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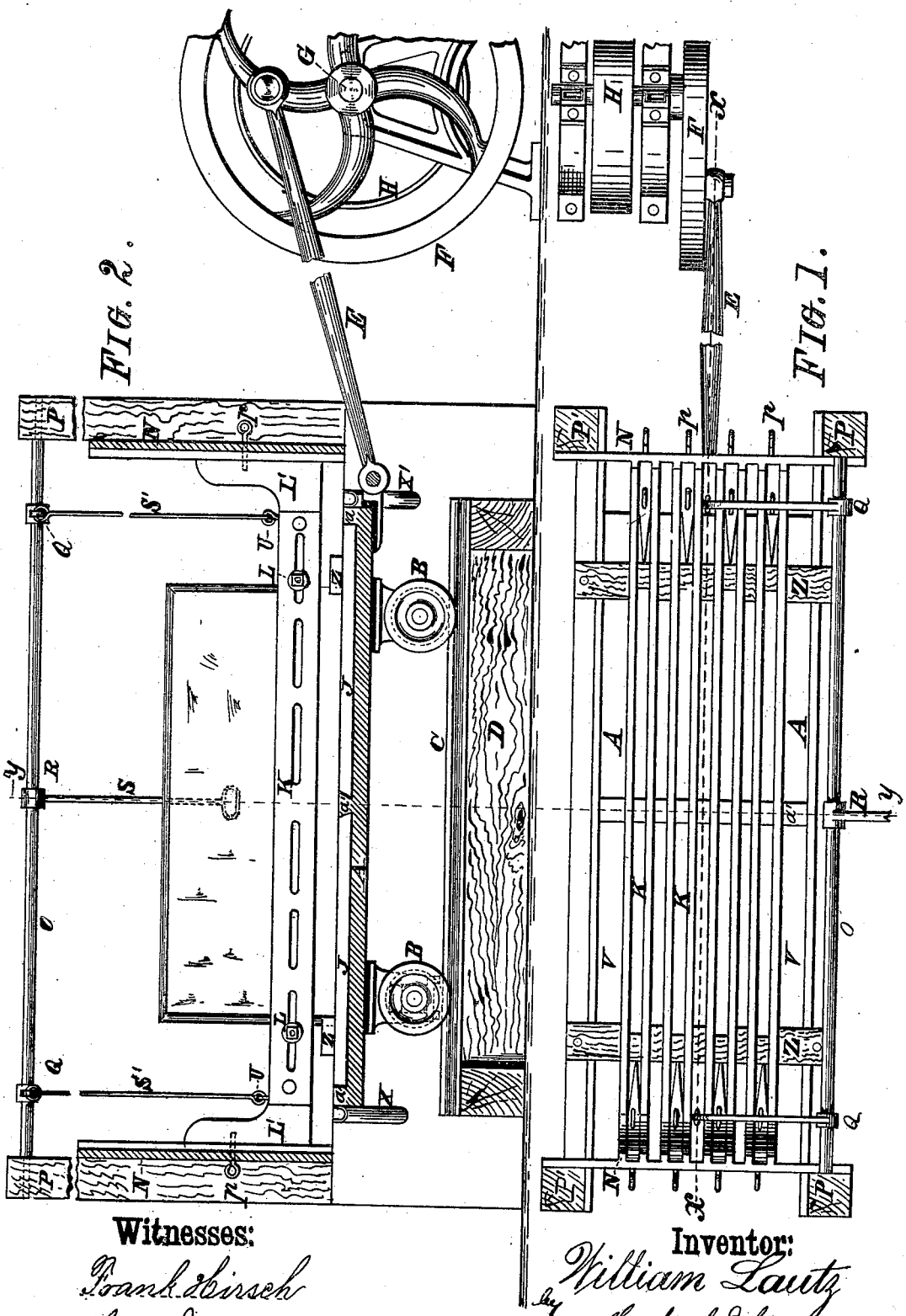
W. LAUTZ.

Marble-Molding Machine.

No. 211,631. Patented Jan. 28, 1879.



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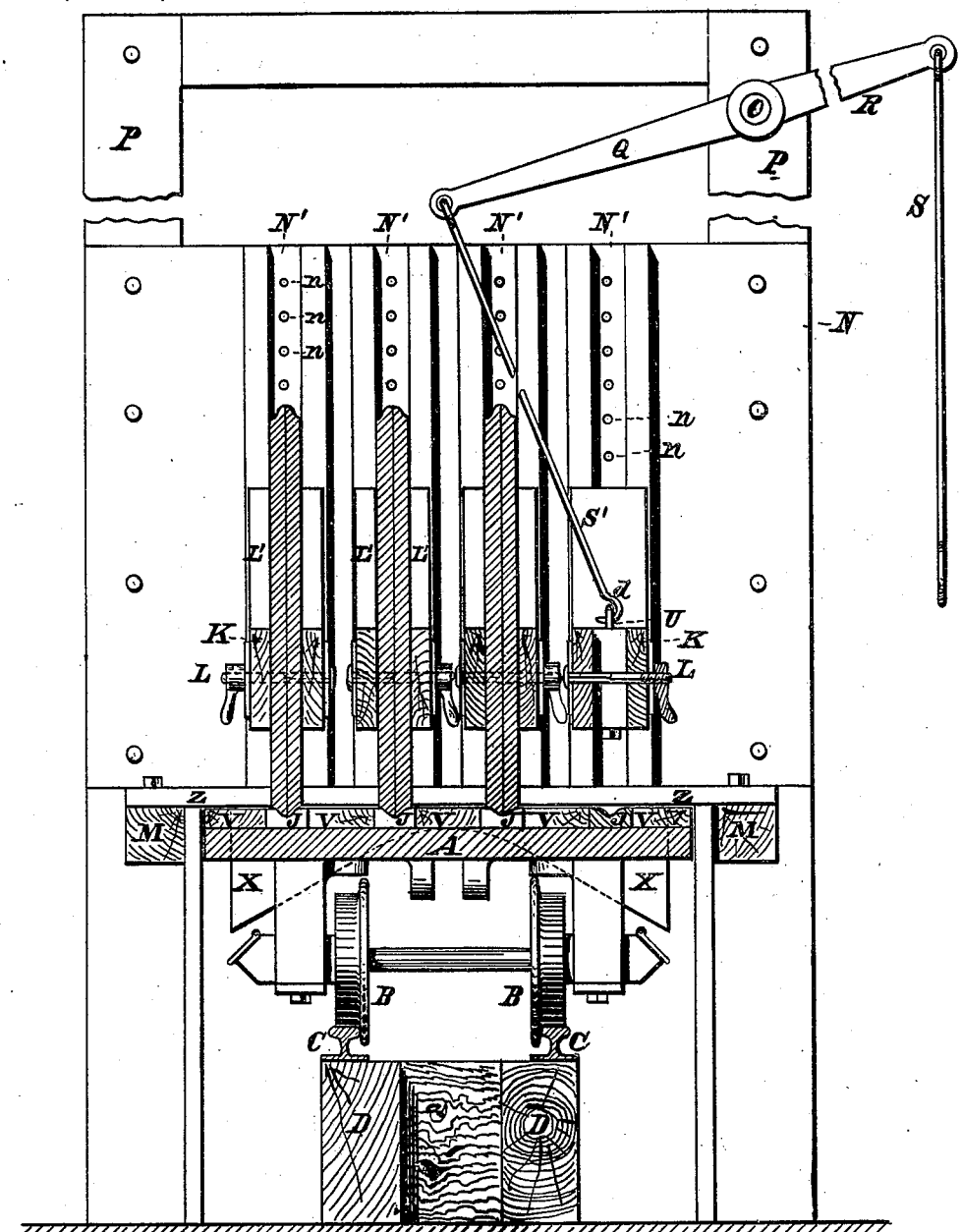

FIG. 3.

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3 Sheets—Sheet 3.

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FIG. 4.

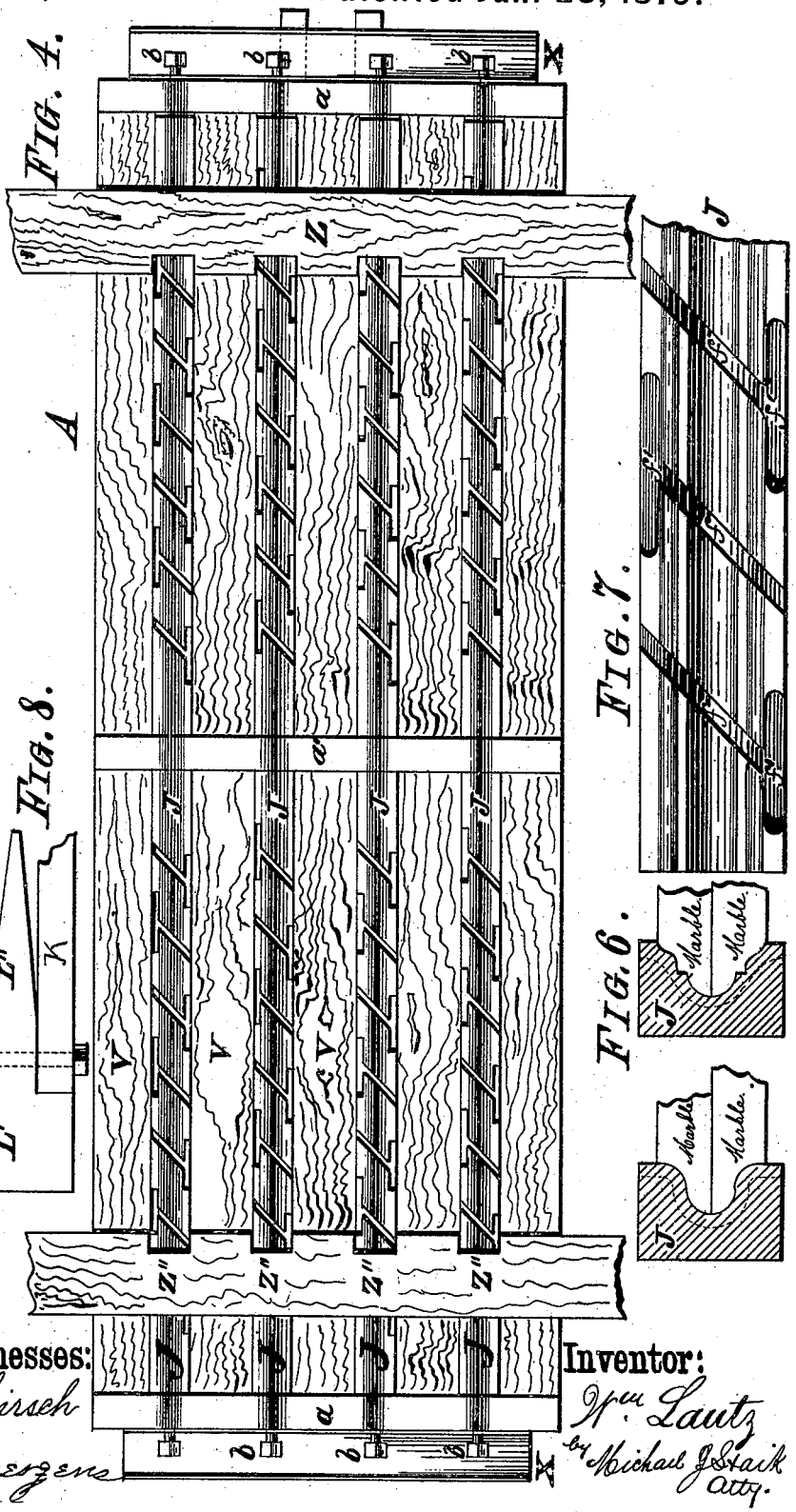

FIG. 5.

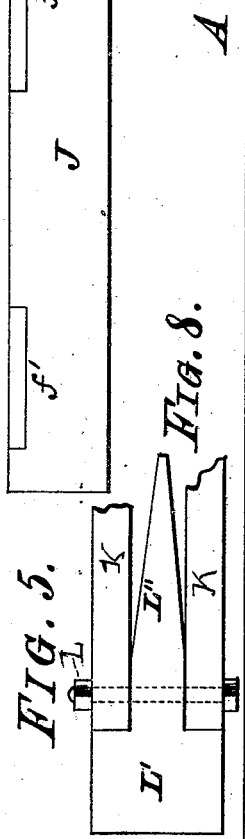

FIG. 8.

FIG. 7.

FIG. 6.

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UNITED STATES PATENT OFFICE.

WILLIAM LAUTZ, OF BUFFALO, NEW YORK.

IMPROVEMENT IN MARBLE-MOLDING MACHINES.

Specification forming part of Letters Patent No. **211,631**, dated January 28, 1879; application filed August 8, 1878.

To all whom it may concern:

Be it known that I, WILLIAM LAUTZ, of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements on a Machine for Producing Moldings on Marble, &c.; and I do hereby declare that the following description of my said invention, taken in connection with the accompanying sheet of drawings, forms a full, clear, and exact specification, which will enable others skilled in the art to which it appertains to make and use the same.

This invention has special reference to a novel method and machinery for producing moldings on the edges of marble, granite, slate, slabs, &c.; and it consists in the peculiar arrangement of parts and details of construction, as hereinafter first fully set forth and described, and then pointed out in the claims.

In the drawings hereinbefore mentioned, Figure 1 is a plan of my machine for making moldings. Fig. 2 is a longitudinal sectional elevation in line *v v* of Fig. 1. Fig. 3 is a transverse sectional elevation in line *y y* of Figs. 1 and 2. Fig. 4 is a plan of the reciprocating table. Fig. 5 is a side elevation; Fig. 6, end views, and Fig. 7 a plan, of a fragment of the molding-bars. Fig. 8 is a sectional plan of a part of the slab-retainers.

Like letters of reference indicate corresponding parts in all the figures.

Heretofore moldings on marble, granite, slate, &c., have been produced in various manners, one method being to chip the edges of the slabs as near the required form as can be accomplished by the chisel and hammer, then filing the same, and lastly polishing the surfaces, while a small portion is made by a revolving diamond cutter, in the same manner as moldings are produced in wood. Both these methods are too expensive and slow, while the latter does not admit of producing moldings on slabs having sharp corners, owing to the fact that the revolving cutter breaks the corners away.

To overcome these objections, which is the object of my present device, I construct my machine as illustrated in the accompanying sheets of drawings, in which the letter A represents a metallic table mounted upon wheels B, the latter being arranged to run upon rails C, secured to a suitable foundation, D. This table I reciprocate by means of a connecting-rod, E, from a crank-wheel, F, fixed upon a shaft, G, the latter being rotated by the pulley H in any manner from a suitable motor.

The table A has on its ends and in its center transverse ribs or projections *a a' a*, respectively, between which are secured a series of molding-bars, J, the center rib, *a'*, being dovetailed, and the end ribs, *a*, provided with set-screws *b* for this purpose. These molding-bars J, which are placed a suitable distance apart, care being taken to adjust them parallel with the line of motion of the table A, have in their faces depressions or gutters corresponding to the contour of the molding to be produced, different forms being illustrated in Fig. 6, said gutters being generally of such contour as to produce the desired molding *in duplo*.

Two of the slabs to be provided with moldings on their edges are placed together with their plane surfaces, and then put upon the molding-bars J in a vertical position, the slabs being clamped within adjustable retainers K by means of clamping-screws L.

The retainers consist of two planks of proper width, placed a suitable distance apart upon end pieces L', which latter work in grooves N' in the end boards N, and they serve to keep the slabs in proper position upon the table A. The end pieces L' are tapered at L'', as illustrated in Fig. 8, so as to allow the planks being drawn together, and thus to hold the two slabs in close contact.

To elevate the retainers K, and with them the marble, &c., slabs, I have placed a shaft, O, between the upright or posts P, and provided the same with two levers, Q, and an operating-lever, R, the latter being provided with a hand-rod, S, and the former with connecting-rods S' S', respectively. These latter rods have hooks *d*, engaging eyes U, placed into the retainers K.

By making connection with the rods S' S' and any one of the retainers K, and then pulling the hand-rod S, said retainer is elevated in a manner readily comprehended.

In order to arrest the retainers in any desired position, the end boards N are provided with a series of rows of apertures, *n*, corre-

sponding in number with that of the retainers employed. Through these apertures are passed pins *p*, which engage with apertures in the end pieces L′, and thus accomplish the desired result in a speedy and inexpensive manner.

The molding on the slabs is produced by rubbing with sand; and to deliver the latter into the gutters in the molding-bars J these are provided with obliquely-arranged channels *f*, each of which having a longitudinal chamber, *f′*, wherein the sand is thrown when the machine is in operation.

To feed the sand with each stroke of the table the chambers alternate, one being on one side and the other on the opposite side of the molding-bar J, so that when traveling in a forward direction one set will force in sand, while, when returning, the alternate set will cause the delivery.

It is evident that water is used as a vehicle to convey the sand to its proper place and assist in the reducing or abrading process, and in order to avoid an accumulation thereof on the top of the table A the interstices between the molding-bars J are filled with boards, as shown in Figs. 3 and 4, while, to prevent the sand, &c., from accumulating upon the rails C, the ends of the table A are provided with gutters X X, which lead the waste products to the sides of said railing.

To steady the slabs endwise and prevent their moving longitudinally with the table, I place transverse pieces Z on the top of said table, which pieces have notches Z″, Fig. 4, engaging said slabs. These transverse pieces are removably fixed to longitudinal timbers M to accommodate different lengths of slabs between them.

It will be readily observed that when the table A is reciprocated by the mechanism hereinbefore described or any other suitable device, and supplied with the proper material, the edges of the slabs will readily be ground away to assume the contour of the gutter in the molding-bar, and that any and all the various kinds of moldings may be produced upon this machine by the use of properly-shaped molding-bars J.

In the drawings I have illustrated a table having four molding-ways, which will accommodate eight slabs at a time. A larger or smaller number may, however, be employed without departing from the nature of my invention. In fact the capacity of this machine is only limited by its length and width.

I have furthermore illustrated molding-bars having the contour of the molding to be produced *in duplo*, and thus capable of producing similar moldings on two slabs at a time, which I prefer, because it serves to keep the slabs in the center of the gutters, and thus wears them evenly. One single slab may, however, be operated upon by shaping the bar J accordingly.

The characteristic feature of slabs, wainscoting, &c., of marble, slate, &c., having their moldings produced by abrasion or attrition, is that the molding consists, as it were, of a large number of lines running exactly parallel with one another.

Having thus fully described my invention, I claim as new and desire to secure to me by Letters Patent of the United States—

1. The method of producing moldings on two slabs at a time, which consists in clamping the two slabs together, with their faces toward each other, and subjecting the edges thereof to the action of attrition or molding-bars having the contour of the molding to be produced on a single slab *in duplo* and in reverse, the line of parting of the two slabs being in the center of said molding-bar, as and for the object stated.

2. The table A, having the series of removable molding-bars J placed side by side and retained thereupon by the end screws *b*, as and for the purpose specified.

3. The table A, having the series of removable molding-bars J and the filling-in pieces V, as described.

4. The combination, with the table A, having the ribs *a a′ a*, of the bars J, secured to said table by the dovetailed rib *a′* and the set-screws *b*, as described.

5. The combination, with the table A, having the molding-bars J, of the retainers K, as mentioned.

6. The table A, having the series of removable molding-bars J, attached by the ribs *a a′* and screws *b*, in combination with the filling-in pieces V and gutters X, as and for the object specified.

7. The combination, with the series of retainers K, arranged to slide within the guides N′, of the shaft O, levers Q Q and R S S, and the rods S S′ S′, as described, whereby either one of said retainers may be elevated, as specified.

8. The molding-bars J, having the obliquely-arranged gutters *f*, as described.

9. The molding-bars J, having the obliquely-arranged gutters *f*, provided with chambers *f′*, as and for the object specified.

10. The molding-bars J, having the obliquely-arranged gutters *f*, provided with the chambers *f′*, said chambers being alternately arranged on both sides of said bars, as and for the purpose described.

11. The retainers K, consisting of the end pieces L′, having the tapering part L″ and the two slotted side planks, as and for the use and purpose stated.

12. The retainers K, consisting of the end pieces L′, with the tapering part L″ and the slotted side planks K, in combination with the end pieces N and the stop-pins *p*, as described.

13. A machine for producing moldings on a series of pairs or single slabs at a time, consisting essentially of a horizontally-vibrating table, A, having on its top surface a series of attrition-bars, provided with grooves of the contour of the moldings to be produced, a series of vertically-adjustable retainers, J, and the end boards N, as specified.

14. The machine for producing moldings on a series of slabs at a time, consisting essentially of the horizontally-vibrating table A, having the series of attrition-bars J and filling-in pieces V, the supports P, transverse pieces Z, end pieces N, and a series of adjustable retainers K, said table being vibrated by mechanism, substantially as and for the use and purpose specified.

In testimony that I claim the foregoing as my invention I have hereto set my hand and affixed my seal in the presence of two subscribing witnesses.

WM. LAUTZ. [L. S.]

Attest:
MICHAEL J. STARK,
ADAM G. LAUTZ.