

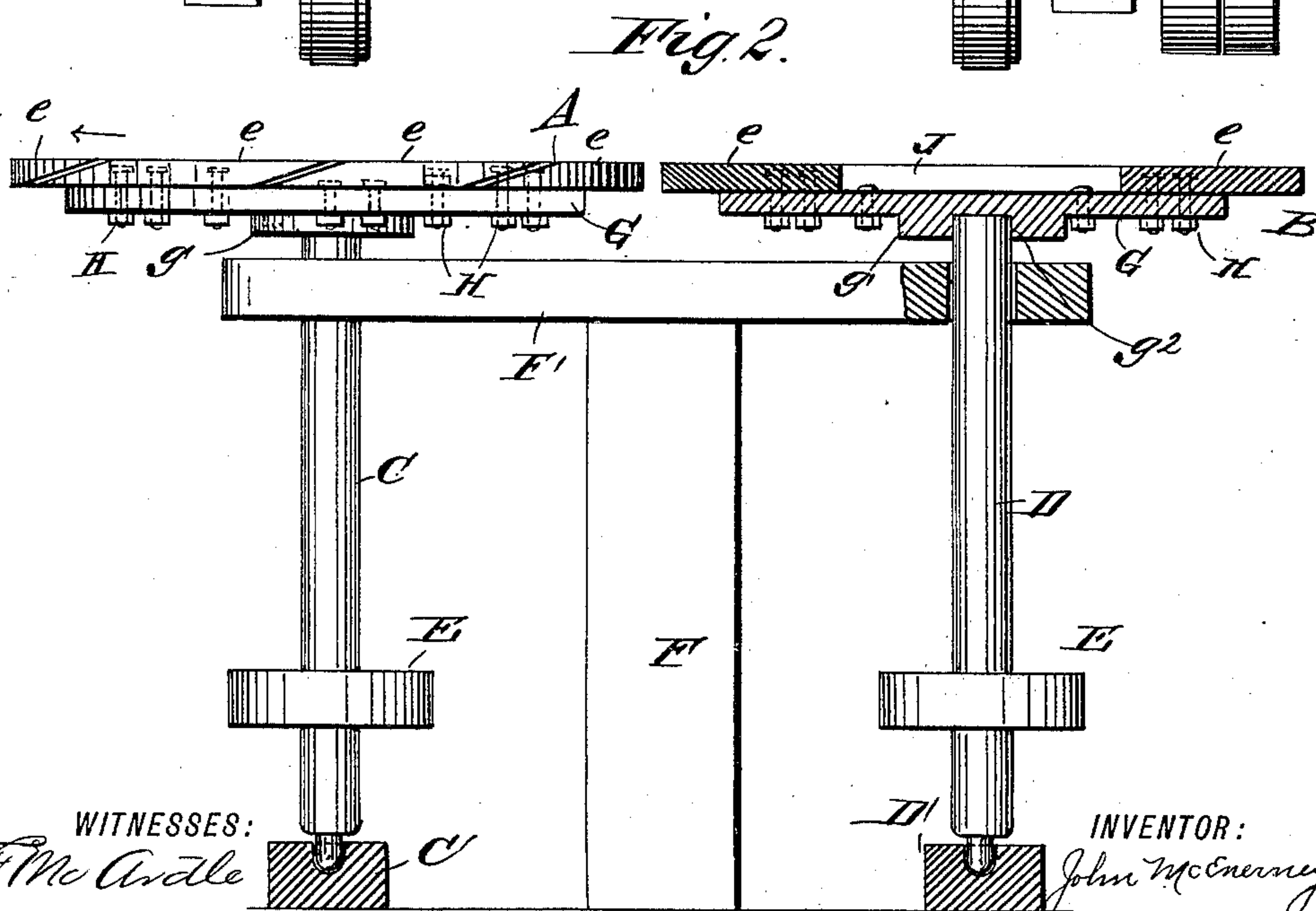
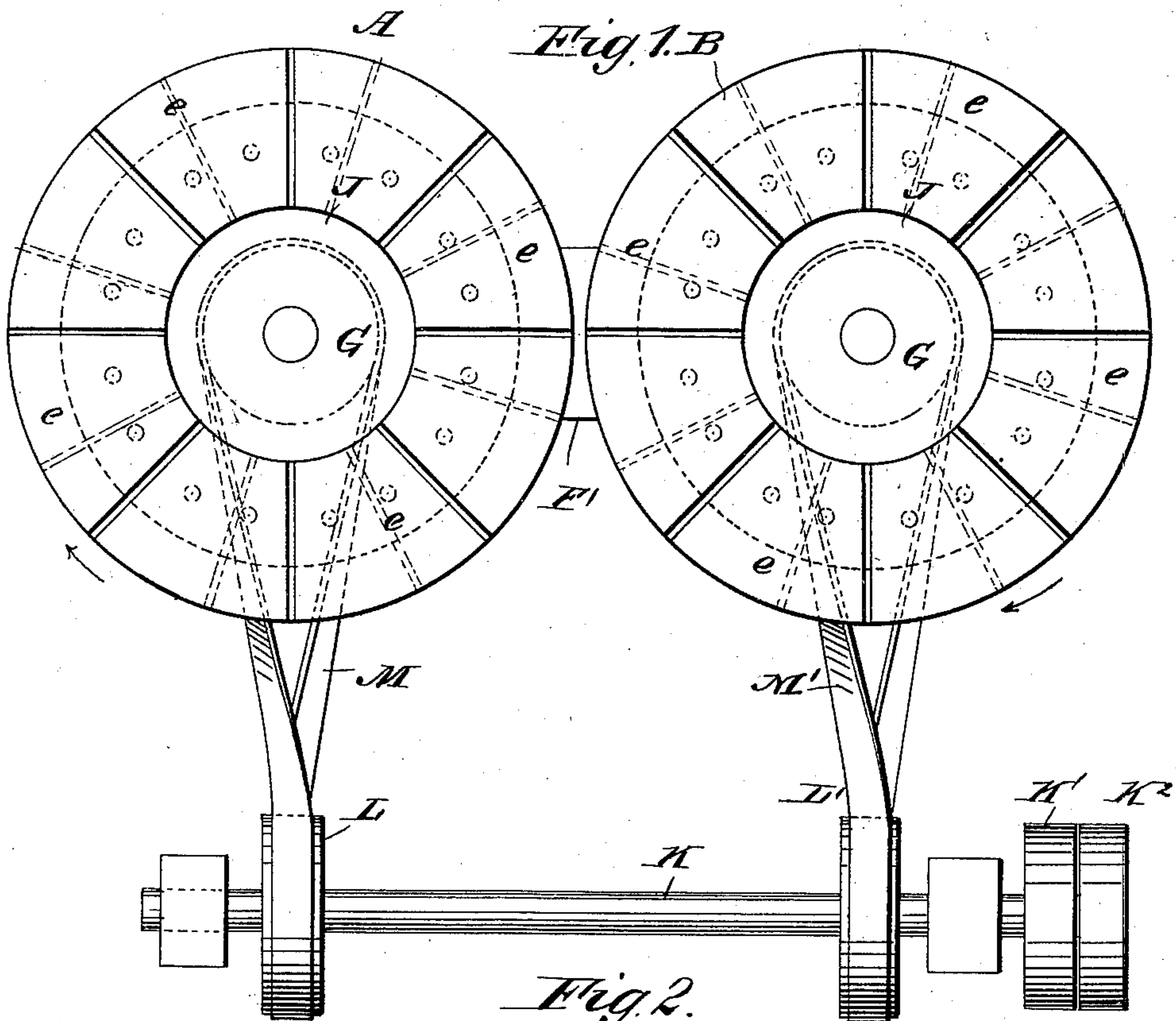
(No Model.)

J. McENERNEY.

MACHINE FOR GRINDING AND POLISHING STONE.

No. 409,419.

Patented Aug. 20, 1889.



WITNESSES:
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JOHN McENERNEY, OF NEW YORK, N. Y., ASSIGNOR OF ONE-THIRD TO
MOSES RODH, OF SAME PLACE.

MACHINE FOR GRINDING AND POLISHING STONE.

SPECIFICATION forming part of Letters Patent No. 409,419, dated August 20, 1889.

Application filed July 18, 1888. Serial No. 280,301. (No model.)

To all whom it may concern:

Be it known that I, JOHN McENERNEY, of the city, county, and State of New York, have invented a new and Improved Machine for Grinding and Polishing Stone, of which the following is a full, clear, and exact description.

My invention relates to machines for grinding and polishing stone, particularly to the grinding-disks thereof; and it consists in a grinding-disk constructed as hereinafter particularly described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a partial plan view of a stone grinding and polishing machine having my invention applied, and Fig. 2 is a side elevation of the same, partly in section.

A B represent two disks horizontally mounted, side by side, so as to leave a small space between their adjacent peripheries, the upper faces of said disks being of uniform height. C D are two aligning vertical shafts, the lower ends of which are stepped in bearings C' D', respectively, and each shaft is provided with a pulley E. F F' represent a T-shaped stand, each end of the horizontal part F' thereof being provided with an opening, in which freely turns one of the vertical shafts aforesaid.

Each grinding-disk is mounted upon and secured to the upper side of a smaller disk G. The under side of each disk G is provided with a boss g' , having a socket g^2 on its under side. The upper end of each vertical shaft is rigidly seated in one of the sockets g^2 . Each grinding-disk consists of a series of segmental plates e , eight plates being shown in the drawings. These plates are firmly held by bolts H to the lower disk G. The head of each bolt is embedded in a grinding-plate, the upper side of each plate being countersunk for the reception of the bolt, the countersunk part then being filled flush with the surface with lead or other suitable material. The side edges of said plates are beveled, and when in place on the disk G one edge of one plate overlaps but does not touch the juxtaposed edge of the adjacent plate, thus leav-

ing an inclined opening between them, as best shown at the upper left hand in Fig. 2 of the drawings. The inner ends of said plates are given a concave contour, so that when assembled upon the disk G a circular recess J is formed at the center of the disks A B, as shown in Fig. 1 of the drawings, the floor of said recess being the upper face of the disk G, as shown at the upper right hand in Fig. 2 of the drawings.

K represents a driving-shaft provided with loose and fixed pulleys K' K² and two driving-pulleys L L'.

M M' represent belts which connect the driving-pulleys with the pulleys on the vertical shafts.

The operation is as follows: Power is imparted to the driving-shaft by any suitable means. Said shaft in turn imparts power to the vertical shafts through the medium of the pulleys and belts, as shown. The rotary motion of the vertical shafts rotates the grinding-disks and connected parts, the disks being operated in unison. The granite or stone to be ground or polished is carried back and forth over the upper surfaces of the grinding-disks by any suitable means. In practice a crane is preferably employed for carrying the stone. The sand or chilled iron that is used for grinding finds its way into the spaces between the plates of the upper disk until said spaces become filled. The grinding action then carries and distributes the substance from one space to another in a manner so as not to produce a perceptible accumulation on the upper faces of the grinding-disks, and at the same time permit a sufficient quantity of the material on said faces to effect the desired results. The disks move in the direction of the arrows, so as to produce but little wear on the joints of the lapped plates.

The object in cutting away the central part of the grinding-plates is to retain only those portions which have a comparatively rapid movement, so as to prevent as nearly as practicable a slow movement on one part of the stone and a more rapid movement on another part.

Although I have shown and described but two rotary disks, more than two may be employed when desired for larger stone.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

5 1. In a machine for grinding and polishing stone, a grinding-disk consisting of a series of spaced segmental plates having beveled side edges, substantially as shown and described.

10 2. In a machine for grinding and polishing stone, a grinding-disk consisting of a series of segmental plates having beveled side edges, one edge of one plate overlapping but not touching the juxtaposed edge of the adjacent plate, substantially as shown and described.

15 3. In a machine for grinding and polishing

stone, the combination, with two aligning vertical shafts mounted to turn in suitable bearings, and each provided with a belt-pulley, and disks rigidly mounted upon the upper 20 ends of said shafts, of grinding-disks fixed to said rigidly-mounted disks, and consisting of a series of segmental plates having beveled side edges, one edge of one plate overlapping but not touching the juxtaposed edge of the 25 adjacent plate, and means for rotating said shafts and disks, substantially as shown and described.

JOHN MCENERNEY.

Witnesses:

EDGAR TATE,

EDWD. M. CLARK.