

(No Model.)

R. WAAK & C. JAGUSCH.

PORTABLE GRINDING MILL.

No. 301,020.

Patented June 24, 1884.

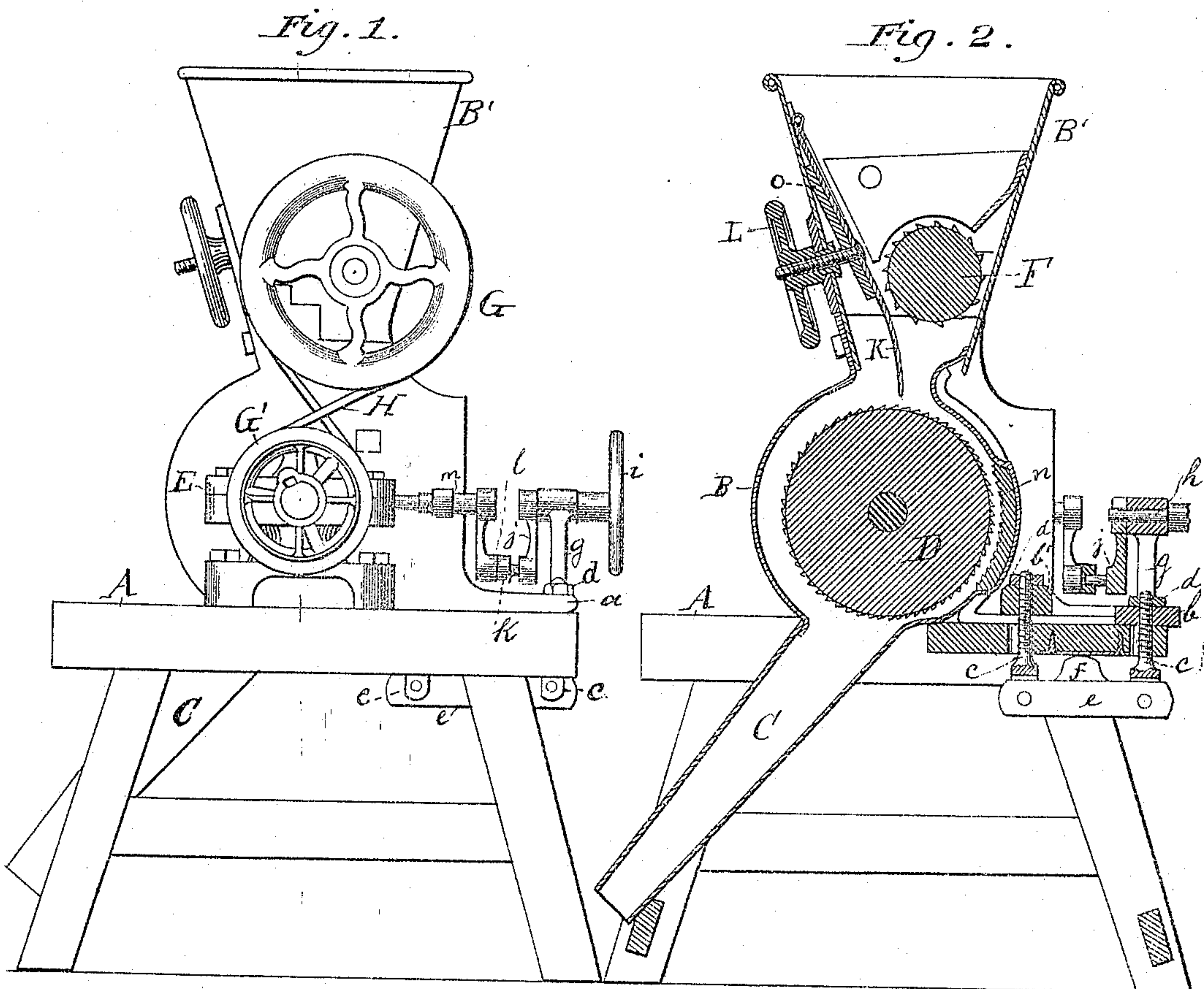
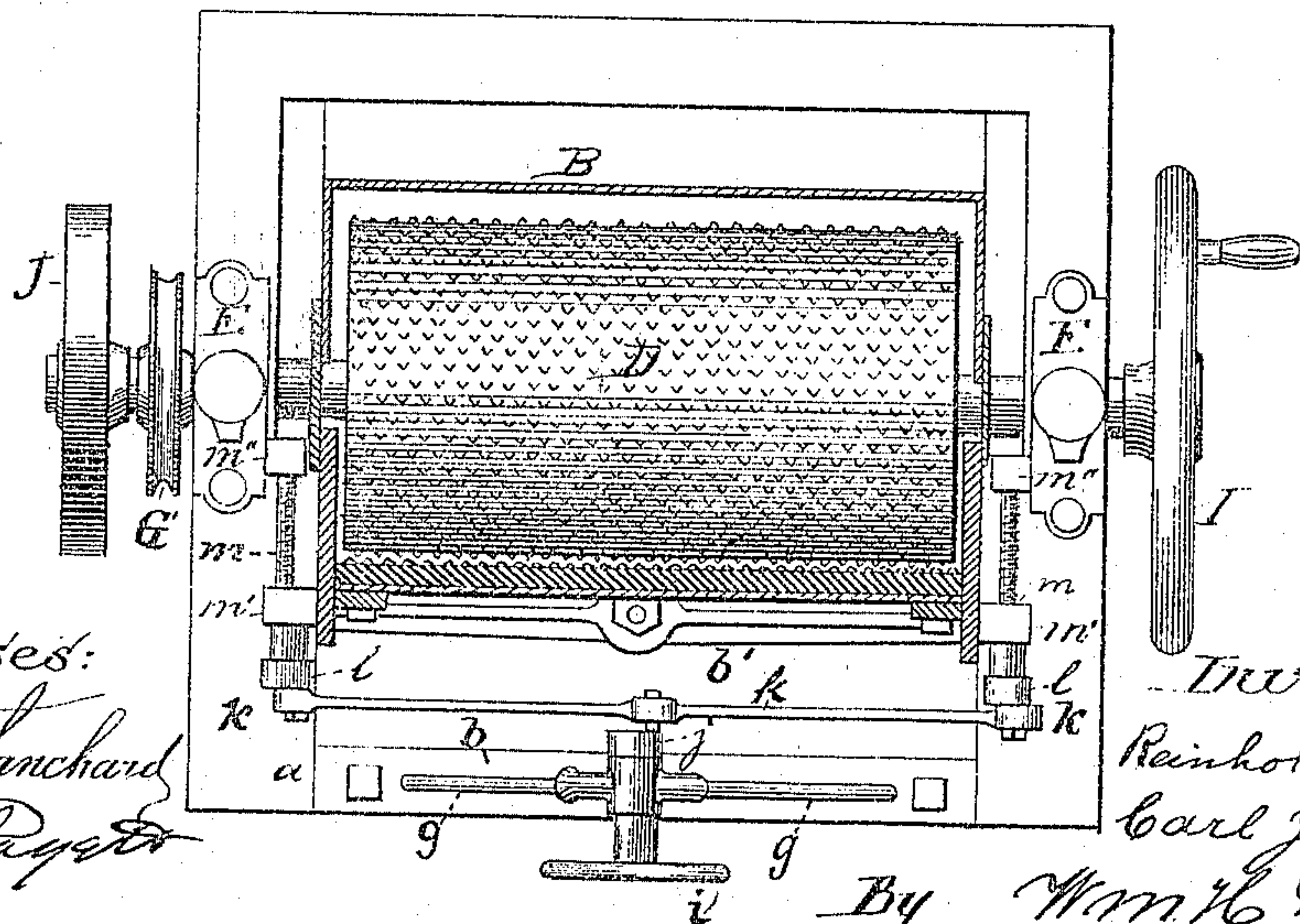


Fig. 3.



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UNITED STATES PATENT OFFICE.

REINHOLD WAAK AND CARL JAGUSCH, OF CHICAGO, ILLINOIS.

PORTABLE GRINDING-MILL.

SPECIFICATION forming part of Letters Patent No. 301,020, dated June 24, 1884.

Application filed November 27, 1883. (No model.)

To all whom it may concern:

Be it known that we, REINHOLD WAAK and CARL JAGUSCH, subjects of the Emperor of Germany, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Portable Grinding-Mills, of which the following is a specification, reference being had therein to the accompanying drawings.

Our invention relates to an improved grinding-mill; and the object it has in view is principally to improve the means employed for adapting it for use with different sizes of grain, and to reduce such grain to different degrees of fineness.

The invention consists of novel devices and combinations of devices, as will be described and claimed.

Reference is made to the accompanying drawings, in which Figure 1 is a side view of the mill complete; Fig. 2, a vertical central section of the same, and Fig. 3 a plan with parts removed.

Like letters refer to like parts in each view.

A represents the base of the mill, upon which are mounted the parts which inclose the feed and grinding rolls. The inclosing-casing is formed of two parts—viz., a cylindrical roll-casing, B, and a receiving-hopper, B', securely bolted together, as shown. Casing B is provided on one side, at its base, with extensions *a*, connected by cross-pieces *b b'*, which rest upon the base A. Through the center of these cross-pieces *b b'*, and through base A, are passed bolts *c*, screw-threaded on their upper ends, where they are provided with nuts *d*, and at their lower ends are secured to a yoke, *e*. Yoke *e* is provided with an upwardly-projecting lug, *f*, which presses against the under side of base A, and when the nuts *d* of bolts *c* are screwed down tight this lug presses against said base and serves to hold casing B and hopper B' firmly in position. Elongated slots are formed through base A for the passage therethrough of bolts *c*, the object of which will be explained. Formed at or about the center of cross-piece *b*, is a bracket, *g*, in which is mounted a shaft, *h*, provided at its outer end with a hand-wheel, *i*, and at its inner end with a crank-arm, *j*, to the pin of

which is attached a rod, *k*, which is attached at each end to the pin of a crank-arm, *l*, which are secured to feed-screws *m*, each mounted and turning in suitable internally-screw-threaded bearings, *m' m''*, on the sides of casing B, and the boxes supporting the shaft of the grinding-roll D. The shaft of this grinding-roll passes through elongated slots made in the ends of the casing, and has end bearings in the boxes E E, secured to the base-frame. By the arrangement of parts thus far described, it will be understood that by loosening the nuts *d* of the bolts *c*, and by turning the hand-wheel *i*, motion will be imparted to the crank-connections and transmitted to the feed-screws, which will move the casing B and its hopper backward or forward, the movement of the casing independently of the grinding-roll being permitted by the slots in the ends of said casing. The casing B is provided with a discharge-spout, C, which passes through an opening in base A, and upon one side of the inner surface of said casing are formed the grinding-teeth *n*, which form one of the grinding-surfaces in connection with the grinding-roll D. It will also be understood that by moving the part B backward or forward the teeth formed on the interior of said casing are carried to or from roll D, and the space left between the two grinding-surfaces thus diminished or increased. The roll D, and also the one F, to be referred to, are preferably made of steel, and the grinding-teeth with which they are provided are formed like rasp-teeth. The journals of the upper roll, F, which is situated within the feed-hopper B', have bearings in the sides of said hopper, and at one end project out sufficiently to accommodate a pulley, G, which is connected by cross-belting H with a pulley, G', secured to the journal of the roll D, whereby when power is applied to the roll D by means of hand-wheel I or pulley J the upper roll is revolved in the opposite direction to roll D. Hinged to the inner surface of hopper B' is a strip, K, which extends down to within a short distance of roll D, and acts as a guide to direct the grain between the teeth of said roll and those formed on the inside of casing B. To strip K is secured a

screw which projects out through the side of the hopper, and is provided on its outer end with a hand-wheel, L. Secured to said screw, intermediate one side of the hopper B' and strip K, is a sleeve, o, which adjoins said strip and at all times affords it a rest, the sleeve being fixed to the screw to have simultaneous movement with the strip K. It will be seen that by turning the hand-wheel L the strip K is carried toward or withdrawn from the roll F, and the space through which the grain is to pass thus diminished in size or enlarged.

The operation will be readily understood by those skilled in the art to which the invention pertains.

What we claim is—

1. In a grinding-mill, an adjustable casing and feed-hopper, the former provided on its inner surface with a toothed section, in combination with feed and grinding rolls, and means for revolving said rolls for regulating the feed and for adjusting the casing with respect to

the grinding-roll, as and for the purpose described.

2. The casing B, provided with toothed section n, and hopper B', provided with plate K, in combination with rolls D, F, means for adjusting casing B with respect to roll D, means for adjusting plate K with respect to roll F, and means for revolving said rolls, as described and shown.

3. The casing B, provided with toothed section n, in combination with bracket g, hand-wheel i, shaft h, rod k, cranks l, j, screws m, and suitable bearings on the casing and roller boxes, as and for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

REINHOLD WAAK.
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Witnesses:

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