

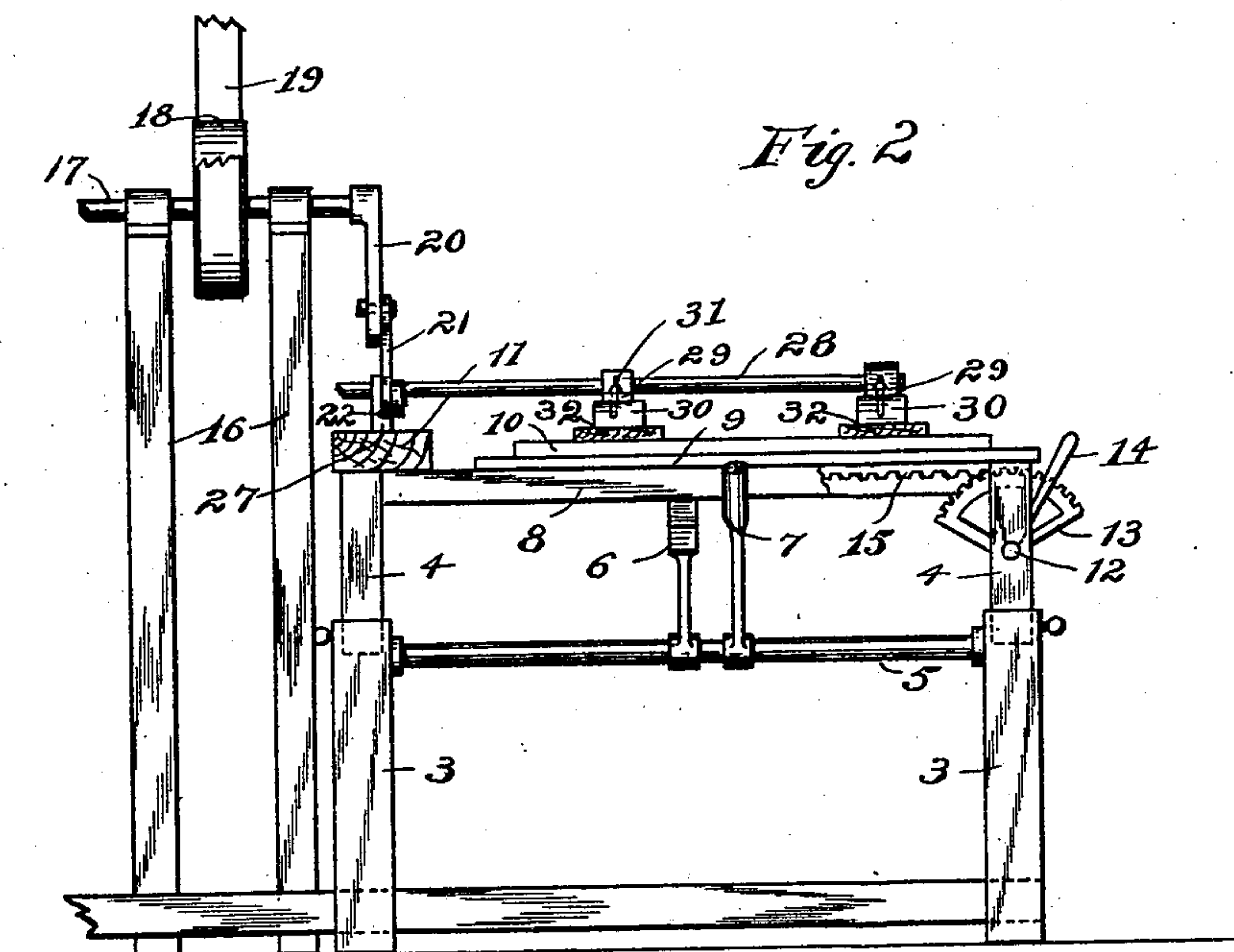
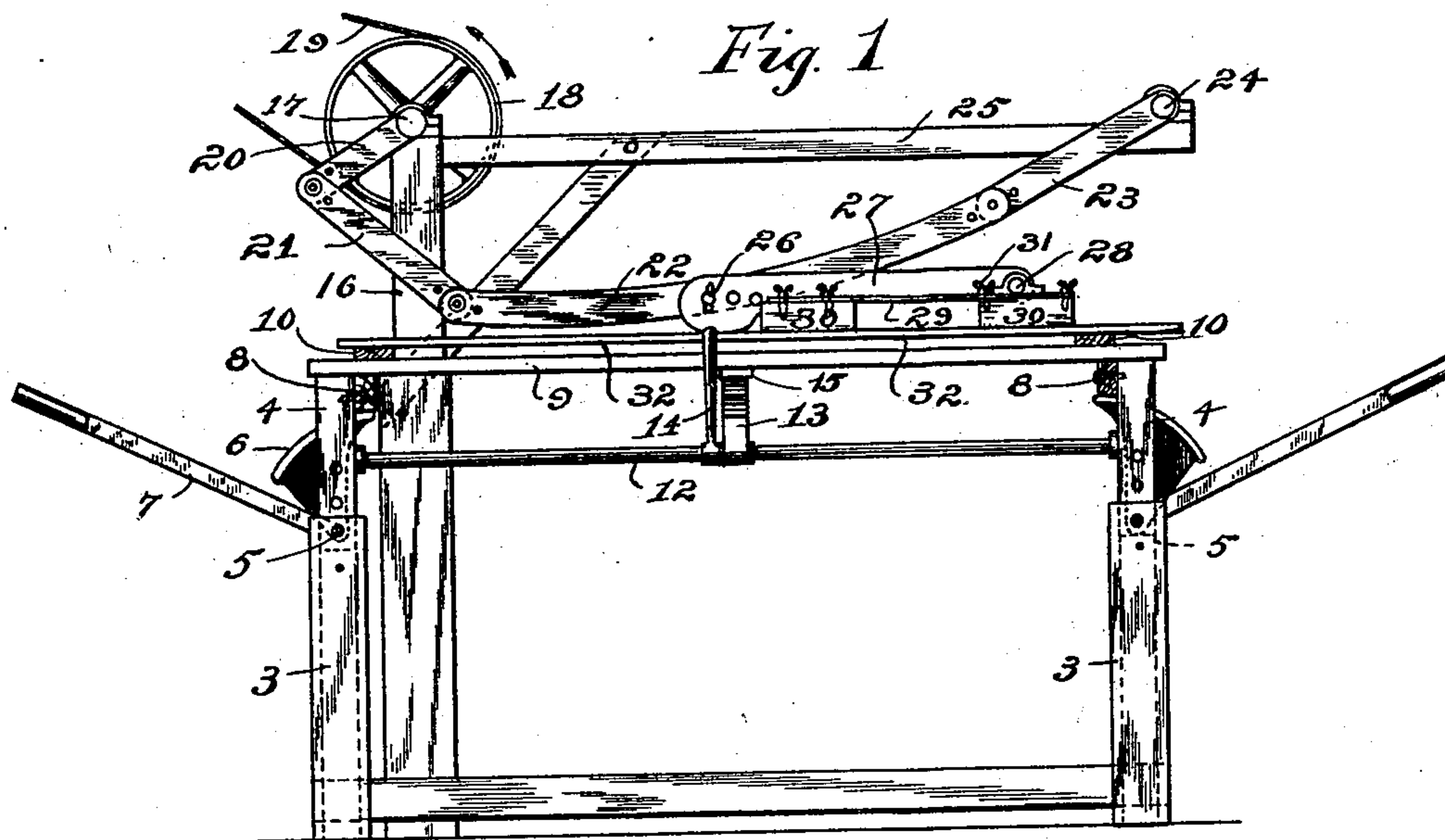
No. 673,692.

Patented May 7, 1901.

P. H. BARZ.
RUBBING OR POLISHING MACHINE.

(Application filed Jan. 4, 1901.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

PAUL H. BARZ, OF CHICAGO, ILLINOIS.

RUBBING OR POLISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 673,692, dated May 7, 1901.

Application filed January 4, 1901. Serial No. 42,091. (No model.)

To all whom it may concern:

Be it known that I, PAUL H. BARZ, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Rubbing or Polishing Machines; and I 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in polishing-machines, and particularly those machines designed for rubbing and polishing the parts of piano-cases, furniture, and other manufactures of wood. Its objects are to provide a machine by which a number of the articles or pieces may be polished at the same time by the use of several sets of polishing-blocks, each of which may be composed of a number of pads.

The further object is to provide a machine in which the extent and location of the surface to be rubbed or polished may be controlled by adjustment of the length of the stroke and by adjustment of the pads composing the several sets relative to the article being polished by each set and also by a lateral and vertical adjustment of the table or bed upon which the articles to be polished are placed.

It is a further object of my invention to provide means whereby the necessary frequent inspection or examination of the surface being polished may be readily accomplished without stopping the machine.

Referring to the drawings, Figure 1 is a side elevation of the machine embodying my invention, and Fig. 2 is a front elevation of the same.

It is intended that the machine shall be constructed in pairs or gangs to afford a balance for the mechanism; but as the machines would be duplicates I have shown only one, with the connecting parts broken away.

The frame of the table or bed on which the material to be polished is placed is formed of the telescoping legs 3 and 4, which may be lengthened or shortened by the arms 6 and 7,

mounted upon the rock-shaft 5, forming levers, the short arms of which bear under the cross-frame 8, secured to the top of the legs 4. Upon these cross-frames is loosely supported the table or bed 9, upon which the work is placed, which table is movable laterally by a toothed sector 13 in engagement with a rack 15, secured to the under side of the table. Said sector is mounted upon a shaft 12, carried in brackets on the legs 4, and has fixed thereto an operating-lever 14. The shaft 17, mounted above the table in bearings on the standards 16, is driven by the pulley 18 and belt 19 in the direction shown by the arrow, and said shaft is provided at its end with a crank 20, having pivoted thereto a pitman 21, to the other end of which is pivoted one end of a link or connecting-bar 22, the other end of which is pivotally connected with a crank 23, secured to the end of a rock-shaft 24, which is mounted parallel to the main shaft in bearings supported by a suitable frame 25. To the link 22, intermediate its ends, is pivoted one end of a connecting-rod 27, the other end of which is attached to a bar 28, which extends transversely across and immediately over the table 9. To this bar are adjustably secured plates 29, to which the rubbing-blocks 30 are adjustably attached, as by thumb-screws 31, passing through perforations in the plate. These plates contain a number of perforations, permitting the blocks to be secured in various places in the length thereof. The number of the plates may be varied according to the number of articles or pieces it is desired to operate on, and the rubbing-blocks may be attached to the plates at places suitable to the length and shape of the pieces being polished, which are represented in the drawings at 32 and as mounted upon loose blocks 10 on the table for convenience of operation. At 27 is illustrated a frame forming a guide-bar, upon which the rod or link 22 is supported and has longitudinal sliding bearing, the object being to prevent other than horizontal rectilinear motion of the link 22.

In operation motion imparted to the main shaft in the direction shown by the arrow is communicated through the crank, pitman, and links and a reciprocatory motion given to the transverse bar 28 and the rubbing-

blocks 30. To shorten the length of stroke, the pivotal connection between the links, pitman, and cranks is adapted to be made and points short of their ends, in which case the table is lifted by the levers 7 and parts connected therewith to bring the table and pieces thereon into the position for effective operation, as made necessary by the elevation of the point of effective horizontal thrust, due to the shortening of the links and connections.

To submit all parts of the surface of the work to the rubbing operation and to permit examination of the parts rubbed, the table and work thereon may be shifted laterally by means of a handle 14 and connected parts.

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

1. In a machine of the character described, in combination, a bed or table having vertical adjustment, rubbing-blocks adjustably attached to a transverse vertically-adjustable reciprocating bar and means for actuating the bar.

2. In a machine of the character described, in combination, a bed or table having vertical and lateral adjustment, a vertically-adjustable reciprocating bar extending over said table transverse to the direction of stroke, rubbing-blocks adjustably attached to the said bar, and means for actuating the bar.

3. In a machine of the character described, in combination, a bed or table having vertical and lateral adjustment, a vertically-adjustable reciprocating bar extending over said table transverse to the direction of stroke, rubbing-blocks adjustably attached to the said bar, and means for actuating the bar consisting of the crank, pitman and links, having pivot connections adjustable to vary the length of the stroke.

4. In a machine of the character described, in combination, a bed or table having vertical and lateral adjustment, rubbing-blocks located over said bed or table and connected

to a vertically-adjustable reciprocating bar, said blocks being adjustable longitudinally and laterally with respect to said bar.

5. In a machine of the character described, in combination, a bed or table having vertical and lateral adjustment, a vertically-adjustable bar extending transversely over said table and reciprocating longitudinally thereof, rubbing-blocks connected to the bar and adjustable longitudinally and laterally with respect thereto and adapted to severally bear upon different pieces of material to be polished, and means for actuating the bar and blocks.

6. In a machine of the character described, in combination, a bed or table having vertical and lateral adjustment, a transverse bar over the table reciprocating longitudinally thereof, a plurality of rubbing-blocks adjustably connected to the bar, and means for reciprocating the bar consisting of a link or rod having a guide, and attached at one end to the bar and at the other end to a swinging rod or link one end of which is supported by a crank depending from a rock-shaft and the other end of which is connected by a crank and pitman to a driven shaft.

7. In a machine of the character described, in combination, a bed or table a reciprocating bar above the table, rubbing-blocks adjustably connected to said bar, means for reciprocating the bar consisting of a link or rod having a guide, and attached at one end to the said bar and at the other end to a swinging rod or link one end of which is supported by a crank and the other of which is connected by a pitman and crank to a driven shaft, and means for varying the points of connection of the links, pitman and cranks, to vary the length of the stroke.

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

PAUL H. BARZ.

Witnesses:

GEORGE E. TEW,
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