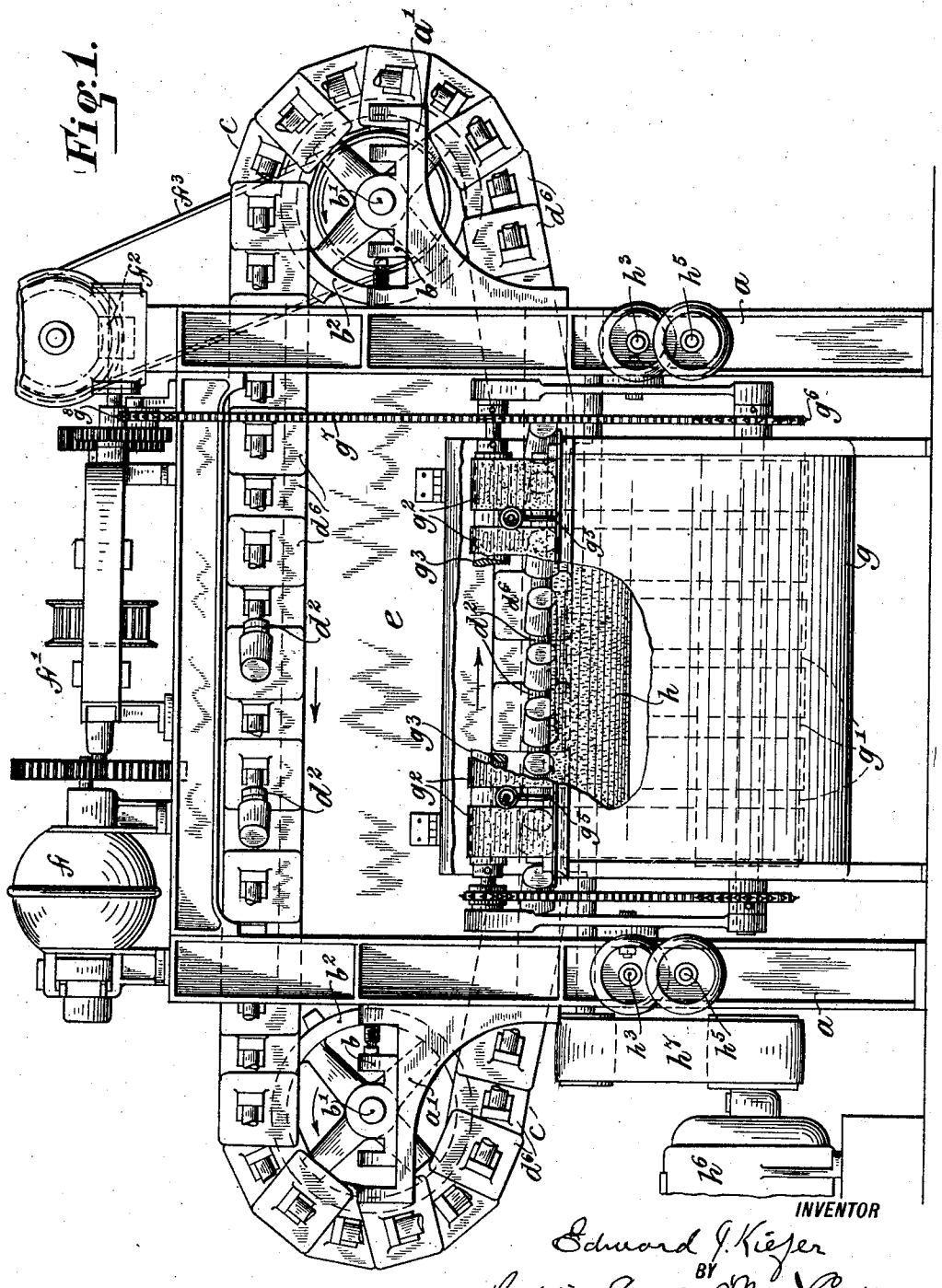
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GLASS POLISHING MACHINE

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Fig. 1.



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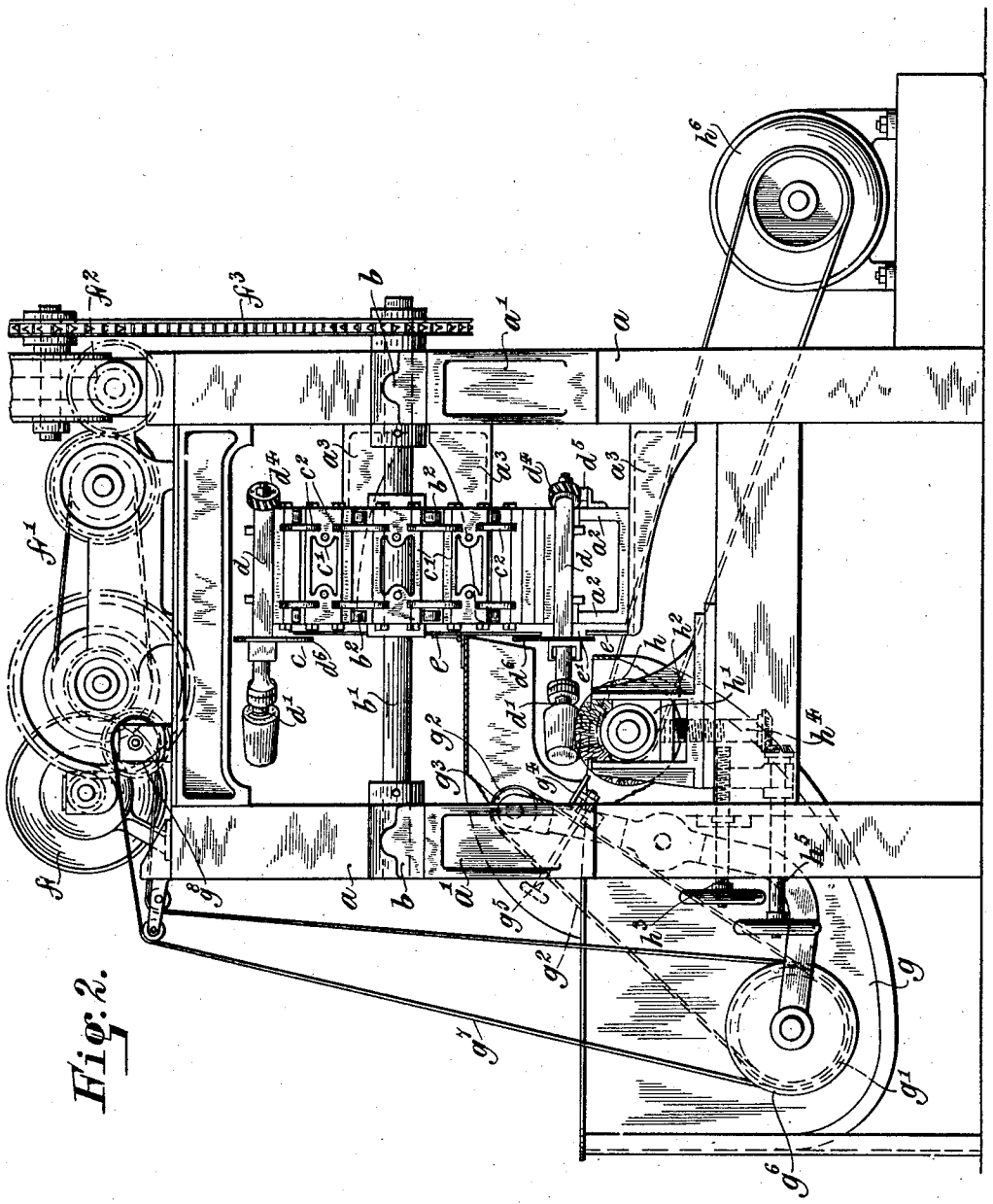


Fig. 2.

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GLASS POLISHING MACHINE

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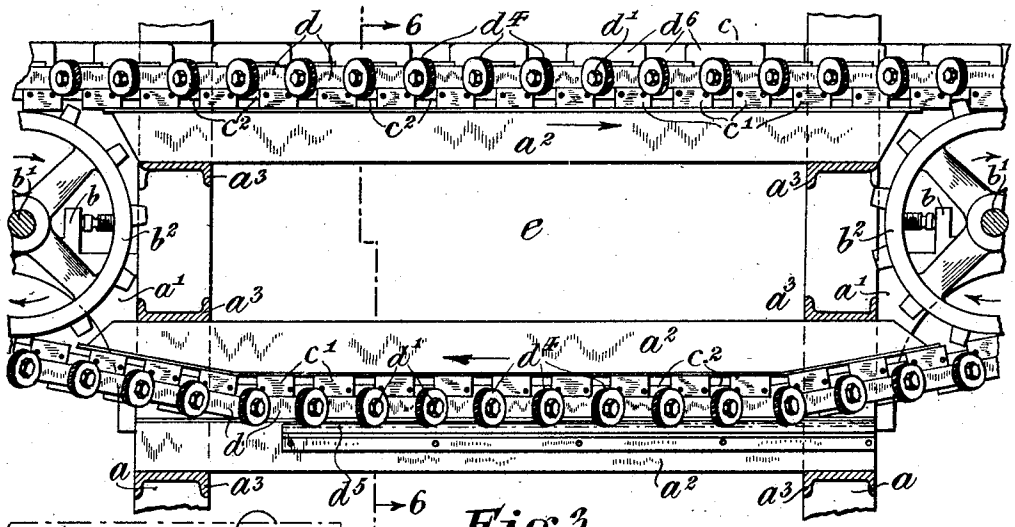


Fig. 3.

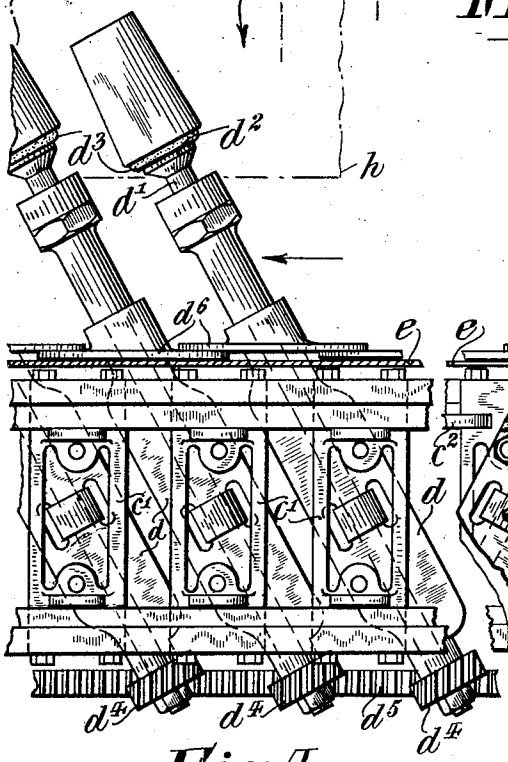


Fig. 4.

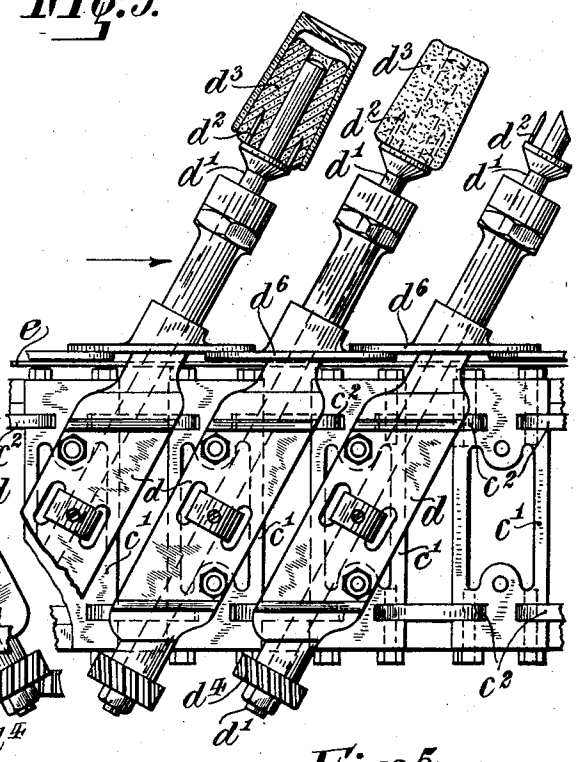


Fig. 5.

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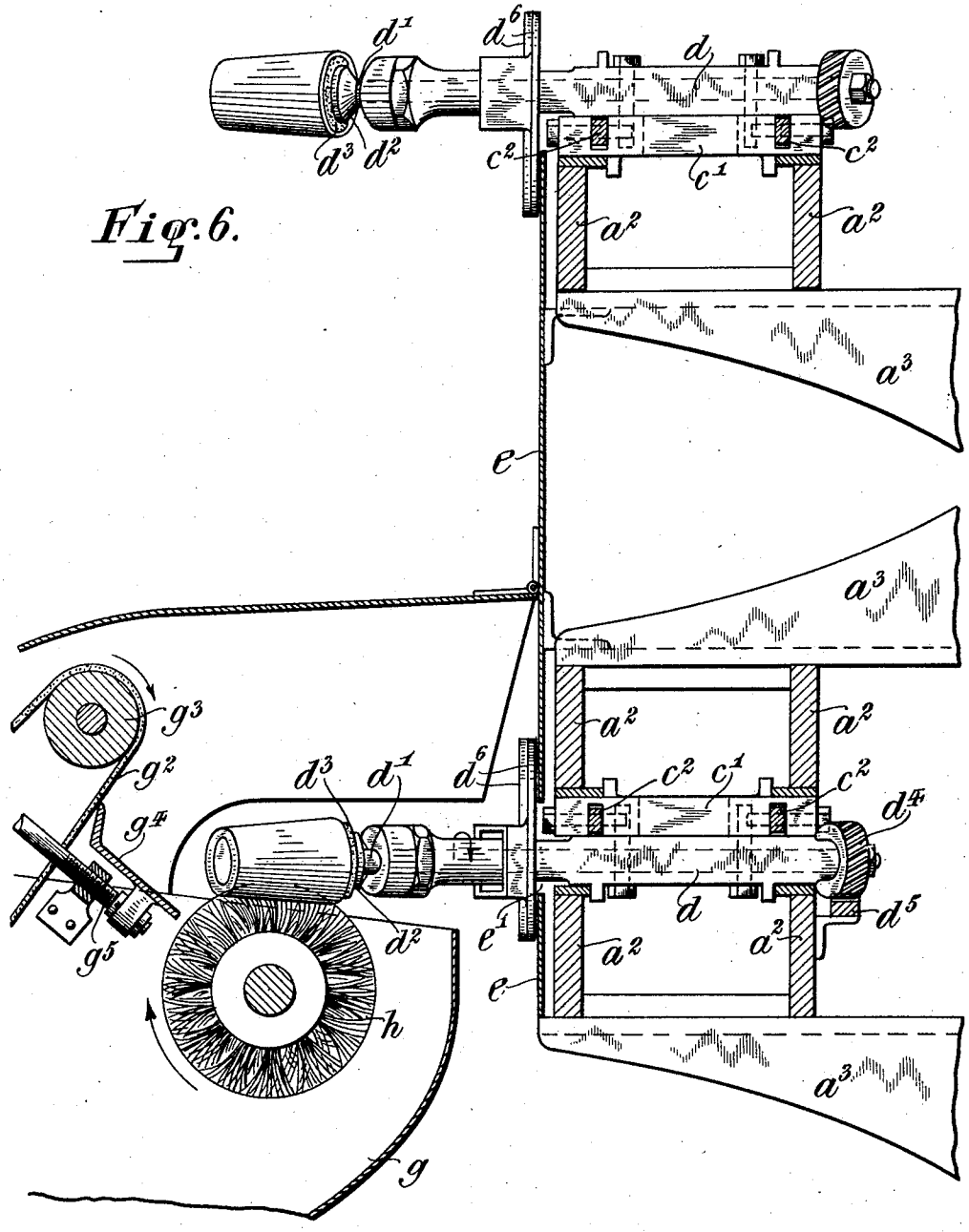
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GLASS POLISHING MACHINE

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Fig. 6.



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UNITED STATES PATENT OFFICE

EDWARD J. KIEFER, OF NEW YORK, N. Y.

GLASS-POLISHING MACHINE

Application filed May 1, 1925. Serial No. 27,180.

This invention has for its object to produce an improved machine for the polishing of glass tumblers and the like and especially to secure in the operation of such machine efficiency, great capacity and freedom from breakage of the articles operated on. The machine comprises an endless carrier to which the tumblers or the like are applied and from which they are removed by the attendant, and by which they are presented to the polishing devices, a receptacle for the wet polishing material, a polishing brush, means for feeding the polishing material to the brush, and suitable driving means and adjusting devices, all of which will be more particularly referred to hereinafter with reference to the accompanying drawings in which the machine is illustrated and in which—

Figure 1 is a view in front elevation of the improved machine, partly broken out to show details of construction and with parts broken away to save space.

Figure 2 is a view of the same in end elevation as seen from the right hand in Figure 1.

Figure 3 is a detail view in sectional elevation as seen from the rear, showing particularly the carrier.

Figures 4 and 5 are detail views of portions of the lower and the upper members of the endless carrier as seen from above, one of the chucks or holders being shown in section in Figure 5.

Figure 6 is a detail view in section on the plane indicated by the broken line 6—6 of Figure 3, with parts broken away.

A suitable framework a supports on brackets a', adjustable bearings b for shafts b' which support sprocket wheels b^2, on which is supported an endless carrier c. The carrier is composed of supporting members or frames c' and links c^2 which unite them in an endless chain. Each supporting frame or member c' supports a bearing member d in which is mounted for rotation and disposed at an angle oblique with respect to the endless carrier, a spindle d', which at one end has a chuck or holder d^2, preferably fitted with a cork body d^3 to receive the tumbler or the like to be polished. At the other end the spindle d' has a pinion d^4 with teeth formed at an angle in conformity with the angle at which the bearing member d is set. Adjacent to the path of movement of the lower member of the carrier c, in position to be engaged by the pinions d^4 is a fixed rack d^5. Through engagement of the pinions d^4 with the rack d^5, in the movement of the carrier, the spindles d' and therefore the tumblers mounted thereon are rotated as the tumblers move over the brush hereinafter mentioned, and are polished on all sides. Between the sprockets b^2 the upper and lower members of the endless carrier are supported and guided by rails a^2 which form a part of the frame of the machine and are themselves supported and held in position by suitable brackets a^3

In order to protect the carrier as far as possible from the polishing material, which is thrown about forcibly by the polishing brush, there is placed in front of the carrier a partition plate e which is slotted longitudinally at e' to permit the projection therethrough of the bearing members d, and in order to prevent, as far as possible, the movement of the polishing material through the slot, each bearing member is provided with a guard plate d^6, the several guard plates overlapping, as shown, so as to close the slot completely between the bearing members.

The carrier c is driven at relatively slow speed through suitable mechanism which, as shown, may comprise a motor f, spur gear and cone pulley reduction mechanism shown generally at f', worm gear indicated at f^2 and a sprocket and chain connection f^3 to one of the shafts d' above mentioned.

The polishing material, as a liquid mixture, is placed in a receptacle g, suitably enclosed, in which is mounted a cylindrical brush h, in contact with which the tumblers are transported by the carrier c. In order that the brush may be positioned properly with respect to the tumblers in their movement, the bearings h' of the brush are supported on vertically adjustable blocks h' which are themselves supported in horizontally adjustable boxes h^2. A screw shaft h^3, provided with a hand wheel, provides

for horizontal adjustment of the boxes h^2 and a screw shaft h^4, geared to a horizontal shaft h^5, both shafts being supported by the adjustable boxes h^2, provides for vertical adjustment of the brush. The brush is rotated at high speed by any convenient means such as a motor h^6 belted to the brush as shown in Figures 1 and 2.

The brush h is not intended to be submerged in the polishing material, but to have the polishing material fed to it. For this purpose there is mounted in the receptacle g a drum g', shown in dotted lines in Figures 1 and 2. A belt or belts g^2 pass about the drum g' and about a drum g^3 which may be supported within the upper portion of the receptacle g. Under the upper ends of the belts g^2 is a doctor blade g^4, adjustably supported by screw shaft g^5, by which the polishing material which is elevated by the belts is directed in regulated quantity upon the brush h. The drum g' may be driven by any convenient means as by a pulley or sprocket wheel g^6 on the shaft of the drum, a belt or chain g^7 and a pulley or sprocket wheel g^8 driven through suitable reducing gearing by the motor f.

The mode of operation of the improved machine will be readily understood and it will be obvious that the tumblers or the like to be polished can be applied to and removed from the carrier by the attendant with great facility, that they are brought into contact with the polishing brush in the movement of the carrier and are rotated while in contact therewith, at the same time being held at an oblique angle so as to insure the most satisfactory results, that the polishing material is fed to the brush as the conditions of operation require, and that the carrier is protected from the polishing material which is thrown about forcibly and may be thrown out of the receptacle to some extent.

I claim as my invention:

1. A machine for polishing glass tumblers and the like, comprising a carrier, a brush mounted adjacent to the carrier, means to support the tumblers on the carrier with their axes at an oblique angle with respect to the carrier, means to rotate the tumblers while in contact with the brush, and means to drive the carrier and the brush, the direction of movement of the brush exerting a force on the tumbler to resist its removal from the carrier during polishing action.

2. A machine for polishing glass tumblers and the like, comprising, a carrier, a brush mounted adjacent to the carrier, means to support the tumblers on the carrier with their axes at an oblique angle with respect to the carrier, means to rotate the tumblers while in contact with the brush, means to supply polishing material to the brush, means to drive the carrier and the brush the direction of movement of the brush exerting a force on the tumbler to resist its removal from the carrier during polishing action.

This specification signed this 24th day of April, A. D. 1925.

EDWARD J. KIEFER.