No. 633,722. Patented Sept. 26, 1899.

J. KOENIG.

GRINDING, POLISHING, OR BUFFING MACHINE.

(Application filed Jan. 26, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

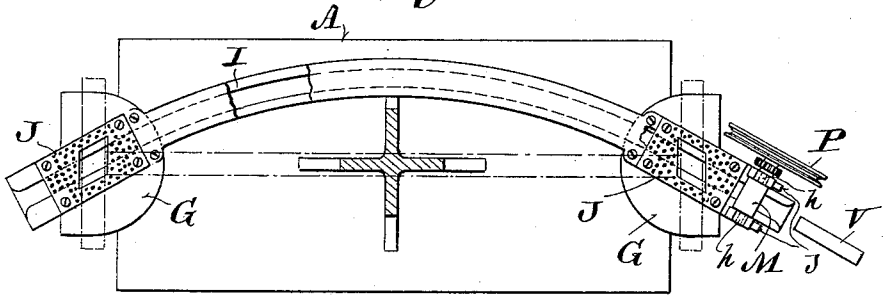
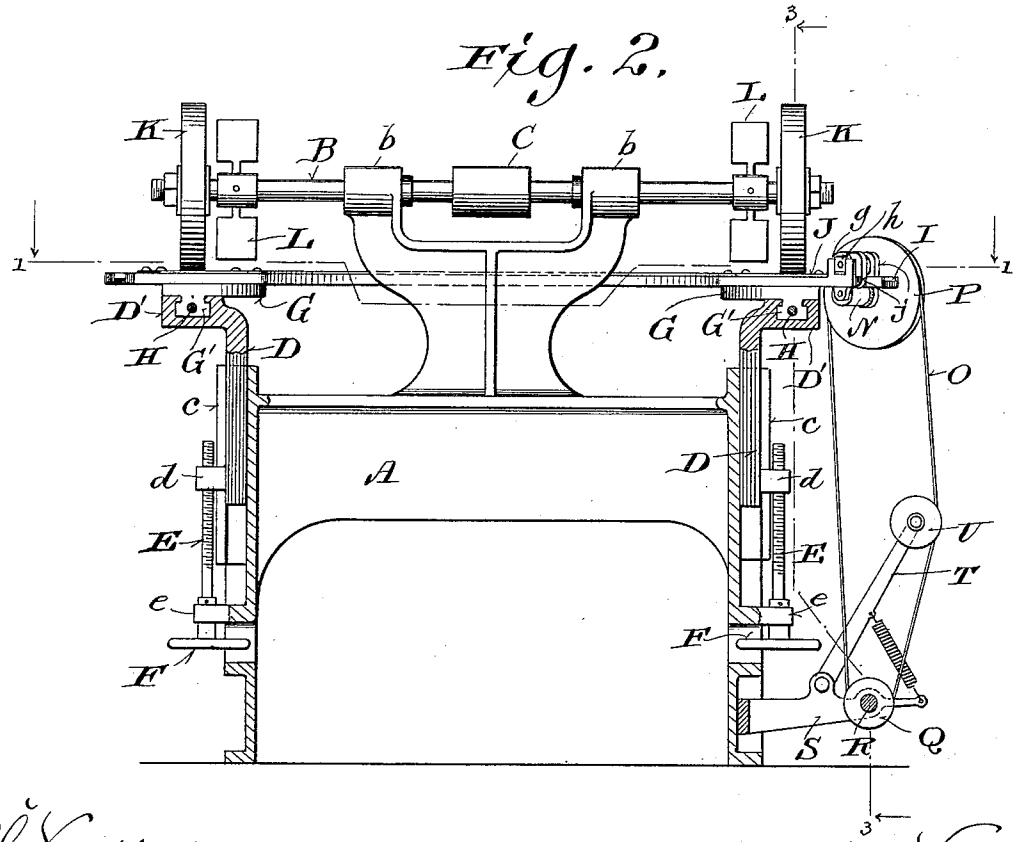


Fig. 2.



Witnesses:
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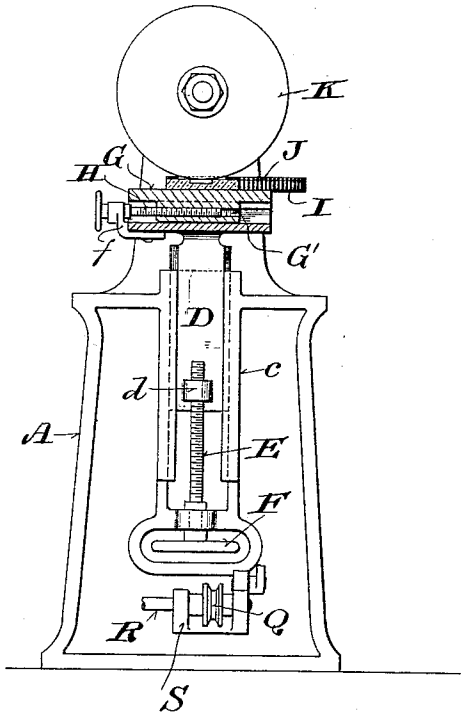

Fig. 3.

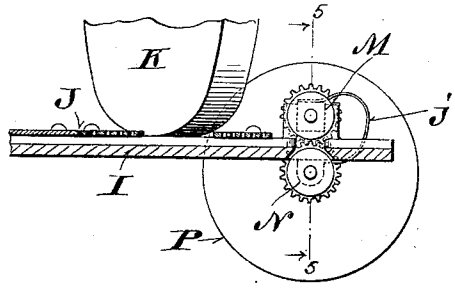

Fig. 4.

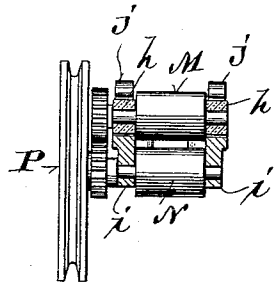

Fig. 5.

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UNITED STATES PATENT OFFICE.

JOSEPH KOENIG, OF TWO RIVERS, WISCONSIN.

GRINDING, POLISHING, OR BUFFING MACHINE.

SPECIFICATION forming part of Letters Patent No. 633,722, dated September 26, 1899.

Application filed January 26, 1899. Serial No. 703,410. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH KOENIG, a citizen of the United States, and a resident of Two Rivers, in the county of Manitowoc and State of Wisconsin, have invented certain new and useful Improvements in Grinding, Polishing, or Buffing Machines; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention has for its object to provide a simple economical automatic-feed machine for grinding, polishing, or buffing of flat material, said machine being especially designed for work on metal comb-blanks and consisting in certain peculiarities of construction and combination of parts hereinafter particularly set forth with reference to the accompanying drawings and subsequently claimed.

Figure 1 of the drawings represents a plan view of the machine, partly in horizontal section, as indicated by line 1 1 in the second figure of the series; Fig. 2, a side elevation of said machine, partly in vertical longitudinal section; Fig. 3, an end elevation of the aforesaid machine, partly in section, as indicated by line 3 3 in the preceding figure; Fig. 4, a detail partly-sectional view illustrating the strip-guide, a grinding, buffing, or polishing wheel, and a feed-gear embodied in the machine; and Fig. 5 a similar view indicated by line 5 5 in the fourth figure.

Referring by letter to the drawings, A indicates the frame of my machine; and this frame is provided with bearings *b* for a horizontal arbor B, having a belt-pulley C fast thereon in order that it may be driven at a high rate of speed from a power-shaft. The ends of the frame are provided with vertical guides *c* for slides D, and lugs *d*, extending laterally from the slides, are in thread engagement with adjusting-screws E, that turn in stationary bearings *e*, extending from said frame parallel to the slide-lugs. To facilitate vertical adjustment of the slides, the screws E are made fast at their lower ends in hand-wheels F, and the ends of the frame are slotted to obtain clearance for said wheels.

The slides D have horizontal heads D', and in dovetail sliding connection with these heads, longitudinally of the same, are depending ribs G' on the under side of tables G, these ribs being in thread connection with adjusting-screws H, that turn in brackets *f*, rigid with the slide-heads, said screws being provided with hand-wheels to facilitate their operation. Made fast to the tables G by screws or other means is a curved and covered track I for the material operated upon by the machine. Portions of the track-cover consist of obliquely-slotted foraminous plates J, detachably secured in place by screws or other suitable means.

Held on arbor B to rotate therewith are wheels K, that register with the slots in plates J and extend through the same to have grinding, buffing, or polishing contact with the material fed along the track, according to the nature of said wheels. Fans L are shown fast on the arbor B and operate to cool the work; but other means may be utilized for directing a current of air upon said work through the perforations in plates J aforesaid.

One shouldered end of the track I is provided with guides *g* for bearing-boxes *h* for the journals of an upper feed-roller M, and one of these journals is in spur-gear with a journal of a lower feed-roller N, both journals of the latter roller being in bearing engagement with lugs *i*, depending from said track, the bottom of the latter being slotted parallel to said rollers.

A belt O is trained on a pulley P, fast to the spur-gear journal of lower feed-roller N, as well as on a driving-pulley Q, fast on a counter-shaft R, having bearings in a bracket S, extending from an end of the machine-frame. A spring-controlled lever T, in pivotal connection with the bracket S, carries a belt-tightener pulley U, and springs *j* are arranged to oppose lift of the upper feed-roller.

The slides D are run up in their guides to elevate the track I from time to time, and thus compensate for wear of the wheels K, the tables G being adjusted on the slide-heads to bring the track-cover slots in correct register with said wheels.

Pieces of flat material, such as the blanks V, are successively run between the feed-rollers and push one another along the track I, whereby they are opposed to the action of the wheels K in order to be ground, buffed, or polished, as may be desirable, the exposure being no more than is sufficient for obtaining the best results.

It is within the scope of my invention to utilize only one table and wheel K with a short track, and in the machine organized as herein set forth the first of the wheels K may be adapted to one class of work and the other of said wheels to another class of work. In other words, the first of the aforesaid wheels may be a grinding or polishing wheel and the other a polishing or buffing wheel.

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

1. In a grinding, polishing or buffing machine, a covered track provided with a slot for exposure of material fed along the same to have contact with a grinding, polishing or buffing wheel.

2. In a grinding, polishing or buffing machine, a covered track having a foraminous portion provided with a slot for exposure of material fed along the same to have contact with a grinding, polishing or buffing wheel, and means for obtaining an air-blast against the foraminous portion of the track.

3. In a grinding, polishing or buffing machine, a vertically-adjustable table, and a covered track in connection with the table having a slot for exposure of material fed along the same to have contact with a grinding, polishing or buffing wheel.

4. In a grinding, polishing and buffing machine, a horizontally-adjustable table, and a covered track in connection with the table having a slot for exposure of material fed along the same to have contact with a grinding, polishing and buffing wheel.

5. In a grinding, polishing or buffing machine, a vertically and horizontally adjustable table, and a covered track in connection with the table having a slot for exposure of material fed along the same to have contact with a grinding, polishing or buffing wheel.

6. In a grinding, polishing or buffing machine, a pair of adjustable tables, a covered track fast to both tables and having foraminous portions provided with slots for exposure of material fed along the same, an arbor carrying grinding, polishing or buffing wheels in register with the track-slots, a pair of feed-rollers for the material, and means for obtaining an air-blast against the foraminous portions of the track.

In testimony that I claim the foregoing I have hereunto set my hand, at Two Rivers, in the county of Manitowoc and State of Wisconsin, in the presence of two witnesses.

JOSEPH KOENIG.

Witnesses:
J. F. MAGEE,
F. W. DICKE.