No. 650,004. Patented May 22, 1900.

L. H. BRINKMAN.

POLISHING MACHINE.

(Application filed Aug. 23, 1899.)

(No Model.) 3 Sheets—Sheet 1.

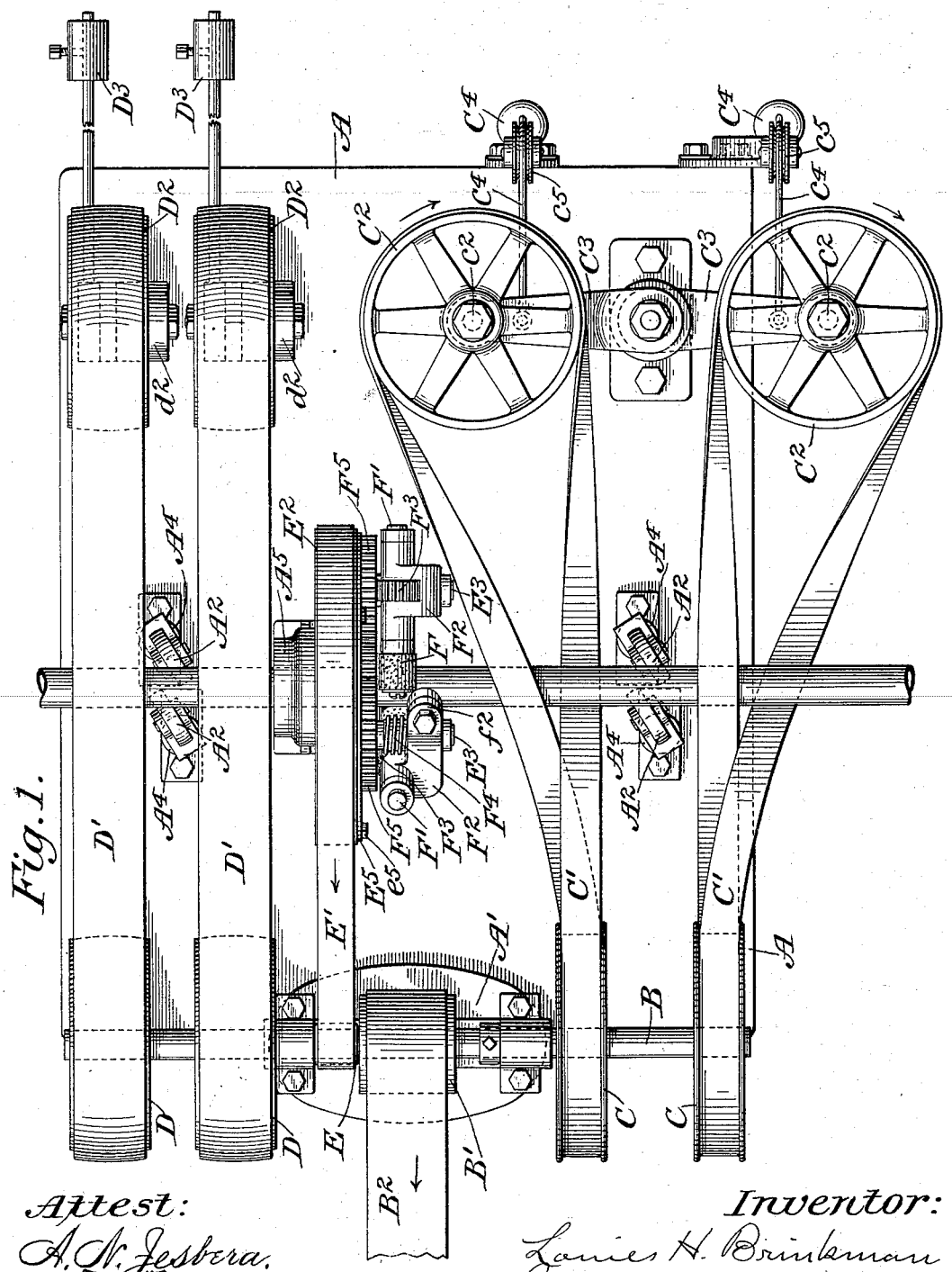

Fig. 1.

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Fig. 2.

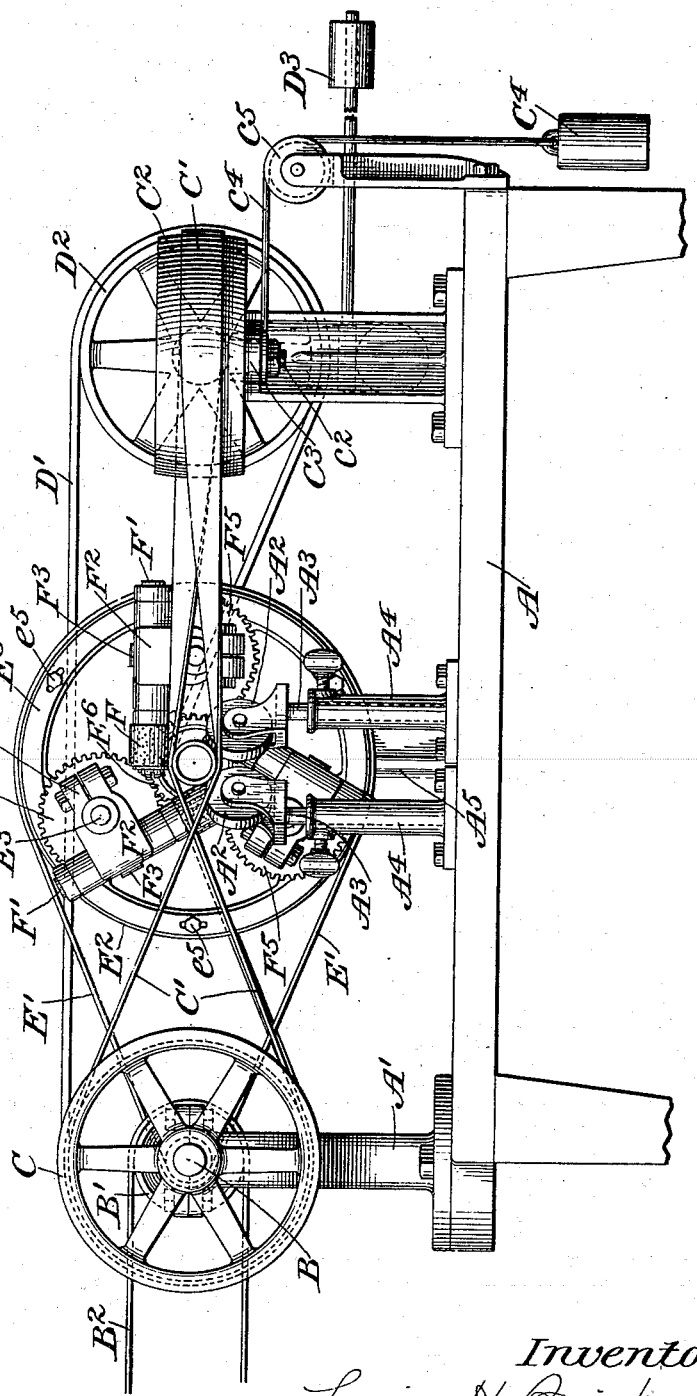

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Fig. 4.

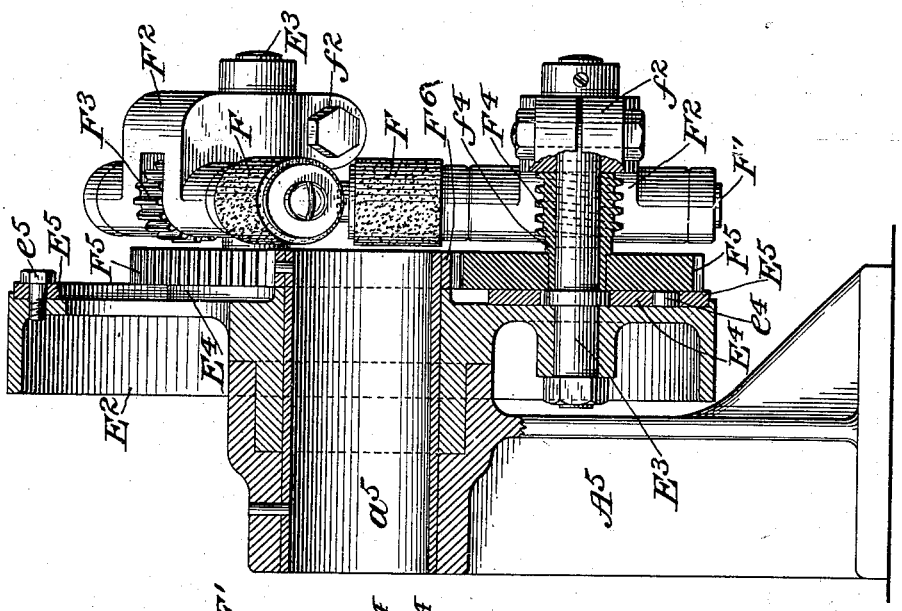
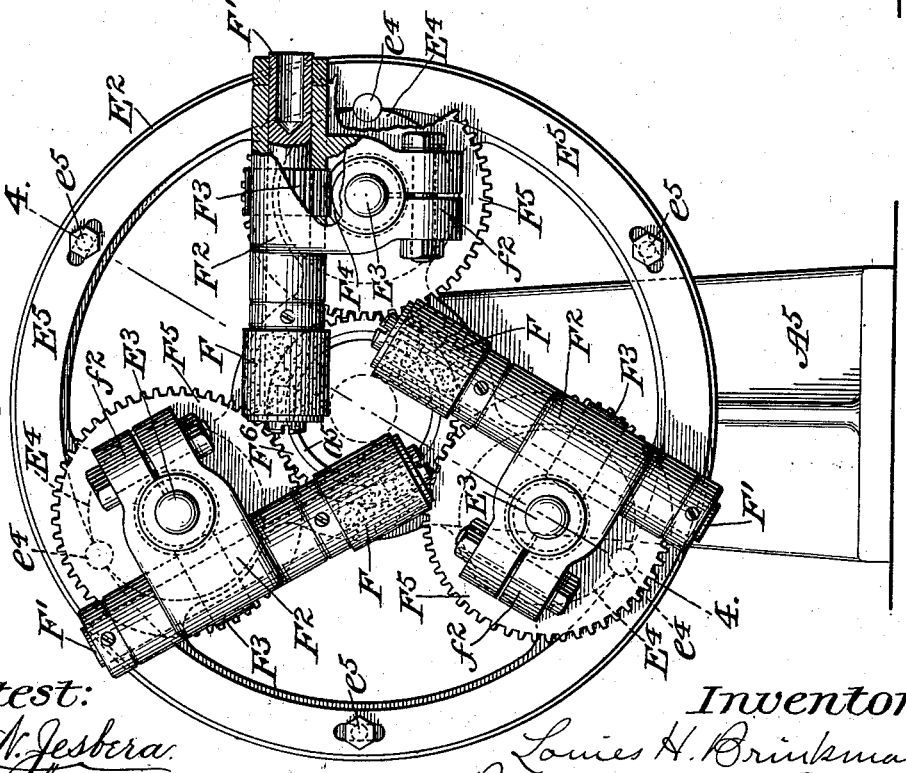


Fig. 3.



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UNITED STATES PATENT OFFICE.

LOUIES H. BRINKMAN, OF NEW YORK, N. Y.

POLISHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 650,004, dated May 22, 1900.

Application filed August 23, 1899. Serial No. 728,176. (No model.)

To all whom it may concern:

Be it known that I, LOUIES H. BRINKMAN, a citizen of the United States, residing in the borough of Brooklyn, city of New York, State of New York, have invented certain new and useful Improvements in Polishing-Machines, of which the following is a specification, reference being had to the accompanying drawings, forming a part hereof.

This invention relates particularly to machines for polishing rods, tubes, &c.

One object of the invention is to improve the general construction and arrangement of such machines with a view to enabling them to perform their work rapidly and with a high degree of efficiency.

Another object is to improve the construction of the mechanism for feeding the rod or tube through the machine, and especially to enable such feeding mechanism to be adjusted readily to rods or tubes of different diameters.

The invention will be more fully described hereinafter with reference to the accompanying drawings, in which it is illustrated in a convenient form, and in which—

Figure 1 is a plan view of a machine which embodies the invention. Fig. 2 is an end view of the same. Fig. 3 is an elevation, on a larger scale, of the feeding mechanism, partly in section and broken out to show details of construction; and Fig. 4 is a section on the plane indicated by the line 4 4 of Fig. 3.

The several working parts of the machine shown in the drawings are supported upon a suitable bed-plate or frame A. In suitable bearings on a central pedestal A′ is mounted a short shaft B, which receives the pulley B′ for the driving-belt B^2, one or more driving-pulleys C for the polishing-belts C′, one or more driving-pulleys D for the polishing-belts D′, and a pulley E for the driving-belt E′ of the feeding mechanism. Rolls A^2, mounted upon stems A^3, adjustable longitudinally and rotatably in standards A^4, are arranged to support the rod or other article to be polished parallel with the shaft B. Belts C′ are arranged to act first upon the article to be polished, and may be of any suitable material. In order that they may act upon a larger surface of the article to be polished, both members of each belt are arranged for contact therewith and are crossed with such article between them, and, furthermore, that the abrasions of one member may be crossed at one angle by the abrasions of another member the two members are disposed at different angles. For this purpose the pulleys C^2, about which the belts are also carried, are disposed with their axes at an angle with the axis of the pulleys C, being preferably supported upon vertical spindles c^2, which are carried by arms C^3, mounted to swing about a vertical axis. Weights C^4, connected by cords c^4 to the arms C^3 and passing over suitable guide-pulleys c^5, serve to force the pulleys C^2 away from the pulleys C and to keep the belts C′ under proper tension. The pulleys D^2, which serve as carrying and tightening pulleys for the belts D′, are supported by arms d^2, which are mounted to swing upon a horizontal axis and are provided with weights D^3.

The feeding mechanism is preferably mounted between the belts C′ and D′ upon a suitable pedestal A^4. Upon a sleeve a^5, secured in a pedestal A^5, is mounted to rotate a driving wheel or pulley E^2, which receives the driving-belt E′. To the face of the pulley E^2 are secured spindles E^3, one for each of feed-rolls hereinafter referred to. Each spindle is rotatable in its bearing and has secured thereto a disk E^4, while upon the face of the pulley E^2, near its periphery, is adjustably secured by a bolt-and-slot connection, as at e^5, an adjusting-ring E^5, which is engaged, as by means of a tooth or roller e^4, entering notches in each, with the several disks E^4. It is evident that by a movement of the ring E^5 in one direction or the other the several spindles E^3 will be rotated together, and the feed-rolls, which are supported by the spindles, as more fully described hereinafter, will be moved toward or from the axis of the tube a^5 to accommodate rods or tubes of different diameters. The feed-rolls F, which have their axes substantially at right angles with the axis of the rod or tube operated upon, are mounted upon short shafts F′, supported in suitable bearings in blocks F^2, which are secured to the spindles E^3, as by means of suitable clamps f^2, which afford a convenient means of attachment and also permit independent adjustment of each feed-roll to compensate for unequal wear should it be necessary. A pinion F^3 on each shaft F′ is

engaged by a worm F^4, formed on a sleeve f^4, which is mounted on a corresponding spindle E^3. A gear F^5 is secured to the sleeve f^4 and meshes with a pinion f^6, fixed to the stationary sleeve a^5. In this manner the feed-rolls F, which rotate about the axis of the rod or tube operated upon and rotate upon their own axes, compel the rotation of such rod or tube and at the same time feed it forward through the machine. Since the feed-rolls are supported by the spindles E^3 in the manner already described, it will be seen that the partial rotation of such spindles in one direction or the other will cause the feed-rolls to move toward or away from the axis of the sleeve a^5 to accommodate rods or tubes of different sizes.

The operation of the machine will be readily understood from the foregoing description of its construction, and no further explanation will be required herein.

It will be understood, of course, that the invention is not limited to the precise construction and arrangement of parts shown and described herein.

I claim as my invention—

1. In a polishing-machine, the combination of a polishing-belt having both members in contact with the article to be polished and pulleys for said belt, said pulleys having their axes at an angle with each other, whereby the members of the belt have different angles with relation to the article to be polished, substantially as shown and described.

2. In a polishing-machine, the combination of a polishing-belt having both members in contact with the article to be polished, a driving-pulley for said belt, a tightening-pulley having its axis at an angle with that of the driving-pulley, and means to press said tightening-pulley from the driving-pulley, substantially as shown and described.

3. In a polishing-machine the combination of a driving-shaft having pulleys thereon, tightening-pulleys, polishing-belts carried by the pulleys on said driving-shaft and said tightening-pulleys, and a feeding mechanism and supports between said driving-shaft and said tightening-pulleys, substantially as shown and described.

4. A feeding mechanism comprising a rotating wheel or disk, a bearing-block pivoted on said wheel or disk, a feed-roll supported by said bearing-block with its axis substantially at a right angle with the axis of said wheel or disk, and means to rotate said bearing-block to move the feed-roll to or from the axis of the wheel or disk, substantially as shown and described.

5. A feeding mechanism comprising a rotating wheel or disk, bearing-blocks pivoted on said wheel or disk, feed-rolls supported by said bearing-blocks with their axes substantially at right angles with the axis of the wheel or disk, means to rotate said feed-rolls about their own axes; and a ring circumferentially adjustable on the wheel or disk and connected with said bearing-block, whereby said bearing-blocks may be rotated and the feed-rolls moved simultaneously toward or from the axis of the wheel or disk, substantially as shown and described.

This specification signed and witnessed this 4th day of August, A. D. 1899.

LOUIES H. BRINKMAN.

In presence of—

ANTHONY N. JESBERA,

L. R. MOORE.