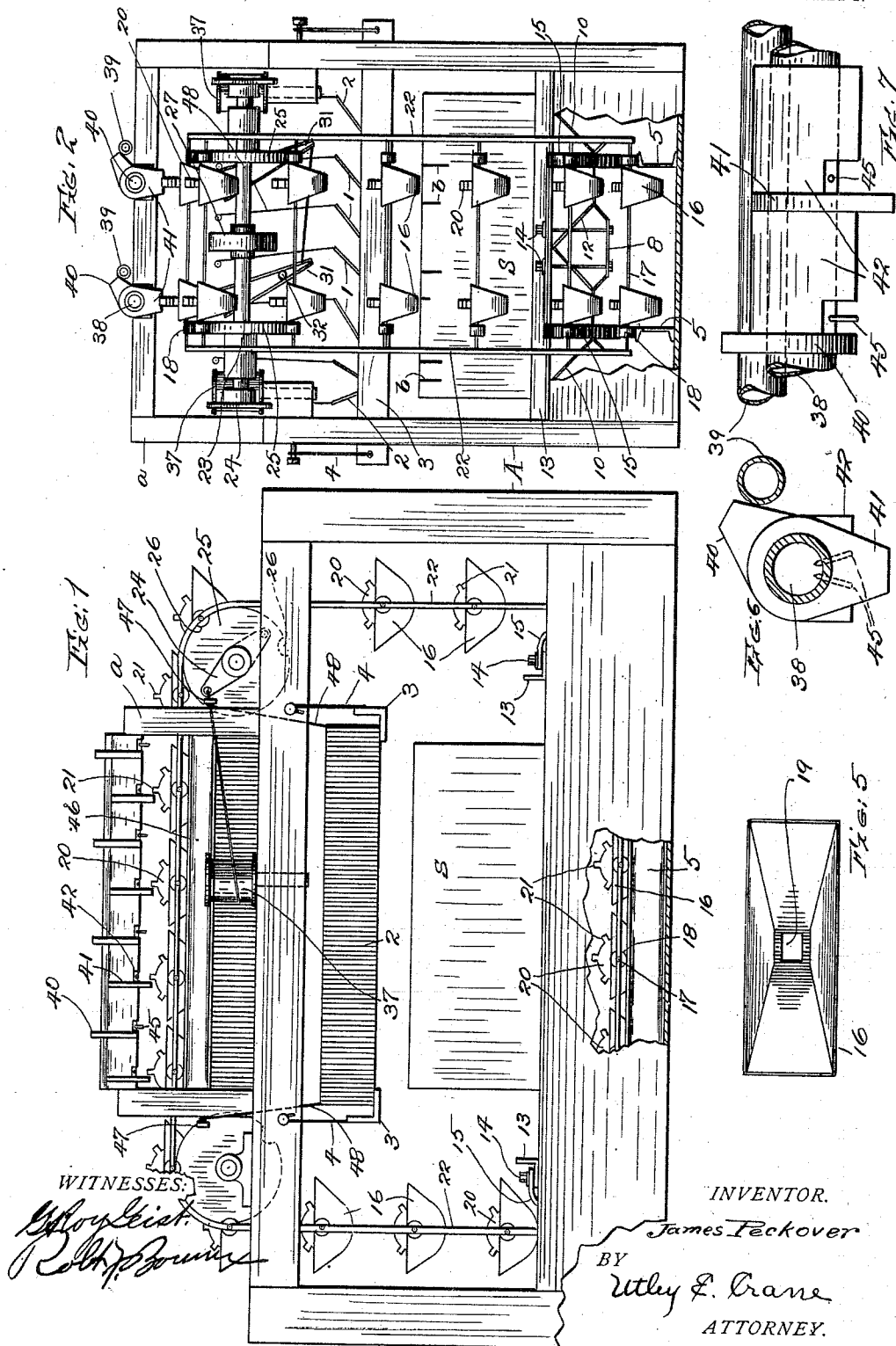


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 APPARATUS FOR SAWING AND WORKING GRANITE, MARBLE, STONE, AND ANALOGOUS SUBSTANCES.
 APPLICATION FILED JAN. 21, 1909.

995,172.

Patented June 13, 1911.

3 SHEETS—SHEET 1.



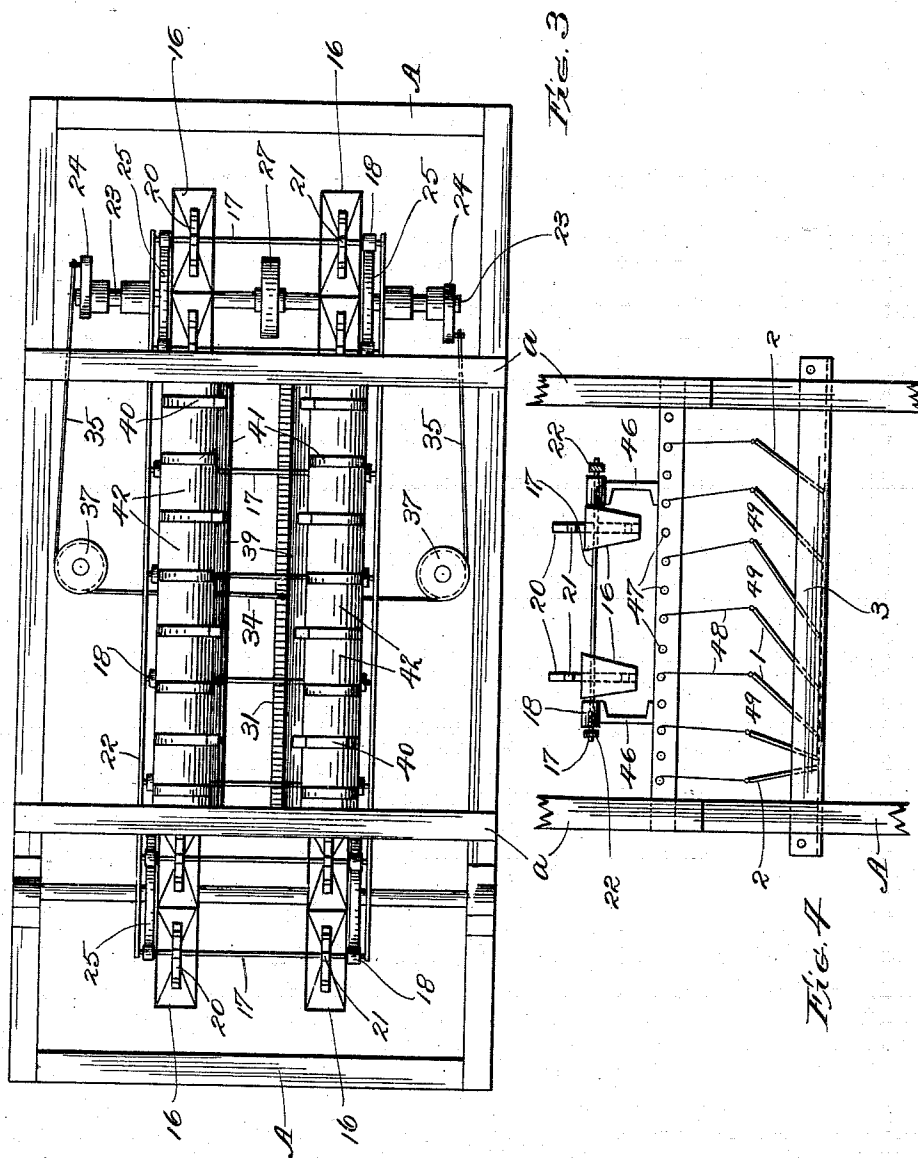
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3 SHEETS-SHEET 2.



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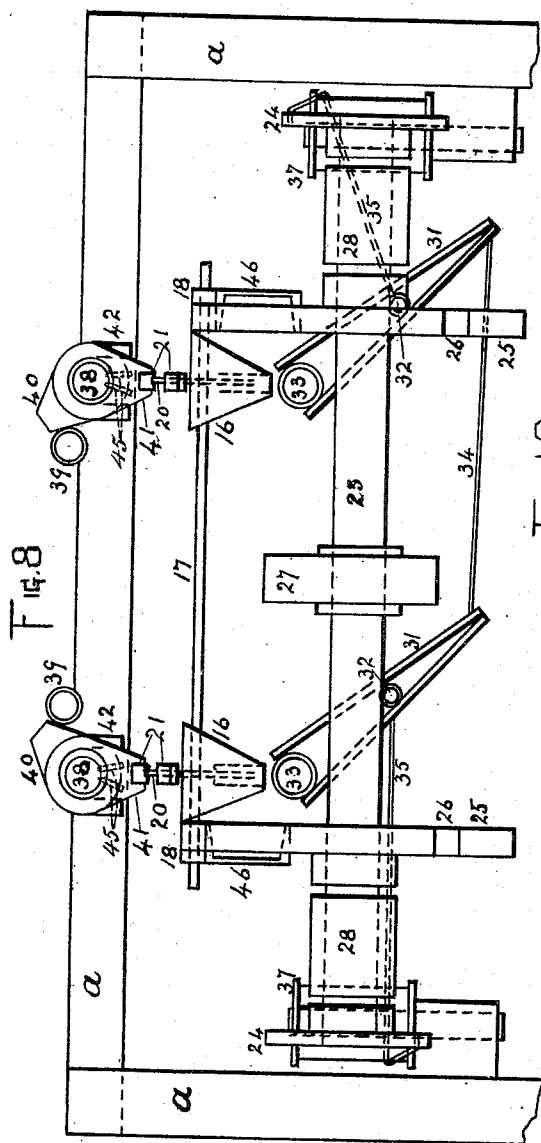
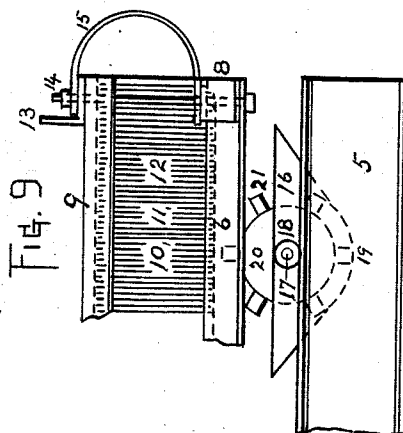
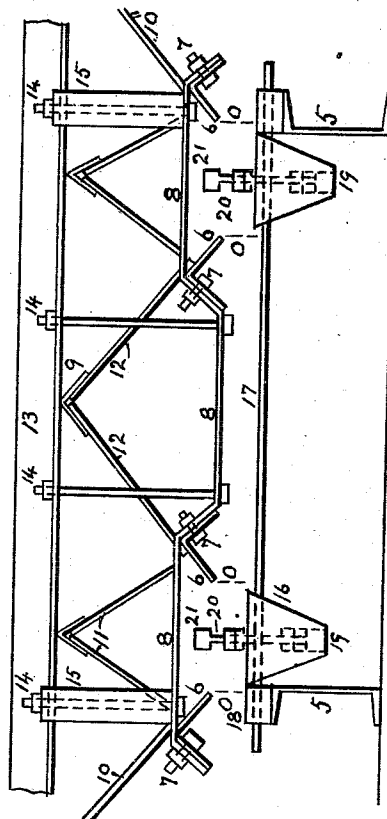


FIG. 10



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APPARATUS FOR SAWING AND WORKING GRANITE, MARBLE, STONE, AND ANALOGOUS SUBSTANCES.

995,172.

Specification of Letters Patent. Patented June 13, 1911.

Application filed January 21, 1909. Serial No. 473,525.

To all whom it may concern:

Be it known that I, JAMES PECKOVER, a citizen of the United States, and residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented new and useful Apparatus for Sawing and Working Granite, Marble, Stone, and Analogous Substances, of which the following is a specification.

My invention relates to a combination of devices for separating silt from abrading material, collecting the latter and redistributing it to the saws, and other devices used for working stone and analogous substances.

The apparatus consists of the means illustrated in the accompanying drawings, which form a part of this specification, in which—

Figure 1 is a side view; Fig. 2 an end view; Fig. 3 a plan view; Fig. 4 an uninterrupted end view of inclined plates for receiving abrading material and delivering it to the saws, and other devices, and the tracks supporting the buckets while delivering the abrading material; Fig. 5 is an enlarged plan of a bucket showing an aperture 19 in its floor; Fig. 6 an enlarged end view of a water supply pipe, spacers, turners, plugs, and the rest pipe for the turners; Fig. 7 a side view of same; Fig. 8 an end view of the distributing mechanism; Fig. 9 an end view of the greater portion of the devices for separating the silt from the abrading material and collecting the latter in buckets while the former is permitted to fall to the floor of the tank; and Fig. 10 a side view of a sufficient portion of same to convey a clear conception of their functions, and the two ends being duplicates, one description applying to all.

Similar letters and numerals refer to similar parts throughout the several views.

Referring to Figs. 1, 2, 3 and 4 A represents the main framing of a stone sawing machine, *a* the superstructure supporting mechanism of the invention, and *s* represents a stone; 1 and 2 represent inclined plates preferably corrugated metal sheets, their lower edges resting on angle irons 3 which are suspended by ropes 4, or their equivalents attached to the framing A. 47 represents nails driven into the superstructure *a*, 48 represents cables attached to nails 47 and to the inclined plates 1 and 2. The heavy portion of the base framing A represents a water tight tank, to be brimming full of

water whenever the machine is being operated.

Stretching across the tank and resting on the sides thereof are two angles 13 (Figs. 1, 2, 9 and 10), from each of these angles are suspended bolts 14 which support flat iron bars 8, or their equivalents, bent as shown in Fig. 4; to these bent bars are secured angles 6 by bolts 7. The bars 8 support corrugated plates 11, shaped like inverted V's; inclined corrugated metal sheets 10, or their equivalents, rest on the angles 6 and their upper edges on the sides of the framing A; inclined corrugated metal sheets 12, or their equivalents, rest on the angles 6, their upper edges being secured by rivets, or other fastener to the angles 9. These corrugated plates and the angles 6 are placed lengthwise in the tank, and are equal in length.

5 represents iron channels, or anything that can be used for tracks, resting on the floor of the tank, and form tracks for the rollers 18 on the shafts 17, and thereby support buckets 16 while passing through the tank.

20 represents a sprocket wheel mounted on shaft 17, and free to turn thereon. There is one sprocket wheel in each bucket, and two buckets on each shaft. The buckets 16 are duplicates, the sprocket wheels are duplicates, and the sprockets 21 are duplicates, and the spaces between each sprocket are equal. The surface of the sprocket immediately over the aperture 19 in the bucket bottom (see Fig. 5) and parallel thereto, is larger than the aperture, which prevents abrading material flowing through it whenever it is necessary to prevent it flowing.

The vertical broken lines *o* (Fig. 10) shows the space between the angles 6 to be greater than the width of the buckets 16 which provides a passage for the silt, on each side of the buckets, to the floor of the tank. The abrading material is chiefly chilled iron globules; and their specific gravity being greater than the specific gravity of the silt, and being ejected together from the stone being operated on, the instant they reach the water in the tank the difference in their specific gravity causes them to separate; the abrading material rushes down the inclined surfaces of the plates 10, 11 and 12 with an impetus that carries it into the buckets; the silt, possessed of a tendency to rest wherever it falls,

moves down the inclines more sluggishly, quietly slides from the angles and settles gently in a vertical manner, to the floor of the tank.

5 15 (Figs. 1, 9 and 10) are guides placed vertically over the tracks 5, and guide the buckets 16 in a true course. Each end of each shaft 17 is secured to an endless cable 22, (Figs. 1 and 2) and are by them carried
10 around the machine.

23 (Figs. 1, 2, 3 and 8) represent a shaft unto which power may be transmitted through the medium of the pulley 27. On this shaft is secured duplicate sprocket
15 wheels 25 provided with recesses 26 for receiving the rollers 18, of the shaft 17, thereby transmitting motion to the cables 22.

38 represents water supply pipes perforated with small outlets fitted with plugs
20 45 for regulating the supply of water. Turners 40, 41 encircle the supply pipes and are provided with shanks which, when turned downward as shown at 41 engages a sprocket 21 in a manner that turns the
25 wheel on its axis, uncovers the aperture 19, and permits a flow of abrading material from the bucket until the wheel turns far enough to cover the aperture by another sprocket. The plug 45 immediately in front
30 of a shank turned downward should be withdrawn to permit a flow of water. Turning the shank upward as shown at 40 to rest on the pipe, or other medium 39, the wheel moves forward without turning on its axis.
35 Spacers 42 carried on pipe 38 and separating the turners are accurately gaged to turn a wheel just far enough to uncover an aperture and cover it with the next succeeding sprocket; the spacers maintain the turners
40 in their respective position, protect the plugs from injury and provide free access to them. It is obvious that these several devices can readily be manipulated to secure a flow of water and abrading material to meet any
45 requirement.

Immediately under each line of buckets 16 in the upper portion of the machine is a distributor 31 (see Fig. 8) its length being
50 not less than the longest stone that can be operated on in the machine. The distributors are duplicates, each consisting of two corrugated plates, or their equivalents, and separated and secured at their upper extremities by a gas pipe, 33 or its equivalent.
55 The lower extremities are riveted or otherwise secured to each other. A gas pipe 32 may be thrown in the distributor without fastening to reinforce and prevent the lower extremities sagging. The distributors are
60 connected by a cable 34 or by any other connecting medium.

On each side of the machine are cables 35 attached to the distributors 31, passing around pulleys 37 and are attached to the
65 cranks 24 secured on the shaft 23, one at

each end. The pipes 33 serve as pivots for the distributors; therefore when the cranks are being operated, the distributors oscillate and deposit the water and abrading material, received from the buckets onto the inclined
70 plates 1 and 2, vertically over the saws, and kerfs *b* made by the saws in stone *s*. The spacers 49 between the upper edges of the plates 1 must be equal to each other, so
75 that each plate 1 will receive an equal amount of abrading material. The number of plates 1 must always equal the number of saws in operation, one plate for each saw. Plate 2 is used to prevent abrading
80 material being thrown over the side of the stone. Tracks 46 supported by the superstructure *a* are provided for the rollers 18 (Figs. 1, 2 and 4).

I claim:

1. Apparatus of the class recited comprising a structure having at its base a tank
85 for containing water, said tank serving to support work to be done, an endless conveyer for the carriage of abrading material constructed for movement around said
90 work and through said tank, means above the said work for receiving abrading material from the conveyer and presenting same to the work and means within the tank
95 for receiving the used abrading material and returning it to the conveyer.

2. In a grit feeding device a wheel having projections and an axis on which said wheel is supported, a bucket mounted upon
100 said axis and having an aperture in its bottom, said projections covering and uncovering the aperture when the wheel is turned on its axis.

3. Apparatus of the class recited comprising an endless conveyer equipped with
105 buckets, said buckets each having an aperture in its bottom, a wheel rotatably journaled in each bucket, said wheel being peripherally provided with projections, a stationary water supply pipe provided with
110 outlets, each outlet being fitted with a plug for regulating the flow of water, separating turners provided with shanks rotatably mounted upon said supply pipe whereby
115 said shanks may be moved into and out of the path of said projections, for causing them to open and close said apertures, and spacers carried by the supply pipe, each spacer having a recessed portion to accommodate said plugs.
120

4. Apparatus of the class recited comprising a support for work to be done, an
125 endless conveyer constructed for travel around said work, said conveyer being adapted for the carriage and delivery of a mixture of water and abrading material, oscillating distributors above said work constructed to receive and deliver said mixture
130 to the work and means below the work for separating silt from the abrading material

and for returning said abrading material to the endless conveyer.

5 5. In a grit feeding device, the combination of a support for work to be done, an endless conveyer constructed for travel around said work, said conveyer being adapted for the carriage and delivery of a mixture of water and abrading material, oscillating distributors above said work for receiving said mixture, a series of inclined plates adapted to receive said mixture from said distributors and deliver same to the work to be done and means below the work for separating silt from the abrading material and for returning said abrading material to the endless conveyer.

10 6. In a grit feeding device the combination of a support for work to be done, an endless conveyer constructed for travel around said work, said conveyer being adapted for the carriage and delivery of a mixture of water and abrading material, oscillating distributors for receiving said mixture, a series of inclined plates adapted

to receive said mixture from said distributors and deliver the same to work to be done, and a series of inclined plates beneath said work constructed to separate silt from the abrading material and to return said abrading material to the endless conveyer.

7. In a grit feeding device the combination of a pair of endless cables, laterally disposed axles between said cables and fixed thereto buckets each having an aperture in the bottom thereof carried by said axles and free to turn thereon, a wheel having peripheral projections within each bucket and mounted to freely rotate upon said axle, said projections being adapted to open and close the aperture in the bottom of said buckets, and means in the path of said projections for causing them to cooperate with the said apertures.

JAMES PECKOVER.

Witnesses:

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CORNELIUS M. COYLE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
