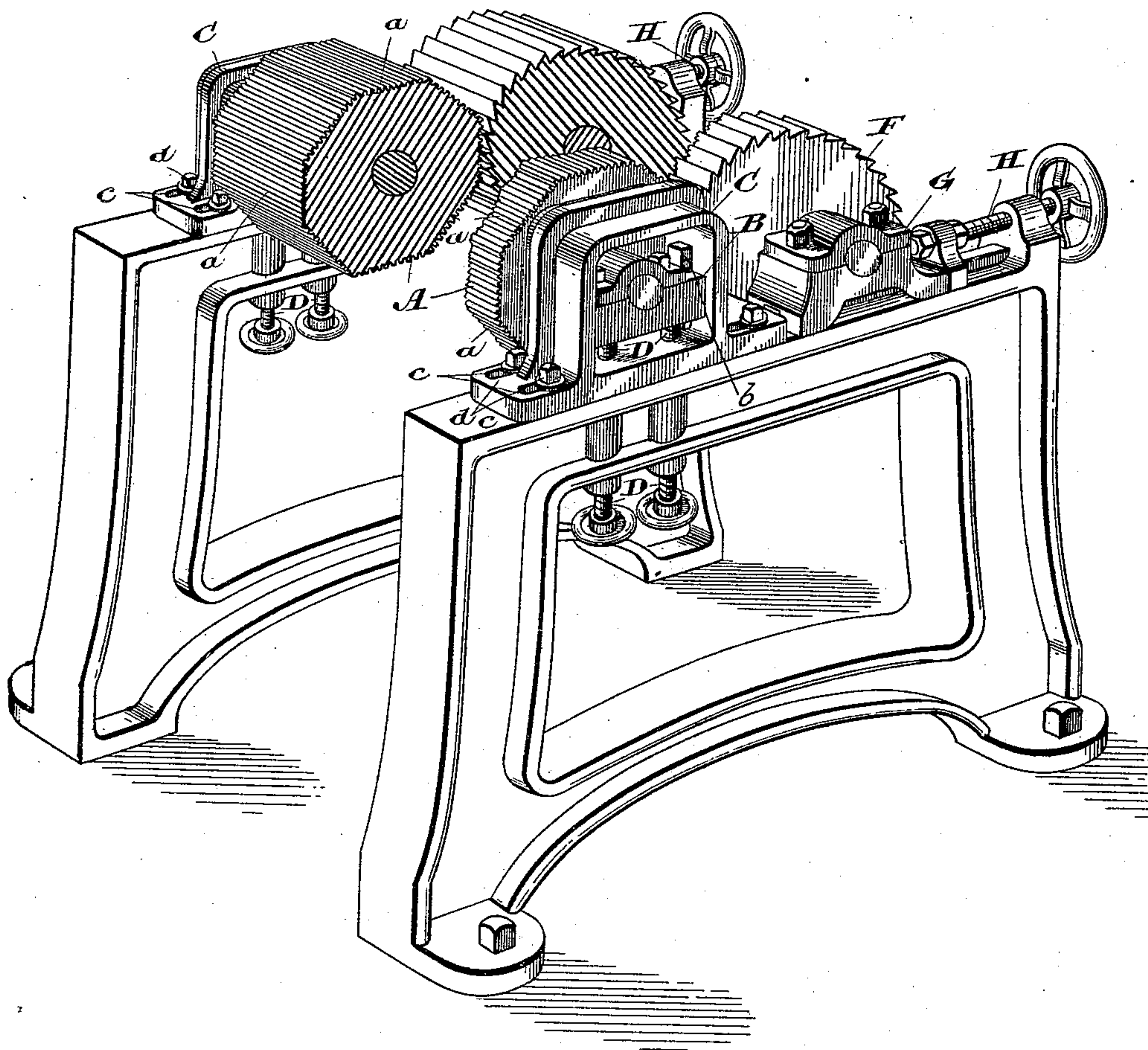


(No Model.)

J. & A. J. JONES.
GRINDING MILL.

No. 446,219.

Patented Feb. 10, 1891.



Witnesses.

W. G. Mason
Henry Sprout

Inventors.

James Jones.
A. J. Jones
by F. E. H. H. H. & Co.

UNITED STATES PATENT OFFICE.

JAMES JONES AND ALDRED JAMES JONES, OF THOROLD, CANADA.

GRINDING-MILL.

SPECIFICATION forming part of Letters Patent No. 446,219, dated February 10, 1891.

Application filed June 5, 1890. Serial No. 354,373. (No model.)

To all whom it may concern:

Be it known that we, JAMES JONES and ALDRED JAMES JONES, both millers, and both of the town of Thorold, in the county of Welland, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Grinding-Mills, of which the following is a specification.

Our invention relates to improvements in grinding-mills patented to us February 25, 1890, under No. 422,223; and the object of the present invention is, first, to design a stationary roll composed of a series of flat corrugated grinding-surfaces which may be adjusted to present to the revolving roll any one of the series of grinding-surfaces when the other of them is worn out, and, secondly, to provide means to adjust the stationary roll vertically, so as to utilize the whole of each grinding-surface.

The figure is a perspective view showing the parts involved in our invention.

We find in practice that middlings produced from the contact of the revolving roll with a flat corrugated surface are of a much finer grade than when produced by a revolving roll with a surface following the periphery of the roll, and it is with the object of providing a series of flat corrugated surfaces, which may be readily substituted one for the other and adjusted each vertically when a portion of the surface is worn out, that our invention is chiefly designed.

In the drawing like letters of reference indicate corresponding parts.

A is the stationary roll, the periphery of which is divided into a series of flat surfaces *a*, which extend longitudinally from end to end of the roll, each surface *a* being corrugated, as shown. The roll A is held in the bearing-boxes B, which are vertically adjustable in the frames C by the screw-spindles D, which support the bearing-boxes B, and are operated by the hand-wheels E. The bearing-boxes B are grooved, as shown, to receive the inner ribs *b* in the frames C. These ribs are fixed to the inner faces of the vertical sides of the frames. The frames C have slots *c* cut in their bases through which the set-screws *d* pass in order to provide a ready means of adjustment to suit the class of work intended to be passed through the rolls.

F is the revolving roll which is held in the bearing-boxes G, which are adjusted to and from the stationary roll by the screw-spindles H in the same manner as described in our former patent hereinbefore referred to.

It will be seen that as the bearing-boxes B are raised or lowered a different portion of one of the flat corrugated grinding-surfaces *a* is contiguous to the revolving roll F. Consequently, if the stationary roll A is set so that the revolving roll F operates on the upper portion of the surface A next to it and that portion of the surface becomes worn, the roll A may be adjusted by the screw-spindles D so that another portion of the surface is contiguous to the revolving roll so as to operate upon the work, and so on till the whole of the surface *a* is worn out, when the caps of the bearing-boxes B may be loosened and the roll turned sufficiently to bring into play another of the series of flat grinding-surfaces *a*.

Although we show the revolving roll with longitudinal ratchet-shaped furrows, it will be understood of course that we may use a revolving roll of any desired surface to operate with our stationary roll.

What we claim as our invention is—

1. In combination, the revolving grinding-roll, the stationary roll having a series of flat grinding-faces, means for adjustably holding the stationary roll so that it may be adjusted on its axis to present different grinding-faces to the grinding-roll, the said rolls being adjustable to vary their vertical relation and their distance apart, whereby different faces of the stationary roll may be brought into action and different parts of the said faces, substantially as described.

2. In combination, the revoluble grinding-roll, the stationary roll, the main frame, the open frames C adjustable thereon to and from the revolving roll, and the bearing-boxes B, adjustable vertically within the frames C and upon the inner faces of the vertical sides, substantially as described.

JAMES JONES.
ALDRED JAMES JONES.

Witnesses:

FRED. B. FETHERSTONHAUGH,
HENRY SPROATT.