No. 628,623. Patented July 11, 1899.

J. GILSON.

GRINDING MACHINE.

(Application filed Feb. 20, 1899.)

(No Model.)

Fig. 1.

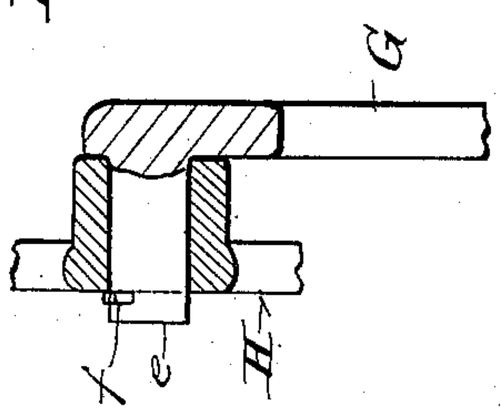


Fig. 2.

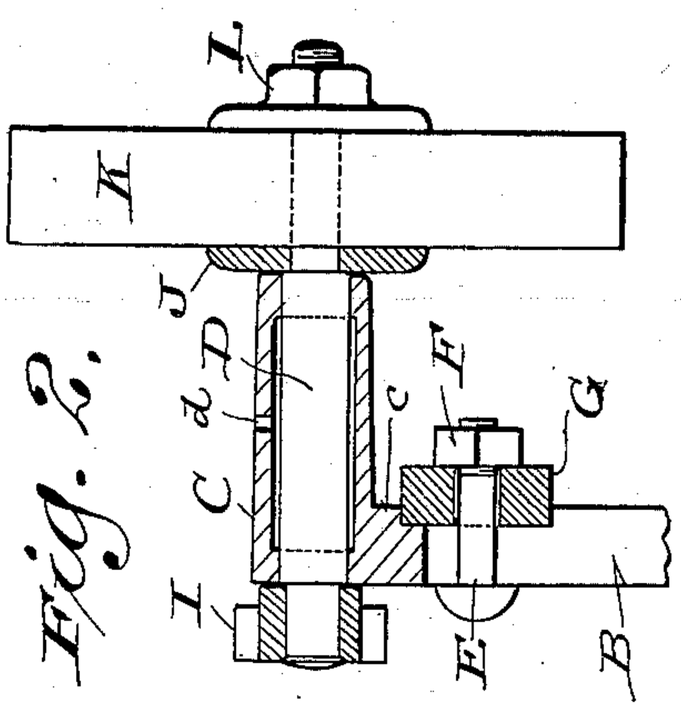


Fig. 3.

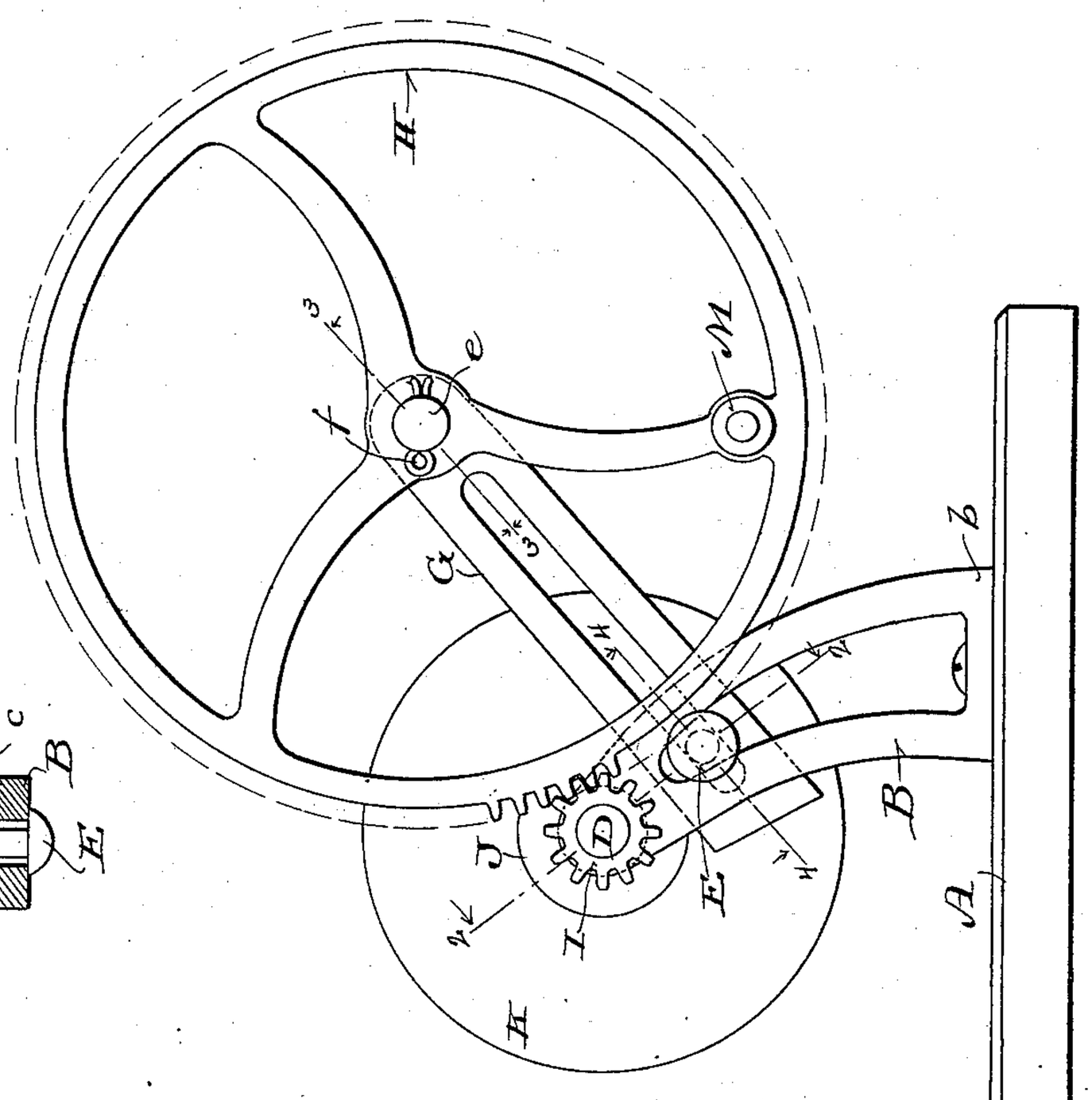
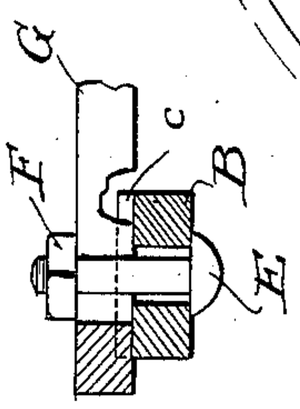


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN GILSON, OF PORT WASHINGTON, WISCONSIN, ASSIGNOR TO THE GILSON MANUFACTURING COMPANY, OF SAME PLACE.

GRINDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 628,623, dated July 11, 1899.

Application filed February 20, 1899. Serial No. 706,124. (No model.)

To all whom it may concern:

Be it known that I, JOHN GILSON, a citizen of the United States, and a resident of Port Washington, in the county of Ozaukee and State of Wisconsin, have invented certain new and useful Improvements in Grinding-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, and knockdown grinding-machine especially designed for household use; and it consists 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 side elevation of a grinding-machine in accordance with my invention, and Figs. 2, 3, and 4 detail partly-sectional views respectively indicated by lines 2 2, 3 3, and 4 4 in the first figure of the series.

Referring by letter to the drawings, A indicates a wooden base, to which is rigidly secured by screws or other suitable means the foot *b* of an apertured cast-metal standard B, the latter being herein shown as curved toward the rear and of gradually-decreased width in an upward direction. To economize metal, the aperture in the standard may be in the form of a slot having the same general contour as said standard longitudinally of the same, as shown in Fig. 1.

While the machine as generally organized for the trade is shown as including the base A, the latter may be omitted, the standard being then attachable to any convenient vertical or horizontal support.

The standard is shown provided with an inner recess *c*, the same being at an acute angle to a horizontal plane, and said standard is in one piece with a horizontal sleeve C, in which an arbor D has its bearings, this sleeve being provided with a port *d*, through which to introduce lubricant for the arbor.

Held to the standard A, in the recess *c* of same, by a bolt E and nut F is a longitudinally-slotted arm G, of cast metal in one piece, with an outside boss *e* at its forward free end. Loose on boss *e* is the hub of a spur-wheel H, held in working position by a spring-key *f* extending through a transverse aperture in said boss. The spur-wheel meshes with a pinion I, fast to a reduced end of arbor D, against the annular shoulder formed as a result of the reduction, and by adjustment of arm G on the bolt E proper engagement of said spur-wheel and pinion may be accurately determined. The opposite end of the arbor is also reduced to form an annular shoulder abutted by a disk J, slipped on the latter reduction, and clamped against this disk is an emery-wheel K, centered on said arbor. A combined washer and nut L, run on a screw-threaded terminal of the arbor D, may serve as the means for clamping the emery-wheel in position, as herein shown, or it may be found preferable to make the nut and washer separate.

The spur-wheel H is provided with a handle M, by which it is rotated to drive the emery-wheel, and the proportion of said spur-wheel to the pinion I, meshed therewith, is such that a high speed may be communicated to said emery-wheel. By having the arm G at an angle to standard A the gear-wheel H is caused to balance the remainder of the machine; otherwise said machine would be top-heavy and its vertical dimension too great.

The device herein described may be readily manufactured at a very low cost of production and shipped or stored knockdown to save freight and space.

While I have shown and described a preferred form of my grinding-machine, there may be more or less variation in the matter of design and structural detail without departure from what is herein claimed.

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

1. A grinding-machine comprising a standard in one piece with a horizontal bearing-sleeve, an arm extending from the standard at an angle thereto and provided with a lateral boss, a spur-wheel loose on the boss and provided with a handle, an arbor loose in the aforesaid sleeve, a pinion fast on one end of the arbor in mesh with the spur-wheel, and

an emery-wheel fast on the other end of said arbor.

2. A grinding-machine comprising a base, a standard in detachable connection with the base and provided with a horizontal bearing-sleeve, an arm extending from the standard at an angle thereto and provided with a lateral boss, a spur-wheel loose on the boss and provided with a handle, an arbor loose in the aforesaid sleeve, a pinion fast on one end of the arbor in mesh with the spur-wheel, and an emery-wheel fast on the other end of said arbor.

3. A grinding-machine comprising a standard provided with a bearing-sleeve and an acute-angle recess, an arm bolted to the standard in said recess, a spur-wheel loose on a boss extending laterally from the arm, an arbor loose in the aforesaid sleeve, a pinion fast on one end of the arbor in mesh with the spur-wheel, and an emery-wheel fast on the other end of said arbor.

4. A grinding-machine comprising a standard provided with a bearing-sleeve, an arm in longitudinally-adjustable connection with the standard and provided with a lateral boss, a spur-wheel loose on the boss and provided with a handle, an arbor loose in the aforesaid sleeve, a pinion fast on one end of the arbor in mesh with the spur-wheel, and an emery-wheel fast on the other end of said arbor.

5. A knockdown grinding-machine comprising a standard attachable to a support and provided with a horizontal bearing-sleeve, an arm in longitudinally adjustable and detachable connection with the standard, a spur-wheel loose on a boss extending laterally from the arm, an arbor loose in the aforesaid sleeve, a pinion fast on one end of the arbor in mesh with the spur-wheel, a disk on the other end of the arbor against a shoulder of the same, an emery-wheel abutting the disk, and a clamp-nut for the emery-wheel run on a threaded extremity of said arbor.

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

JOHN GILSON.

Witnesses:
T. A. BOERNER,
H. C. BOERNER.