

No. 760,010.

PATENTED MAY 17, 1904.

J. H. MONTGOMERY.
STAMPING MILL.

APPLICATION FILED MAY 29, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

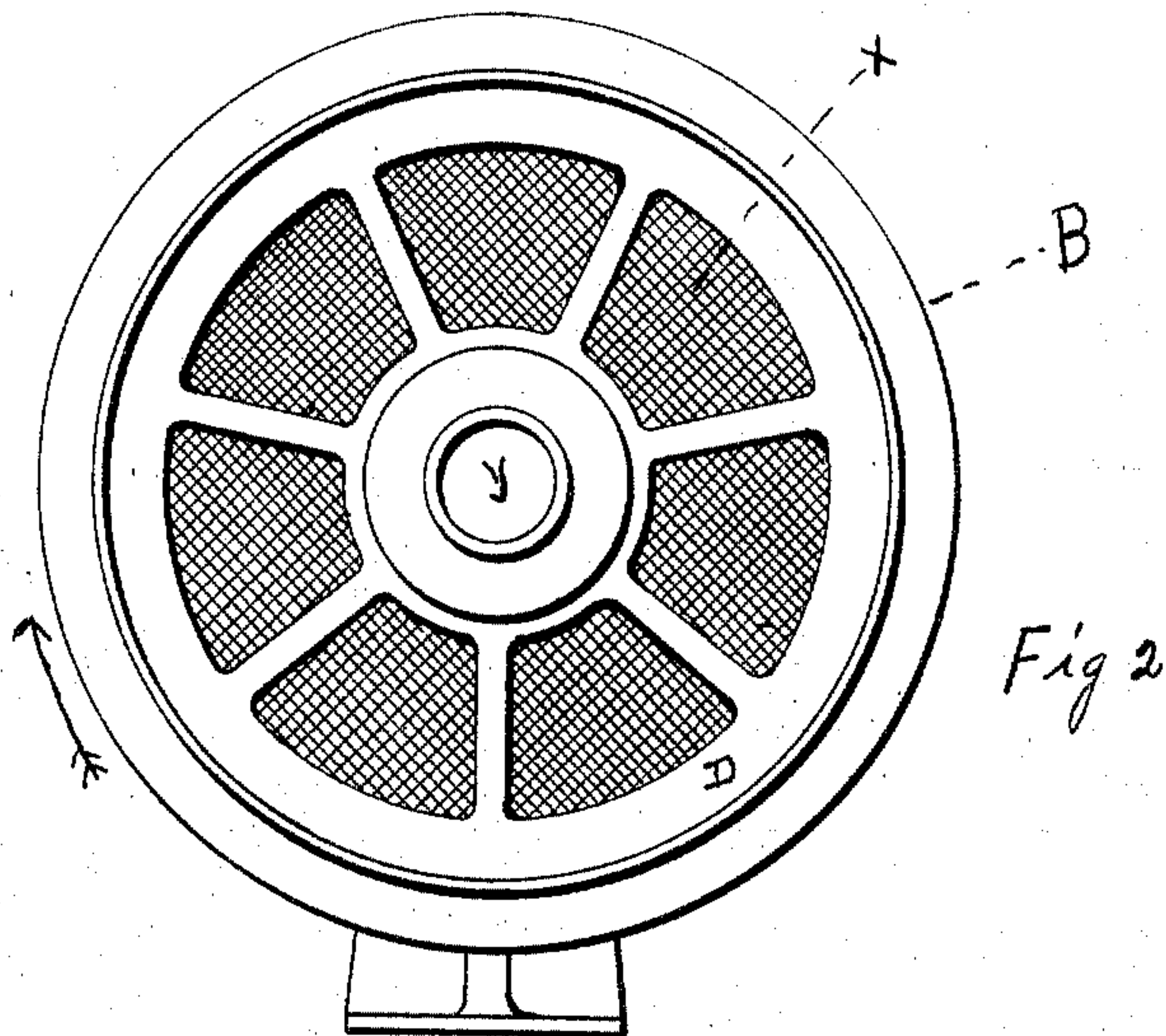


Fig 2

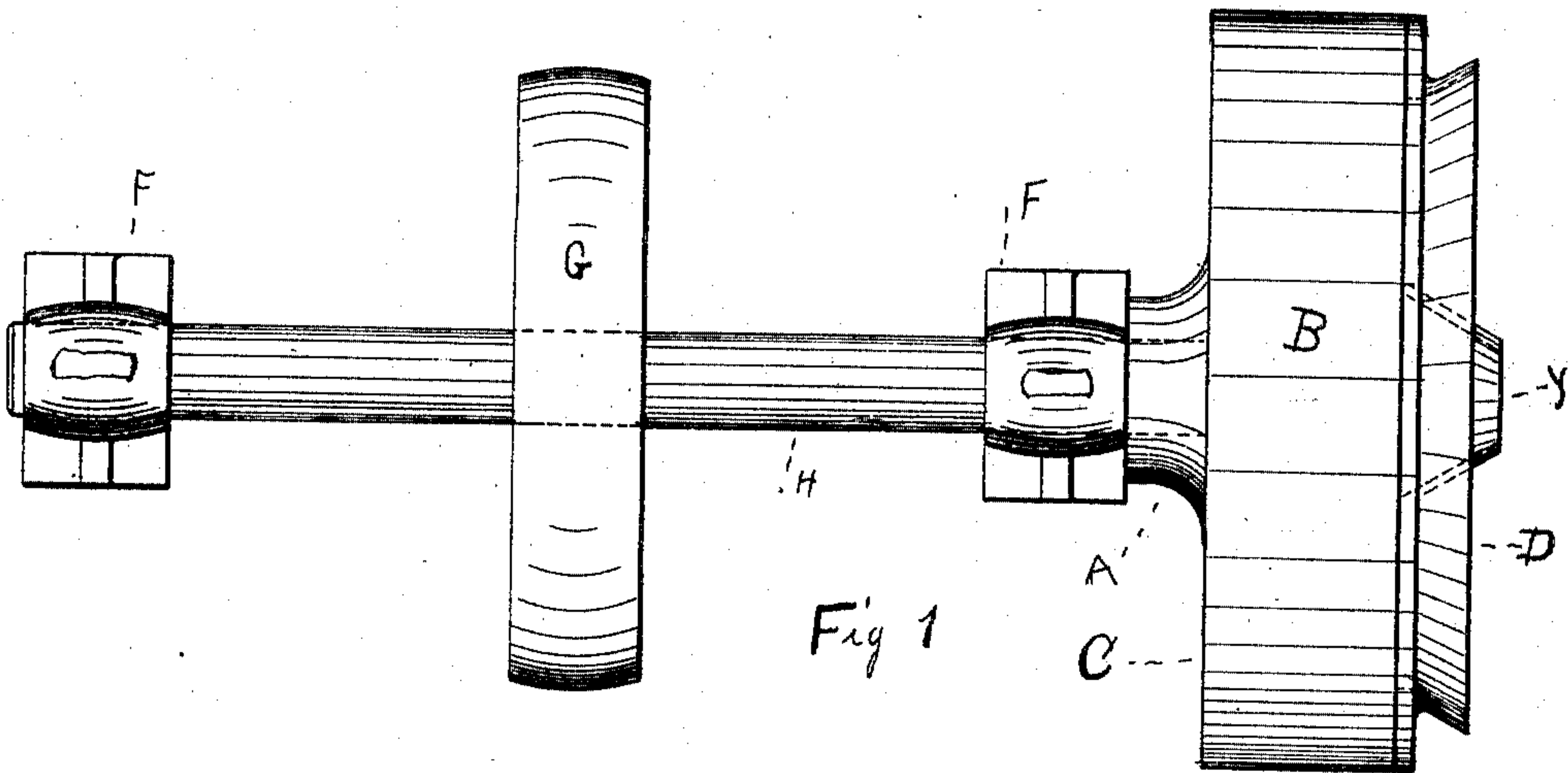


Fig 1

WITNESSES:
E. H. Jackson
Leontine Latimer

James H. Montgomery
INVENTOR.

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2 SHEETS—SHEET 2.

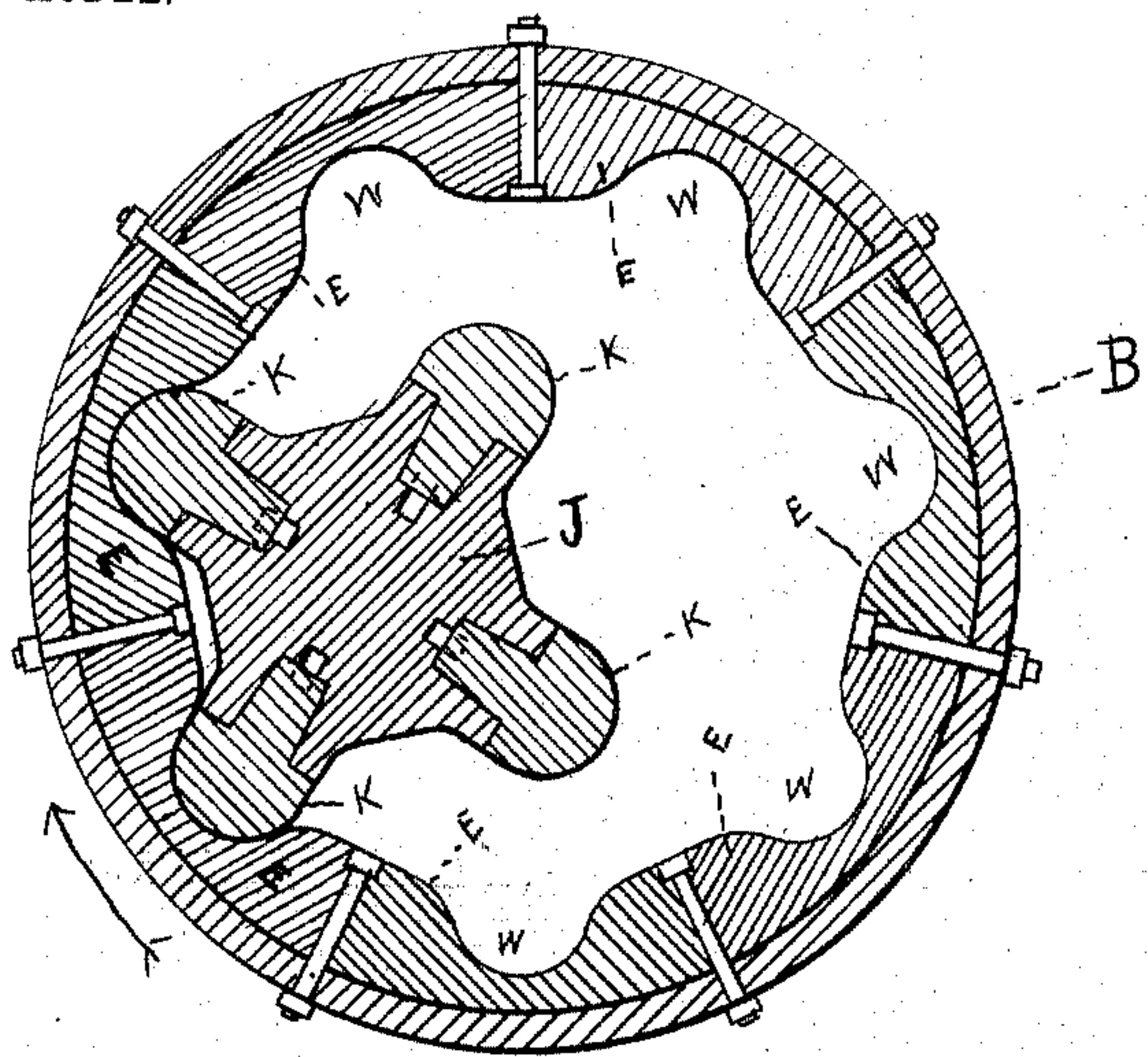


Fig 4

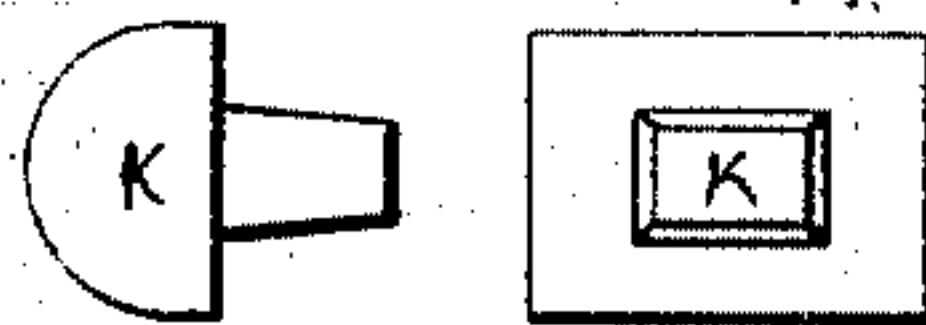


Fig 7

Fig 8

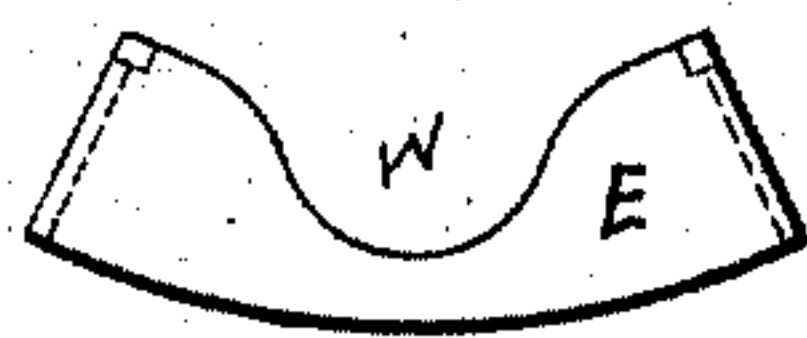


Fig 5



Fig 6

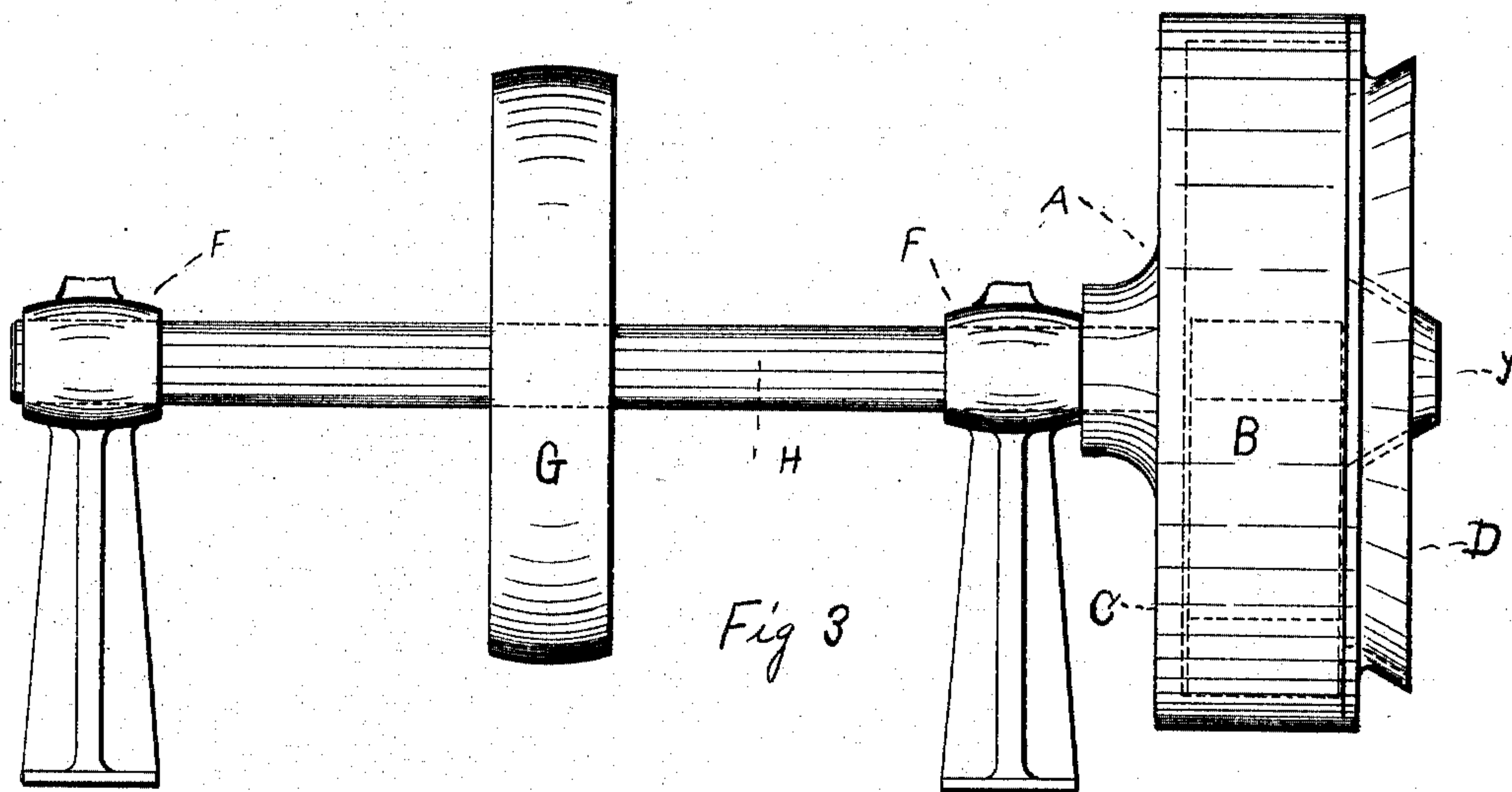


Fig 3

WITNESSES.
L. W. Jackson
Lebeline Saturn

James H. Montgomery
INVENTOR.

UNITED STATES PATENT OFFICE.

JAMES H. MONTGOMERY, OF DENVER, COLORADO.

STAMPING-MILL.

SPECIFICATION forming part of Letters Patent No. 760,010, dated May 17, 1904.

Application filed May 29, 1903. Serial No. 159,378. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. MONTGOMERY, a citizen of the United States, residing at Denver, in the county of Denver and State of Colorado, have invented a new and useful Improvement in Stamping-Mills, of which the following is a specification.

My invention relates to improvements in stamping-mills for crushing ores, rocks, clays, cements, and like materials.

The objects of my improvements are to provide a stamping-mill having an annular mortar adapted to be revolved on its axis and having removable wearing-dies which perform the double function of forming pockets for the collection of the material to be crushed directly under the falling stamper-head and the positive rotation of the stamper and a loose stamper having removable crushing heads or shoes spaced at regular intervals and adapted to mesh into the pockets in the dies; also, means for feeding and discharging crushed material. I attain these objects by the mechanism illustrated in the accompanying drawings on two sheets, in which—

Figure 1 is a top view of my stamping-mill; Fig. 2, an end view; Fig. 3, a side view; Fig. 4, a cross-section through the annular mortar, showing the loose stamper; Fig. 5, a side view of the removable die; Fig. 6, an end view of the same; Fig. 7, an end view of the removable stamper-shoe, and Fig. 8 a top view of the same.

Similar letters refer to similar parts in the several views.

The stamping-mill is constructed with an annular mortar A, adapted to be revolved on its axis, and consisting of a body part B, a head C, and a head D. To the inside of the body part B are attached removable wearing-dies E. These wearing-dies are constructed, as shown in Figs. 5 and 6, curved to form the pockets W, into which the ore gathers when the mortar is revolved. The pockets also serve to hold the heads of the loose stamper from slipping and cause it to revolve with certainty. The stamper J is placed in the mortar A and runs loosely therein and is constructed with a body part J, having three or more removable crusher heads or shoes K,

(shown in Figs. 7 and 8,) but preferably not of an exact multiple of the wearing-dies in the mortar, thus making both wear more evenly. These removable shoes K are placed at regular intervals on the surface of the body part J and adapted to mesh into the dies E when the mortar and stamper are revolved. In the head C, I fit a shaft H, which in turn is journaled in the boxes F F. The shaft and mortar are revolved by means of the pulley G. However, the mortar may be revolved by any method best suited to the size of the stamping-mill or kind of motive power used to drive it.

The head D is constructed with the feed-hole Y in its center, through which the material to be crushed falls into the pockets W and in front of the stamper J.

The screen X is for the purpose of discharging the ore from the mortar A when crushed to the proper size and is attached to the arms of the head D, as shown in Fig. 2.

When the stamping-mill is in operation, the material to be crushed is fed to the mortar through the feed-hole Y. The mortar is revolved in the direction of the arrow, as shown in Figs. 2 and 4. One of the stamp-shoes K, resting in the pocket W of one of the dies E, is carried around with the mortar until the center of gravity of the stamper is overcome, when it pitches forward and downward, the next shoe K falling into the pocket in the next die E, giving a sharp heavy blow, crushing the material gathered in the pocket of the die E, and as the mortar continues to revolve the shoes and dies repeat the operation.

When the material is crushed fine enough, it passes out through the screen X, as shown more particularly in Fig. 2.

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

1. In a stamping-mill an annular mortar A, having wearing-dies E, the shaft H, the journal-boxes F, F, the pulley G, and the loose stamper J, having removable wearing-shoes K, the feed-hole Y, and the screen X, all substantially as described and for the purpose set forth.

2. In a stamping-mill an annular revolving

mortar fitted inside with removable wearing-dies, having depressions or pockets in them, a stamper fitted with removable stamping-shoes, adapted to mesh into the pockets in the
5 dies when the mortar is revolved, a feed-hole in the center of the head and a screen attached to the mortar, and revolved with it, through which the material is discharged when crushed fine enough, all substantially as described and
10 for the purposes set forth.

3. In a stamping-mill an annular mortar, with means of revolving it upon its axis, and having a body part lined inside with wearing-dies, having depressions or pockets in them,
15 a loose stamper with three or more shoes on its outside surface, adapted to fall successively into the dies when the mortar is revolved, a feed-opening in one end of the mortar and a screen-discharge, all substantially and for the
20 purposes set forth.

4. In a stamping-mill an annular mortar adapted to be revolved upon its axis, its body part lined with one or more dies having depressions or pockets in them, a loose stamper
25 in the mortar with stamper-heads properly spaced to fall into the pockets or depressions in the dies when the mortar is revolved, together with means for feeding the material to

be crushed to the mortar and discharging the same when crushed, all substantially as set forth and specified. 30

5. In a stamping-mill a revolving annular mortar its body part lined with removable wearing-dies having recesses or pockets in them of sufficient depth to engage the heads of
35 a loose stamper and positively revolve the loose stamper when the mortar is revolved, means for feeding material to the mortar and discharging it when crushed sufficiently fine, all as described and set forth. 40

6. A stamping-mill, comprising an annular mortar having recesses or pockets formed in its wall at intervals, and a loose stamper in the mortar, and means for revolving the mortar, the recesses or pockets being sufficiently
45 spaced so that the stamper is successively lifted and dropped whereby to cause an effectual crushing of the ore.

In testimony whereof I have signed my name to this specification in the presence of two sub-
50 scribing witnesses.

JAMES H. MONTGOMERY.

Witnesses:

F. W. JACKSON,

JOHN H. HAMMOND.