

No. 895,497.

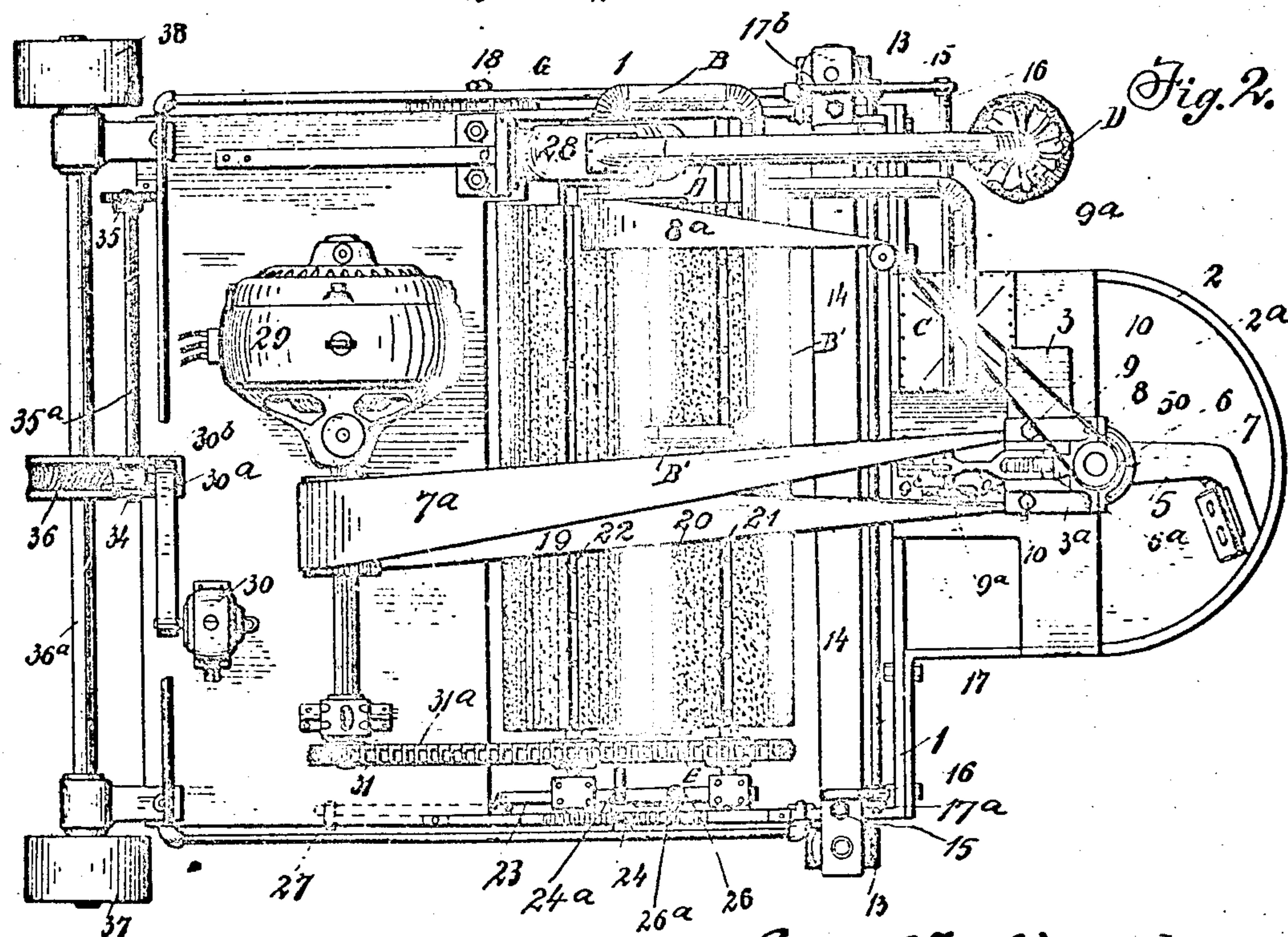
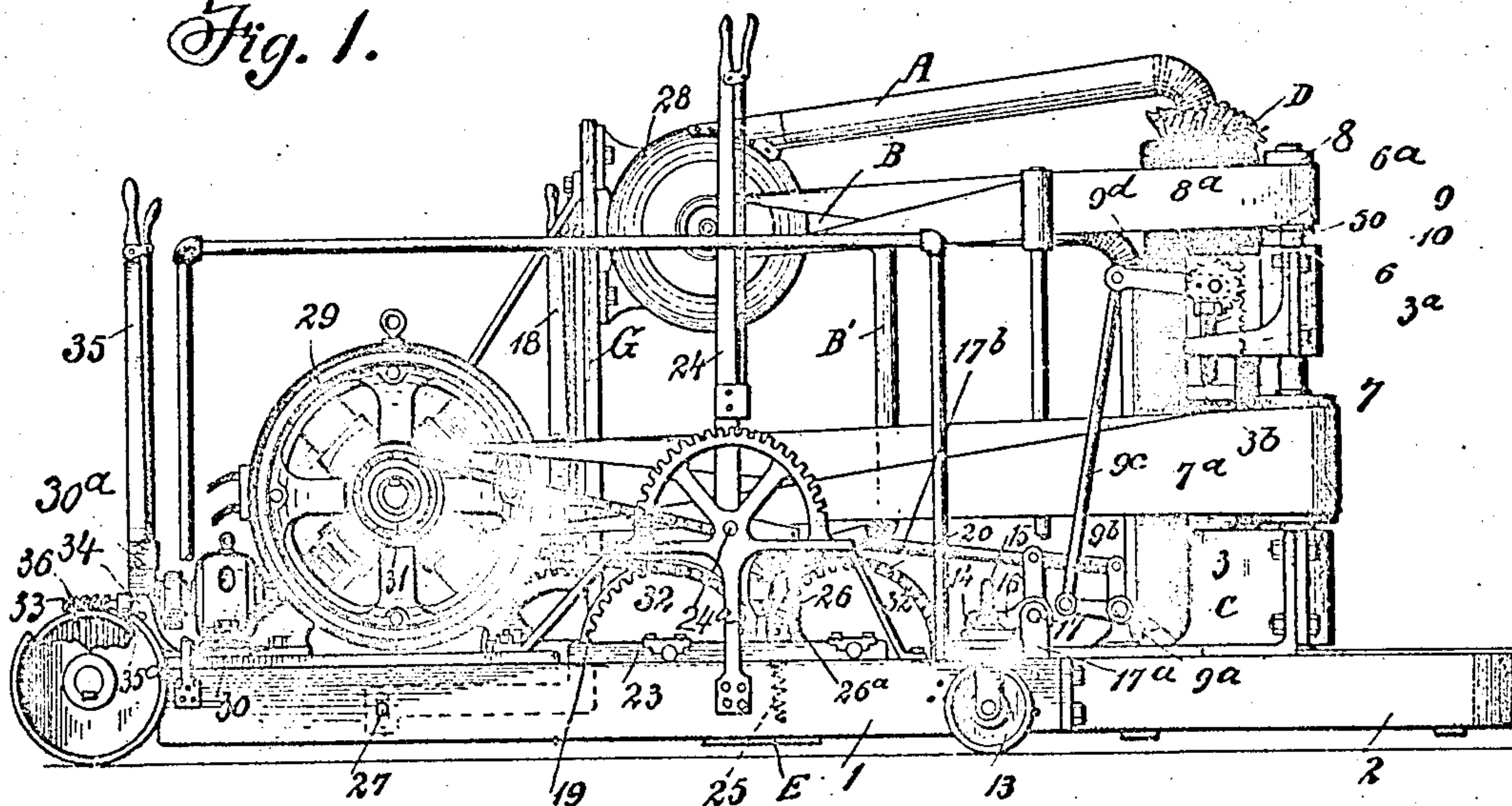
PATENTED AUG. 11, 1903.

E. C. F. PLISKE.
FLOOR SURFACING MACHINE.

APPLICATION FILED SEPT. 12, 1907.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 3.

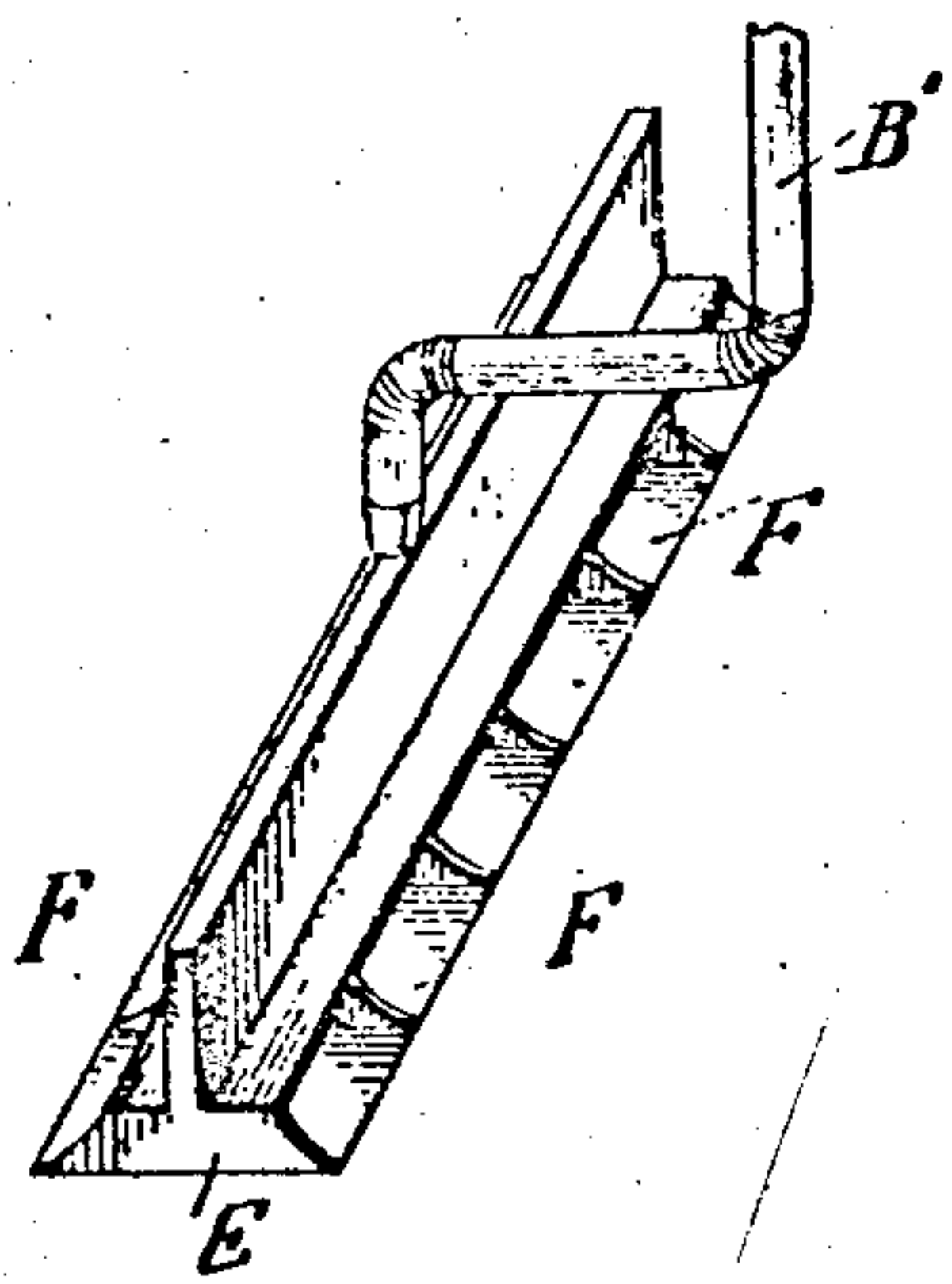


Fig. 5.

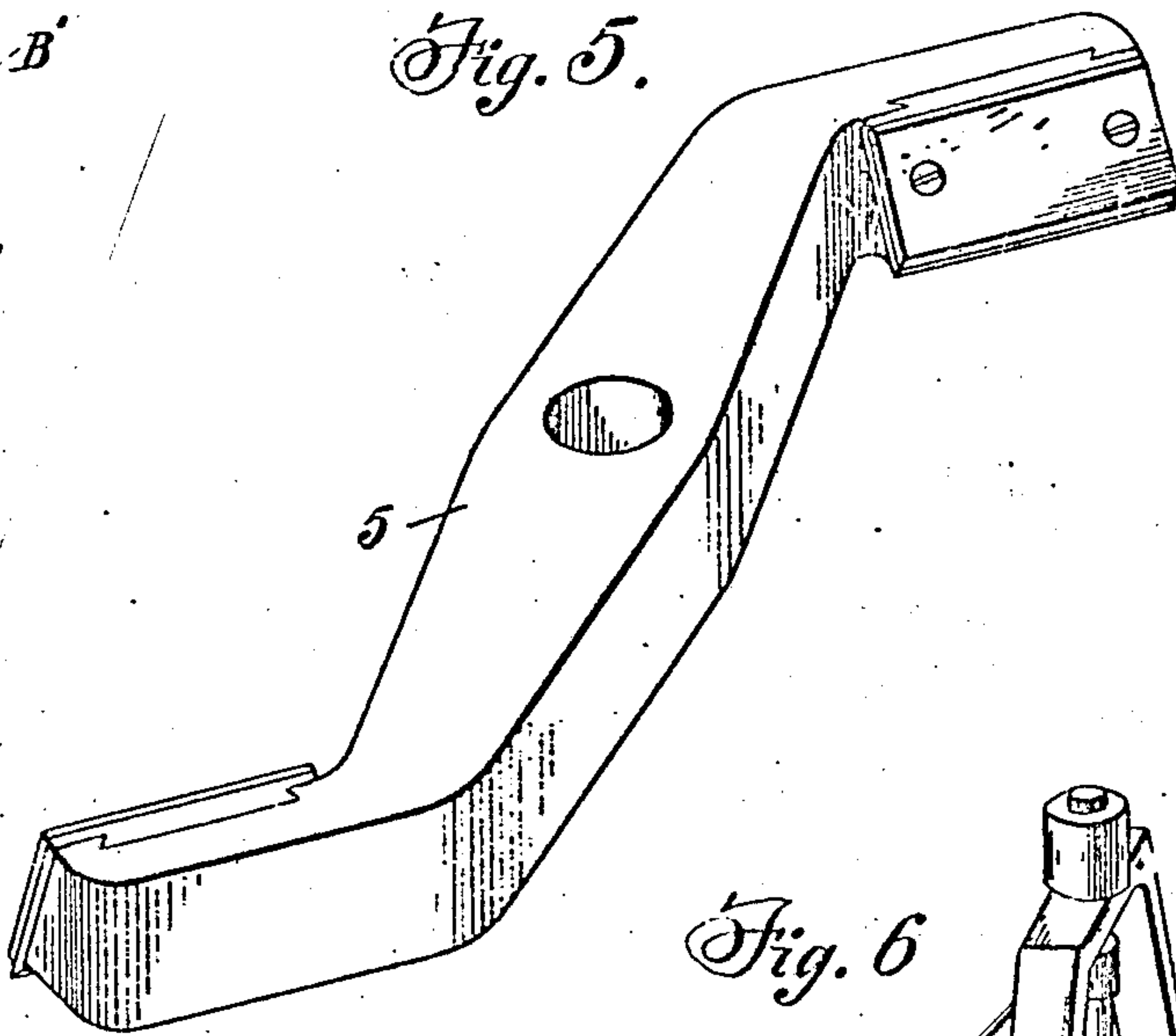


Fig. 4.

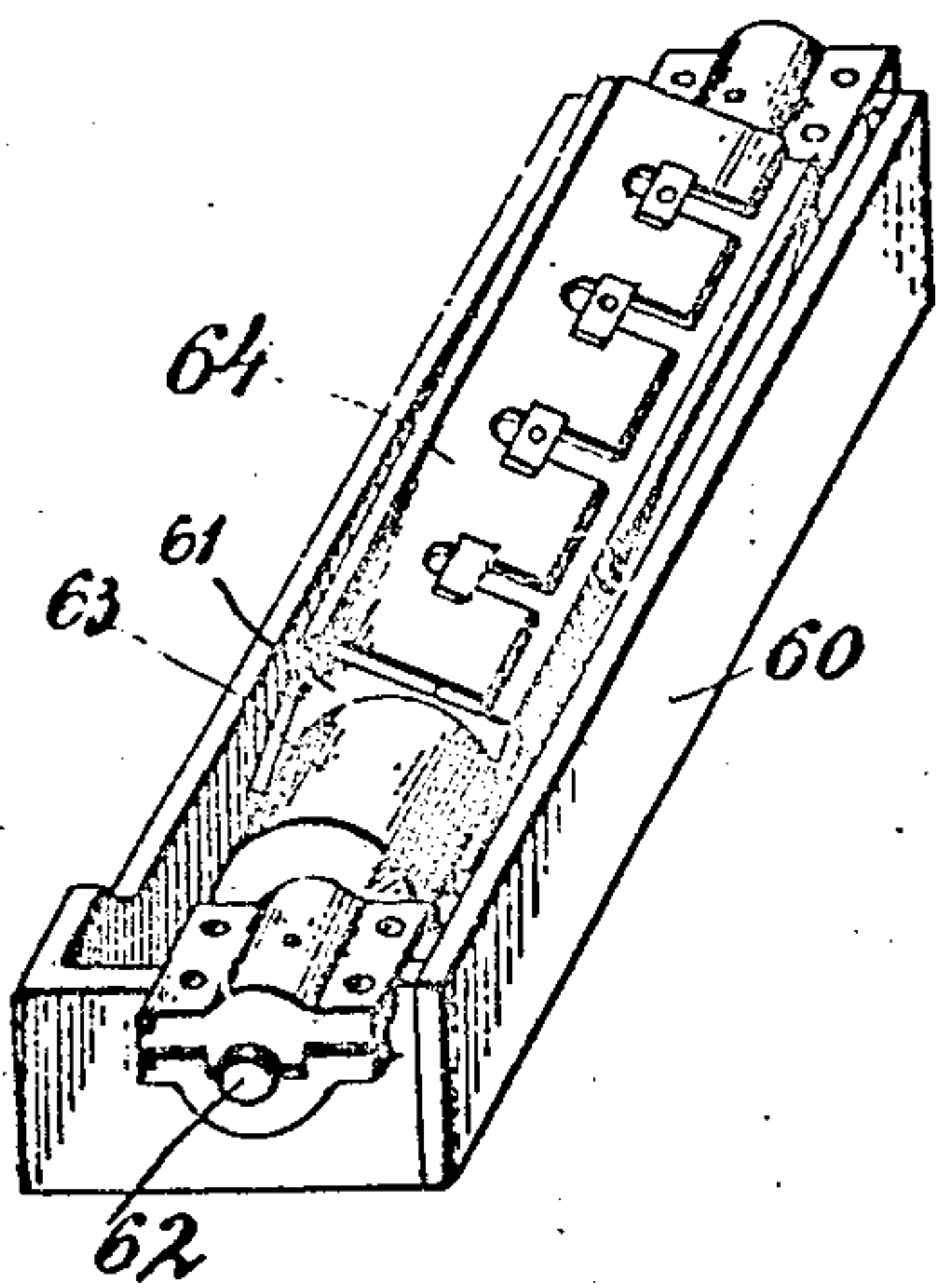
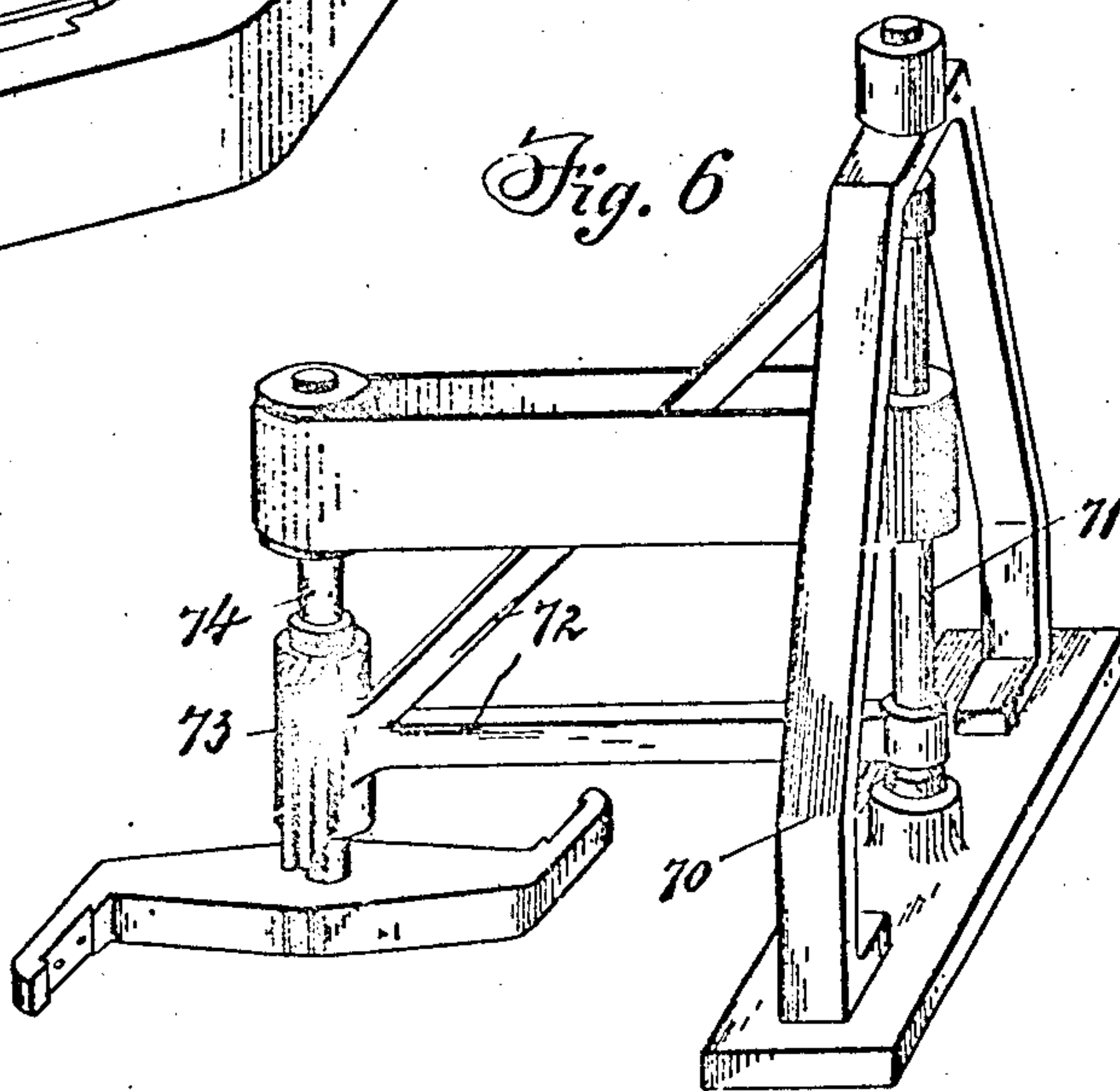


Fig. 6.



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UNITED STATES PATENT OFFICE.

EMIL C. F. PLISKE, OF CLEVELAND, OHIO.

FLOOR-SURFACING MACHINE.

No. 895,497.

Specification of Letters Patent.

Patented Aug. 11, 1908.

Application filed September 12, 1907. Serial No. 892,512.

To all whom it may concern:

Be it known that I, EMIL C. F. PLISKE, citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Floor-Surfacing Machines, of which the following is a specification.

This invention relates to floor surfacing machines, particularly adapted for planing down and polishing wood floors, but also adapted for use for sanding, grinding or polishing plane surfaces generally.

The machine is operated by a motor and is adapted to travel over the surface to be treated, and is provided with a cutter and sanders, for which other implements may be substituted, such as a planer or polisher.

The invention is illustrated in the accompanying drawing in which,

Figure 1 is a side elevation of the machine. Fig. 2 is a top plan view. Fig. 3 is a perspective view of the exhaust appliances for removing the chips and dust. Fig. 4 is a perspective view of a planer head. Fig. 5 is a perspective view of a cutter head. Fig. 6 is a perspective of a modification in which a swinging supporting bracket for the cutter is provided, instead of the fixed supports shown in Figs. 1 and 2.

Referring specifically to the drawings, 1 indicates the rectangular main frame of the machine. This has at the front a curved frame 2, which extends around and forms a casing or boxing for the cutter. Mounted upon this frame 2 is a standard 3 which supports the vertical shaft 50 on which the rotary cutter head 5 is mounted. The shaft 50 is mounted to turn in a grooved bearing box 6 which is dove-tailed into the standard 3 as indicated at 6^a and said dove-tailed part has a rack which is engaged by a pinion 9 which may be turned to raise or lower the bearing and shaft, and consequently to vary the position of the cutter 5 with respect to the floor. The shaft 50 is provided with a wide pulley 7 for driving the same, the driving belt being indicated at 7^a. At the top the shaft 50 has a pulley 8 which receives a belt 8^a for driving the fan as hereafter described. The top part of the standard 3, that is the part which supports the bearing 6 and which is indicated at 3^a, is adjustably or slidably mounted on top of the standard, and may be raised or lowered by screws 10, which are tapped through said top part and

bear against shoulders 3^b at the bottom. The depth of the cut is adjusted by means of these screws.

At the front end the frame is mounted upon wheels 13 which are carried upon a cross bar 14, the ends of which project beyond the frame and receive the wheels, which are caster wheels so that the frame may turn as desired. Bolts 15 connect the frame and the cross bar 14 and the nuts thereon may set up or down to adjust the frame with respect to the floor said bolts working loose through the bar.

To effect a quick adjustment which is particularly desirable when a buzz planer as shown in Fig. 4 is used cams 16 are provided which are carried by a shaft 17 mounted upon brackets 17^a on the frame. These cams bear on the top of the bar 14 and by turning the shaft the frame may be raised or lowered since the bar is supported by the wheels and the frame is hung from the bar by the bolts. The shaft 17 is rocked by means of a connecting rod 17^b to a lever 18 at one side of the machine. Of course this adjustment is also available when the sanding rolls are used. Said rod 17^b is also connected to the rock shaft 9^a which has a crank arm 9^b connected by a rod 9^c to an arm 9^d projecting from the pinion 9, and by operation of the said lever the pinion is turned and the shaft 50 raised or lowered.

In Figs. 1 and 2 sanding rolls 19 and 20 are shown. These have grooves 21 and 22 for attaching or holding the sand paper with which the surface of the rolls is covered. These rolls are mounted at the ends in bearing brackets 23 which are loosely or pivotally connected at 27 to the sides bars of the frame 1. The brackets 23 are connected to a lever 24 for raising or lowering the same and consequently for lifting or lowering the sanding roll. The lever is mounted upon a rock-shaft 24 extending across the frame and connected to the brackets 23 at the opposite ends. Said connection is formed by means of springs 26 coiled around rods 26^a, and springs 25 are connected underneath between the brackets and the frame to give a spring tension or pressure of the sanding rolls against the floor, said tension being adjusted or regulated by means of the lever, in connection with the springs 26. The loose or slotted connection at 27 allows the sanding rolls to have an equal bearing on the floor.

The driving motor 29 is mounted upon the

rear of the frame as well as a propelling motor 30 which drives the gear which causes the machine to travel. The motor 29 carries a sprocket 31 which is belted by a chain 31^a to the sprockets 32 on one end of the sanding rolls. The belt travels over the sprocket on the roller 19 and under and around the sprocket on the roller 20. The motor 30 is connected by belt and pulleys 30^a to a shaft 30^b which has a spiral gear 33 meshing with a corresponding gear 36 on the rear axle 36^a which carries the supporting and driving wheels 37 and 38. The shaft 30^b is mounted in a rocking bearing 34 which may be operated by a lever 35 and rock shaft 35^a to swing the spiral gear 33 into or out of engagement with the gear 36. Said gear 36 includes a differential to allow the machine to be turned. Suitable electrical supply connections and controlling devices for the motors will be provided.

In operation, the rotation of the cutter head 5 planes the floor or the surface being treated, and the sanding rolls 19 and 20 smooth and polish the same. The fan 28 is supported by the bracket G on the frame of the machine, and it has an outlet pipe A leading to the dust bag D. Also an inlet pipe leading from the head or funnel C which sets over an opening in the base of the standard 3. The part 2, and the base of the standard, form a casing or boxing for the cutter, and part of the space between the frame 2 may be covered by a glass or transparent plate 2^a through which the operation of the cutter can be seen. For collecting the dust from the sanders a branch pipe B' extends from the pipe B to the suction box E which sets between the rollers 19 and 20, and has inlet openings F, so that the dust is drawn in through the openings and through the fan to the dust bag, as well as the chips from the cutter.

In Fig. 4 I show a horizontal rotary planer which may be substituted for one of the sanding rolls or located in the frame adjacent to said rolls and driven by suitable connections. This planer includes a frame 60 with a head 61 mounted on a shaft 62 which rotates in bearings in the frame and has a driving pulley 63. The planer knives 64 are secured to the sides of the head 61. This sort of a planer is very desirable for varnished or finished floors, as it cuts or chips upwardly and the varnish is not so apt to take the edge off the knives as with rotary cutters or scrapers of other kinds. The frame 60 may be set in between the main frame 1, and suitable driving connections provided.

In the modification shown in Fig. 6 instead of a standard 3 a standard 70 is provided,

which may be mounted upon the main frame and which supports a vertical shaft 71 on which is also mounted a swinging bracket 72 which carries a bearing 73 for the cutter shaft 74, provided with a suitable cutter head and a pulley, with necessary connecting belts to operate the shaft.

Various other modifications or changes may be made in the arrangement or structure of the machine without departing from the scope of the invention.

I claim:—

1. In a surfacing machine, the combination with a frame carrying a surfacing implement, of a bar extending across the same, wheels under the bar, and a lever mounted in the frame and bearing on the bar, to raise or lower the frame.

2. In a surfacing machine, the combination with a wheeled frame, of a surfacing roll located within the same, bearing brackets for the roll, loosely connected to the frame and supporting the roll at opposite ends thereof, and means to raise and lower the brackets to put the roll in or out of action.

3. In a surfacing machine, the combination with a traveling frame, of a surfacing roll, and supports for the roll having a spring connection to the frame, providing a yielding pressure of the roll on the surface being worked.

4. In a surfacing machine, the combination with a traveling frame, of a surfacing roll, supporting brackets pivoted on the frame for the roll at opposite ends thereof, springs connected between the brackets and the frame and tending to press the roll against the surface being worked, and a lifting lever having spring connections to the brackets.

5. In a surfacing machine, the combination with a traveling frame, of a pair of surfacing rolls, brackets supporting the same and having a movable pivotal connection to the frame, whereby both rolls adjust themselves to the surface being worked, and means connected to the brackets to raise and lower the rolls.

6. In a surfacing machine, the combination of a wheeled frame, a pair of surfacing rolls extending horizontally across the frame, a suction box extending across between the rolls, a fan and dust outlet connected to the suction box, and means to operate the rolls and the fan.

In testimony whereof I affix my signature, in presence of two witnesses.

EMIL C. F. PLISKE.

Witnesses:

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EDITH D. COMER.