No. 711,397. Patented Oct. 14, 1902.

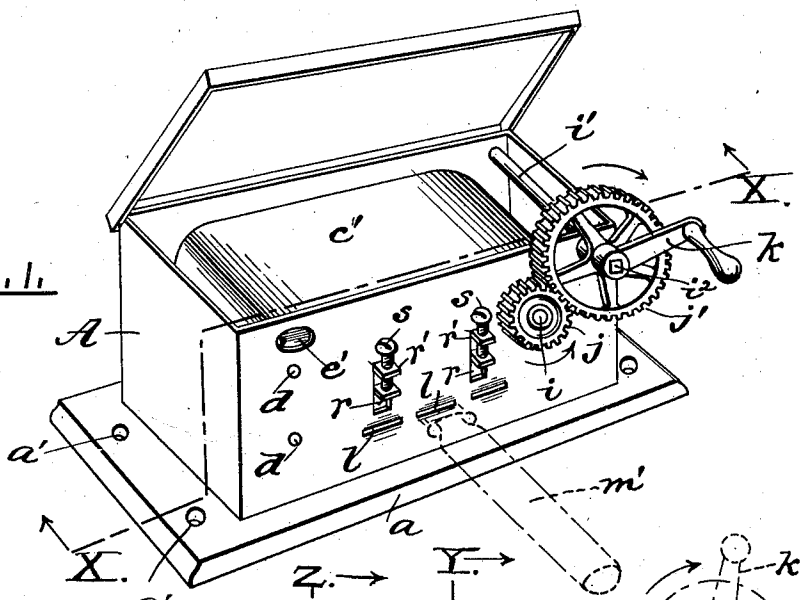
A. GRONVOLD.

MACHINE FOR POLISHING TABLE KNIVES.

(Application filed July 5, 1902.)

(No Model.)

FIG. 1.



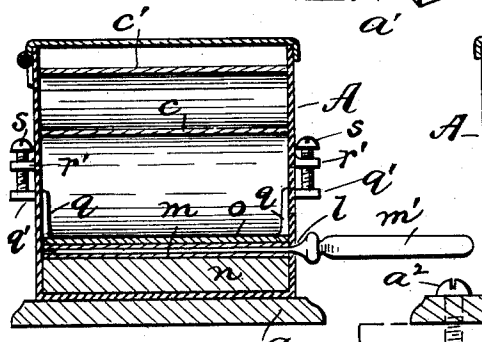


FIG. 3.

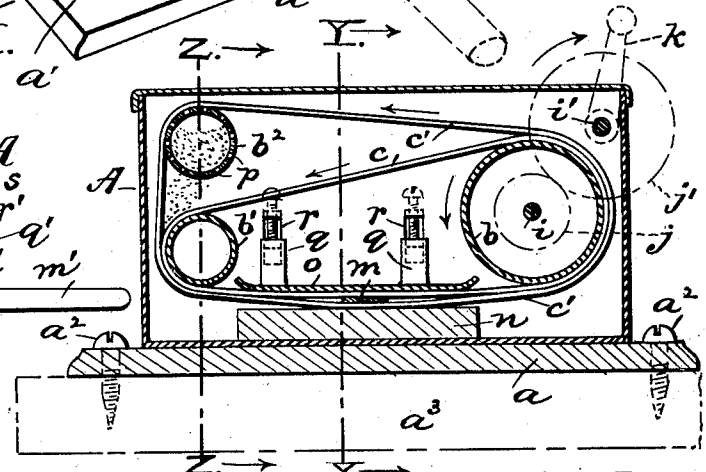


FIG. 2.

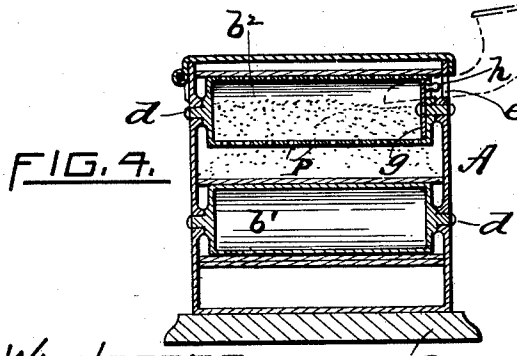


FIG. 4.

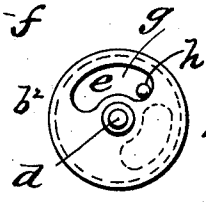


FIG. 5.

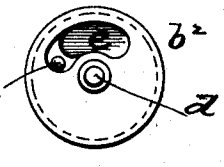


FIG. 6.

WITNESSES.

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MACHINE FOR POLISHING TABLE-KNIVES.

SPECIFICATION forming part of Letters Patent No. 711,397, dated October 14, 1902.

Application filed July 5, 1902. Serial No. 114,490. (No model.)

To all whom it may concern:

Be it known that I, ANDREAS GRONVOLD, a citizen of the United States, residing at the city of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Machines for Polishing Table-Knives, of which the following is a specification.

Figure 1 represents a perspective view of my machine. Fig. 2 is a longitudinal section taken in line X X of Fig. 1, illustrating the general arrangement of parts of the machine as in operation. Fig. 3 is a transverse sectional view taken in line Y Y of Fig. 2. Fig. 4 is a similar sectional view taken in line Z Z of Fig. 2. Figs. 5 and 6 represent an enlarged end view of the powder-distributing cylinder provided with means for its closing and opening, respectively, in receiving the material to be distributed.

This invention relates to a machine for polishing the blades of table-knives; and it has for its object to provide a machine of this class which shall possess advantages in point of simplicity, durability, and general efficiency.

With these ends in view my invention consists in the novel construction and combination of parts, as hereinafter described, and specifically set forth in the claims.

Similar letters of reference indicate similar parts in the different views of the drawings.

Referring to the drawings, A indicates a rectangular-shaped box mounted upon a base a, which extends from each end of said box, and provided with perforations a' a' to receive screws a^2 a^2 for securing the box in position upon the kitchen-table a^3, as shown by broken lines in Fig. 2. Three cylinders b, b', and b^2 are rotatably mounted within the box A and extend transversely across the same. One of said cylinders is located at one end of the box, and the other two cylinders, which are of equal size and of a smaller diameter than the first-aforesaid cylinder, are located one above the other at the opposite end of the box.

An endless flexible band or belt c, made of rubber, fabric, or other suitable material, is mounted upon the large cylinder b and lower opposite small cylinder b', respectively, and each of the cylinders b and b' has its lower point of peripheral surface in a horizontal plane to each other, so that the belt will extend nearly straight between those points of the cylinders. Another endless flexible band or belt c' is mounted upon the upper small cylinder b^2 and has its remaining portion in contact and surrounding the belt c of the cylinders b and b'.

Integral with the ends of the cylinders b' and b^2 are centrally-projecting studs d d, which extend through the side walls of the box A, as shown in Fig. 4, and the cylinder b^2, which is located above the belt c, is provided with an opening e in its end and which opening conforms in size and location with an opening e', provided in the side of the box A, and through these openings e and e' the nose of a spout f, as indicated by dotted lines in said Fig. 4, is inserted to deliver a quantity of powdered pumice-stone or other suitable material within the said cylinder b^2, and this cylinder is provided with a disk g, rotatably mounted on the stud d, and said disk has a knob h for the fingers of the operator to move the said disk in closing the opening e to the position as shown in Fig. 5 after the spout has been withdrawn. This cylinder b^2 is further provided with small perforations p, extending around through its circular wall.

The large cylinder b is made fast upon the shaft i, which projects through from the side of the box A to receive a pinion-gear j, that is driven by a large spur-gear j', mounted upon a shaft i' in the box A, and the projecting end portion of this shaft i' is made square, as at i^2, to receive the end of a crank-arm k.

The box A is provided with a series of narrow slotted openings l l, extending longitudinally on the gear-driven side of the machine. The center of these slots extend in alinement between the bands or belts c and c', and through each of these slotted openings the blade m of a table-knife is forced until prevented by the handle m' and with the cutting edge of the knife opposite from the direction of the belts toward the large cylinder b.

The operation of my improved machine is as follows: After one or more knife-blades are inserted between the belts c and c' the crank-arm k is rotated in the arrow direction

and which motion rotates the gears j and j' and causing the belts to move together in the opposite direction, and the cylinder b being of larger diameter than that of the cylinder b^2 causes the latter to revolve at a higher speed, thereby agitating the powder and making the same pass through the perforations p to be delivered between the belts which carry the powder upon each side of the knife-blade, and thus polishing the same in a perfect and rapid manner. To obtain a firm pressure of the belts upon the knife-blade, a block n is secured upon the bottom of the box A, extending between the sides thereof, and the top of this block is close to the belt c', and a metallic plate or spreader o of the same size as the block n is situated directly over the same and rests upon the inner surface of the belt c, and this plate has vertical arms q q integral therewith and extending close to the inner sides of the box A, and the extremity of each of these arms turns out at a right angle, as q' q', and which portion of the arms projects through from the box and moves in vertical slots r r, formed in the same, in the manner as illustrated in Figs. 2 and 3.

r' r' are lugs that project from the sides of the box A and each provided with a threaded opening to receive a set-screw s, which is made to bear against the projecting portion of the arms q q, so that by this means of adjustment the spreader or plate o can force a tension upon the belts, so that they will lie close together upon the block n, thus obtaining the tension desired upon the surface of the knife-blades.

The machine as represented in the drawings is designed for family use; but for a boarding-house or a hotel where a large quantity of table-knives are to be polished, the crank-arms may be dispensed with for a pulley (not shown) having belt connection with an electric motor or other propelling power.

To retain the particles of powder material within the machine, the box is provided with a hinged cover, as shown.

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

1. In a machine for polishing table-knives, the combination consisting of a rectangular-shaped box provided with an opening, three cylinders rotatably mounted in said box, one of said cylinders adapted to contain a powdered material and provided with discharge-perforations, said last cylinder provided with an opening in its end and corresponding in size and location with the opening in said box, means to close the opening of the last-aforesaid cylinder, an endless band or belt from two of said cylinders, an endless band or belt from the powder-cylinder and surrounding the aforesaid belt and means to rotate said cylinders whereby the powder is distributed between the said belts, substantially as shown and for the purpose set forth.

2. In a machine for polishing table-knives, the combination consisting of a rectangular-shaped box provided with two or more vertical slots in its opposite sides, a cylinder mounted transversely in one end of said box, two cylinders mounted transversely in the opposite end of said box and each of equal and smaller size than that of the aforesaid cylinder, an endless flexible band from the first aforesaid cylinder to the lower opposite cylinder, an endless flexible band from the upper cylinder and surrounding the first said band, a metallic plate situated above the doubled portion of said bands and having arms integral therewith and projecting through the slots of said box, adjusting-screws mounted in said box and adapted to move said plate in making a tension on said bands and means to rotate said cylinders to move said belts, substantially as shown and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

ANDREAS GRONVOLD.

Witnesses:
ELMER WALKER,
THOMAS LOCKE.