3 Sheets—Sheet 1.

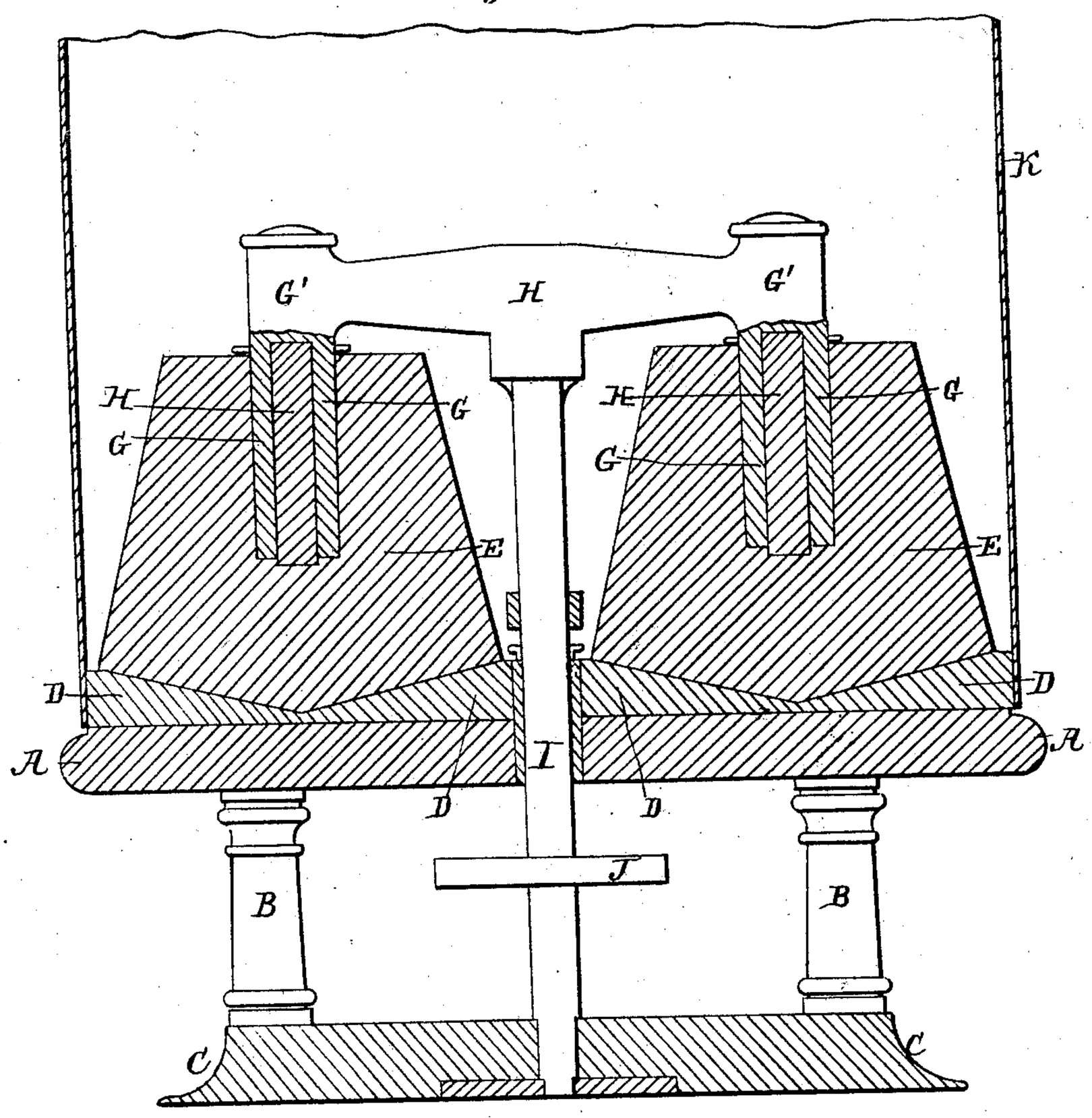
G. D. JONES.

Grinding Mill.

No. 27,224.

Patented Feb. 21, 1860.

Fig: 1.



Witnesses

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George H. Mott

Inventor

Gilbert D Jones

by his Attorney

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3 Sheets—Sheet 2.

G. D. JONES.

Grinding Mill.

No. 27,224.

Patented Feb. 21. 1860.

Fig: 2

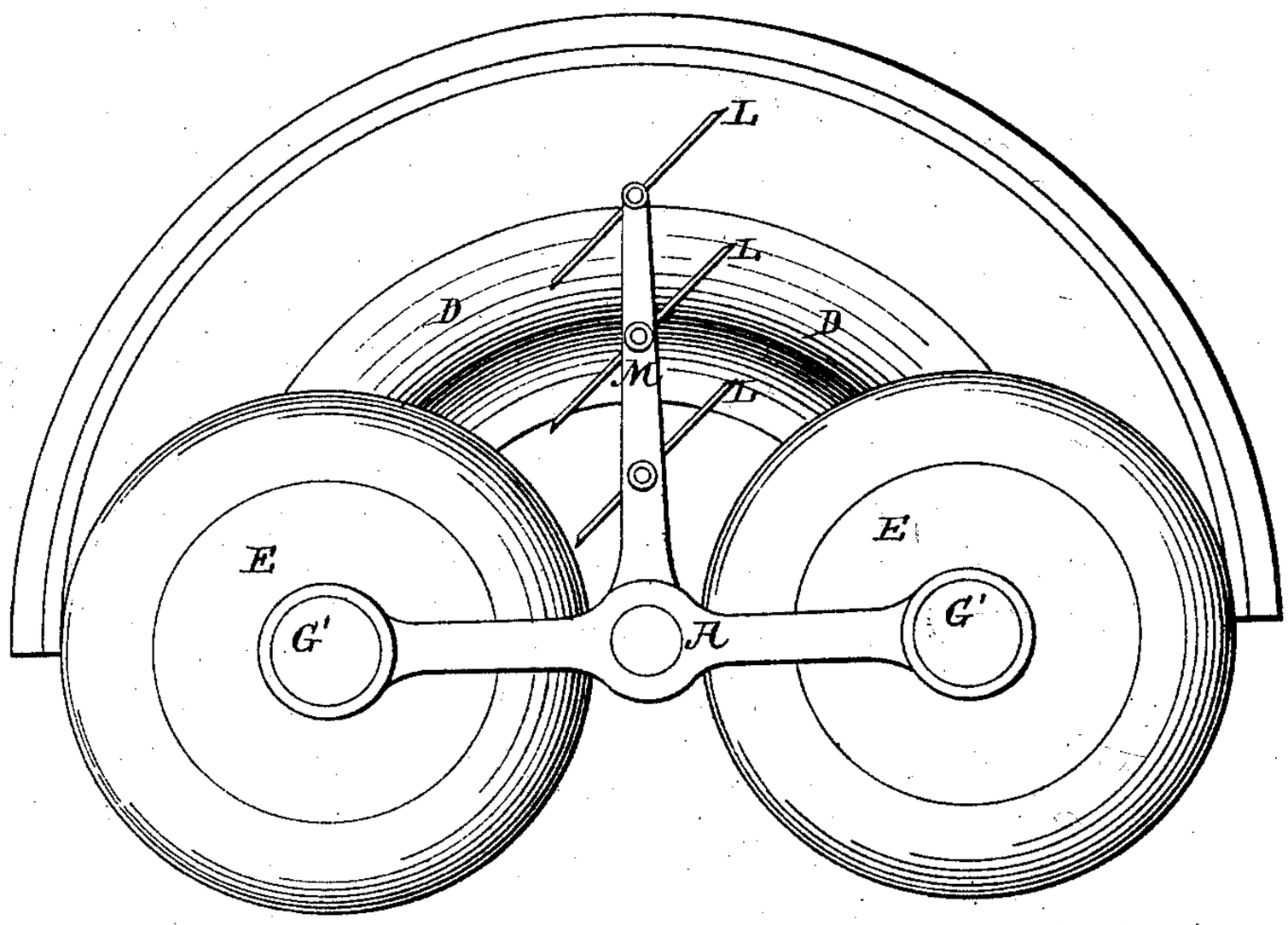


Fig: 4.

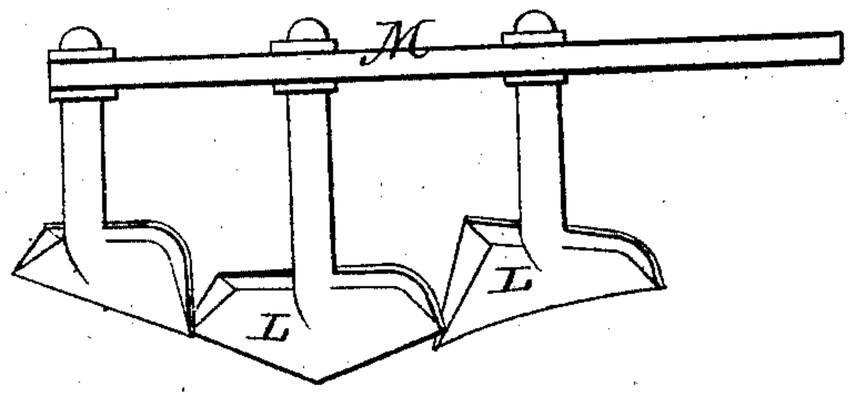
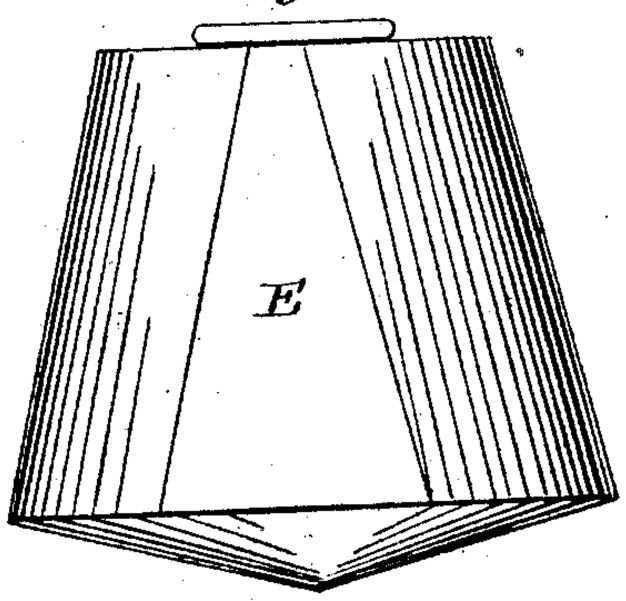


Fig: 3.



Witnesses.

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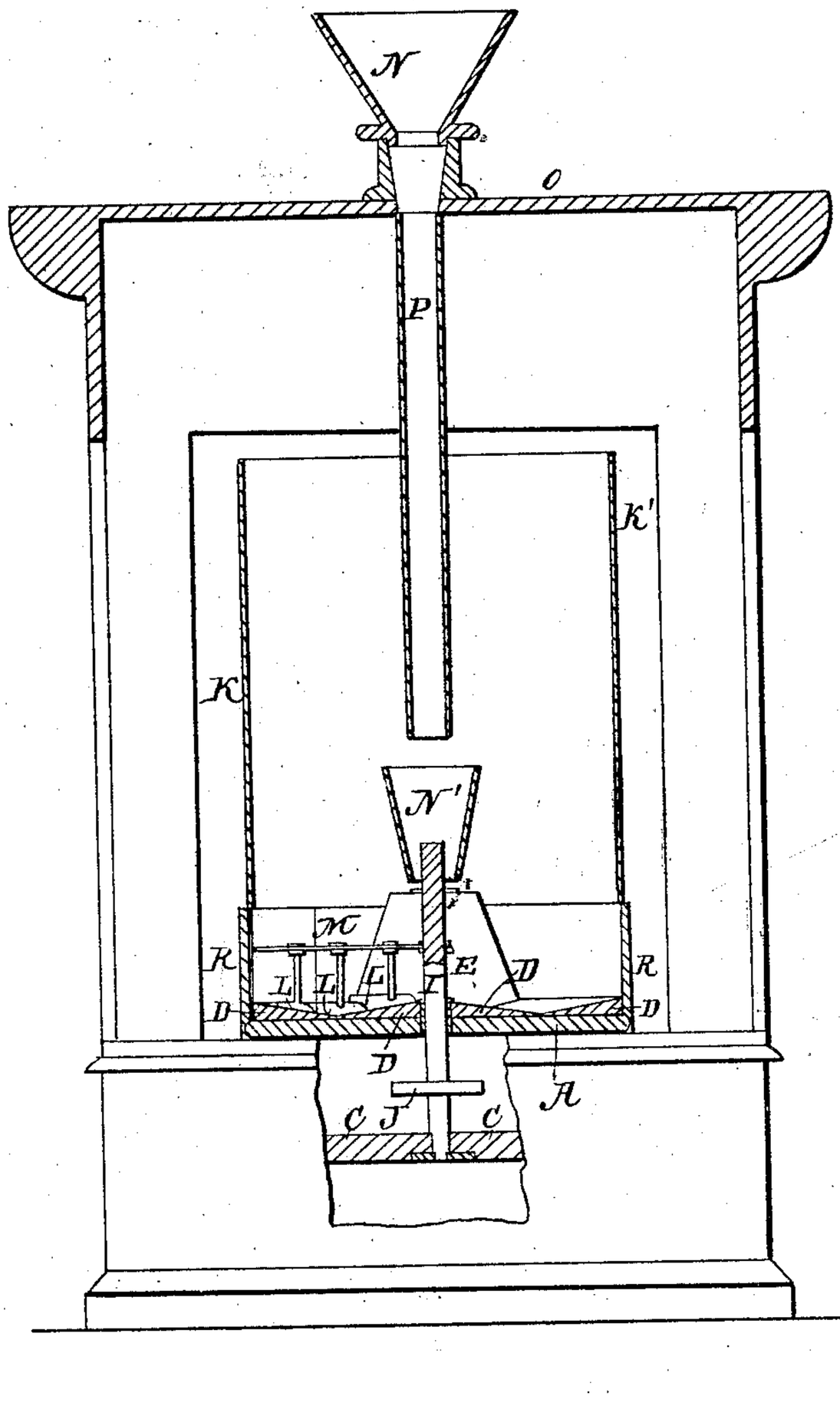
Grinding Mill.

3 Sheets—Sheet 3.

No. 27,224.

Patented Feb. 21, 1860.

Fig: 5.



Witnesses

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UNITED STATES PATENT OFFICE.

GILBERT DANIEL JONES, OF NEW YORK, N. Y.

MILL.

Specification of Letters Patent No. 27,224, dated February 21, 1860.

To all whom it may concern:

Be it known that I, GILBERT DANIEL JONES, of New York, in the United States of America, now residing in London, have invented Improvements in Mills or Machinery for Grinding, Reducing, and Pulverizing; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

My invention relates to grinding reducing and pulverizing where those operations are performed by runners free to revolve around their own axes and caused to revolve in and around a bed; and my invention consists in forming the bottom or grinding surfaces of the runners conical in the form of an inverted cone and in forming the bed with corresponding conical surfaces. The runners may be of any desired number but I find two or three to be the most advantageous.

Figure 1 of the accompanying drawings is a sectional elevation and Fig. 2 a plan of half of a mill constructed according to my invention.

A is a platform supported by pillars B B which rest on the bed C. The platform A carries a bed D the surface of which is formed conical to correspond with the shape of the lower surface of the runners E E one of which is shown detached at Fig. 3.

F F are metal rods fixed in a hole formed in the center of each of the runners.

G G are vertical sockets into which the rods F F fit loosely. These sockets are continuations of arms G′ G′ formed in a piece with the cross head H to which the driving shaft I is keyed.

J is a pulley fast on the strap I around which a driving belt passes. Upon rotary motion being communicated to the driving shaft the runners are caused to revolve around the mill and at the same time each runner also revolves around its own axis.

K is a cylinder of wire gauze (part only of which is shown at Fig. 1) that surrounds the apparatus in order to prevent the materials being ground from flying out of the mills.

L L L are scrapers (one set of which is shown separately at Fig. 4) attached to a rod M fixed to the shaft I. These scrapers are arranged to fit the conical surfaces of the bed B and the rod which carries them being attached to the shaft I they follow the runners E E in their course around the bed.

Fig. 5 is a view in sectional elevation of the mill just described fixed in a frame. N is a hopper fitted to the upper part of the frame O. It communicates with a pipe P leading to a second hopper N′ which guides the materials to be ground to the bed D to be operated on by the conical runners E E. R is a case surrounding the bed D and the lower part of the wire gauze K. All the other parts of this mill are similar to those just described, the same letters of reference referring to like parts in all the figures.

I claim,

Constructing the bottom or guiding surfaces of the runners conical in the form of an inverted cone, and the bed in and around which they revolve with corresponding conical surfaces, substantially in manner hereinbefore described.

G. D. JONES.

Witnesses:

R. A. VROOMAN,

I. C. NEWBURN.