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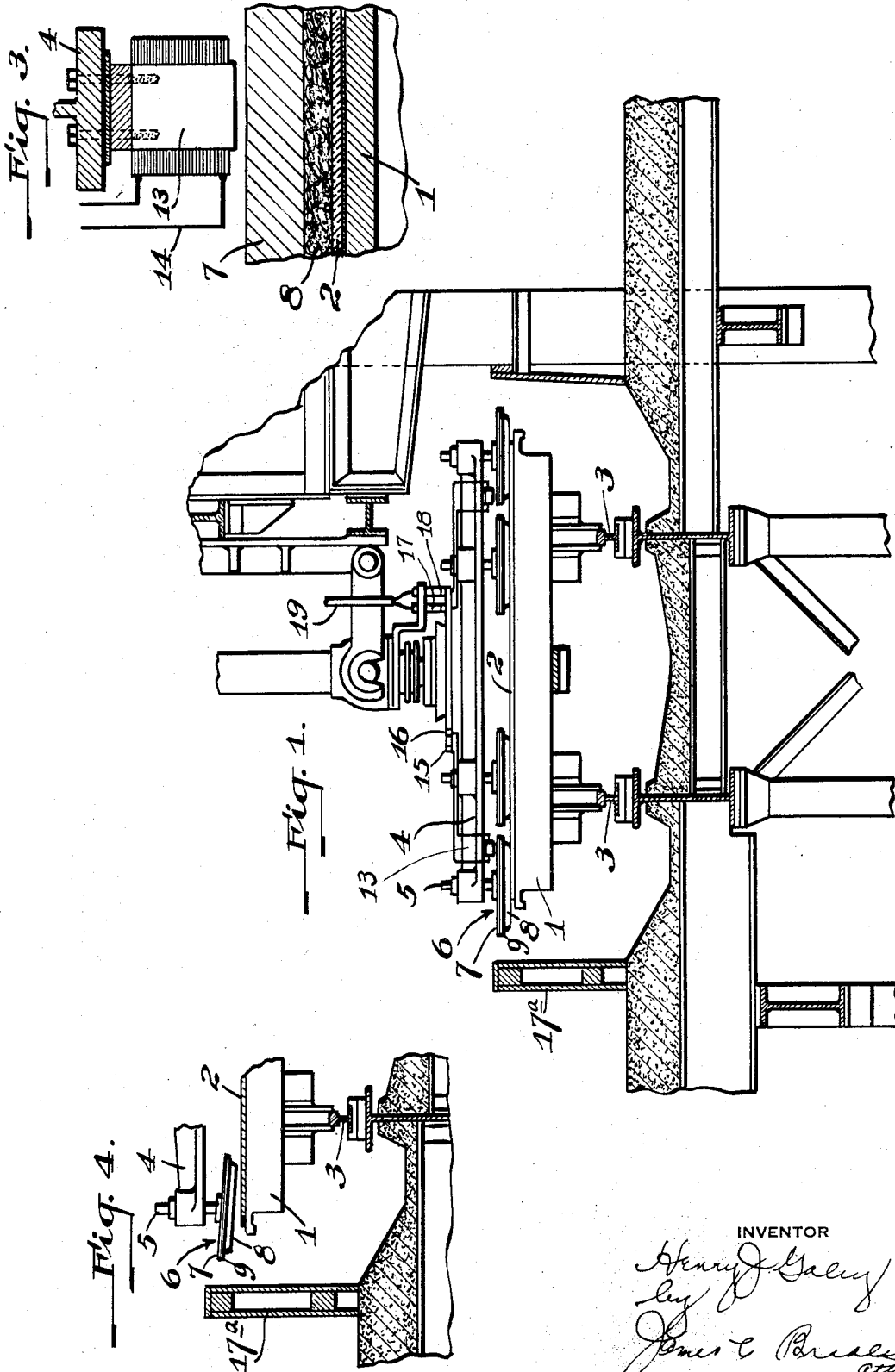
H. J. GALEY

1,934,797

PLATE GLASS POLISHER

Filed May 27, 1930

3 Sheets-Sheet 1



INVENTOR

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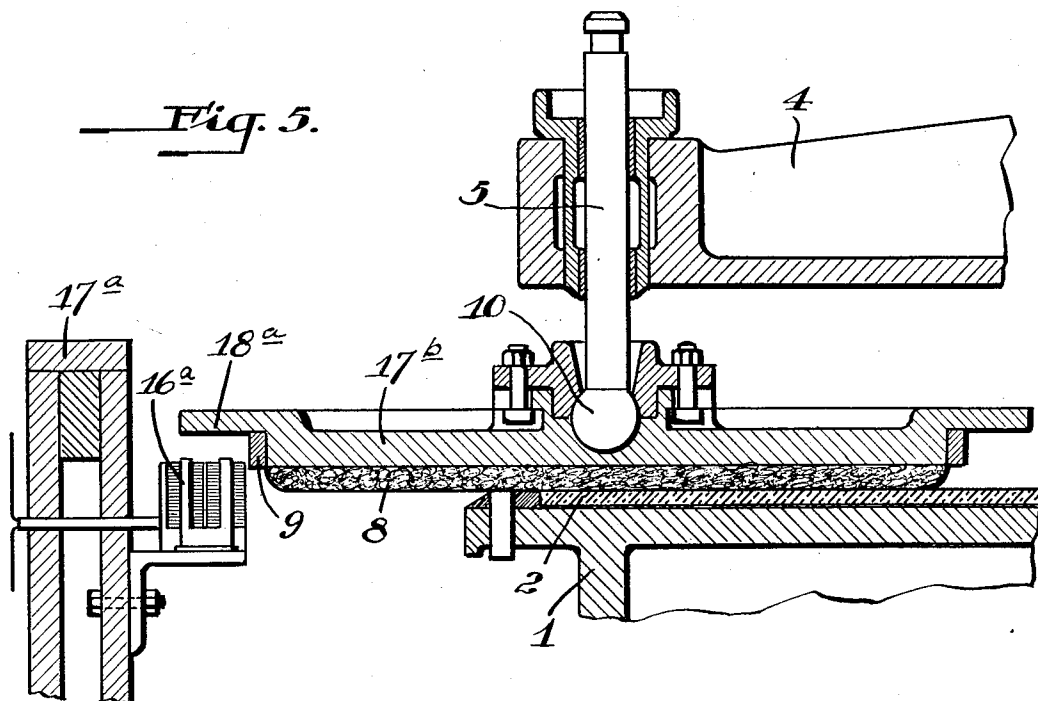
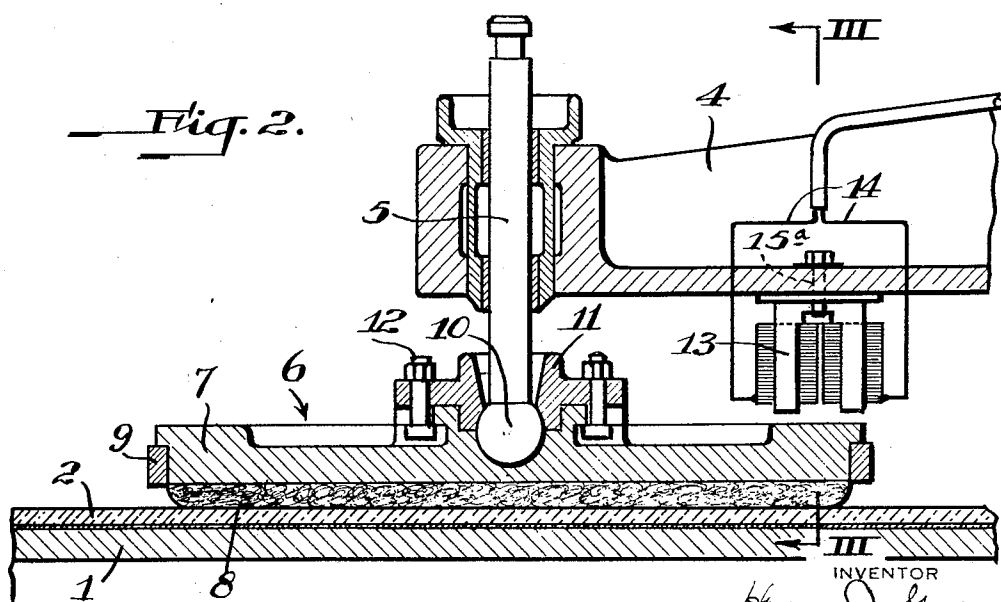
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PLATE GLASS POLISHER

Filed May 27, 1930

3 Sheets-Sheet 2



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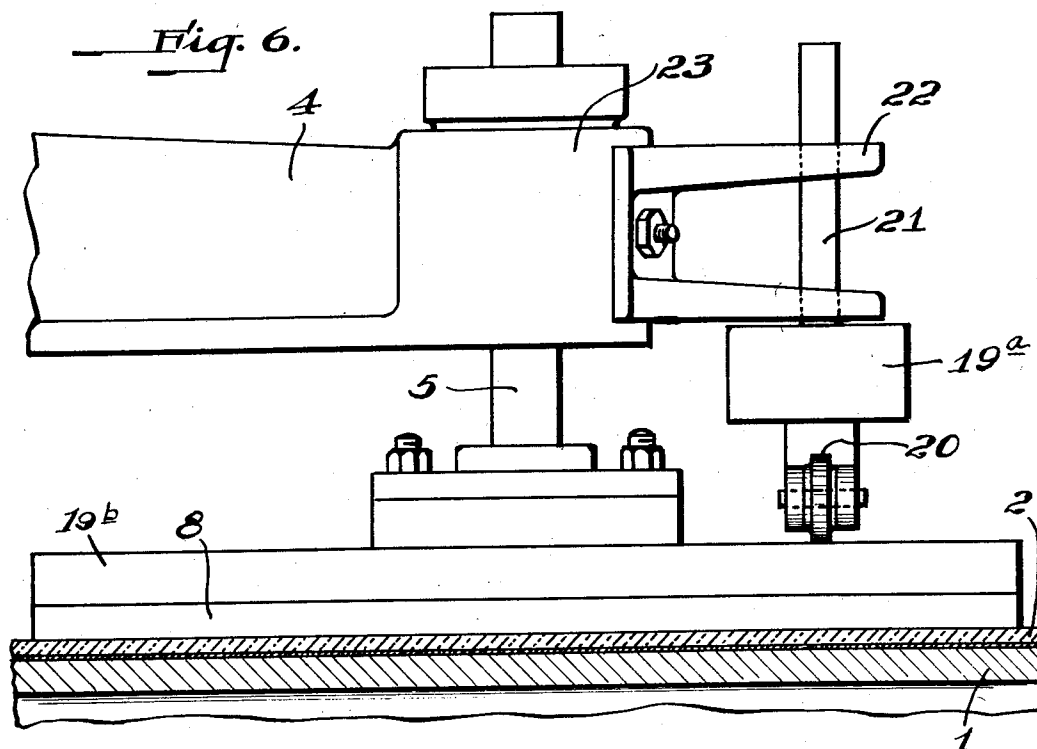
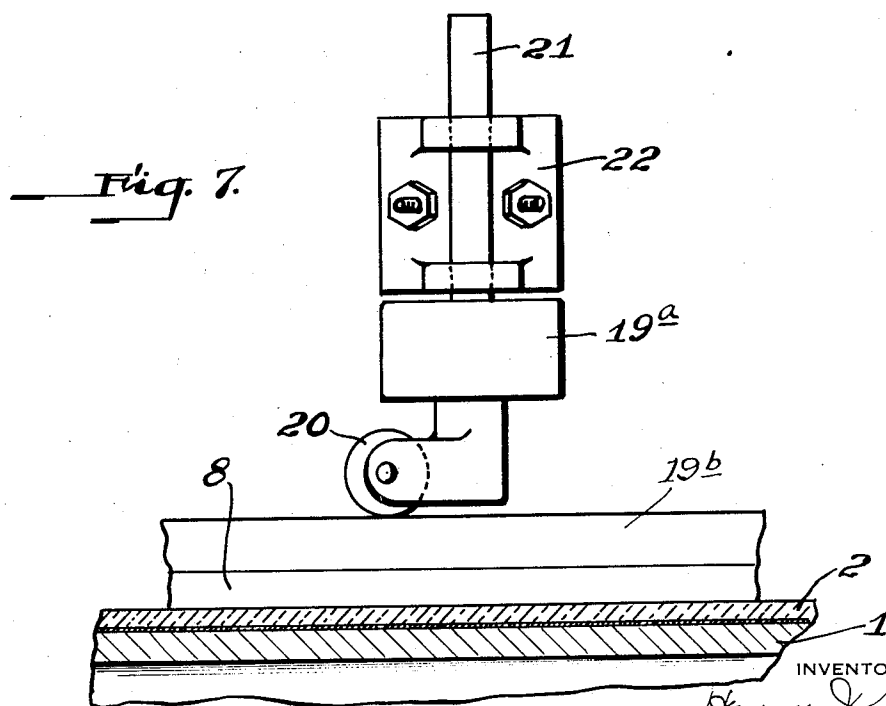
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PLATE GLASS POLISHER

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3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

1,934,797

PLATE GLASS POLISHER

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Application May 27, 1930. Serial No. 456,110

3 Claims. (Cl. 51—109)

The invention relates to plate glass polishers. In the continuous surfacing operation the glass plates to be surfaced are carried upon tables beneath a driven surfacing unit. The polishing units comprise runner frames in the form of spiders rotated by suitable driving means and carrying the polishing blocks mounted for universal movement upon spindles which are freely movable through the runner arms in a vertical direction. The centers of gravity of the polishing blocks lie below their centers of universal support so that under the action of centrifugal force incident to the rotation of the runner frame at a relatively high rate of speed, the block has a tendency to tilt, so that the polishing felt presses more lightly on the glass over the outer half of its area than over its inner half. Under these conditions, (1) the polishing efficiency of the runner is reduced somewhat as compared with a block which presses evenly on the surface of the glass throughout the area of the block, and (2) the extreme margins of the sheet are not as well polished as the body of the sheet inside such margins.

The present invention is designed to overcome the tendency of the block to tilt under the action of centrifugal force, so that the block exerts a uniform pressure on the glass throughout its area. Certain embodiments of the invention are illustrated in the accompanying drawings, wherein:

Figure 1 is a vertical section through a polishing machine embodying the invention. Fig. 2 is an enlarged section through one of the polishing blocks and cooperating parts. Fig. 3 is a section on the line III—III of Fig. 2. Fig. 4 is a partial section and partial side elevation illustrating the tendency of the block to tilt under the action of centrifugal force. Fig. 5 is a vertical section through a modification. And Figs. 6 and 7 illustrate a modified construction in which weights are employed to secure the counterbalancing effect upon the polishing blocks.

Referring to Figs. 1 and 4, 1 is a table carrying a glass sheet 2 and movable on the tracks 3 beneath the polishing runner having the arms 4; 5 is the spindle of the polishing block; and 6 is a polishing block. The block is shown as tilted which is the position occupied by the block under the influence of centrifugal force when raised above the surface of the glass and when used without the equalizing means constituting the subject matter of the present invention.

Referring to Figs. 1, 2 and 3 which show a construction with the improvement applied there-

to, 7 is the body of the block of cast iron or other suitable material; 8 is the polishing felt having its edges turned up along the edges of the block, and clamped thereto by means of the ring 9; and 10 is a ball at the lower end of the spindle 5 fitting a socket in the top of the plate 7 and held by means of the block 11, in turn secured by the bolts 12. The center of gravity is below the center of support of the block on the ball 10, so that under the action of centrifugal force as the arm 4 rotates, the block tends to assume the position shown in Fig. 4. To counteract this action, a magnet 13 is employed, which magnet is secured to the arm 4 by means of the bolts 15^a. The coils of the magnet are supplied with current by means of the leads 14. A pair of collector rings 15 and 16 are carried on the spider and contact is made with such rings by means of the brushes 17 and 18 supplied from leads in the cable 19. The construction may be arranged so that current is supplied continuously to the coils of the magnet, or this supply of current may be made intermittent so that the magnet is energized only when the polisher block is adjacent the outer side of the glass sheet 2, as it is this part of the sheet which is ordinarily under-polished. The magnet tends to move the inner edge of the plate 7 upward and this forces the opposite edge downward, thus counterbalancing the tendency of the block to tilt, as indicated in Fig. 4. The magnetic force may be so adjusted that it is just sufficient to counterbalance the tendency of the block to tilt; or it may be somewhat greater so that the block bears down harder against the glass at its outer edge than at its inner edge, thus giving the additional polishing effect.

Fig. 5 illustrates a modification in which the magnet 16^a is located on the guard member 17^a along the line of movement of the table. In this case the plate 17^b of the block is provided with an outwardly projecting flange 18^a which passes over the poles of the magnet. This accomplishes substantially the same result as that secured in the other construction, as the magnet pulls the outer side of the plate 17^b down, thus increasing the pressure between the felt and the glass sheet 2 adjacent the edge of the plate.

Figs. 6 and 7 illustrate a modification in which a weight 19^a is employed to secure the counterbalancing effect upon the polisher block secured by the magnets of the Figs. 1 to 5 constructions. In this construction, the upper face of the plate 19^b forms a track upon which rides the roller 20. This roller is carried upon a spindle 21 mounted

for free vertical movement in the bracket 22 which is bolted to the end 23 of the arm 4. The weight 19^a is sufficient to counterbalance the tendency of the block to tilt so that the necessary pressure is secured between the outer edge of the block and the glass sheet. The result accomplished is, therefore, the same as in the constructions of Figs. 1 to 5.

What I claim is:

1. In combination in a polishing machine, a rotatable driven support, a polishing block mounted on the support for rotation about its axis and adapted for tilting movement with its center of support above its center of gravity, and means for applying an electromagnetic force in a vertical direction to the block on one side of its axis of rotation to prevent its tilting under the influence of centrifugal force.

2. In combination in a polishing machine, a rotatable driven support, a spindle mounted for

vertical movement in the support, a polishing block mounted on the spindle for tilting movement with its center of support above its center of gravity, and means carried by the support at one side of the spindle and independent thereof for applying force in a vertical direction to the block on one side of its axis of rotation tending to prevent its tilting movement under the action of centrifugal force.

3. In combination in a polishing machine, a rotatable driven support, a spindle mounted for vertical movement in the support, a polishing block mounted on the spindle for tilting movement with its center of support above its center of gravity, and a weight carried by the support outward of the spindle and independent thereof and adapted to apply pressure to the block so as to counteract the tendency to tilt under the action of centrifugal force.

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