

G. W. LOY & F. C. BAKER.
Improvement in Grinding-Mills.

No. 129,741.

Patented July 23, 1872.

Fig. 1.

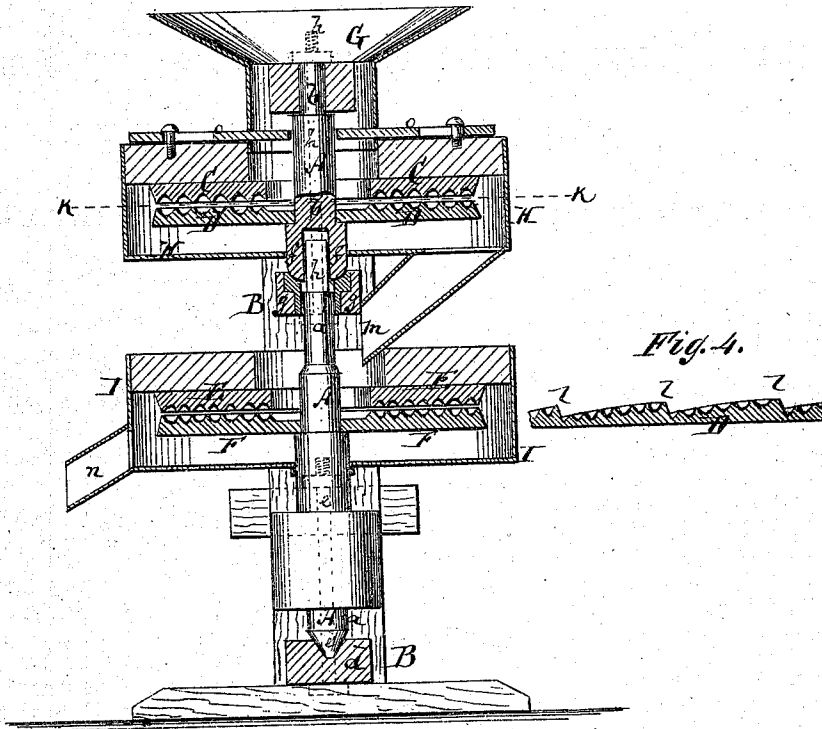


Fig. 4.

Fig. 2.

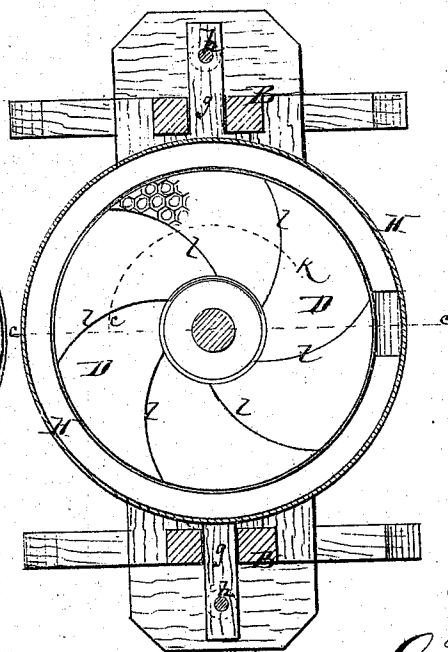
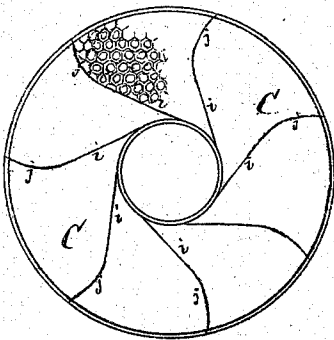


Fig. 3.



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN GRINDING-MILLS.

Specification forming part of Letters Patent No. 129,741, dated July 23, 1872.

Specification describing an Improved Grinding-Mill invented by GEORGE W. LOY and FRANCIS C. BAKER, of Jefferson, in the county of Marion and State of Texas.

Figure 1 represents a vertical central section of our improved mill, the line *c c*, Fig. 2, indicating the plane of section. Fig. 2 is a horizontal section of the same on the line *k k*, Fig. 1. Fig. 3 is a vertical face view of the upper burr. Fig. 4 is a detail vertical section through the lower burr, the curved line *c k*, Fig. 2, indicating the plane of section.

Similar letters of reference indicate corresponding parts.

The invention will first be fully described and then clearly pointed out in claims.

A in the drawing represents the spindle of the mill. It is made in two or more sections, two, *a b*, being shown in Fig. 1, there being one section for every set of burrs. The lower section *a* rests on a step or in a socket of a cross-bar, *d*. This cross-bar is made vertically adjustable in the frame B of the mill, either by being suspended from or supported by screws *e e*, shown by dotted lines in Fig. 1. The upper end of the section *a* is squared and enters a socket formed at the lower end of the upper section *b* of the spindle. This socket is formed in an enlargement, *f*, of the section *b*, which enlargement is rounded at the end, and rests also on a box that is fitted into a vertically-adjustable cross-bar, *g*, of the frame. Screws *h*, indicated by dotted lines in Fig. 1, regulate the height of the section *b*, which is thus independently adjustable, in order to obtain the desired space between the upper pair of burrs. C D are the upper and E F the lower pair of burrs. The rotary burrs D and F are respectively mounted upon the sections *a* and *b* of the spindle. If more than two sets of burrs are used, the spindle is made in as many more sections, each additional upper section having an enlargement and socket, *f*, at the lower end, substantially as shown on section *b*. The uppermost burr C admits the grain through its eye from a hopper, G, whose lower part enters the eye of C and fits it nearly air-tight. The consequence is that the burrs act as a kind of rotary pump, drawing the material to be ground down into and between them, thus rapidly distributing it over the grinding-surfaces. The grinding-face of the upper burr C, which is shown in Fig. 3, has steps formed on it, whose inner lines are

straight, forming the elbows *i*, while their outer parts form gentle curves *j*. The elbows are intended to allow the material to move away from the eye, so as to reach the grinding-faces rapidly, while the curves from the elbows to the verge of the burr prevent the too rapid escape of the material from between the burrs. The pits in the burrs are intended to present the largest possible quantity of cutting-edges to prevent the too rapid escape of material and obviate the presentation of too much solid and smooth surface as the burrs wear away. The rotary burrs have the steps *l* on their faces made in curved lines, as shown in Fig. 2, and have pits and cutting-edges substantially of the kind above stated for the stationary burrs. The furrows may be straight or curved, or of any desirable form; but I prefer the form as herein shown. The upper set of burrs C D is inclosed in a case, H, from the bottom of which a spout, *m*, extends into or toward the eye of the burr E. This spout conveys the matter ground by the upper set of burrs to the lower set for regrinding. A similar case, I, embraces the lower pair of burrs and has a discharge-spout, *n*. The escape of matter from the hopper G can be controlled by means of slides *o o*, which extend into the lower part of the hopper, as shown, and can be drawn in or out at pleasure, to diminish or enlarge the size of discharge-opening.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. The improved dress for millstones herein described, consisting of the partially straight and curved furrows and intervening lands, stepped or inclined, as shown, and provided with pits or cells, in the manner and for the purpose described and set forth.

2. The spindles A made in connected sections, the upper section *b* having an enlarged lower end to be supported on an adjustable cross-head, as specified.

3. The hopper G, adjustable slides O O, and stationary burr C, combined, constructed, and arranged substantially as set forth.

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