(No Model.)

D. R. HOOPES.

GRINDING MILL.

No. 281,072. Patented July 10, 1883.

Fig. 1.

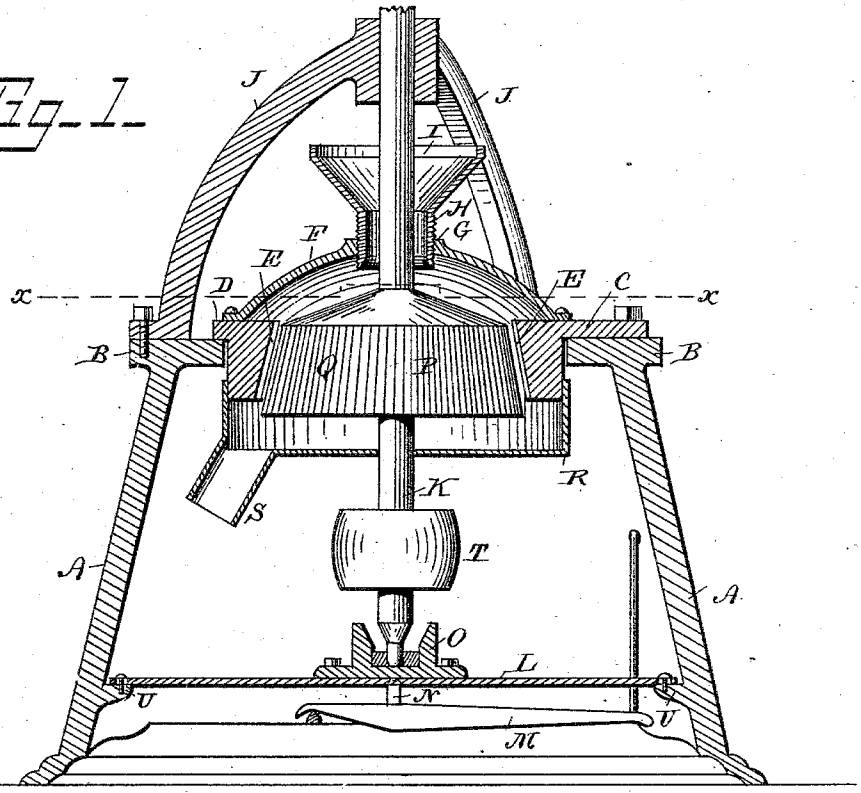
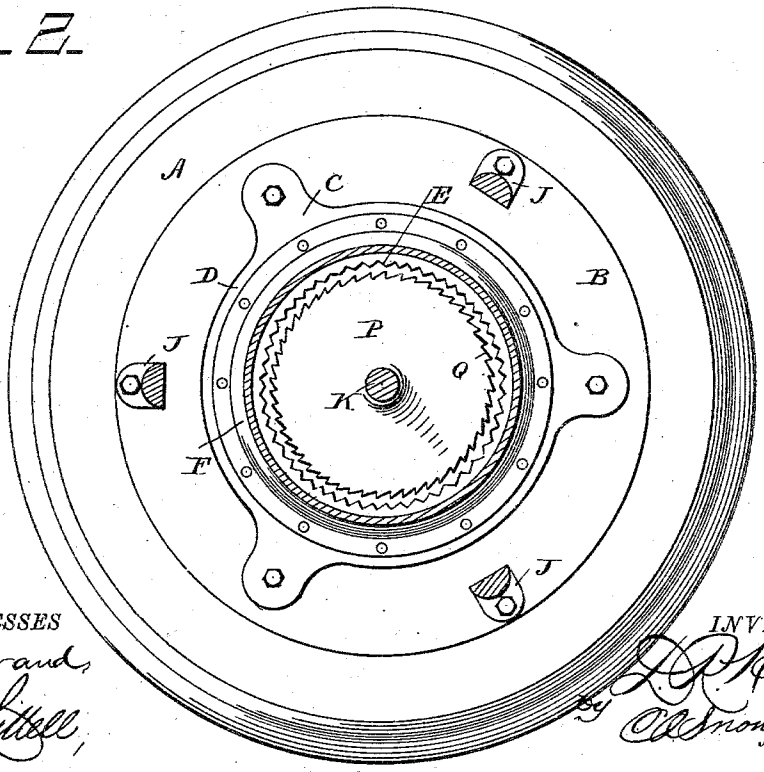


Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

DAVID R. HOOPES, OF OSKALOOSA, IOWA.

GRINDING-MILL.

SPECIFICATION forming part of Letters Patent No. 281,072, dated July 10, 1883.

Application filed February 13, 1883. (No model.)

To all whom it may concern:

Be it known that I, DAVID R. HOOPES, a citizen of the United States, residing at Oskaloosa, in the county of Mahaska and State of Iowa, have invented a new and useful Grinding-Mill, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to grinding-mills for the gradual reduction of the material to be ground; and it consists in certain improvements in the construction of the same, which will be hereinafter fully described, and particularly pointed out in the claim.

In the drawings hereto annexed, Figure 1 is a vertical sectional view of my improved grinding-mill, and Fig. 2 is a horizontal sectional view on the line *x x* in Fig. 1.

The same letters refer to the same parts in both figures.

A in the drawings represents a suitably-constructed frame having a flange, B, at its upper end or edge, to support the grinding-shell C, which is provided with an annular flange, D, resting upon the frame. The said grinding-shell consists of a conical shell, the inner surface of which is provided with teeth or serrations E E.

F is a saddle bolted or otherwise secured upon the flange or upper edge of the grinding-shell C, and having a central screw-threaded opening, G, to receive the correspondingly screw-threaded neck of the hopper I.

J is a spider bolted or othewise secured on top of the frame A, adjoining the flange of the shell C. The said spider forms a bearing for the upper end of the vertical shaft K, the lower end of which is journaled in a step mounted upon an elastic cross-piece or spring, L, arranged transversely in the lower part of the frame. Arranged under the said spring is a lever, M, connected by a short arm, N, with the under side of the said spring, directly under the step which is denoted by the letter O. Suitable mechanism—such as a vertical rod screw-threaded at its upper end, and provided with a regulating-nut resting upon the frame—is provided for operating the lever M, so as to raise or lower the spring, the step or boxing, and the vertical shaft journaled in the latter.

P is the grinding-cone, which is mounted upon the shaft K, within the shell C, and which is provided on its outer surface with teeth or serrations Q.

R is a casing bolted or otherwise secured to the shell, and provided with a spout, S, for the escape of the ground material.

The vertical shaft K has a pulley or band-wheel, T, by means of which power may be transmitted to the machine.

The operation of this invention will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed. The material to be ground is fed into the hopper, from whence it passes between the grinding shell and cone, where it is gradually crushed or reduced to the proper degree of fineness. The ground material passes into the casing R, and from thence through the spout S into some suitable receptacle which may be placed underneath. By operating the lever M the shaft K may be raised or lowered, thus adjusting the cone within the shell and regulating the fineness to which the material is ground.

The ends of the spring or transverse elastic bar L may be supported upon brackets U, formed upon the frame-pieces, and to these brackets it may be secured by screws or bolts working in slots in the ends of the said spring.

I claim as my invention and desire to secure by Letters Patent of the United States—

The herein-described grinding-mill, consisting of the frame, the grinding-shell mounted upon the same, the saddle mounted upon said shell, the hopper, the spider mounted upon the frame, the transverse spring or elastic bar, a step or boxing, the vertical shaft mounted in said step and in the spider, the grinding-cone, and the lever arranged under and connected with the spring or elastic cross-bar to provide for the vertical adjustment of the step and vertical shaft, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

DAVID R. HOOPES.

Witnesses:

S. E. HOOPES,

M. M. MELLON.