(No Model.)

J. H. TAYLOR.

GRINDING MACHINE.

No. 255,208. Patented Mar. 21, 1882.

Fig. 1

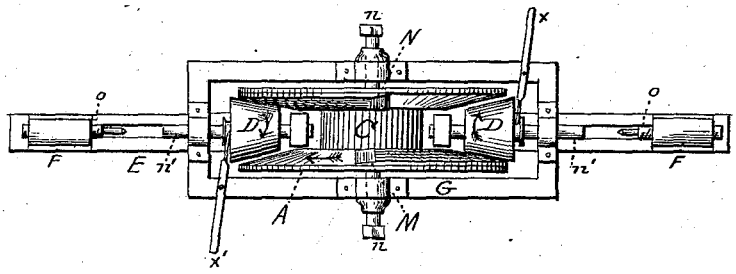


Fig. 2

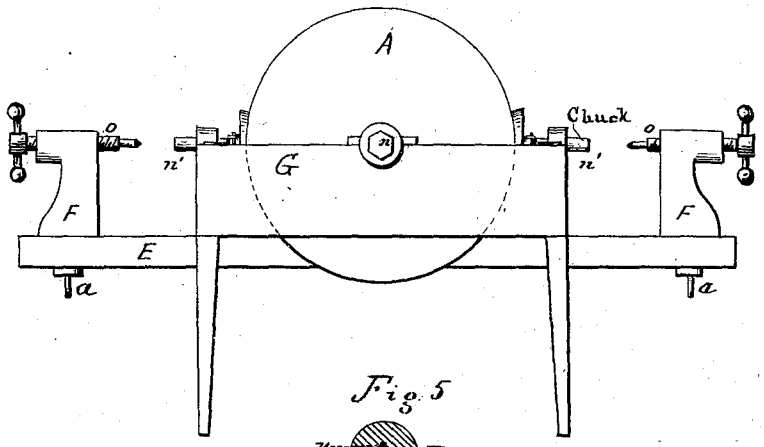


Fig. 5

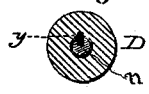


Fig. 3

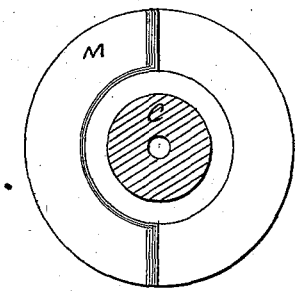
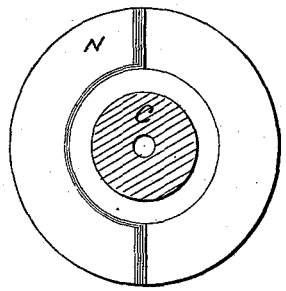


Fig. 4



Witnesses.
Fred P. Raymond
Hiram a. Gray

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by Geo. Terry
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UNITED STATES PATENT OFFICE.

JOHN HENRY TAYLOR, OF NEW HAVEN, CONNECTICUT.

GRINDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 255,208, dated March 21, 1882.

Application filed January 5, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN HENRY TAYLOR, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Grinding-Machines, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 is a plan view of the machine. Fig. 2 is a side elevation of the machine. Figs. 3 and 4 are views of the inside of the flanges of the pulley. Fig. 5 is a cross-section of a cone and mandrel, showing the feather in the mandrel.

My invention relates to machines for grinding in the plugs of brass faucets and for similar work; and it consists in the construction and arrangement of parts, as hereinafter more fully described and claimed.

To enable others to make and use my improved machine, I will describe its several parts in detail, and also the operation of the machine.

G, Figs. 1 and 2, is the rectangular frame of the machine, mounted on four similar legs, two of which are shown in Fig. 2. To the under side of the frame the bed E is secured, in which the tail-blocks F move, and are held in position by the threaded bolts *a* passing into threaded holes in the tail-blocks.

The pulley A has a central part, C, on which the driving-belt runs, which may come from above or below the machine, as desired. The pulley is made with two like flanges, M and N, one on either side, the parts of each flange being of unequal thickness, and said flanges being so arranged in respect to each other that the thick part of each flange is opposite the thin part of the other flange. The thick part of each flange extends about half-way around the flange, and may be a separate piece attached to the flange. The inside of each flange is beveled and made to fit the cones D. The pulley is secured on a shaft, which passes through its center and turns in boxes in the frame G. The screws *n* and *n* are threaded, turn in threaded holes in the frame, and come against the ends of the shaft and adjust the pulley laterally, as desired. The cones D are loosely attached to the mandrels *n'* and *n'*, and cause the mandrels to rotate by means of feathers arranged in the mandrels, one of the feathers, *y*, being shown in cross-section in Fig. 5. The levers *x* and *x'* move the cones on the mandrel and bring them in proper position to be rotated by friction against the thick portions of the flanges on the pulley A alternately in opposite directions. The mandrels *n'* and *n'* turn in the frame, and are arranged in line with the spindles *o*, which are threaded and turn in threaded holes in the tail-blocks F. Between the mandrels *n'* and *n'* and spindles *o* the work to be ground in is held, by means of a suitable chuck, in a similar manner to that in which work is held in a lathe.

It will be noticed that, as shown, parts of the machine are duplicated, making a machine at which two persons can work, and that a cone and mandrel, and also a tail-block and spindle on one end of the bed, may be omitted, and the machine will still be a perfect machine.

It is obvious that the pulley may be arranged horizontally and produce equally good results.

Constructed and arranged as above described and shown, the operation of the machine is as follows: The thick part of one flange rotates the cone and mandrel in a given direction during about one-half of the revolution of the pulley, and the thick part of the other flange rotates the cone and mandrel in the opposite direction during the remainder of the revolution, by friction of the thick parts of the flanges against the cone. The grinding material employed is mixed with water and placed upon the plug, and the faucet is held by the hand of the operator while the plug is being ground in. By providing the pulley C with beveled flanges, each having parts of unequal thickness, and arranging the thick part of each flange opposite the thin part of the other, I am not only enabled to simultaneously drive both cones in the same direction, and so as to cause them to revolve back and forth, but each flange, by acting in a similar manner to a fly-wheel, will serve to assist in producing a steadier motion of the cones. The thick portion of each beveled flange being equal to about one-half its diameter, more or less, but not exactly one-half, will cause the cones and attached mandrels to revolve in such a way that as their motion is reversed the grinding in of the plug

will not commence and leave off at the same point, thus obviating excessive grinding at any point.

Having fully described the construction and operation of my machine, what I claim as new, and desire to secure by Letters Patent, is—

In a grinding-machine, the combination of the pulley A, having a central portion, C, and beveled flanges M N of unequal thickness, the mandrels n' n', provided with suitable chucks and having cones D, adapted to be rotated by the flanged pulley, the adjustable tail-blocks F, having spindles *o*, and suitable supporting and operating mechanism, substantially as described.

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

JOHN HENRY TAYLOR.

Witnesses:
GEORGE TERRY,
FRED P. RAYMOND.