

No. 677,298.

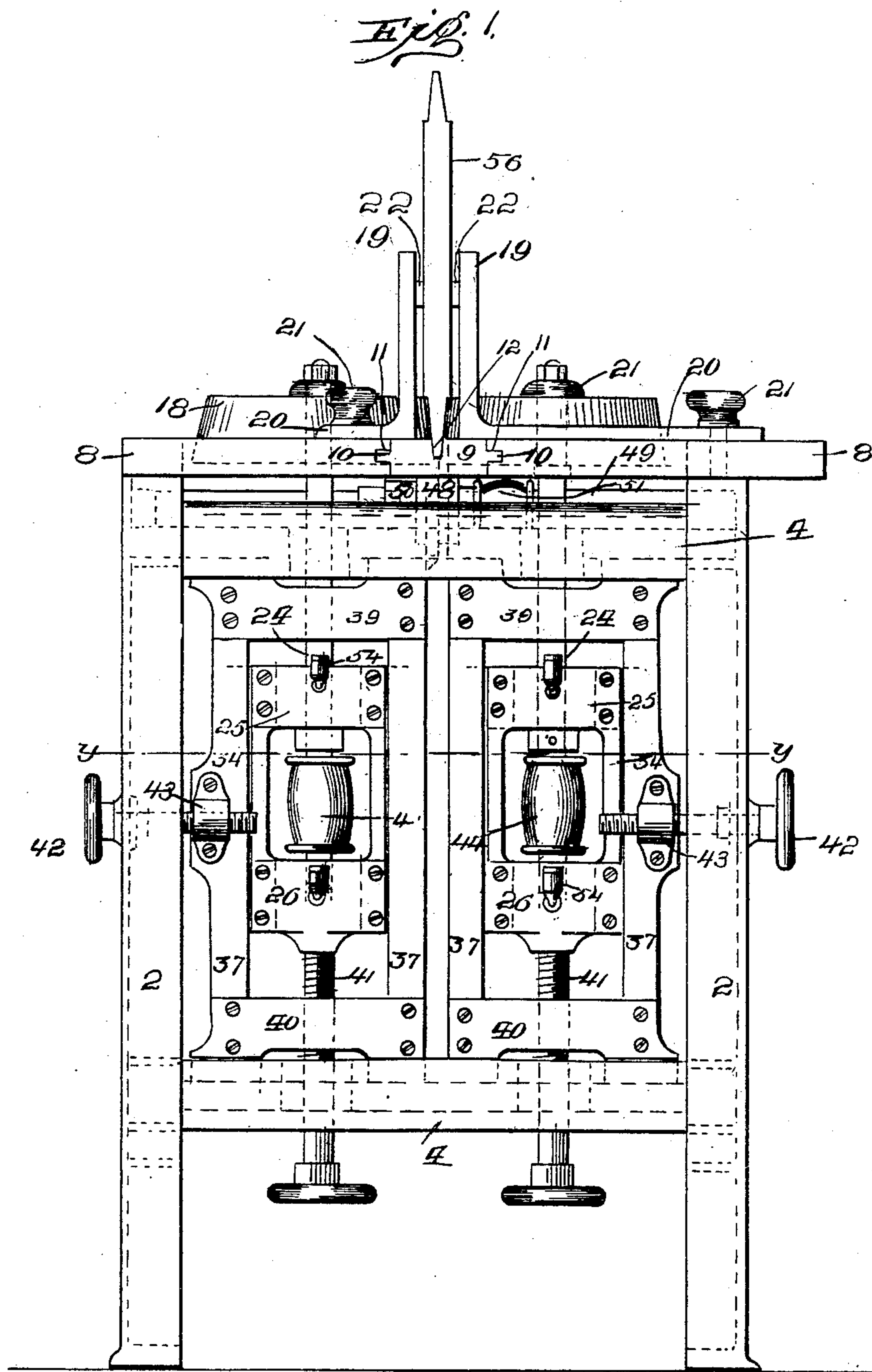
Patented June 25, 1901.

C. WEAVER & R. C. POET.
SANDPAPERING MACHINE.

(Application filed Aug. 7, 1900.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses.

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Ed. J. Redmond

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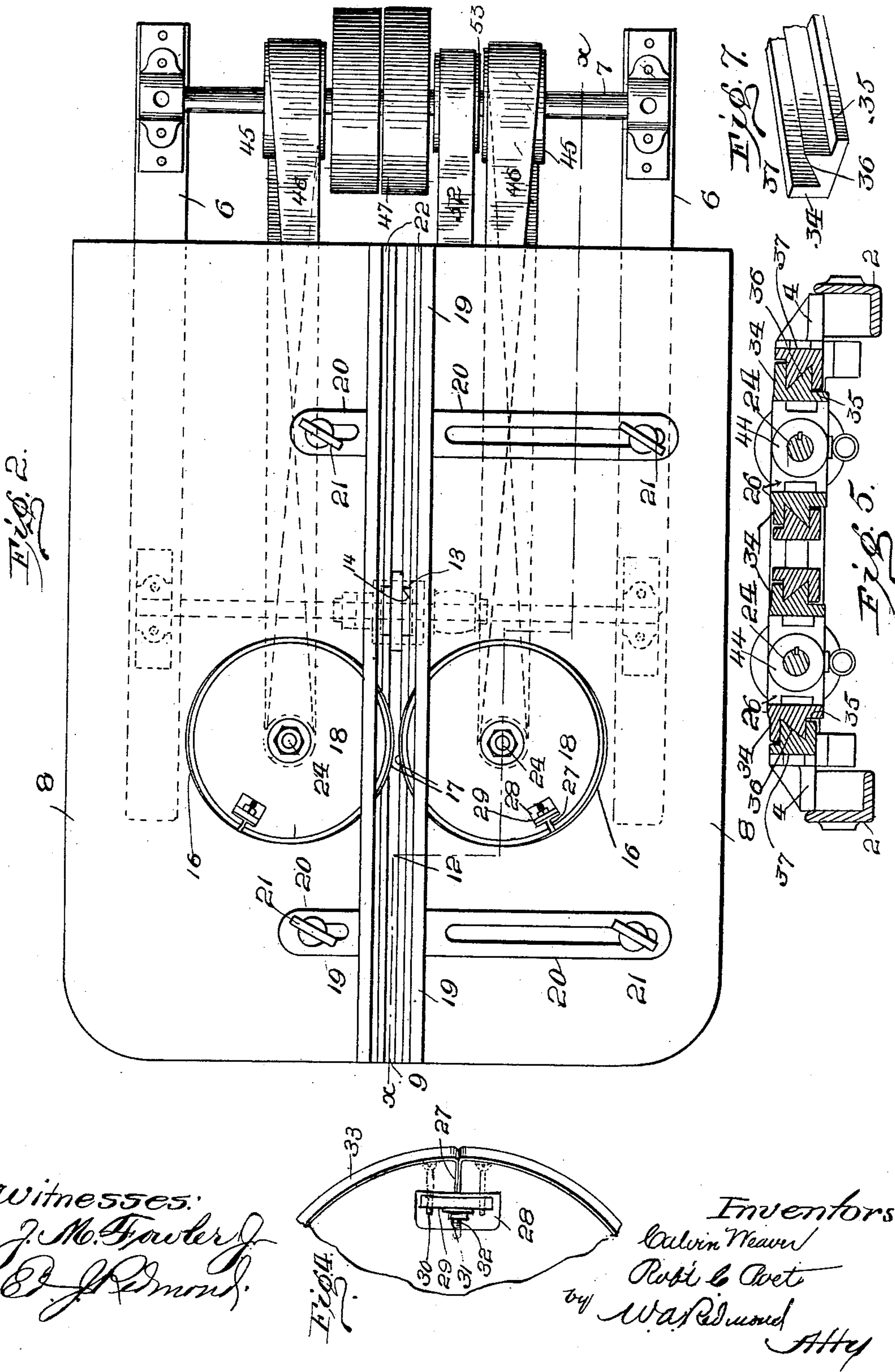
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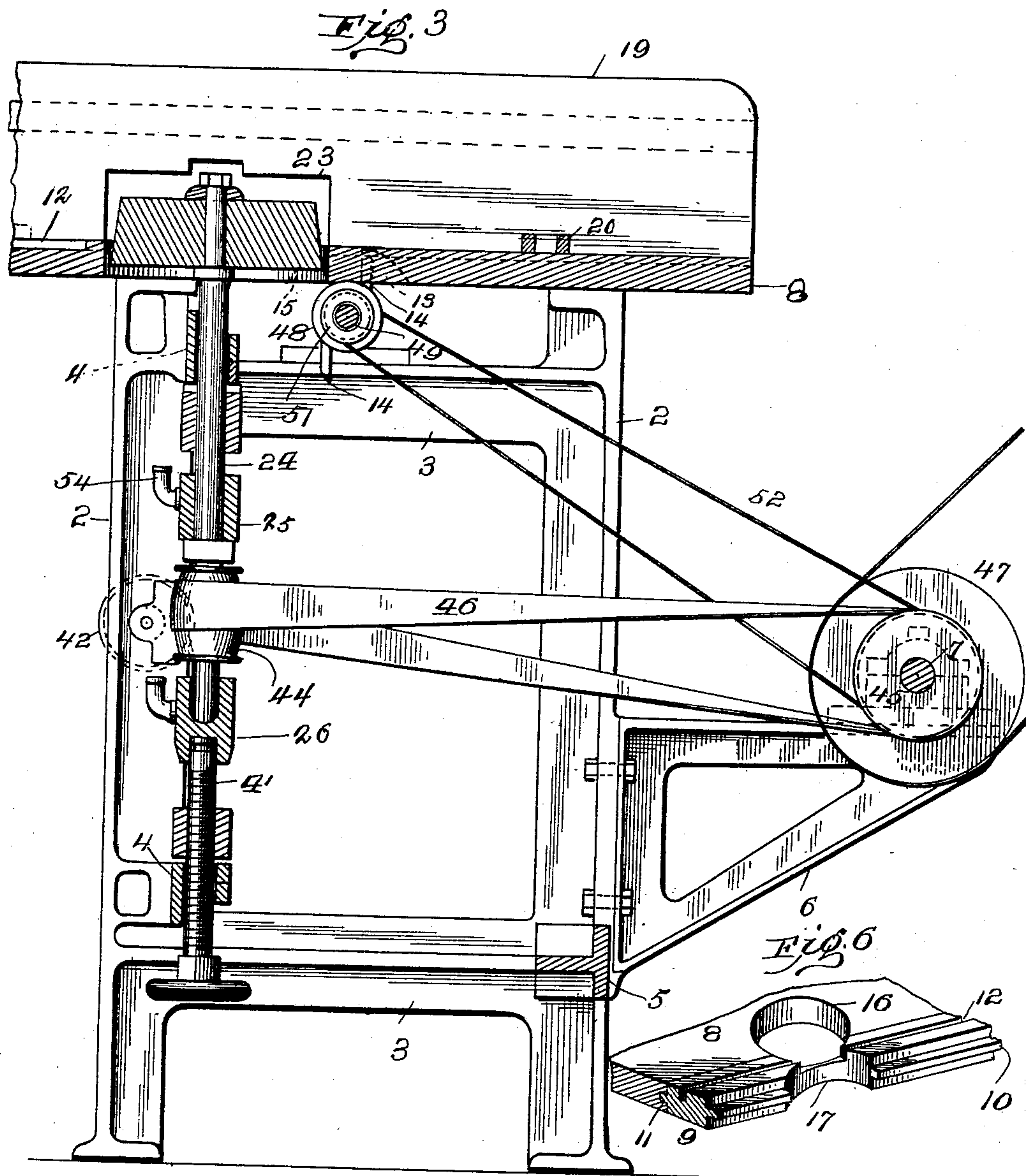
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UNITED STATES PATENT OFFICE.

CALVIN WEAVER AND ROBERT C. POET, OF ALTOONA, PENNSYLVANIA.

SANDPAPERING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 677,298, dated June 25, 1901.

Application filed August 7, 1900. Serial No. 26,143. (No model.)

To all whom it may concern:

Be it known that we, CALVIN WEAVER and ROBERT C. POET, citizens of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Sandpapering-Machines; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates generally to sandpapering-machines, and particularly to machines for smoothing beveled surfaces and cornering the same; and it has for its object to provide a simple, durable, and comparatively inexpensive machine of few parts adapted to smooth both sides or raises of panels and to trim or corner the edges simultaneously; and it consists in the parts and combinations of parts hereinafter described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a rear end elevation of our improved machine, showing a panel in position for smoothing; Fig. 2, a plan view of our machine with the panel removed; Fig. 3, a longitudinal vertical section on the line *x x*, Fig. 2; Fig. 4, a detail side elevation of a portion of one of the polishing wheels or heads, showing the means for securing the sandpaper to the wheel or head; Fig. 5, a detail horizontal sectional view on the line *y y*, Fig. 1; Fig. 6, a detail perspective view of a portion of the table and panel-guide, and Fig. 7 a detail perspective view of a portion of one of the slides or uprights.

Similar numerals refer to similar parts throughout all the views.

The frame of our improved machine may be made of any preferred material and of any suitable form or shape, and, as shown, consists of the side frames consisting of the posts 2 and rails 3, which are preferably of angle-iron and T-iron shapes, respectively, said side frames being connected by T-beams 4 at the top and bottom, at the rear, and by T-beam 5 at the front of the machine.

To the front of the machine is secured bracket-arms 6, on which is journaled the shaft 7, which carries the pulleys for the power-transmitting belts for operating the machine, as will be described hereinafter.

The bed or table of the machine rests on top of the frame and is secured thereto in any desired manner and preferably extends outwardly therefrom at all sides to provide ample support for the work and space for the adjustment of the movable guides located thereon, and it consists of two parts 8, arranged at a suitable distance apart to provide a space therebetween for a panel-guide 9, having tongues 10, formed longitudinally and centrally along its side edges, which fit in grooves 11, formed in the adjacent edges of the parts 8. The panel-guide 9 is formed with a longitudinal groove 12 in its upper face adapted to receive the edge of the panel and guide it in its progress through the machine, and said guide is readily and easily removed from the machine in order to enable the substitution of other guides having grooves of different widths, so as to provide for panels of different thicknesses. At a suitable point in the guide 9 a slot 13 is formed, through which the knives or cutters 14, hereinafter described, work, the under surface of the end walls of said slot being curved, as at 15, Fig. 3, to provide space for the revolution of the knives or cutters.

Referring particularly to Figs. 2 and 6, it will be seen that an opening 16 is formed in the table at each side thereof, which with the curved recesses 17, formed in the sides of the guide 9, form elliptical openings for the horizontally-arranged wheels or heads 18, which carry the sandpaper or other abrading material. Arranged parallel with the groove 12 of the guide 9 and at each side thereof are upright guides 19, provided with right-angled slotted arms 20, through which thumb or set screws 21 pass into the table, whereby the guides may be adjusted to or from the groove 12 in order to accommodate panels of varying thickness. The adjacent faces of the guides 19 are provided with strips 22, which engage the upper part of the panel and serve to hold it steady in its passage through the machine. The guides 19 are recessed at 23, and into these recesses the wheels or heads 18 extend, said wheels or heads being secured to the ends of vertical shafts 24, which extend through slotted openings in the top beam 4 of the frame and boxes 25 and are stepped in boxes 26. The boxes 25 and 26 are carried by a vertically movable or adjustable frame, which in turn is supported in a laterally mov-

able or adjustable frame, as will be described. The wheels or heads 18 are, as shown, when designed for use on beveled surfaces, of truncated-cone form; but it is evident that they may be circular or of disk form when designed for use on unbeveled surfaces, and whatever the form a straight slot 27 is formed in the periphery of the head, which terminates in an enlarged opening or recess 28, extending therethrough, in which a block 29 is arranged on guide-pins 30, so as to be moved thereon, by means of a nut 31 on a stud-screw 32 in order to clamp the ends of the sandpaper-sheet 33, which after the paper has encircled the head are inserted through the slot 27 into the recess 28 and then bent at right angles away from each other and under the outer wall of the said recess or opening. The outer surface of the block 29 is inclined or slightly beveled from its center to its edges, and the adjacent face of the wall of the opening 28 is correspondingly inclined in order to more firmly clamp the ends of the sandpaper therebetween, as shown in Fig. 4.

The frames for the boxes 25 and 26 consist of the upright side bars 34, between which the said boxes are secured, as best shown in Fig. 1, said bars having their outer faces formed with a straight rabbet, as at 35, and with an inclined rabbet, as at 36, Fig. 7, which fit against the correspondingly-rabbeted inner faces of bars 37, which are connected together at their tops by cross-bars 39 and at their bottoms by cross-bars 40. The lower or bottom bars 40 rest on one side on the top of the lower cross-beam 4 and at their other side on the central flange thereof, and hand-screws 41 are threaded therethrough and have their ends socketed in the boxes 26. The upper cross-bars 39 are similarly formed to bars 40 and rest against the upper beam 4 in a similar manner, and the shaft 24 passes therethrough. By means of the hand-screws 41 the frames carrying the boxes 25 and 26 may be adjusted vertically in order to adjust the heads 18 to suit the work to be performed, and a lateral adjustment thereof may be had by means of the hand-screws 42, working through the posts 2 of the frames and engaging threaded lugs 43, secured to the bars 37.

The shafts 24 are rotated by means of pulleys 44, secured thereon, which are connected to fast pulleys 45, mounted on the shaft 7, by crossed belts 46, and the shaft 7 is rotated by a pulley 47, connected by a belt to any prime mover.

The knives 14 are secured to a head 48, mounted on a cross-shaft 49, having its bearings in boxes 50, secured to the side frames, and is operated by a pulley 51 thereon, which is connected by a belt 52 to a pulley 53 on shaft 7. Oil-cups 54 are provided for each box 25 and 26, and collars 55 are arranged on the shafts below the boxes 25.

In operation the panel 56 is inserted between the upright guides 19, with one edge

thereof in the groove 12 of guide 9, and the panel is then pushed along between the guides 19, and as it passes through the opening 13 the knives 14 cut off the corners of the edge on each side, and when it reaches the sandpapering wheels or heads 18 and passes between the same its raises on each side are smoothed thereby.

It will be observed that the heads may be quickly and accurately adjusted vertically and laterally and that the center guide 9 may be readily removed and replaced by others having larger or smaller grooves to accommodate different sizes of panels and that the vertical guides 19 may be quickly set or adjusted as desired.

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

1. In a sandpapering-machine, the combination of parallel vertical shafts, horizontal sandpapering-heads secured to said shafts, journal-boxes for said shafts secured in frames, means for adjusting said frames vertically, and laterally-adjustable frames for said vertically-movable frames.

2. In a sandpapering-machine, the combination of a table having a longitudinal opening, a guide, having a longitudinal groove, removably secured in said longitudinal opening, a slot in said guide, cutters projecting into said slot for trimming or cornering panels, and sandpapering-heads arranged at each side of said guide for smoothing the raises of panels.

3. In a sandpapering-machine, the combination of vertical shafts, sandpapering-heads horizontally arranged on said shafts, means for adjusting said heads vertically and laterally, cutters or knives for trimming or cornering the panels arranged adjacent to said heads, and means for operating said shafts and cutters.

4. In a sandpapering-machine, the combination of a table having openings therein at each side of its center for the sandpaper-heads, vertical shafts, sandpaper-heads horizontally arranged on said shafts, and means for vertically and laterally adjusting said shafts.

5. In a sandpapering-machine, the combination of a table having a central longitudinal opening therein, a guide fitting said opening, adjustable upright guides arranged each side of said longitudinal opening, vertical shafts, sandpaper-heads horizontally arranged on said shafts, and screws for adjusting said shafts vertically, and means for adjusting them laterally.

In testimony whereof we affix our signatures in presence of two witnesses.

CALVIN WEAVER.
ROBERT C. POET.

Witnesses:

S. S. B. RAMEY,
M. POET.