W. R. Axe.

116662 PAINT MILL. Patented Jul 4 1871

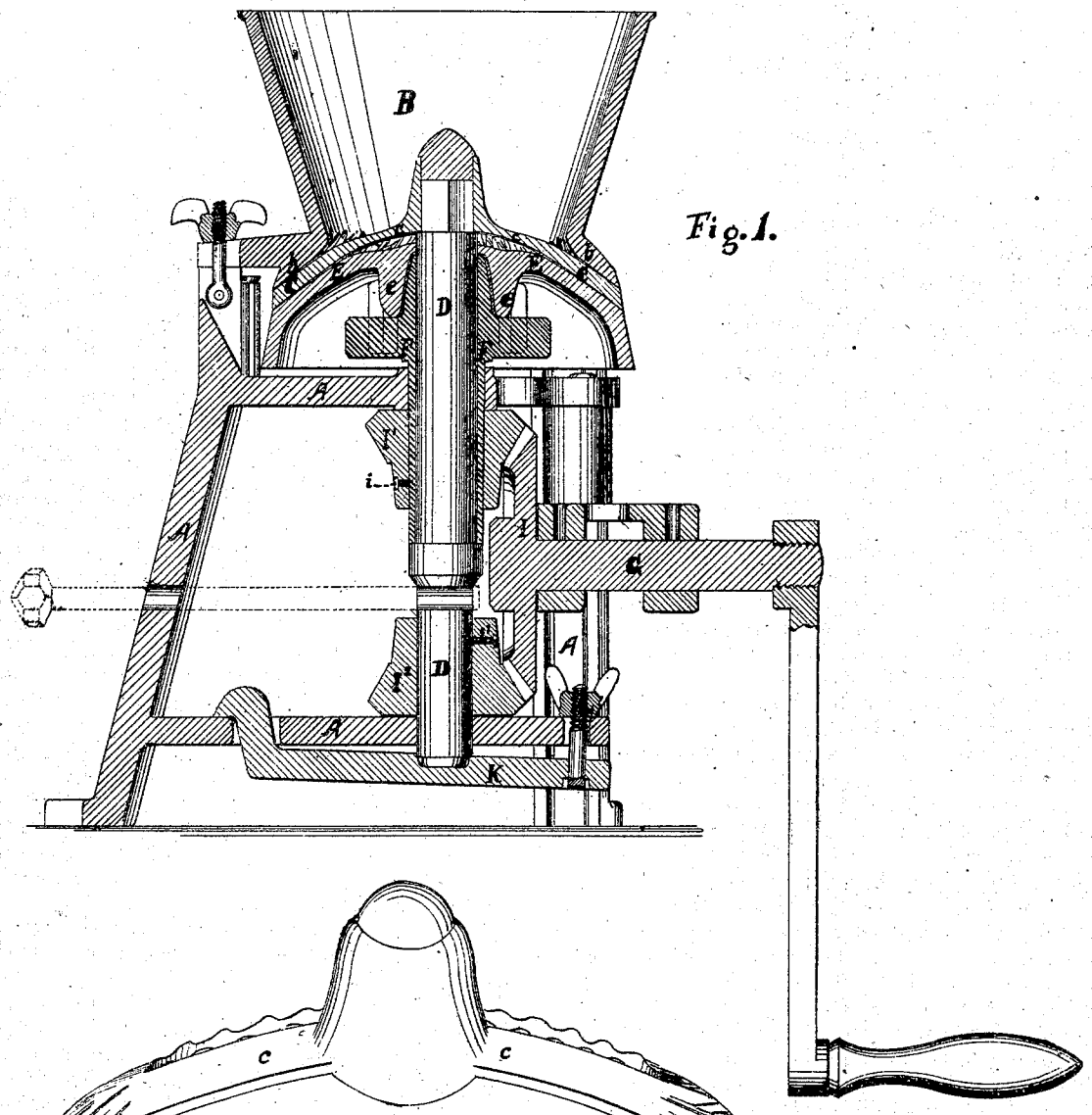


Fig. 1.

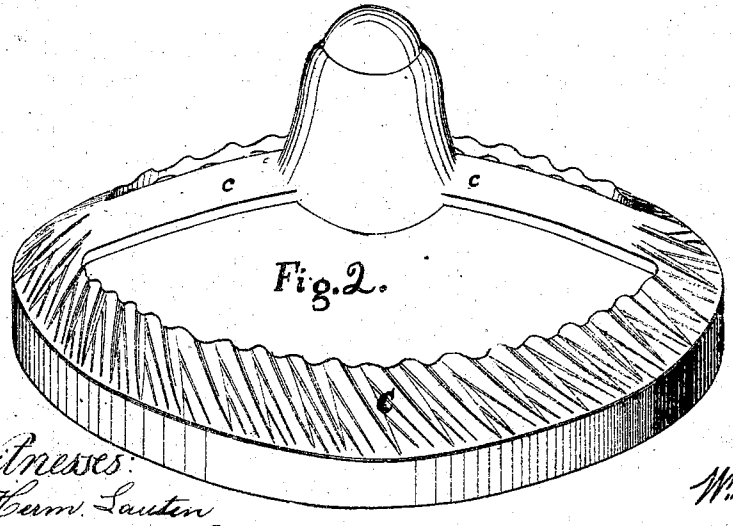


Fig. 2.

Witnesses:
Herm. Lauten
V. B. Clayford.

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by his attys
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UNITED STATES PATENT OFFICE.

WILLIAM R. AXE, OF ROCKTON, ILLINOIS.

IMPROVEMENT IN PAINT-MILLS.

Specification forming part of Letters Patent No. 116,662, dated July 4, 1871.

To all whom it may concern:

Be it known that I, WILLIAM R. AXE, of Rockton, in the county of Winnebago and in the State of Illinois, have invented certain new and useful Improvements in Paint-Mills; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

The nature of my invention consists in constructing a paint-mill (more especially the one patented to me July 13, 1869) with a revolving center plate or grinding-disk between a lower grinding-disk and the lower or grinding-surface of the hopper, thus obtaining, in effect, two mills in one; also, by means of the relation of the shafts on which the two grinding-disks are secured, procuring a double speed by the reverse motion of the two said disks, all of which will more fully hereinafter appear.

To enable others skilled in the art to make and use my invention, I will now proceed to more fully describe its construction and operation.

In the drawing, Figure 1 is a transverse vertical section through the center of my improved mill, fully showing the grinding-disks and their shafts, but not showing one of the three legs of the framing on which the apparatus is supported; and Fig. 2 is a perspective view of the revolving center plate or grinding-disk.

A is the framing. B is the hopper, with flange *b*, whose under side is a corrugated or grinding-surface. C is the center plate or disk, (see Fig. 2,) provided with a cross-bar, *c*, having a square recess to receive the upper and square end of the shaft D, on which the plate C rests, and by which said plate or disk C is revolved. The upper and lower faces of center disks C are cut with screw-furrows or provided with other suitable grinding-surface. The cross-bar *c*, besides supporting and securing the center disk C to the shaft D, also agitates and causes the paint to feed uniformly and rapidly to the grinding-surfaces above and below disk C. E is the lower grinding-plate, having a hole through its center to permit of the passage of shaft D, and resting upon and secured by lugs *e e* to hollow shaft F. This plate E has a grinding-surface on its upper face and near its outer edges similar to plate C. The periphery of disk E below the grinding-surface is much wider than the same portion of disk C, which is only of the width equal to the thickness of disk C. G is the driving-shaft, to receive power from the crank H or other desirable means when other than hand-power is used. On the inner end of the driving-shaft G is a bevel-gear wheel, I, driving the miter-wheel I^1, which is secured by a set-screw, *i*, passing through its hub to hollow shaft F and the miter-wheel I^2, which is secured by a set-screw, *i'*, passing through its hub to shaft D. By loosening the set-screw *i'* the wheel I^2 will be allowed to run without the shaft D, which may be further secured by passing a bolt through it, as indicated by dotted lines in Fig. 1. In this position the center plate C will remain stationary, and no paint will be ground between its upper face and the hopper, so that the work of only one mill will be done. If the set-screw *i* is unscrewed wheel I^1 will be permitted to revolve without hollow shaft F, which, with the lower grinding-disk E, would remain stationary. The lower end of shaft D has its bearing on the adjustable step-lever K. Through means of the screw and nut L the lever K is raised or lowered, and by that means the spaces between the grinding surfaces, and with them, of course, the degree of fineness of the paint, are regulated.

The operation of the invention is sufficiently obvious without description other than that incident to the illustration given above and clearly presented in the drawing.

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

1. The center plate C, in combination with the revolving plate E and stationary grinding-plate *b*, when constructed and operated substantially as and for the purposes set forth and described.

2. The shaft D, miter-wheel I^2, and set-screw *i'*, in combination with center plate C, when constructed and operating substantially in the manner and for the purposes specified.

3. The shaft D, miter-wheel I^2, set-screw *i'*, and center-plate C, in combination with hollow shaft F, miter-wheel I^1, and set-screw *i*, when constructed and operating substantially in the manner and for the purposes described.

In testimony that I claim the above-described certain new and useful improvements in paint-mills I have hereunto signed my name this 11th day of April, 1871.

WILLIAM R. AXE.

Witnesses:
J. BRITTAN,
W. M. BRITTAN.