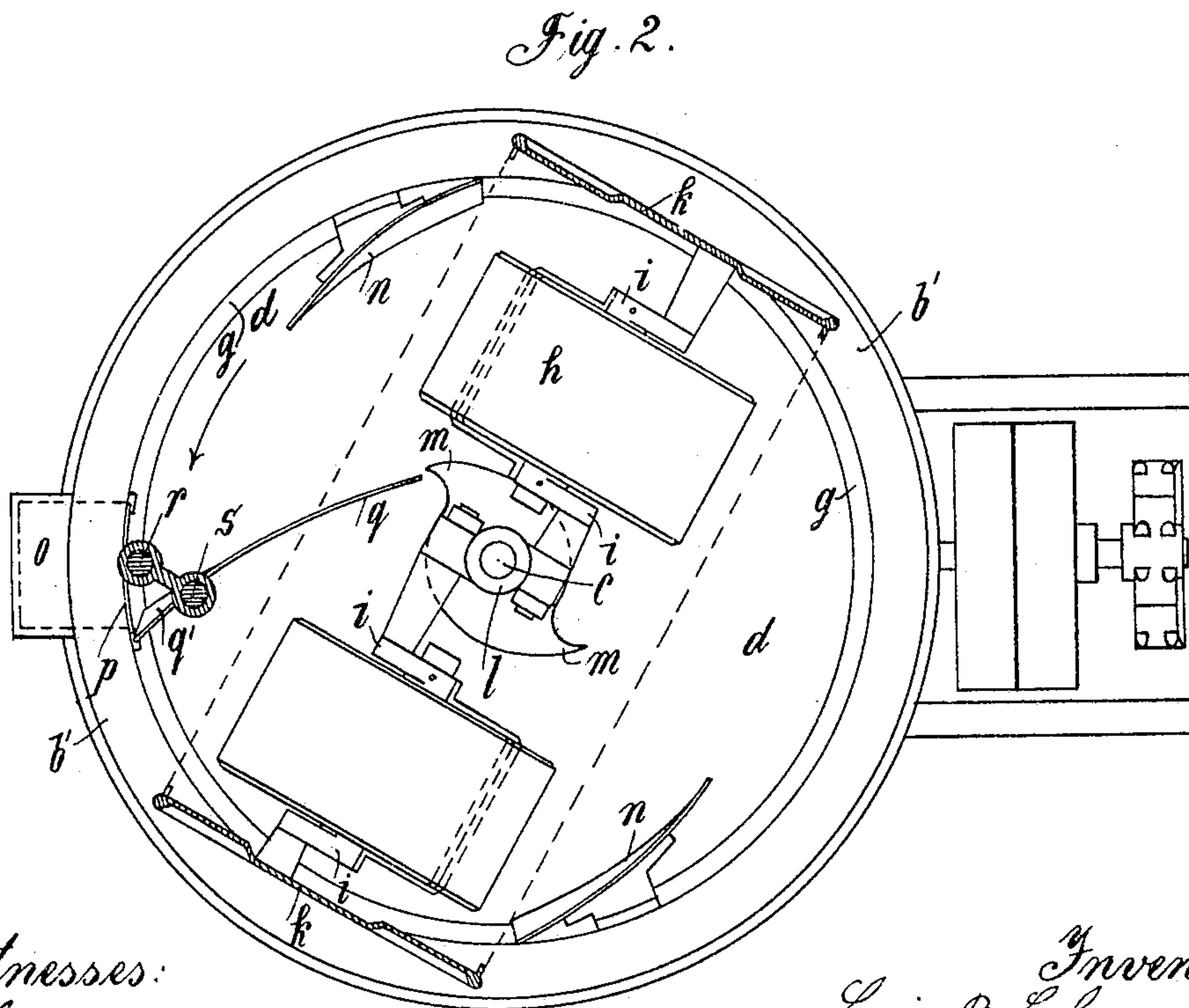
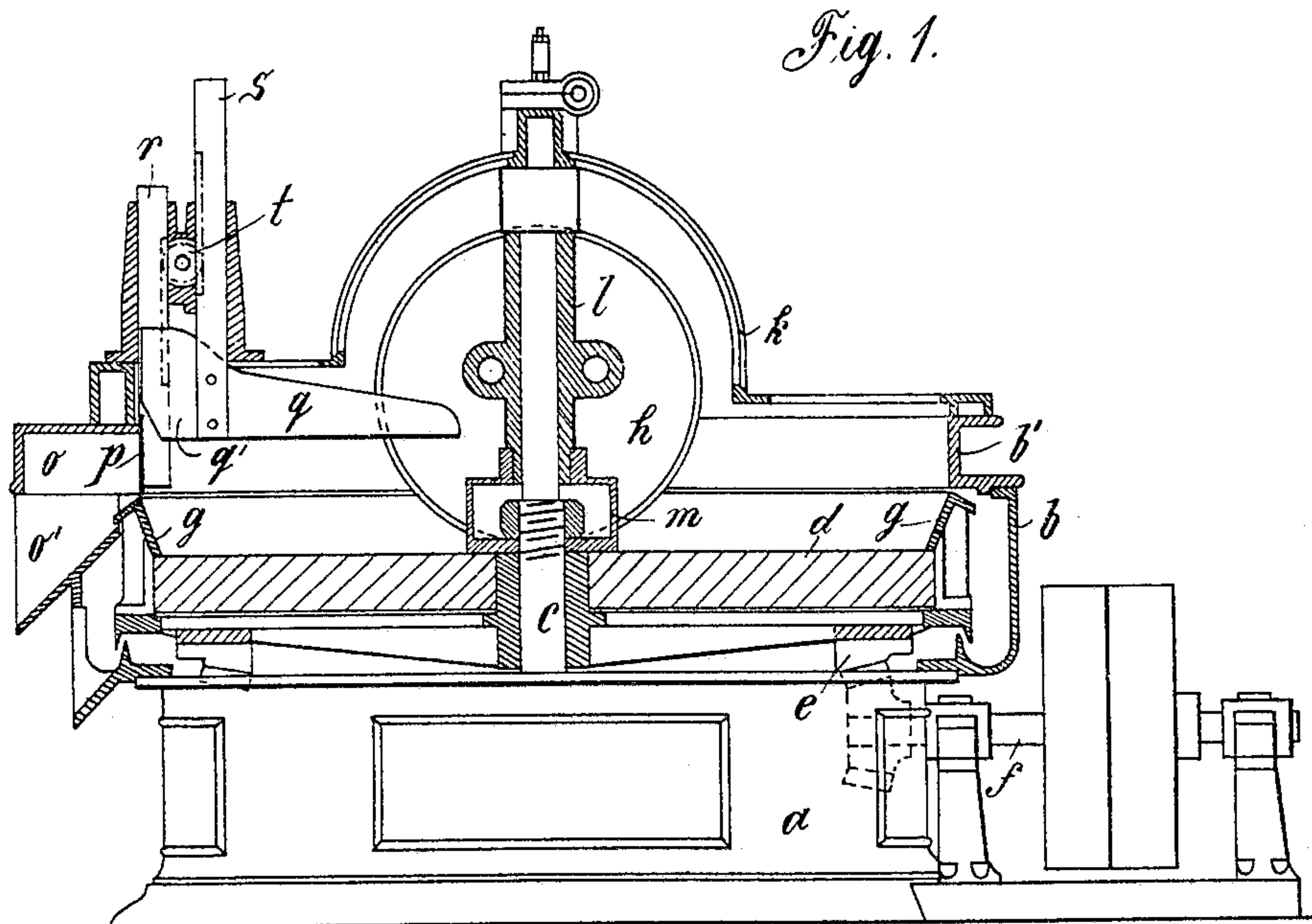


No. 799,244.

PATENTED SEPT. 12, 1905.

L. B. LEHMANN.  
CRUSHING MILL.

APPLICATION FILED JULY 7, 1904.



Witnesses:

Thomas Durant

Alexander S. Stewart

Inventor:

Louis B. Lehmann

by Church & Church  
his attys



# UNITED STATES PATENT OFFICE.

LOUIS BERNARD LEHMANN, OF DRESDEN-LÖBTAU, GERMANY.

## CRUSHING-MILL.

No. 799,244.

Specification of Letters Patent.

Patented Sept. 12, 1905.

Application filed July 7, 1904. Serial No. 215,641.

*To all whom it may concern:*

Be it known that I, LOUIS BERNARD LEHMANN, a subject of the King of Saxony, residing at Dresden-Löbtau, Saxony, Germany, have invented certain new and useful Improvements in Crushing-Mills, of which the following is a specification.

In order to inclose properly the surface of the stone toward the outside in mills having a rotating nether stone, so as to prevent the material being ground from projection by centrifugal force beyond the edge of the nether stone, the latter is provided with a raised edge which rotates together with it. In order to enable the ground material to be automatically discharged from such mills without any danger to the attendant, a discharge-scraper which can be lowered onto the surface of the stone is provided according to this invention. The outer portion of the said scraper fits the edge or flange and is at an angle to the vertical plane in such way that a helical surface rising in the direction of the rotation of the rotating nether stone is produced. When the scraper or scoop in question is lowered to the nether stone, its inner portion pushes the material which is carried against it by the rotation of the nether stone first of all outward. Then the outer portion causes the material to rise along the flange and pass beyond its edge. In this way, in spite of the raised edge, a nearly complete discharge is attained. Such an apparatus is shown in the accompanying drawings, in which—

Figure 1 is a vertical section through the upper half of the mill, the lower half being shown in elevation; and Fig. 2 is a plan, partly in section.

*a* is the lower frame, carrying rims or casings *b b'*. A vertical spindle *c*, supported in the well-known manner, carries the revolving nether stone *d*, driven by toothed wheels *e* and a driving-shaft *f*. To the stone is secured a raised flange *g*.

*h* represents runners or rollers supported in swinging bracket *i*, in order that by their weight they may press on the surface of the stone.

*k* is a casing inclosing the runners.

Hollow bodies *m*, connected to a fixed sleeve *l* on the spindle *c*, and therefore not participating in the rotation of the stone, form guide-surfaces or deflectors which push the material collecting near the center of the stone back again to the outside and within the

path of the runners. Shovels or deflectors *n* act in the opposite way and push the material reaching the flange of the stone back again toward the center and within the path of the runners.

At *o o'* is the discharge-opening for the ground material. At this point the rim *b'* of the pan is cut away, so as to form a discharge-opening, which during the crushing operation is held closed by a vertically-movable slide *p*. Inside this opening is arranged a discharging scraper or scoop *q*, which is shown in the drawings in its raised position. The inner portion of the scoop *q* when in operative position guides outward the material carried by the stone in the direction of the rotation. (See the arrow in Fig. 2.) The outer portion of the scoop fits the shape of the flange or rim *g* and passes at its upper part beyond the said flange. As will be seen at *q'* in Fig. 2, the outer portion *q'* of the scoop is curved or bent up toward the horizontal, so as to form a helical surface rising in the direction of the rotation of the stone *d*.

In order to enable the slides *p* and the scoop *q* to be alternately raised and lowered, those parts are supported by rods *r* and *s*, provided with teeth on their sides facing each other. A toothed wheel *t*, placed between them and capable of being rotated by a crank or the like, moves one rod downward when raising the other one upward.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A crushing-mill comprising a rotating nether stone, a raised rim therefor, crushing-rollers mounted above said stone, a surrounding casing above the rim, a doorway in said casing, a closing-plate therefor, a discharge-scraper extending from near the center of the stone to beyond the rim thereof, and means for simultaneously raising the closing-plates and lowering the discharge-scraper substantially as set forth.

2. A crushing-mill comprising a rotating nether stone, a raised rim therefor, crushing-rollers mounted above said stone, a discharge-scraper extending from near the center of the stone to beyond the rim thereof, means for adjusting said scraper vertically into or out of operative position, a central material-deflector, and inner peripheral inward deflectors substantially as set forth.

3. A crushing-mill, comprising a rotating nether stone, a raised rim therefor, crushing-rollers mounted above said stone, a surround-

ing casing above the rim, a recess in said casing, a closing-plate therefor, a discharge-scraper extending from near the center of the stone to beyond the rim thereof, means for  
5 simultaneously raising the closing-plates and lowering the discharge-scraper, a central material-deflector, and inner peripheral inward deflectors substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LOUIS BERNARD LEHMANN.

Witnesses:

BERNHARD GEBLER,

WILHELM E. SCHWANHAUFER.