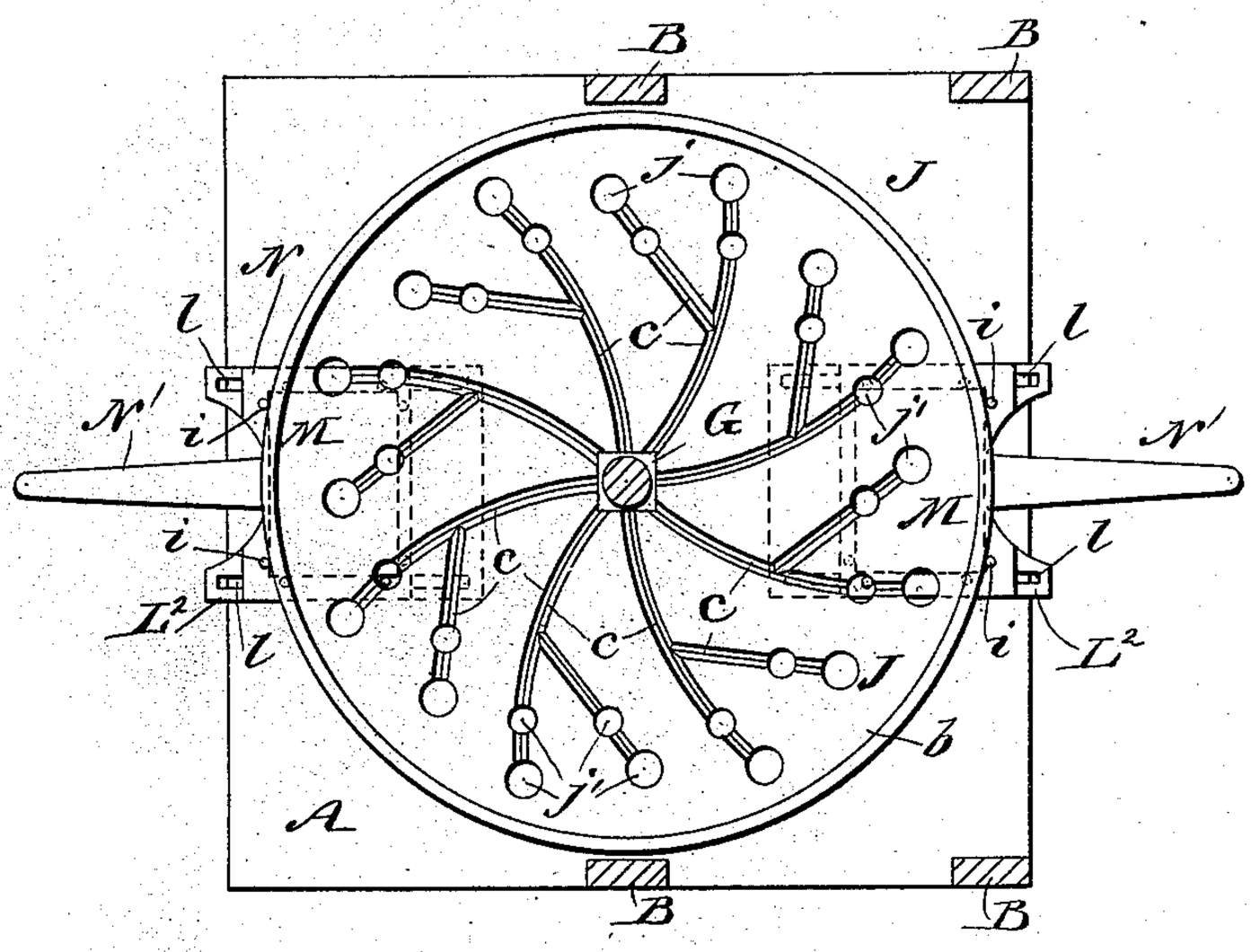
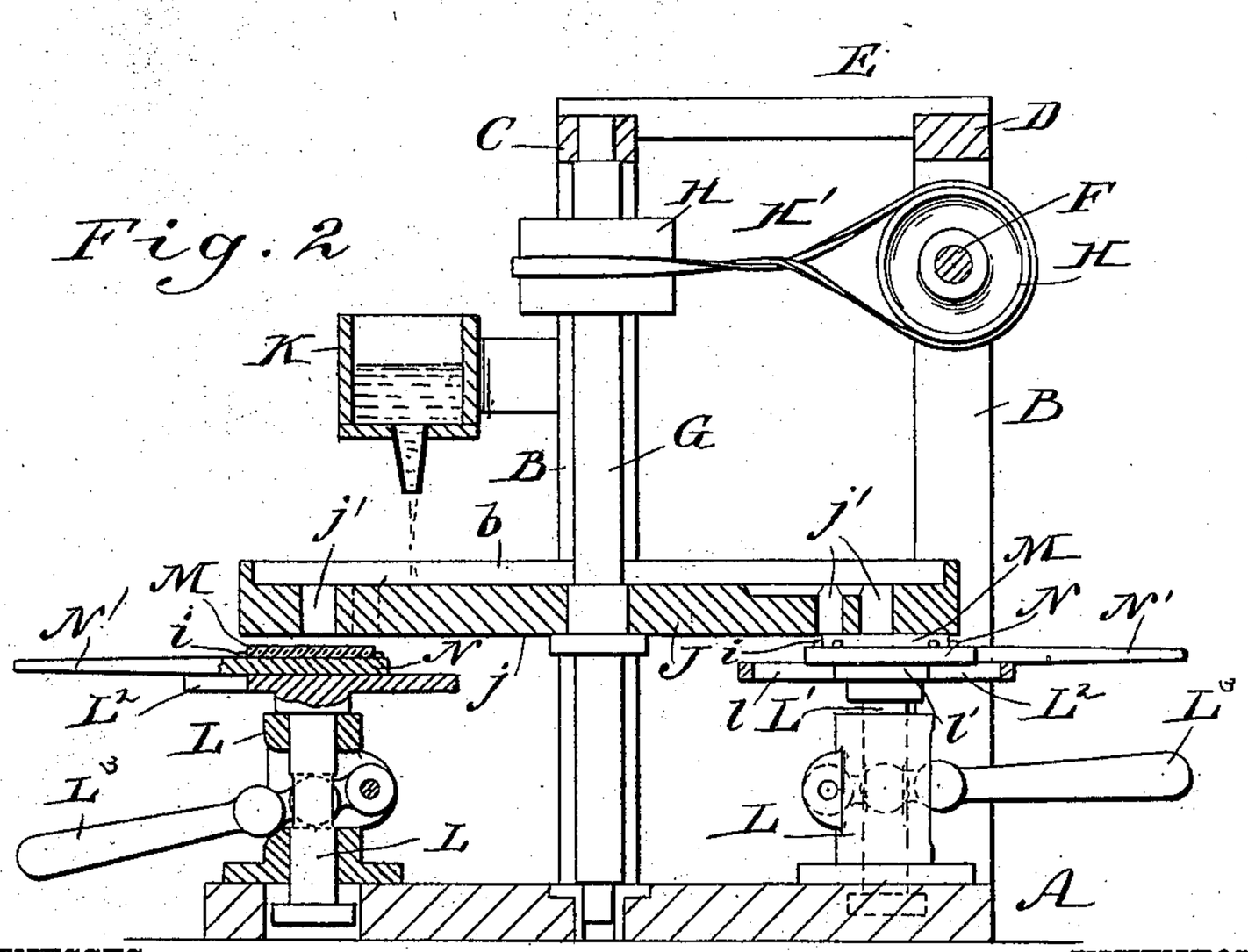


Fig. 2.



WITNESSES:

John W. Dermody

C. Sedgwick

INVENTOR:

S. S. Marshall

BY Munn & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

SAMUEL S. MARSHALL, OF SLATINGTON, PENNSYLVANIA.

SLATE GRINDING OR DRESSING MACHINE.

SPECIFICATION forming part of Letters Patent No. 376,537, dated January 17, 1888.

Application filed January 4, 1887. Serial No. 223,386. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL S. MARSHALL, of Slatington, in the county of Lehigh and State of Pennsylvania, have invented a new and Improved Slate Grinding or Dressing Machine, of which the following is a full, clear, and exact description.

The object of my invention is to provide a practical machine for grinding school and other slates; and the invention consists of the construction, arrangement, and combination of parts, all as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both figures.

Figure 1 is a sectional plan view, and Fig. 2 is a sectional elevation, of the machine.

A represents the base of the frame of the machine, from which rise four posts or uprights, B, joined at their upper ends by the cross-pieces C D E. Journaled in the two outer posts, B, is the horizontal shaft F, which communicates motion to a vertical shaft, G, by means of the pulleys H H and the belt H'. Secured upon the vertical shaft G is the large wheel J, preferably of cast-iron. This wheel J has a flat grinding-surface, *j*, and has numerous passages, *j' j'*, made through it for the passage of sand and water admitted to the wheel from the tank K. A flange, *b*, is formed upon or attached to the periphery of the wheel J, to prevent the sand and water from being thrown off from the wheel by centrifugal force, and channels *c c* are formed in the upper surface of the wheel for distributing the sand and water to the different passages *j'*. Beneath the wheel J are placed numerous hollow standards L, only two being shown in the drawings; but there may be as many as can be placed around the wheel, the number varying according to the size of slates intended to be ground. In each standard L is placed a vertically-movable shaft or rod, L', to the upper end of which is attached a table, L^2, and the rods L' are adapted to be moved vertically by levers L^3 for moving the tables L^2 to and from the wheel J. The slates M to be ground are held upon removable plates N, each provided with a handle, N', the plates N being adapted to be placed upon the tables L^2, as shown in Fig. 2. The tables L^2 are formed with slots *l* and the plates N with lugs or ribs *l'*, to fit in said slots, so that they may be retained securely upon the tables against the friction of the wheel, and also moved back and forth radially to the wheel J by the handles N, and pins or other holding devices *i* are fitted in the plates N for holding the pieces of slate M securely upon the plates.

In operation the wheel J is set in motion, sand and water admitted from the tank K, and the plates N, with slates M, are placed upon the tables L^2, which are raised by levers L^3 to hold the slates in contact with the wheel. The plates N are then reciprocated slowly by the handles N', which movement increases the grinding action of the wheel J, and the pressure may be increased or diminished, as required, for the best result.

By constructing the machine in the manner described the slates are not only rapidly reduced, but many can be ground at the same time by the same wheel, there being an attendant for each slate-support around the wheel.

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

1. The grinding-wheel J, formed with a peripheral flange, *b*, and formed with the passages *j'*, and the vertically-movable rods L' beneath the wheel J, provided with the supports or tables L^2 at their upper ends, in combination with the plates N, held upon the tables L^2 in guides radial to the wheel J, substantially as described.

2. The combination, with the grinding-wheel J, the rods L' and L^3, for lifting the same, and the tables L^2, held upon the said rods and formed with slots *l*, of the plates N, formed with handles N', and with the ribs *l'*, to enter the slots *l*, substantially as described.

SAMUEL S. MARSHALL.

Witnesses:
O. A. NEFF,
W. J. ROBERTS.