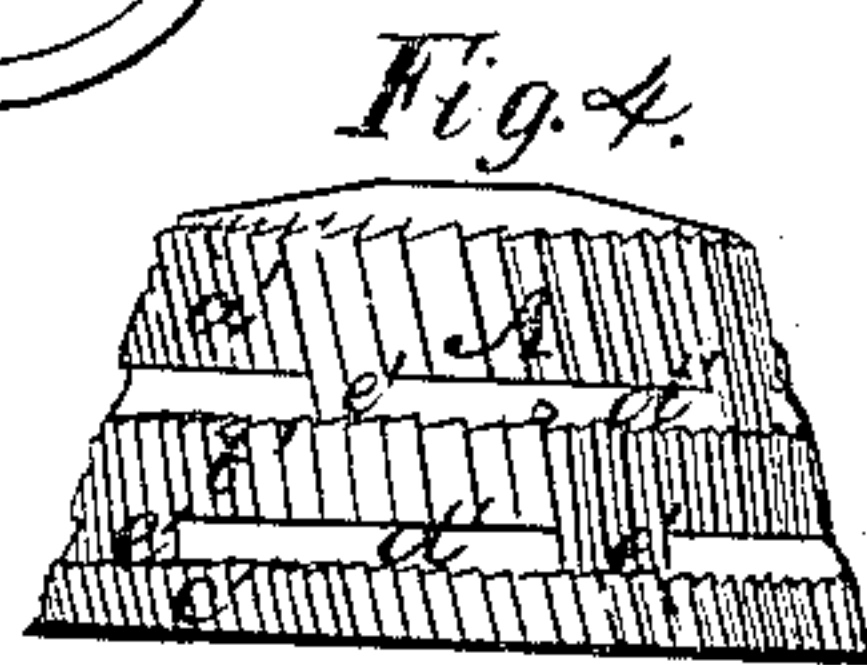
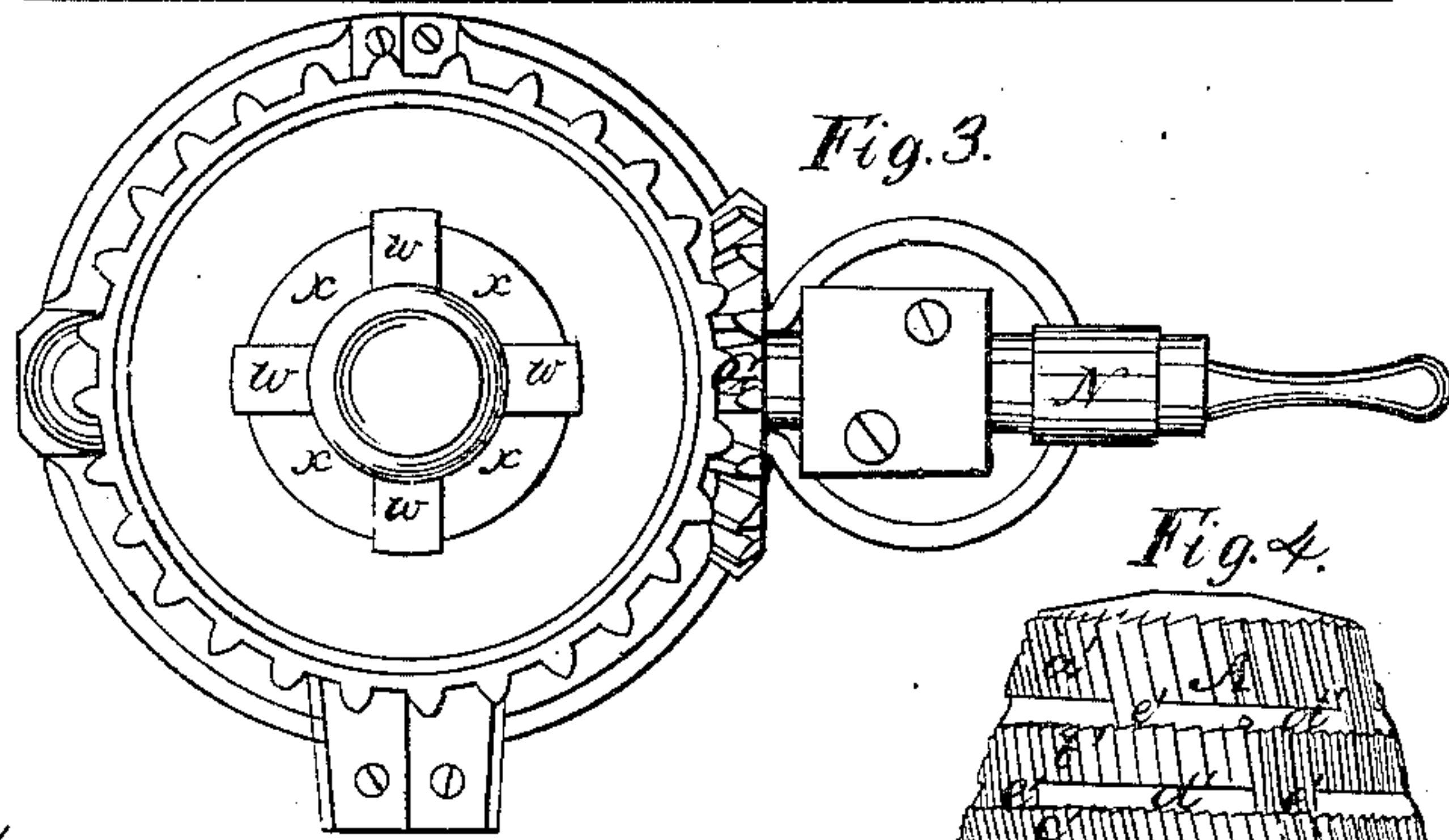
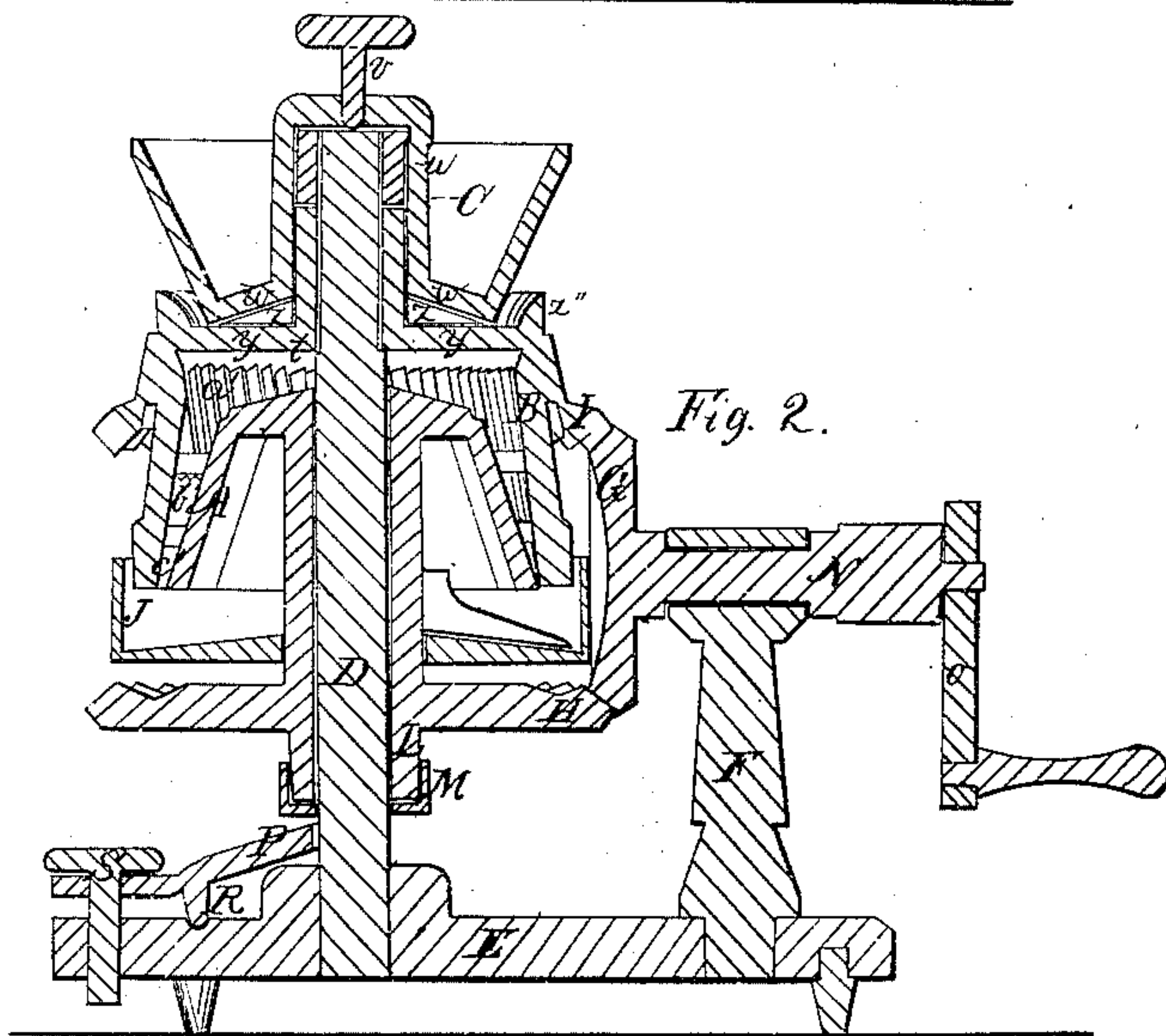
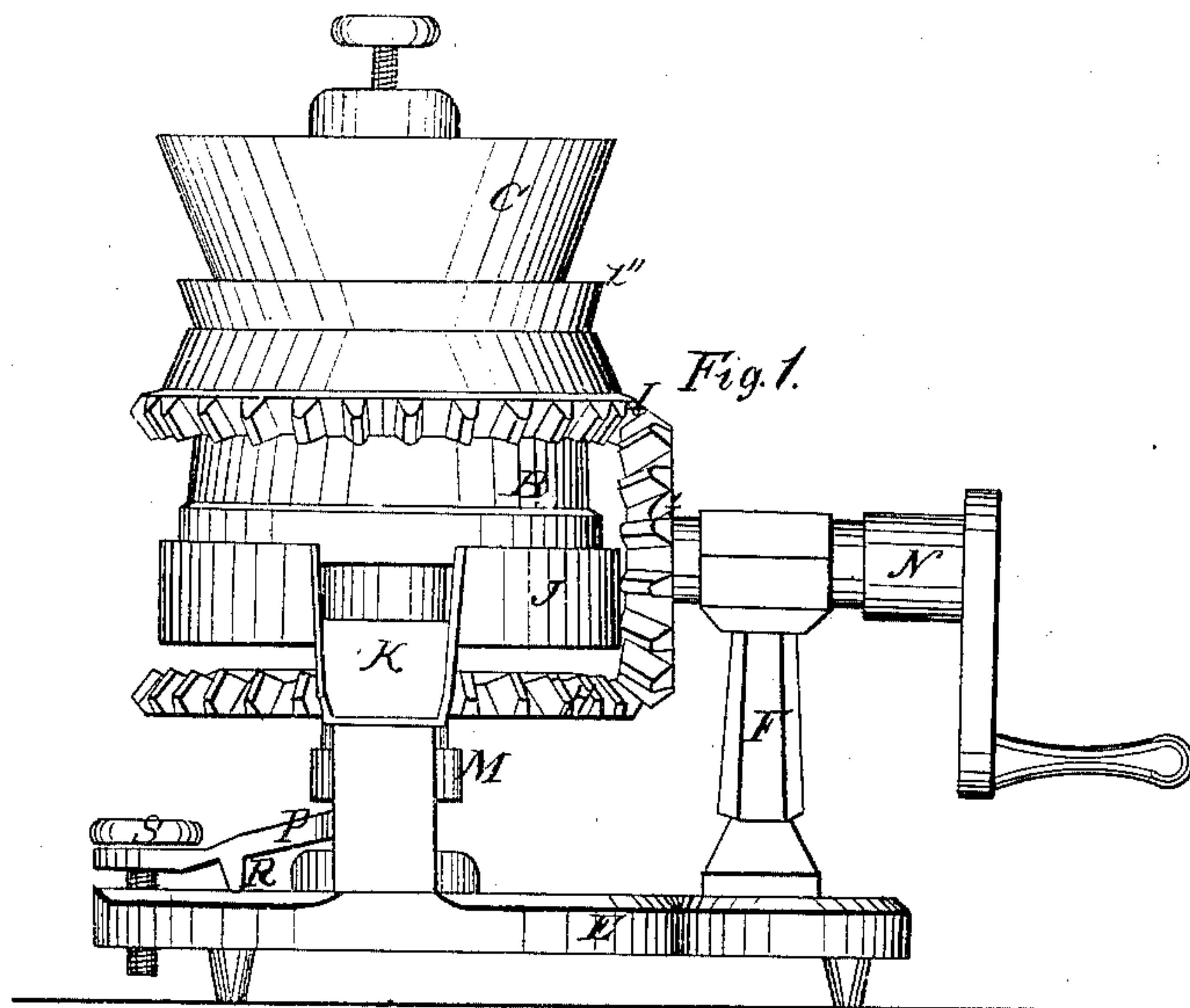


No. 27,250.

PATENTED FEB. 21, 1860.

J. W. WHEELER.
GRAIN MILL,



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN W. WHEELER, OF CLEVELAND, OHIO, ASSIGNOR TO CHARLES D. WILLIAMS AND
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GRAIN-MILL.

Specification of Letters Patent No. 27,250, dated February 21, 1860.

To all whom it may concern:

Be it known that I, JOHN W. WHEELER, of the city of Cleveland, in the State of Ohio, have invented certain new and useful
5 Improvements in Grain - Mills; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, and
10 to the letters and marks thereon.

The class of grain mills to which my invention relates embraces what are usually called portable grain mills. These mills are
15 commonly made of cast-iron cylinders or cones, or of other forms, with the dress or grinding surface upon the interior of one of the cones or upon the exterior of the other
20 cone or cylinder, the two cylinders or cones being placed in vertical or nearly vertical position. In some instances the dress has been upon both of the cones or cylinders. Heretofore, so far as I have knowledge, such
25 mills have not been found as useful in producing flour or meal as in crushing or breaking the grain into small pieces; in fact, I do not know of any mill of this kind which will produce flour or meal of fair merchantable
30 quality after it has passed through the usual bolting process. The reason why such mills are not susceptible of producing fine flour and meal arises from the faulty construction of the dress or grinding surface, it formerly
35 being illy adapted to prevent the too rapid passage of the grain downward, and consequent imperfect and insufficient exposure of the grain to the grinding action.

Now my invention looks to the remedying of the faults heretofore existing and to the making of this kind of mill perfectly qualified to produce meal and flour as good as can
40 be produced by the largest and best flouring mills. And my invention relates first to certain peculiarities in the dress, and second, to an improvement in the feeding means of the
45 mill.

Of the drawings forming part of this specification Figure 1 is a side view of a mill having my improvements; Fig. 2, a vertical section thereof; Fig. 3, a top view of
50 the mill, and Fig. 4 a view of the interior cone or cylinder.

In each of these figures like parts are designated by like letters.

In general this mill is made up of an interior cone (A), an exterior cone (B), a hop-

per (C), a shaft (D), a base or supporting plate (E), a standard (F) and of beveled gearing wheels (G) (H) and (I). Underneath the cones is a receiving box (J) with a delivery spout (K), and at the end of the
60 tubular core (L) of the inner cone is a stepping-box (M).

The shaft (D) is rigidly affixed to the base (E) so that it is a stationary shaft, and, as is shown by the drawings, the stepping
65 box, lower beveled wheel, receiving box, interior and exterior cones, and circular plate, fit around the shaft, and with the exception of the receiving box and the stepping box the parts named are made to revolve around
70 the shaft. The means for giving rotation to these parts are the beveled wheel (G) upon the power shaft (N) and the wheels (H) and (I), the wheel (H) operating the inner cone and the wheel (I) the outer cone, the
75 one cone being moved in direction opposite to the motion of the other.

The drawings show the means for giving rotation to be the hand-crank (O), as if the mill could be used for grinding coffee or any
80 other article, as it evidently can, but as is obvious any power can be attached to the crank. When it is desirable to use horse-power a lever with an inner curved end can be attached to the outer cone or cylinder
85 just above the wheel (I).

Below the stepping box is a forked lever (P) having its fulcrum at (R) and a screw (S) passing through its outer end and into the base plate, so that by turning this screw
90 the inner end of the lever may be raised or lowered and the grinding surfaces of the two cones placed nearer to or farther off from each other.

A shoulder (t) on the shaft (D) supports the exterior cone.

The hopper (C) is stationary. It is sustained by the shaft (D) fitting into its capped tube (u). A screw (v) passing through the cap and its end resting upon
100 the end of the shaft is used to raise or lower the hopper. The capped tube is attached to the body or sides of the hopper by the bars (w), spaces (x) between the bars permitting the grain to pass through. Between
105 the bars of the hopper and the bars (y) of the exterior cone is a plate (z). The elevating or lowering of the hopper by increasing or diminishing the space between its bars and the plate (z) regulates the feed
110

of the grain to the cones. A second hopper may be placed exterior to the hopper (C) its lower edge resting upon the edge (z'') of the exterior cone, in which case the feed will be through the space between the two hoppers. This arrangement of the two hoppers will be found useful when it is desirable to grind two different grains at the same time for producing mixed meal or flour.

Many of the several parts which have been described may be cast together forming one piece of casting, as is shown by the drawing, or they may be made of separate pieces and secured to each other in any convenient way.

In using this mill portable bolters may be connected to it, so that all the completing processes of making the finest flour and meal may be followed.

The dress or grinding surfaces of the cones it will be perceived consist of rings (a') (b') (c'), the teeth or ridges of which are of different size and of different inclinations, though they may, if preferred, be of the same size and inclination. The drawings show the dress upon both cones, but in some instances only one may be best, and in instances where both are used the number of rings may be greater or less, and the size and inclination of the teeth or ridges may be different on the two cones. This dress may form part of the cone or cylinder by being

cast with it, or it may be of separate cast rings, or may be made of Burk-stone, and be attached to the cone in any desirable manner.

Between the dress rings are grooves or recesses (d'), and it will be noticed that at certain points a few of the teeth or ridges of the dress (e') extend across the grooves or recesses. The object of these extended teeth is two-fold—first, they prevent the too rapid passage of the grain being ground, and second, they change the direction of it, and hence the meal and flour produced by this mill is of uniform fineness, which is not the case with any mill of the kind known to me. This extension of the teeth across the grooves may be in the dress of both cones or upon one only.

What I claim as my invention and desire to secure by Letters Patent is,

1. The stationary adjustable hopper (C) in combination with the plate (Z) for regulating the feed of the grain to the cones.

2. I claim the recess or grooves (d') between the dress rings, whether in connection or not with extending a few of the teeth or ridges (e') of the dress across the recesses or grooves, as and for the purposes set forth.

JOHN W. WHEELER.

Witnesses:

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