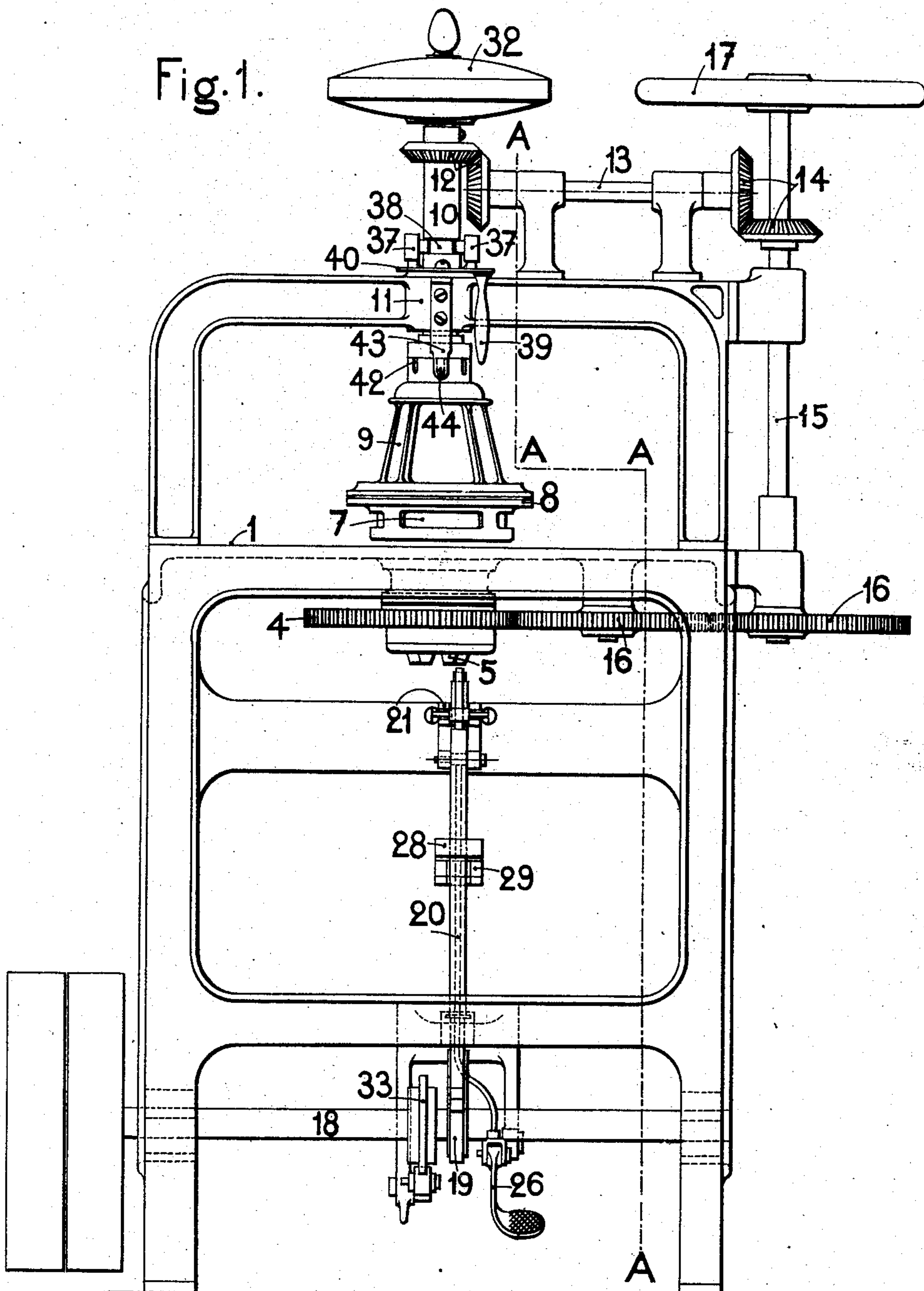


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MACHINE FOR RECTIFYING STEREOTYPE PLATES.  
APPLICATION FILED MAR. 24, 1909.

973,807.

Patented Oct. 25, 1910.

3 SHEETS-SHEET 1.



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Fig. 2.

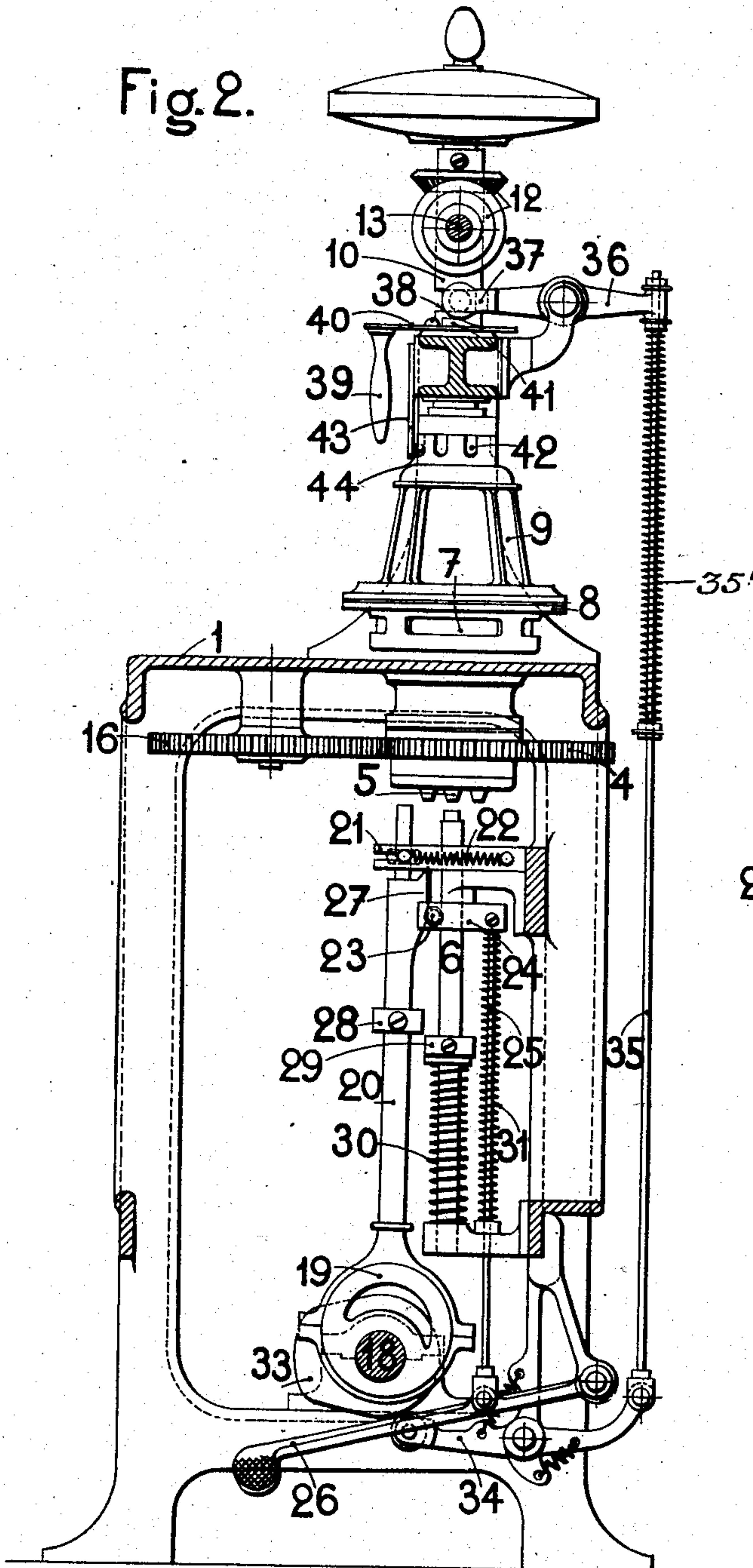


Fig. 4.

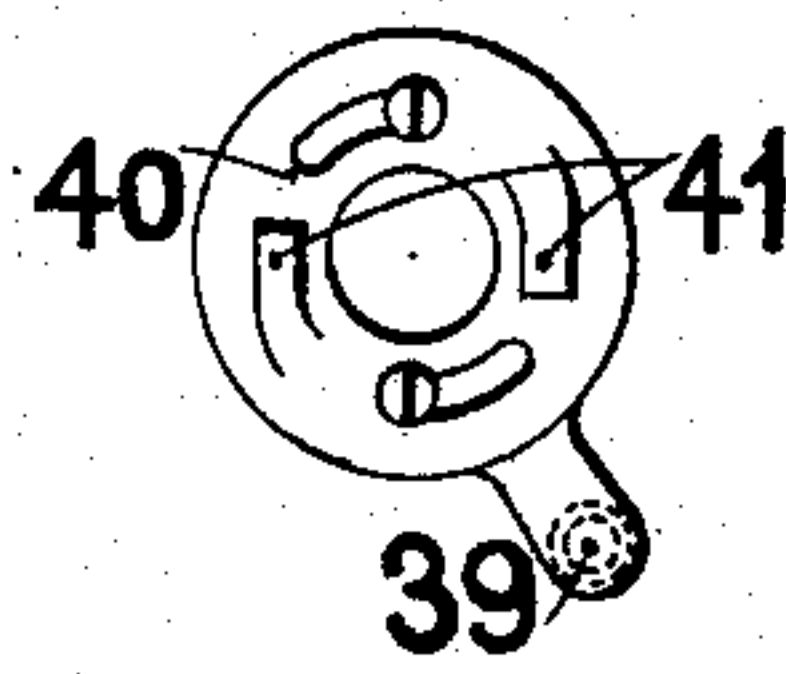
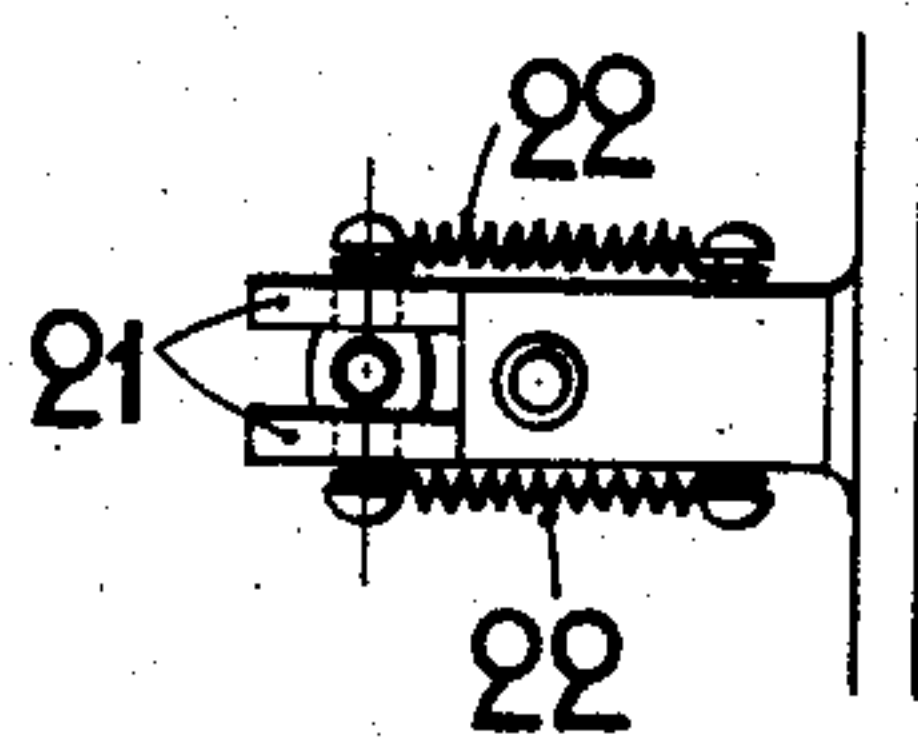


Fig. 3.



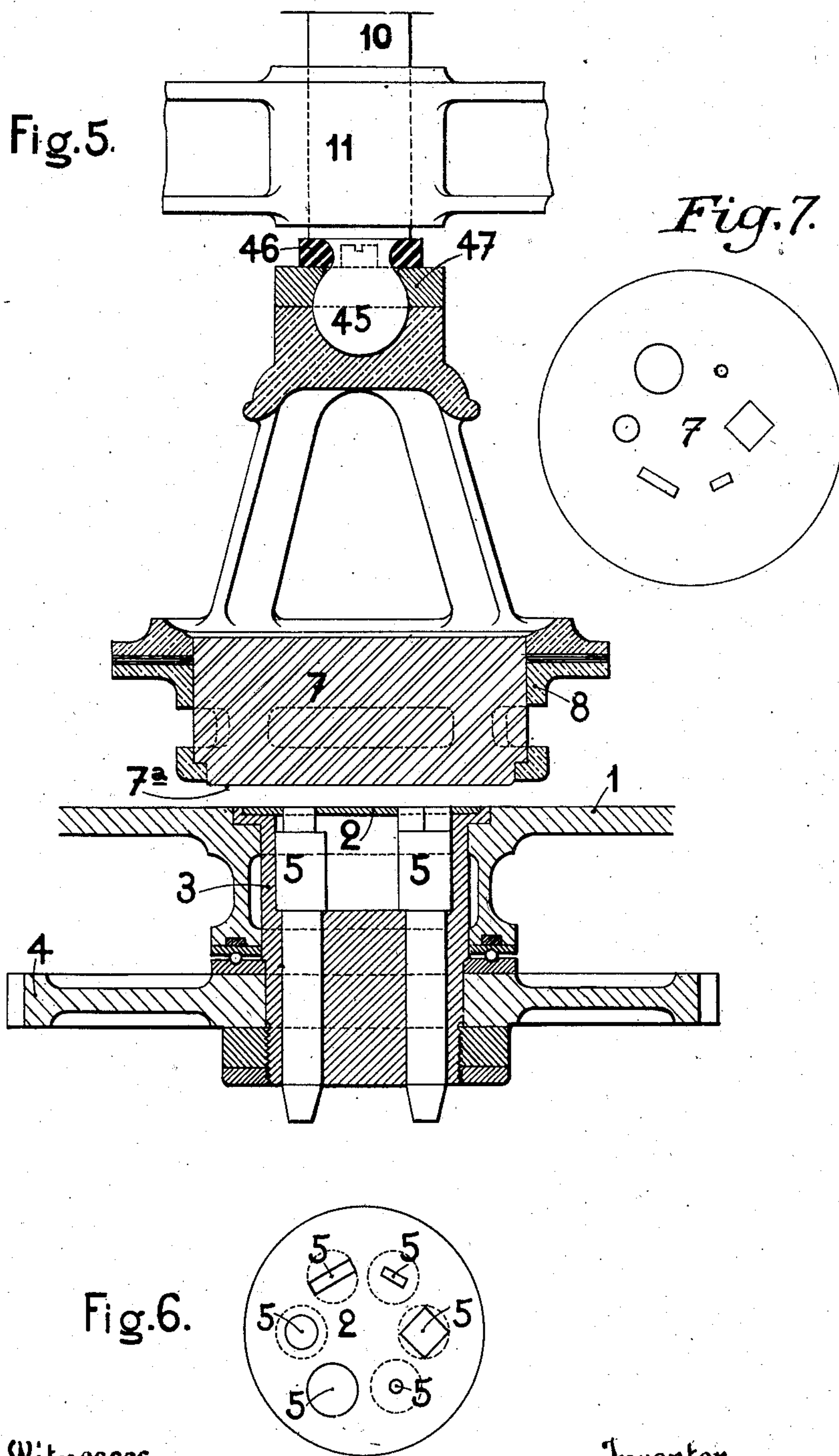
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# UNITED STATES PATENT OFFICE.

PHILIPPE ORSONI, OF PARIS, FRANCE.

MACHINE FOR RECTIFYING STEREOTYPE-PLATES.

973,807.

Specification of Letters Patent.

Patented Oct. 25, 1910.

Application filed March 24, 1909. Serial No. 485,496.

*To all whom it may concern:*

Be it known that I, PHILIPPE ORSONI, a citizen of the French Republic, residing at Paris, France, have invented new and useful Improvements in Machines for Rectifying Stereotype-Plates, of which the following is a specification.

Stereotype-plates always present irregularities after casting which require careful retouching. The surfaces in relief are not absolutely plane, so that the parts which are lower than the others would not produce a proper and clear print if the plate were used as it is. Actually the stereotype plates are rectified or retouched by hand, by means of special tools and in such a manner that the workman after having marked the sunken parts of the plate on the back of the block strikes said marked parts with a hammer until they are rectified. This method is not very precise and takes much time, because the workman who has to work upon the back of the plate can only with difficulty survey his work.

The present invention relates to a machine for mechanically executing this work, which thus is done much quicker and with greater precision.

In the accompanying drawings the machine is represented by way of example.

Figure 1 is a front view of the same; Fig. 2 is a section on line A A A A of Fig. 1; Fig. 3 represents in ground plan the device for returning to its normal position the eccentric shaft of the hammer; Fig. 4 shows in ground plan part of the lifting device for the upper vertical shaft; Fig. 5 is an elevation in section representing the principal parts between which the stereotype plate to be rectified is fixed; Fig. 6 is a ground plan of the disk which carries the embossing tools. Fig. 7 shows the engraved lower surface of the glass block indicating the locations of the embossing tools.

The machine comprises a bed plate 1 which has a circular hole for the reception of a disk 2 which is fixed upon a revoluble support 3 actuated by means of a toothed wheel 4. In said disk 2 there are provided several sockets of various shape which correspond to the shape of the embossing tools 5. Normally, that is to say in their lowest position the upper ends of said tools 5 are on a level with the upper surface of disk 2 which in its turn is on a level with the upper surface of bed-plate 1, but they are

adapted to be lifted under the action of blows exerted upon their lower ends.

The hammer 6 which serves for advancing the tools consists of a strong steel bar which is adapted to be vertically displaced below said tools 5. The axles of the tools are disposed in a circumference which is concentric to the axis of support 3 so that when the disk 2 is rotated any of the tools 5 can be brought over the hammer 6.

Above the bed-plate 1 a glass block 7 is arranged which is mounted in a metal frame 8 which forms a dome 9 permitting the inspection of the work upon the bed-plate. The frame 8 of the glass-block 7 is fixed upon the lower end of vertical shaft 10 revoluble in a support 11 which forms part of the frame of the machine. The glass-block participates in the rotation of said shaft as well as in its vertical displacements; and besides, it participates in the rotation of the tool-disk 2 with which it is connected by means of the conical toothed wheels 12, 12, horizontal shaft 13, cog-wheels 14, 14, vertical shaft 15 and toothed wheels 16, 16 and 4. A hand-wheel 17, keyed upon shaft 15 serves for acting upon the transmission and to operate simultaneously the glass block 7 and the tool-disk 2 as if they formed one integral part. Upon the lower surface of the glass-block 7 the exact contour of the upper end of the different embossing tools are engraved so that the operator of the machine is able to see the exact place of each tool even if a stereotype-plate be inserted between the glass block and the tool-disk.

The machine is used in the following manner:—The stereotype-plate is placed upon the bed-plate 1 with its back turned down so that the printing surface of the plate can be seen through the glass-block 7. The place to be rectified or retouched is then brought over the hammer 6 and the disk 2 is revolved by means of the hand-wheel 17 until the suitable embossing tool 5 is brought over the hammer 6. This is easily done as the glass-block 7 revolves with disk 2 and the exact place of each embossing-tool is marked upon the glass block. When the hammer 6 is now operated the corresponding embossing tool will act exactly upon the spot where a rectification of the stereotype-plate is required.

The hammer 6 is operated in the following manner:—In the lower part of the ma-



chine the driving shaft 18 is mounted which can be operated by means of pulleys or in any other suitable manner. An eccentric 19 is keyed upon said shaft 18 which carries a vertical arm 20, the upper end of which is guided in a vertical slot of the outer end of the guide piece 21 (Fig. 3) so that said arm can move up and down and swing laterally. Springs 22 fixed with one end to said guide piece 21 and with the other end to lateral arms of the vertical arm 20 serve for pulling said lever to the right so that its inclined shoulder 27 bears against a roller 23 fixed upon a movable piece 24 which can be operated by means of the pedal 26 and the connecting rod 25. An abutment piece 28 adjustably fixed upon the vertical arm 20 is destined to act upon the abutment 29 of the hammer 6. The upper end of a strong spiral spring 30 keeps the hammer 6 in lifted position. When the machine is to be used, the driving shaft 18 is rotated in any suitable manner so that the vertical arm 20 is continuously moved up and down from the eccentric 19. The inclined shoulder 27 sliding along the roller 23, the vertical arm 20 is pushed to the left away from the hammer 6 and the abutment 28 of the vertical arm does not come in contact with the abutment 29 of the hammer. If however a pressure is exerted upon the pedal 26, the support 24 of the roller 23 is lowered and consequently the vertical arm is not pushed aside by the roller 23 so that its abutment 28 draws along the abutment 29 of the hammer 6, the latter being thus depressed, while at the same time the strong spring 30 is compressed. As soon as the shoulder 27 of the arm 20 comes in contact with the roller 23, said arm is pushed aside and the abutment 29 being released the hammer 6 is strongly thrown upward by the spring 30. Thus the corresponding tool 5 is struck against the stereotype-plate. The farther the pedal has been depressed the stronger will be the blow struck by the hammer. The strength of the blows therefore can be easily regulated. The sliding-piece 24 is maintained in its lifted position by means of the spiral spring 31.

To make the action of the embossing tool upon the stereotype-plate effective, said plate has to be strongly pressed upon the bed-plate when the blow is being struck. For this purpose a counter-weight 32 is attached to the upper end of shaft 10 which receives the stroke of the hammer and balances the same. The glass-block is slightly lifted after each blow to permit the displacement of the stereotype-plate. This lifting of the glass-plate is effected by any suitable mechanical means, for example, by means of a cam 33 keyed upon driving shaft 18, a lever 34, connecting-rod 35 and lever 36 which is forkshaped and whose arms 37,

engage with a groove 38 of shaft 10. A spiral spring 35' on the rod 35 serves for returning the glass plate to its normal position after the lifting of the same, as the spring is fixed with one end to the rod 35 and with its other end to the lever arm 36. The glass-block may further be lifted by hand in acting upon a handle 39 fixed to a plate 40 mounted upon support 11 of shaft 10 and provided with two beveled projections 41, 41 which, when plate 40 is in a certain position, get under the two arms of lever 36 and force the same to ascend and to take along shaft 10.

To facilitate the adjustment of the glass-block 7 and of the disk 2, incisions 42 are arranged along the upper circumference of the frame 8, 9, so that, by means of a pointed screw 44 carried by a blade spring 43 and which engages with one of said incisions 42 the proper position of said parts is determined.

The perfect application of the transparent block 7 upon the stereotype-plate is facilitated by a ball-joint 45 which forms the connection between the frame supporting said glass block and the vertical shaft 10. An india-rubber washer 46 is inserted between the bush 47 of the ball-joint and the lower surface of shaft 10 and serves to secure during the lifting the position of the frame 8, 9 which the same has assumed upon the stereotype plate during the preceding application.

I claim:—

A machine for rectifying stereotype-plates comprising in combination a bed-plate, having a central opening, a tool-disk revolvably mounted in said central opening and provided with suitably shaped sockets for the embossing tools, embossing tools of various shape mounted in the sockets of the tool disk so that they are on a level with the upper surface of said disk, a hammer arranged under the tool disk and means for throwing the hammer against the lower end of the embossing-tool which is placed over the same, a glass block having the shapes of the embossing tools engraved upon its lower surface at the exact place where such tools are located, a frame for supporting said glass block so that its lower surface is easily visible for the operator of the machine, means for pressing the glass-block upon the tool-disk, means for connecting said glass-block with the tool disk so that they rotate together and suitable means for lifting the glass block from the tool-disk upon which the stereotype-plate is placed, substantially as described and for the purpose set forth.

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