F. SCHIMMEL.

SANDING, ABRADING, OR POLISHING MACHINE.

APPLICATION FILED MAR. 15, 1909.

991,901.

Patented May 9, 1911.

2 SHEETS—SHEET 1.

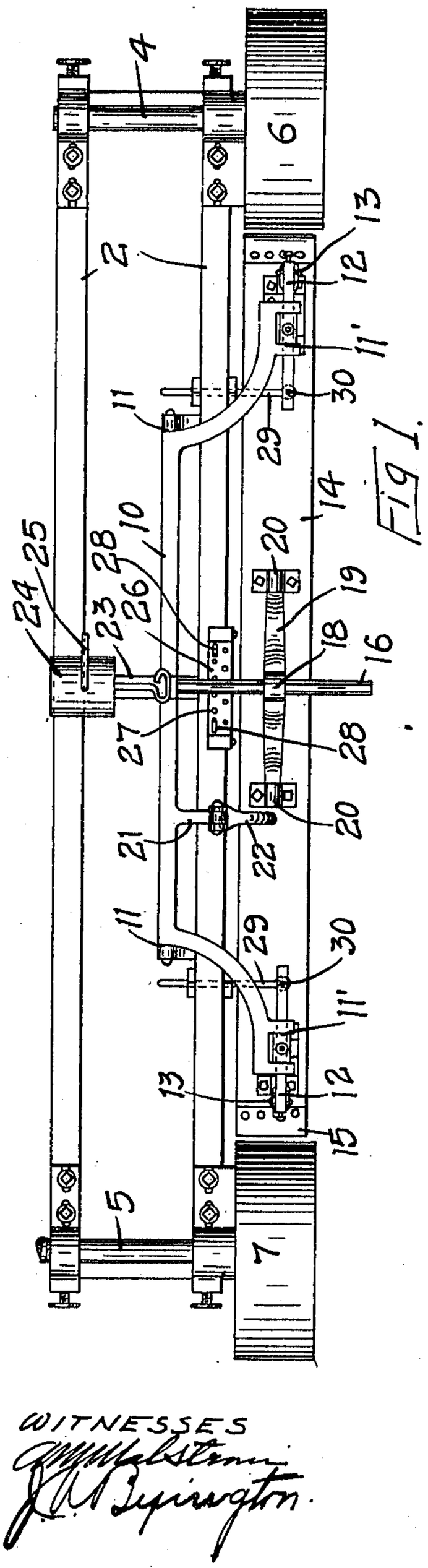

Fig. 1.

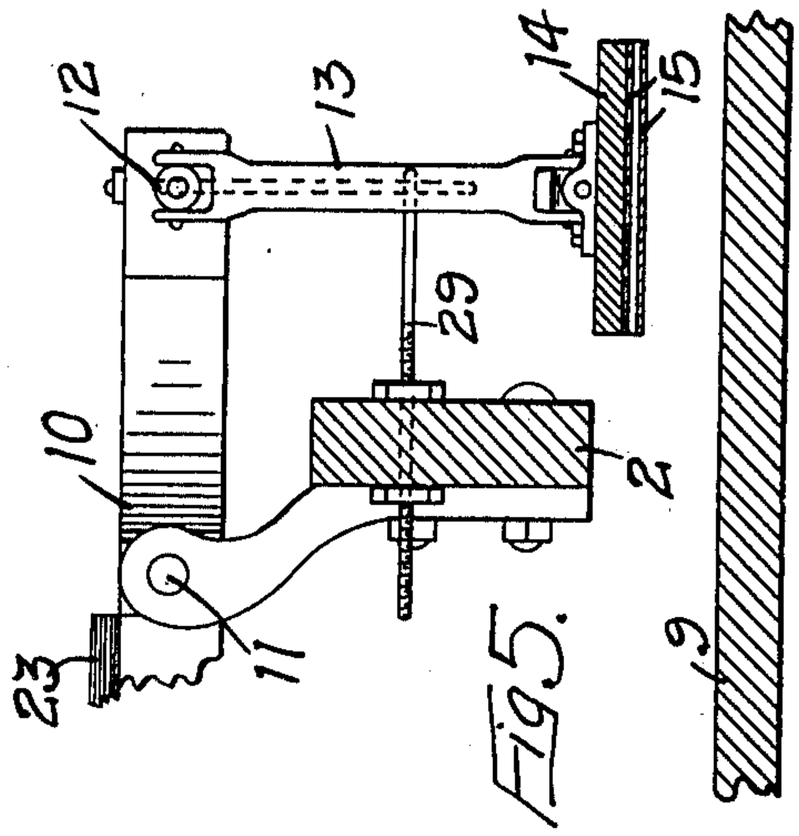

Fig. 5.

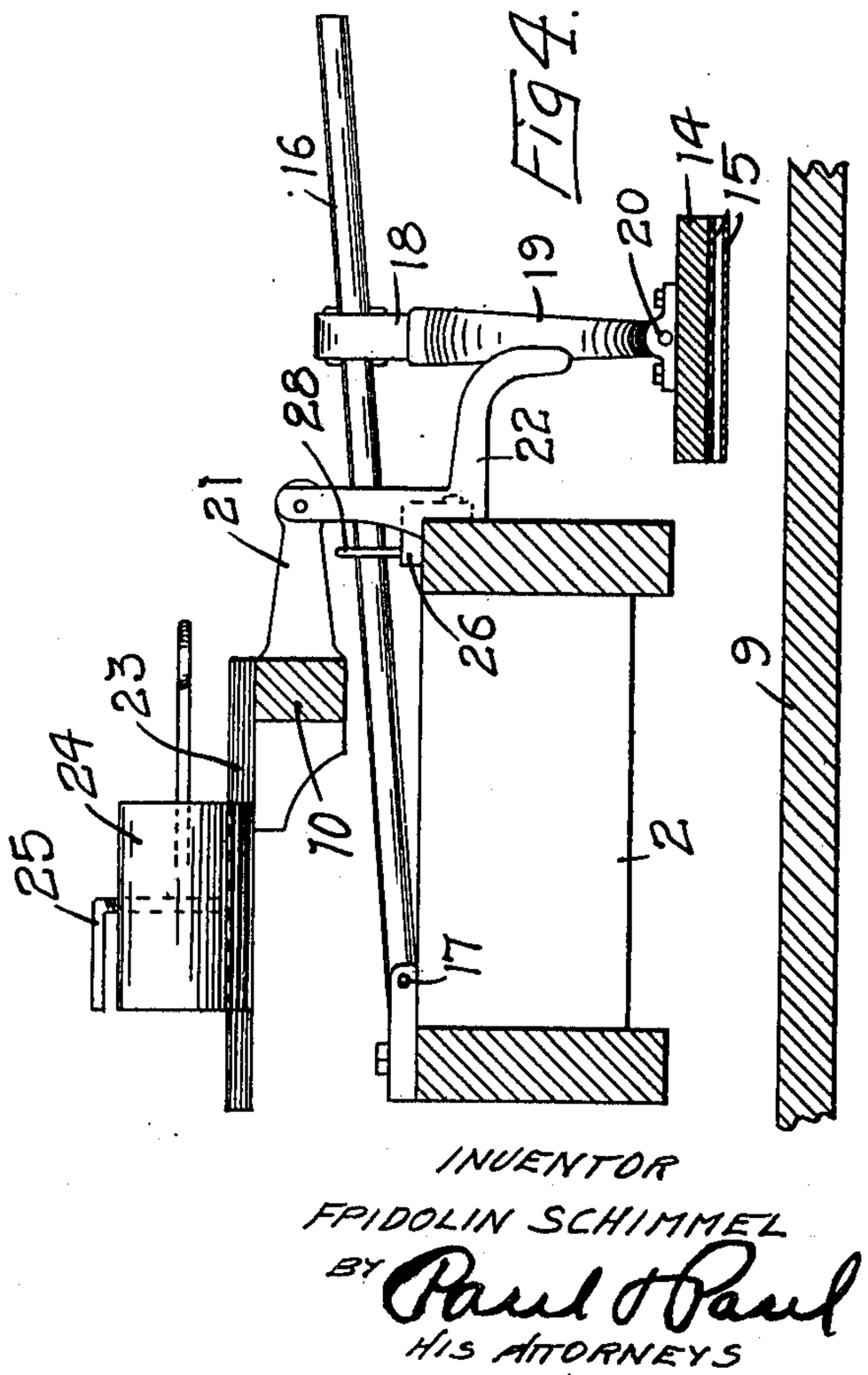

Fig. 4.

WITNESSES

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INVENTOR

FRIDOLIN SCHIMMEL

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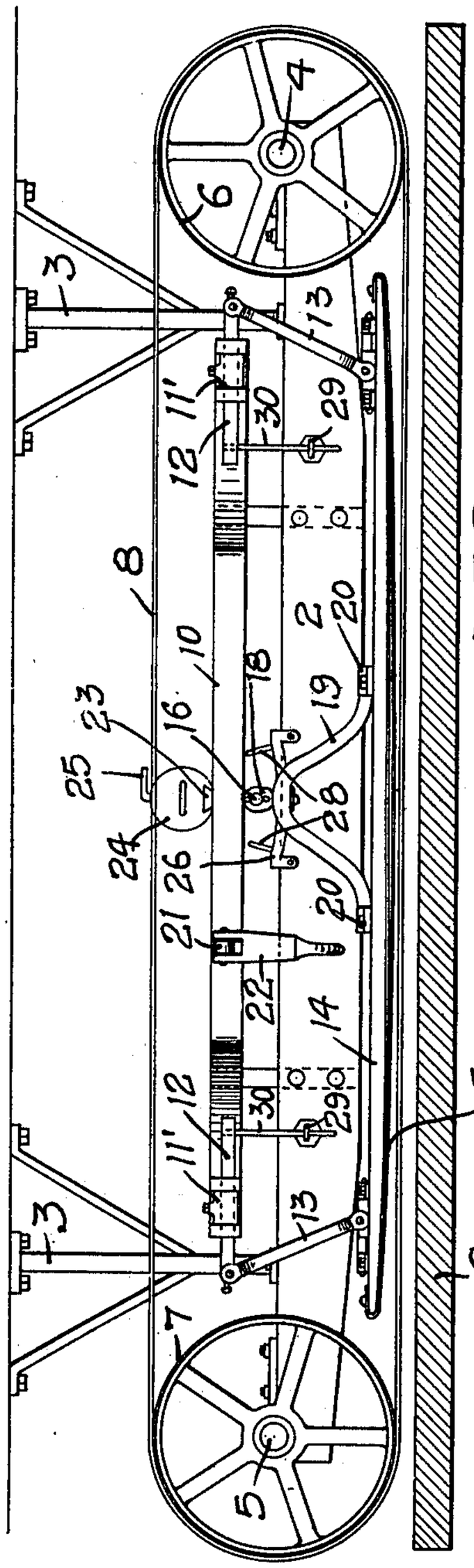

FIG 2.

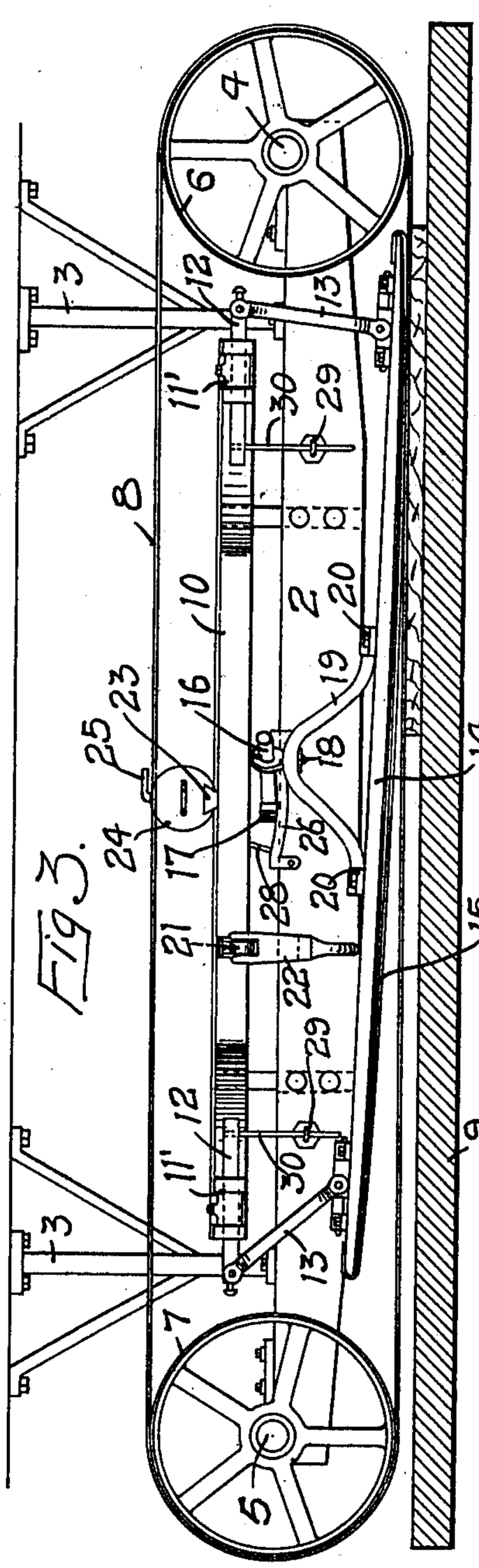

FIG 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

FRIDOLIN SCHIMMEL, OF FARIBAULT, MINNESOTA.

SANDING, ABRADING, OR POLISHING MACHINE.

991,901. Specification of Letters Patent. Patented May 9, 1911.

Application filed March 15, 1909. Serial No. 483,513.

To all whom it may concern:

Be it known that I, FRIDOLIN SCHIMMEL, of Faribault, Rice county, Minnesota, have invented certain new and useful Improvements in Sanding, Abrading, or Polishing Machines, of which the following is a specification.

The object of my present invention is to provide an improved means for supporting the shoe of a machine, which will allow its adjustment longitudinally and will also permit its convenient movement for the purpose of adjusting the shoe in its working position.

A further object is to provide a sanding and polishing machine, in which all standards or supports beneath the machine are eliminated, thus allowing the articles of various lengths that are worked on, to be moved with greater facility around the machine.

My invention consists generally in various constructions and combinations all as hereinafter described and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a plan view of a sanding or polishing machine embodying my invention, Fig. 2 is a side elevation, illustrating the normal position of the machine, Fig. 3 is a similar view, showing the shoe tilted in its working position, Fig. 4 is a transverse, sectional view, illustrating the means for supporting and balancing the shoe, Fig. 5 is a similar view, showing the means for pivotally supporting the shoe to allow its longitudinal oscillation.

In the drawing, 2 represents a frame, supported at each end by hangers 3. Shafts 4 and 5 are journaled in said frame and carry pulleys 6 and 7, which are connected by a belt 8, which operates above a table 9, whereon the material to be sanded or polished is placed.

10 is a yoke journaled at 11 on the frame 2 and having bearings 11′ for the rods 12, which are adjustable horizontally therein. Links 13 are pivotally connected to the ends of the rods 12 and at their lower ends are pivotally attached to a shoe 14. This shoe has a curved lower face and is provided with the usual facing of strips 15. A lever 16 is pivoted at 17 on the frame and has a swivel connection 18 with a bail 19, which has its ends pivoted at 20 on the top of the shoe. By grasping the lever 16, the operator can move the shoe back and forth lengthwise of the belt and force the working surface of the belt down upon the material to be polished.

For the purpose of supporting the shoe in its inoperative position, I provide an arm 21, projecting forwardly from the yoke 10 and supporting an angular lever 22 that is adapted to engage the forward portion of the frame and support the yoke 10 and prevent it from swinging on its pivots. A guide 23 projects rearwardly from the yoke 10 and a weight 24 is slidably arranged on said guide and adapted to serve as a counter balance for the shoe, the pivots of the yoke 10 serving as centers, on which the weight and shoe oscillate. A clamping lever 25 is provided on the weight by means of which, it may be secured at any point on the guideway.

For the purpose of regulating the throw of the operating lever 16, I provide a plate 26 having a series of holes 27 to receive pins 28, which may be moved back and forth in the plate in the path of the lever, so that the throw of the shoe can be easily controlled according to the length of the material on which the belt is working. To prevent lateral oscillation of the shoe, I provide eye bolts 29, adjustable horizontally in the frame of the machine and adapted to receive pins 30, which depend from the bars 12. The table 9, as usual in machines of this kind, is designed to be vertically movable to allow the distance between the abrading belt to be increased or decreased, as desired.

The particular advantage in this machine lies in the fact that it is suspended from above, instead of being supported on a base or standards and I am thus able to work on articles of various kinds, which cannot be conveniently handled on a machine having a base and standards projecting upwardly therefrom.

I claim as my invention:—

1. A machine of the class described, comprising a frame, an abrading belt carried thereby and pulleys therefor, a yoke, a shoe having a curved face, and links pivotally connecting said shoe with said yoke and permitting the longitudinal oscillation of said shoe, a table arranged beneath said frame and having an unobstructed space at its ends between it and said belt, substantially as described.

2. In a machine of the class described, the combination, with a frame, of an abrading

belt and pulleys therefor, a yoke, bars adjustable longitudinally in said yoke, a shoe having a curved surface to contact with said belt, and links pivotally connecting said shoe with said bars.

3. In a machine of the class described, the combination, with a frame, of a yoke journaled therein, rods having bearings in said yoke and adjustable lengthwise therein, links pivotally connected to the ends of said rods, a shoe pivotally attached to the lower ends of said links and having a curved lower face, a lever pivoted on said frame, and a bail pivoted on said shoe and having a swiveled connection with said lever, and an abrading belt with which said shoe engages.

4. The combination, with a frame, of an abrading belt and pulleys therefor, a shoe having a curved face, a bail mounted thereon, links pivotally connecting the ends of said shoe with said frame, and a lever pivoted on said frame and having a swiveled connection with said bail, for the purpose specified.

5. In a machine of the class described, a frame, a lever pivoted on said frame and having a counter balance weight at one end, an abrading belt and pulleys, a shoe disposed between the upper and lower sections of said belt, a bail mounted on said shoe and having a swiveled connection with said lever, and means connecting the ends of said shoe with said frame and permitting the longitudinal oscillation of said shoe, for the purpose specified.

6. In a machine of the class described the combination, with a frame, of a yoke having bearings therein and adapted to oscillate vertically in said bearings, a shoe pivotally connected with said yoke and capable of vertical oscillation therewith and independent longitudinal movement, a bail pivoted on said shoe, and a lever pivoted at one end on said frame and having a swiveled connection with said bail.

In witness whereof, I have hereunto set my hand this fifth day of March 1909.

FRIDOLIN SCHIMMEL.

Witnesses:
R. G. SANFORD,
R. A. MOTT.