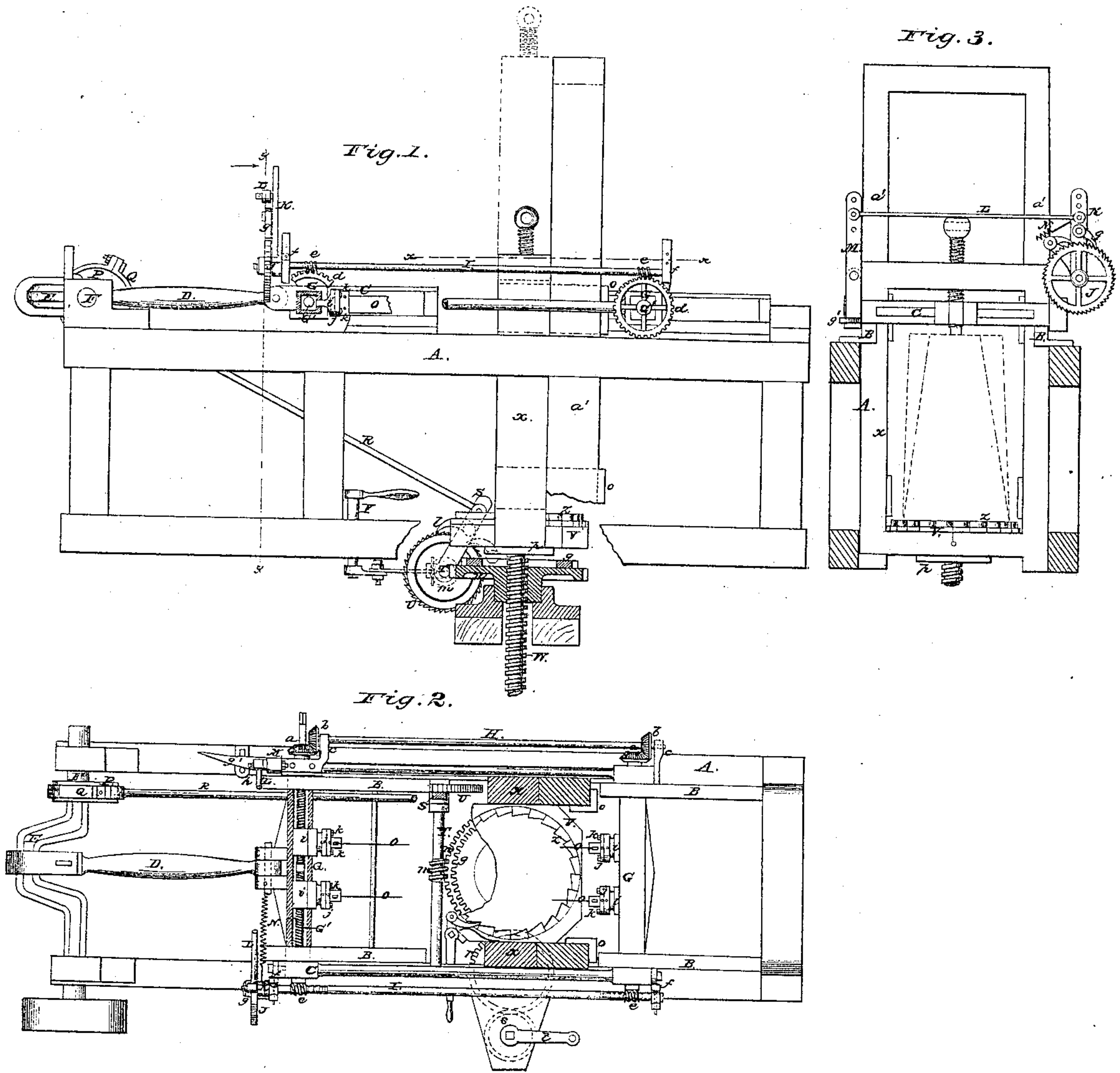


Noette & Schmidt,

Sawing Stone.

N^o 13,829.

Patented Nov. 20, 1855.



UNITED STATES PATENT OFFICE.

F. NOETTE AND A. SCHMIDT, OF BROOKLYN, NEW YORK.

MARBLE-SAWING MACHINE.

Specification of Letters Patent No. 13,829, dated November 20, 1855.

To all whom it may concern:

Be it known that we, F. NOETTE and A. SCHMIDT, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Machine for Sawing Marble Blocks in Polygonal Taper Form; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a side view of the frame of our improved machine, the working parts being bisected through their centers. Fig. 2, is a horizontal section of ditto, (*x*) (*x*) Fig. 1, showing the plane of section. Fig. 3, is a transverse vertical section of ditto, (*y*) (*y*) Fig. 1, showing the plane of section.

Similar letters of reference indicate corresponding parts in the several figures.

A, represents a rectangular frame on the upper part of which guides B, are secured in which a horizontal saw frame C, works. This saw frame is operated by a pitman D, which is connected to one end of the saw frame C, and a crank E, on a shaft F, which works in suitable bearings at one end of the frame A, see Figs. 1 and 2. In the end pieces G, of the frame C, there are placed rods G', which have right and left screw threads cut upon them, the thread at one end of the rods being cut reverse to those on the opposite ends, see Fig. 2, in which one of the end pieces of the saw frame is bisected horizontally. The rods G', have bevel pinions (*a*) on one end, which pinions gear into corresponding pinions (*b*) on the ends of a shaft H, which works in bearings (*c*) attached to the saw frame G, see Fig. 2. The opposite ends of the rods G', have worm wheels (*d*) (*d*) attached to them, into which screws (*e*) (*e*) gear, said screws being upon a shaft I, which works in suitable bearings (*f*) (*f*) attached to the saw frame. One end of the shaft I, has a ratchet J, attached to it, into which ratchet a pawl (*g*) catches said pawl being attached to a lever K, through the lower end of which the shaft I, passes. The upper end of the lever K, is attached to the end of a rod L. The opposite end of the rod L, is attached to a lever M, at the opposite side of the saw frame C. The lever M, has a horizontal projection (*g'*) at its lower end, the outer end of which projection is rounded or beveled as shown in Fig.

2. The rod L, is broken in Fig. 2, but is shown entire in Fig. 3. A pin *h*, is attached to the upper part of the framing A, against which pin the projection (*g'*) strikes as the saw frame C, is operated as will be presently described.

N, is a spiral spring one end of which is attached to the lever K, and the opposite end to the saw frame C, as shown in Fig. 2.

O, O, are saws which are placed in the saw frame C, the ends of these saws are attached to nuts (*i*) which work on the screw threads cut on the rods G', a nut on each screw thread. The saws are not attached directly to the nuts but to plates (*j*) which are secured to the ends of the nuts by screws (*k*) see Fig. 2, by adjusting these plates to the nut in the desired position the cutting edges of the saws O, O, may be inclined either outward or inward to suit the taper direction or form in which the block of marble is to be sawed.

To one end of the shaft F, there is attached an eccentric P, around which a strap Q, is fitted said strap being attached to a rod R, the lower end of which is connected to a lever S, which works loosely on a shaft T, at the lower part of the frame A. This shaft T, has a ratchet U, at its end, and a pawl (*l*) attached to the lever S, catches into the ratchet U. The shaft T, also has a screw (*m*) upon it, which screw gears into a worm wheel (*n*) which is fitted upon a screw rod W, attached to the lower part of the frame A. V, is a bed which has a frame X, attached to it, said frame X, being allowed to slide by means of guides (*o*) on uprights (*a'*) (*a'*) attached to the frame A. The bed V, has a plate (*p*) attached to its under surface against which the upper end of the screw rod W, bears.

To the upper surface of the worm wheel (*n*) a toothed wheel (*q*) is attached, and a toothed wheel (*r*) gears into the wheel (*q*) and a pinion (*s*) gears into the wheel (*r*) see dotted lines Fig. 2. The axis of the pinion (*s*) has a crank (*t*) attached to it.

The bearings of the shaft T, are allowed to slide in the frame A, and levers Y, Y, see Fig. 1, are attached to said bearings by operating which the screw (*m*) on the shaft T, may be thrown in and out of gear with the worm wheel (*n*).

On the bed V, a wheel Z, is placed having ratchet teeth cut in its periphery.

Operation: The block of marble to be sawed is placed upright on the wheel Z, see dotted lines Fig. 3, and is secured in proper position by means of a screw rod A', or
5 clamped within the frame X, in any proper manner. The lower or cutting edges of the saws O, O, are then set outward to correspond to the taper designed to be given the sides of the block. Motion is then given
10 the driving shaft F, in any proper manner and a reciprocating motion is communicated to the saw frame C, by the pitman D, and crank E. As the saw frame C, vibrates the saws cut the block of marble from its top
15 end downward, and at each stroke of the saw frame the screw rods G', are turned in consequence of the projection (g') at the lower end of the lever M, striking the pin (h) and the nuts (i) on the rods will be
20 thrown or moved farther apart at every stroke of the saw frame, so that the block will be sawed in taper form, the diameter of the block increasing gradually from its upper to its lower end. The block is fed
25 upward to the saws as the saws cut, by means of the worm wheel (n) which as it turns moves upward the screw rod W, and as the upper end of the screw rod bears against the bed V, the bed and the frame X,
30 will of course be raised and also the block of marble. The worm wheel (n) is turned by the screw (m) on the shaft T, the shaft being turned the requisite distance at each

stroke of the saw frame C, by means of the ratchet U, pawl (l), rod R, and eccentric P. 35

When the sides of the block are sawed, the block is run down below the saws by turning the crank (t) the wheel Z, on which the block rests turned and the remaining
40 sides sawed, square, hexagonal or any many sided form may be given the block. The degree of taper, or the "quickness", of the taper may be regulated by changing the fulcrum of the lever M.

The above machine is designed chiefly for
45 sawing marble spires for monuments and is intended to supersede hand labor. The machine will work rapidly and well and a block of any polygonal or many sided form may be sawed without removing the block
50 from the machine, from the time it is commenced until it is finished.

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

The combination and arrangement of the above described devices, when the same are
60 all arranged and operated in the precise manner and for the purpose above described and not otherwise.

F. NOETTE.
A. SCHMIDT.

Witnesses:

J. G. MASON,
WM. TUSCH.