W. A. BRANCH & E. GOLUCKE.

Grinding-Mill.

No. 227,212. **Patented May 4, 1880.**

Fig. 1.

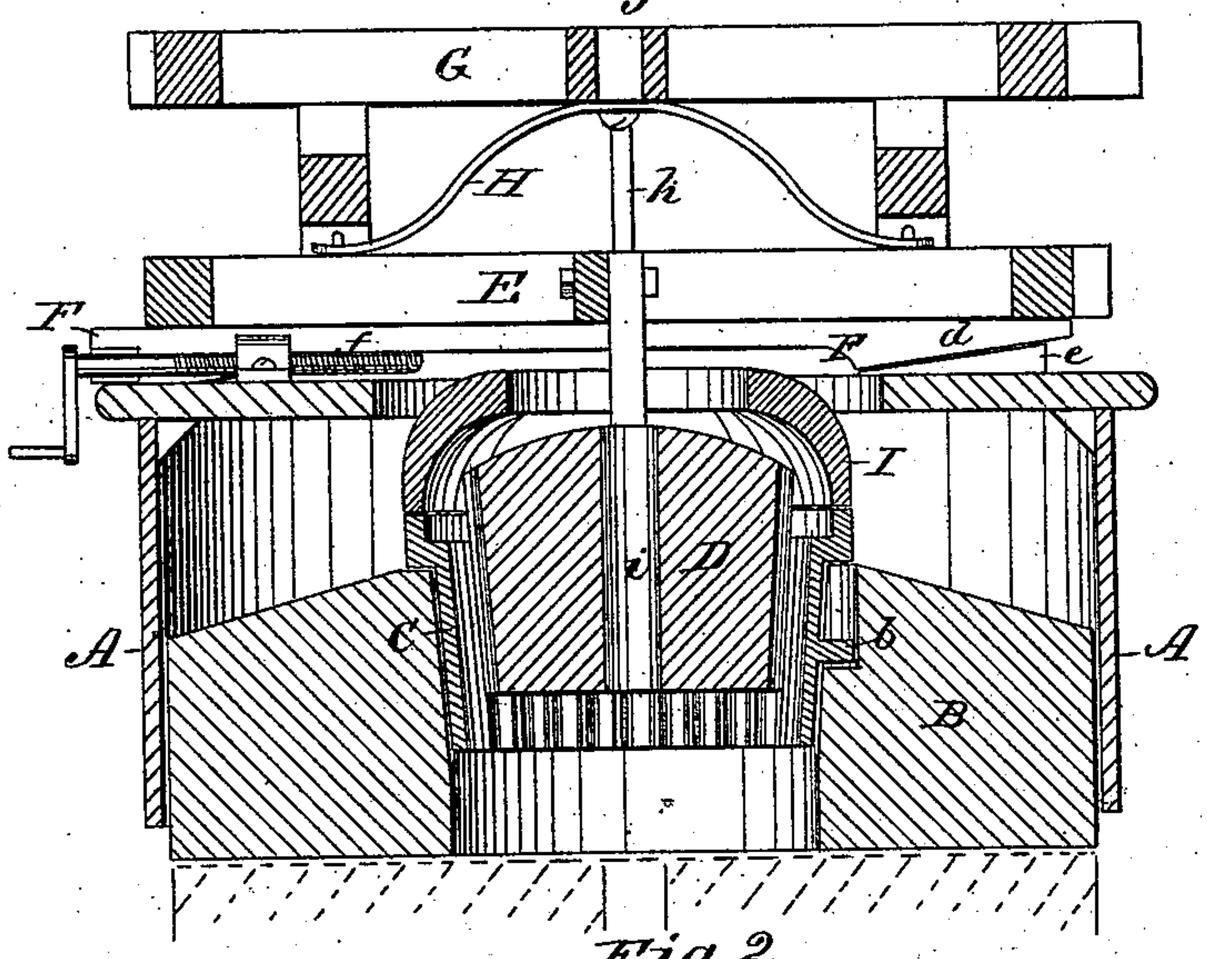


Fig. 2.

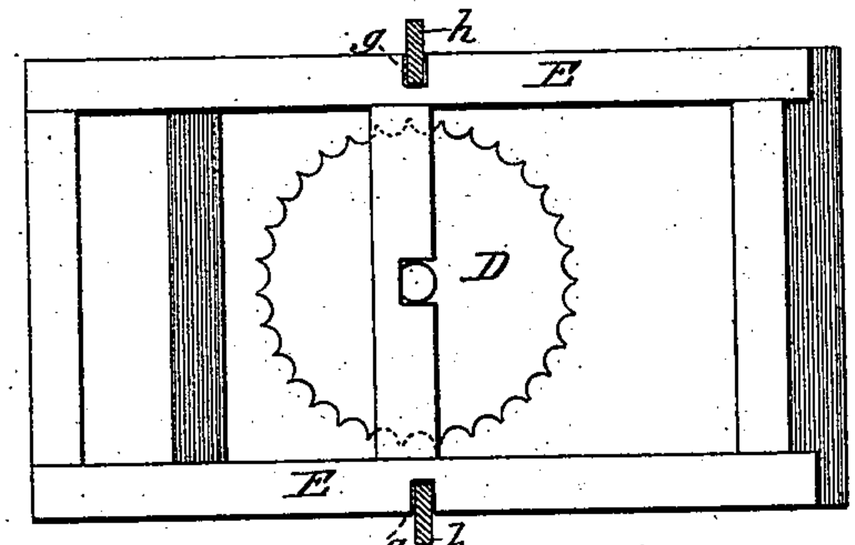
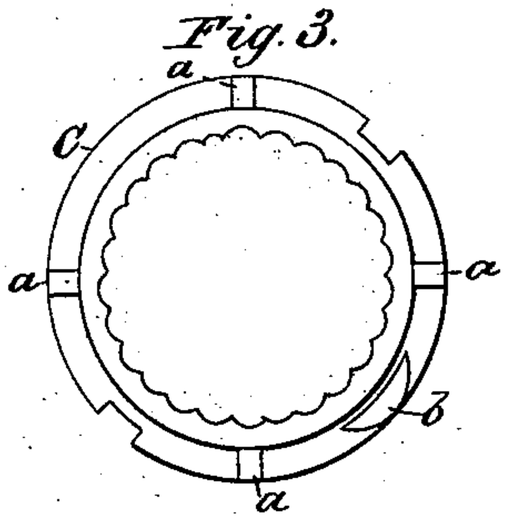
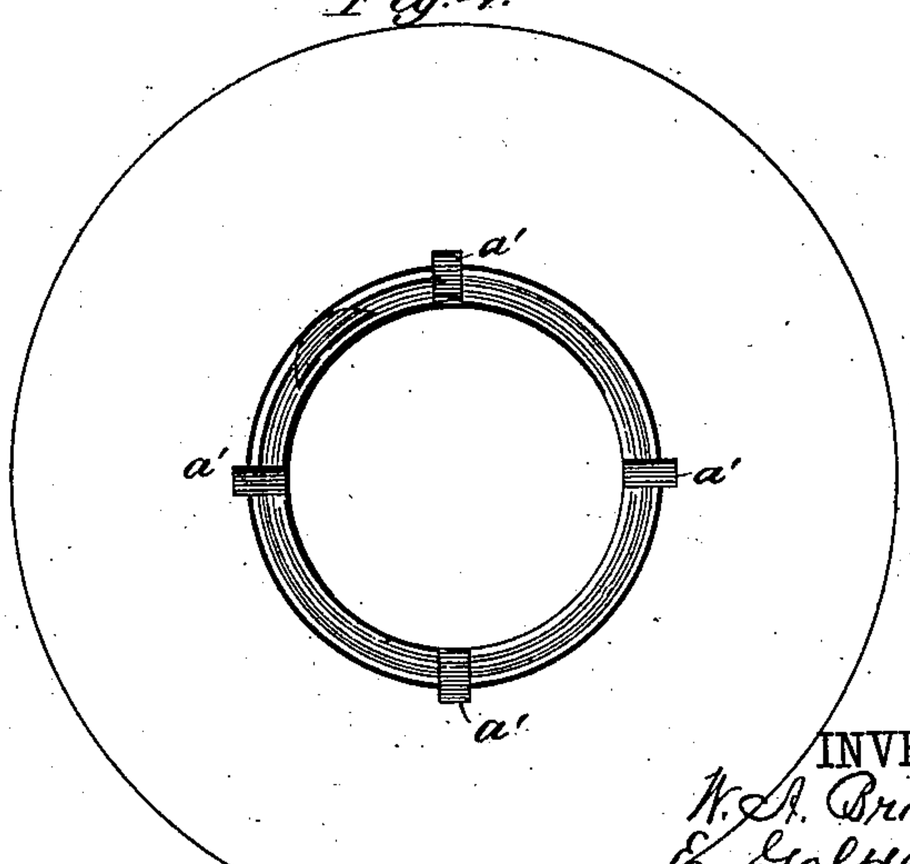


Fig. 4.

Fig. 3.





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UNITED STATES PATENT OFFICE.

WILLIAM A. BRANCH AND EDMUND GOLUCKE, OF CRAWFORDVILLE, GA.

GRINDING-MILL.

SPECIFICATION forming part of Letters Patent No. 227,212, dated May 4, 1880.

Application filed September 2, 1879.

To all whom it may concern:

Be it known that we, WILLIAM A. BRANCH and EDMUND GOLUCKE, of Crawfordville, in the county of Taliaferro and State of Georgia, have invented a new and Improved Grinding-Mill; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical section of the runner-stone and its appliances. Fig. 2 is a plan view of the frame carrying the suspended cone. Fig. 3 is a detail of the metal cylinder fitting in the runner. Fig. 4 is a plan view of the runner, showing the seat into which the cylinder drops when fitted to its place.

Our invention relates to certain improvements in grinding-mills of that form in which the runner-stone is provided with metal grinding-surfaces arranged in the eye of the stone, so as to give a preliminary grinding to the grain near the center, where the leverage is greater, before being admitted between the stones.

Our improvement consists in the particular construction and arrangement of the suspended stationary cone with respect to the adjusting device for regulating the approach of the cone to the grinding-surface in the eye of the stone.

In the drawings, A represents the outer case of the mill, and B is the runner-stone contained therein, and arranged to be driven as usual. In the eye of this runner is arranged a hollow conical metal lining, C, (see Fig. 3,) whose inner surface is wrought into a series of vertical grooves and alternating ribs having greater depth at the top than at the bottom. The hollow lining is made of cast metal, and is formed upon its exterior with vertical flanges *a*, which fit into corresponding vertical grooves *a'* in the stone, and one or more horizontal flanges, *b*, which limit the descent of the said lining into the said stone. This inner lining, C, is fitted to the runner by the entrance of its flanges into the grooves of the stone, and is then made fast to the stone by a filling of cement, which secures the parts together, so that they rotate together as one.

Inside the metal lining in the eye of the runner is arranged a cone, D, having its greatest diameter at the top, and having its side adjacent to the sides of the lining C wrought into vertical grooves corresponding to the grooves on the inner surface of the lining, and between which two surfaces the grain is broken up before being admitted between the stones. This cone D is stationary, and is held in position by being suspended from a frame, E.

To cause the cone D to approach the lining in the eye of the runner more or less closely, it is made vertically adjustable, in accomplishing which the frame E is mounted upon a second frame, F, having inclined faces *d* resting upon inclined supports *e*, attached to the upper side of the outer casing of the mill. This frame F is swiveled upon a screw, *f*, attached to the casing, so that by turning said screw frame F is moved horizontally, and said frame in moving horizontally rides over the inclines *e* and adjusts the frame E, carrying the cone in a vertical direction.

To prevent frame E from moving horizontally with its subjacent frame F the said frame E is provided with vertical guide-grooves *g g* in its sides, which receive the guide-standards *h h* of the stationary frame G, which latter is bolted or screwed to the outer casing. For pressing the cone and its frame down again with a positive pressure springs H are affixed to frame G and made to bear downwardly against the frame E, carrying said cone.

Just above the cone, and mounted upon the inner lining of the runner, is arranged an annular rim, I, through which the grain is fed to the mill, while a vertical opening, *i*, through the cone gives passage to the rattle-staff to effect the feeding of the grain.

By means of the mill herein described the grain is broken first near the center, where the leverage is greater, and while the capacity of the mill is increased much less power is required for grinding the same amount of grain.

Having thus described our invention, what we claim as new is—

The combination, with the case or curb of the mill and the runner B, of the suspended cone D, the attached supporting-frame E, having guides *g h*, and the subjacent frame F, made adjustable by inclines and screw, substantially as and for the purpose described.

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Witnesses:
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