J. E. S. TAYLOR.

CLEANING AND POLISHING DEVICE.

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1,000,458. Patented Aug. 15, 1911.

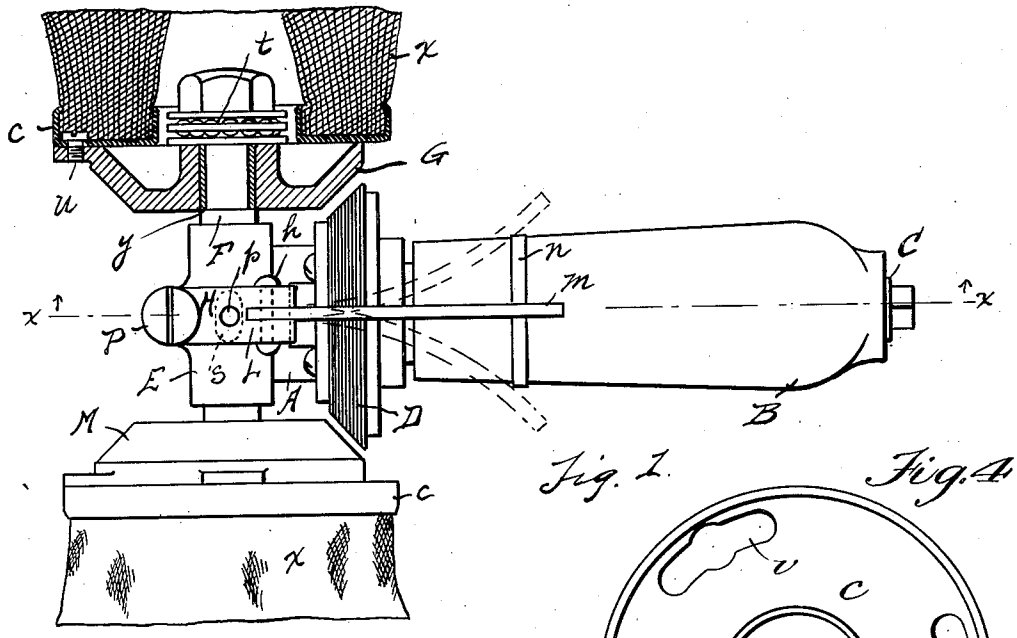

Fig. 1.

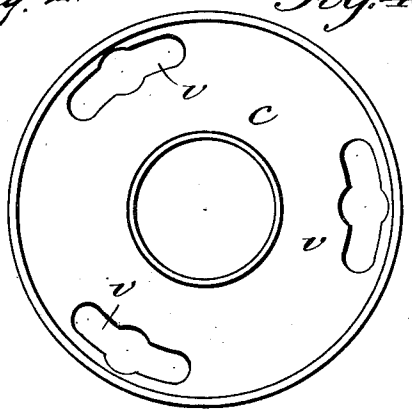

Fig. 4.

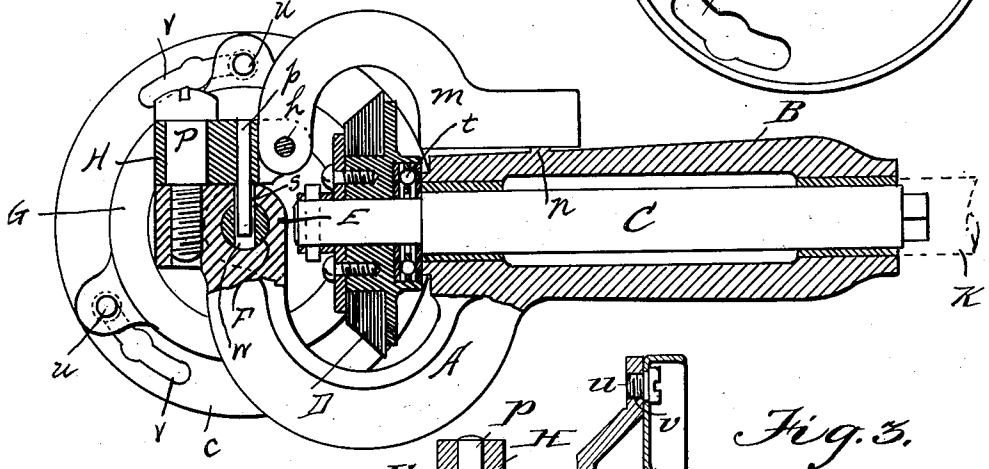

Fig. 2.

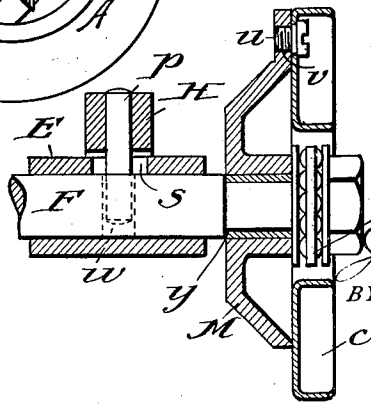

Fig. 3.

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CLEANING AND POLISHING DEVICE.

1,000,458. Specification of Letters Patent. **Patented Aug. 15, 1911.**

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To all whom it may concern:

Be it known that I, JOHN E. S. TAYLOR, a citizen of the United States, residing at Highland Park, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Cleaning and Polishing Devices, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to cleaning and polishing devices and its object is a cheap and efficient device for the purpose of cleaning and polishing, operated by power, and adapted to be carried about by hand within a limited space determined by the length of a flexible connection to a source of power, such as an electric motor. The motor may be arranged to ride on a track and thereby enable the device to be used over a considerable space as might be required in a mill or factory for the cleaning of castings and the like that are too heavy to be moved by hand.

The device is also adaptable for use as a shoe cleaning and polishing machine and consists, principally, of a pair of buffing wheels rotatably mounted on a shaft, either of which may be brought into rotative engagement with a drive wheel. One of the buffing wheels is to be used as a cleaner and the other as a polisher and when one wheel is in use the other remains stationary.

The novelty of the invention is in the peculiar design and arrangement of the several parts hereinafter more fully described and claimed.

The preferred form of the device is shown in the accompanying drawings in which,

Figure 1 is a plan view of a device embodying my invention and showing one of the buffing wheels in section. Fig. 2 is a sectional elevation on line *x*—*x* of Fig. 1. Fig. 3 is a detail of the means for shifting either buffing wheel into engagement with the drive wheel. Fig. 4 is an elevation of the buffer head showing the slots by means of which it may be fastened to the buffing wheel.

Similar letters refer to similar parts throughout the drawings and specification.

A indicates a U shaped casting, preferably of aluminum, provided with a part B adapted to be used as a handle and in which is journaled the drive shaft C carrying, at one end, the beveled friction drive wheel D and being provided at the opposite end with means for attaching a flexible shaft K. Opposite the part or handle B, the casting terminates in a bearing E for the shaft F situated at right angles with the drive shaft. The beveled friction wheels M and G are rotatably mounted on the shaft F which is non-rotative but is reciprocable in the bearing by means of the pin *p* fastened in the shifting lever L. The bearing E is provided with a slot *s* through which the pin *p* projects into a hole *w* in the shaft F. As shown in Fig. 3, the hole *w* is larger in diameter than the pin which allows the pin to travel in an arc determined by its radial distance from the pivot of the lever L. The shifting lever is preferably formed of two parts, the head H pivoted on the bearing E at P, and the thumb piece *m* pivoted to the head H at *h*. The part *m* is made of spring metal and when shifted to either side of the handle B, as indicated by dotted lines in Fig. 1, one or the other of the wheels M or G is brought into frictional engagement with the drive wheel D. The part *m*, when shifted to either side as shown, engages back of the projection *n* on the handle and holds the wheel M or G in yieldable contact with the wheel D. By making this part *m* of spring metal, the necessity of exceeding care in the manufacture of the device is avoided as slight irregularities in the contact surface of the wheels or in the centering of them on their respective shafts is taken up by the spring of the lever. Each of the wheels D, M, and G is provided with a thrust bearing *t* which relieves the device of the frictional resistance to motion that would otherwise develop in forcing the wheels into engagement.

The wheels M and G are preferably made of an aluminum alloy and the drive wheel D is either made of or faced with leather or fiber or other material adapted to produce a good frictional surface and all of the wheels are preferably beveled as shown as such form of friction wheels give the highest efficiency.

Each of the wheels M and G are provided

with at least three studs u which are adapted to be inserted in slots v in the cup shaped head c which carries the buffing material. The slots have an enlargement at the center through which the head of the stud may be inserted and by turning the buffing head in either direction, it is held in position. The slots are also formed on a radius slightly less in length than the distance of the stud from the center which causes the stud to bind in the slot when the buffer head is turned and locks the head and wheel together.

The buffing material x carried by the annular cupped head c is preferably formed of strips of cloth sewed together, but any other material suitable for the purpose may be utilized. The cloth is held in the head by crimping the projecting annular flanges on to the material, as shown in Fig. 1.

That part of the shaft F on which the wheels M and G are mounted is less in diameter than the part that is designed to ride in the bearing E, thus forming a shoulder y on the shaft. When either wheel M or G is brought into contact with the drive wheel D, the other is held out of contact therewith by this shoulder and therefore does not rotate. The object in thus holding one of the wheels free from rotation while the other is in use is to prevent foreign matter, that naturally accumulates in the wheel in use, from being thrown about over the person of the operator when the wheel is out of use.

Both the wheels M and G should be provided with bronze bushings as should also the drive shaft C. Otherwise the bearings would soon be worn out of true, due to the rapid rotation of the parts.

As heretofore stated, the device is adaptable for use as a shoe polishing machine, and when so used one of the buffing wheels should always be used for cleaning the shoe and the other for polishing the shoe after the paste or polish has been applied. The polishing head is thus always free from dirt. It seems evident that the use of this device for the purpose described will result in a great saving of time and produce a much better polish than the usual hand method.

Having thus briefly described my invention and its operation, what I claim is—

1. In a device of the type described, the combination of a drive shaft, a drive wheel secured thereto, a pair of buffing wheels rotatably mounted on a shaft, and means whereby either buffing wheel may be brought into engagement with the drive wheel.

2. In a cleaning and polishing device, the combination of a drive shaft, a drive wheel secured thereto, a pair of buffing wheels rotatably mounted on a reciprocatable shaft, and means for reciprocating said shaft whereby either buffing wheel may be brought into rotative engagement with the drive wheel.

3. In a cleaning and polishing device, the combination of a drive shaft, a friction wheel secured thereto, a pair of buffing wheels rotatably mounted on a non-rotative shaft, and means whereby either buffing wheel may be brought into frictional engagement with the friction wheel.

4. In a cleaning and polishing device, the combination of a drive shaft, a flexible shaft adapted to connect the drive shaft with a source of power, a beveled friction drive wheel secured to the drive shaft, a reciprocatable shaft, a pair of bevel wheels rotatably mounted thereon, buffers detachably secured to the bevel wheels, and means for reciprocating said shaft to bring either bevel wheel into frictional engagement with the drive wheel.

5. In a cleaning and polishing device, the combination of a drive shaft having a flexible connection to a source of power, a drive wheel secured to said shaft, a secondary shaft held at right angles with the drive shaft, a pair of buffing wheels mounted thereon, and means for bringing either one of the buffing wheels into engagement with the drive wheel and of holding the other out of engagement therewith.

6. In a cleaning and polishing device, the combination of a drive shaft, a friction drive wheel secured thereto, a non-rotative shaft held at right angles with the drive shaft, a pair of buffing wheels rotatably mounted on the non-rotative shaft, means for bringing either buffing wheel into yieldable frictional contact with the drive wheel, said means including a resilient member, and means for locking the resilient member in position to hold the wheels in or out of contact.

7. In a power operated cleaning and polishing device, the combination of a drive shaft, a friction drive wheel secured thereto, a reciprocatable shaft held at right angles with the drive shaft, buffing wheels rotatably mounted on the reciprocatable shaft and provided with a contact surface for the drive wheel, means for reciprocating said reciprocatable shaft to bring either buffing wheel into engagement with the drive wheel, said means including a resilient member locking said wheels in engagement.

8. A cleaning and polishing device comprising a casting provided with a handle, a drive shaft journaled in said handle and provided with means for attaching a flexible connection to a source of power, a drive wheel secured to said shaft, a non-rotative shaft mounted in the casting at right angles with the drive shaft, a pair of buffing wheels rotatably mounted on the non-rotative shaft,

and means for bringing either buffing wheel into rotative engagement with the drive wheel.

9. A cleaning and polishing device comprising a casting provided with a handle, a drive shaft journaled in said handle, said shaft being operatable by power, a drive wheel secured to said shaft, a reciprocatable shaft mounted in the casting at right angles with the drive shaft, a pair of buffing wheels rotatably mounted on the reciprocatable shaft, a lever pivoted on the casting and adapted to reciprocate the shaft whereby either buffing wheel may be brought into rotative engagement with the drive wheel, and means for locking the lever to hold the wheels in engagement.

10. In a device of the class described, a power operated shaft, a drive wheel secured thereto, an independent shaft, buffing wheels mounted thereon, and a selector adapted to bring any one of the wheels into engagement with the drive wheel.

11. In a device of the class described, a power operated shaft, a driving element connected therewith, a pair of buffing wheels held in operative relation with the driving element, and means for bringing either buffing wheel into driven relation with the driving element.

12. A device of the character described comprising a portable body or casting, a drive shaft mounted therein arranged to be connected with a source of power, a driving element connected with said shaft, a secondary shaft mounted in said body, buffing wheels carried by said secondary shaft, and means whereby any one of the buffing wheels may be brought into driven relation with the driving element and the others held from such relation.

In testimony whereof, I sign this specification in the presence of two witnesses.

JOHN E. S. TAYLOR.

Witnesses:
CLIFFORD E. CLARK,
RICHARD ALSPAS.