(No Model.) 2 Sheets—Sheet 1.

W. C. BIBB.

MACHINE FOR CRUSHING ORES, PHOSPHATES, &c.

No. 333,383. Patented Dec. 29, 1885.

Fig. 1.

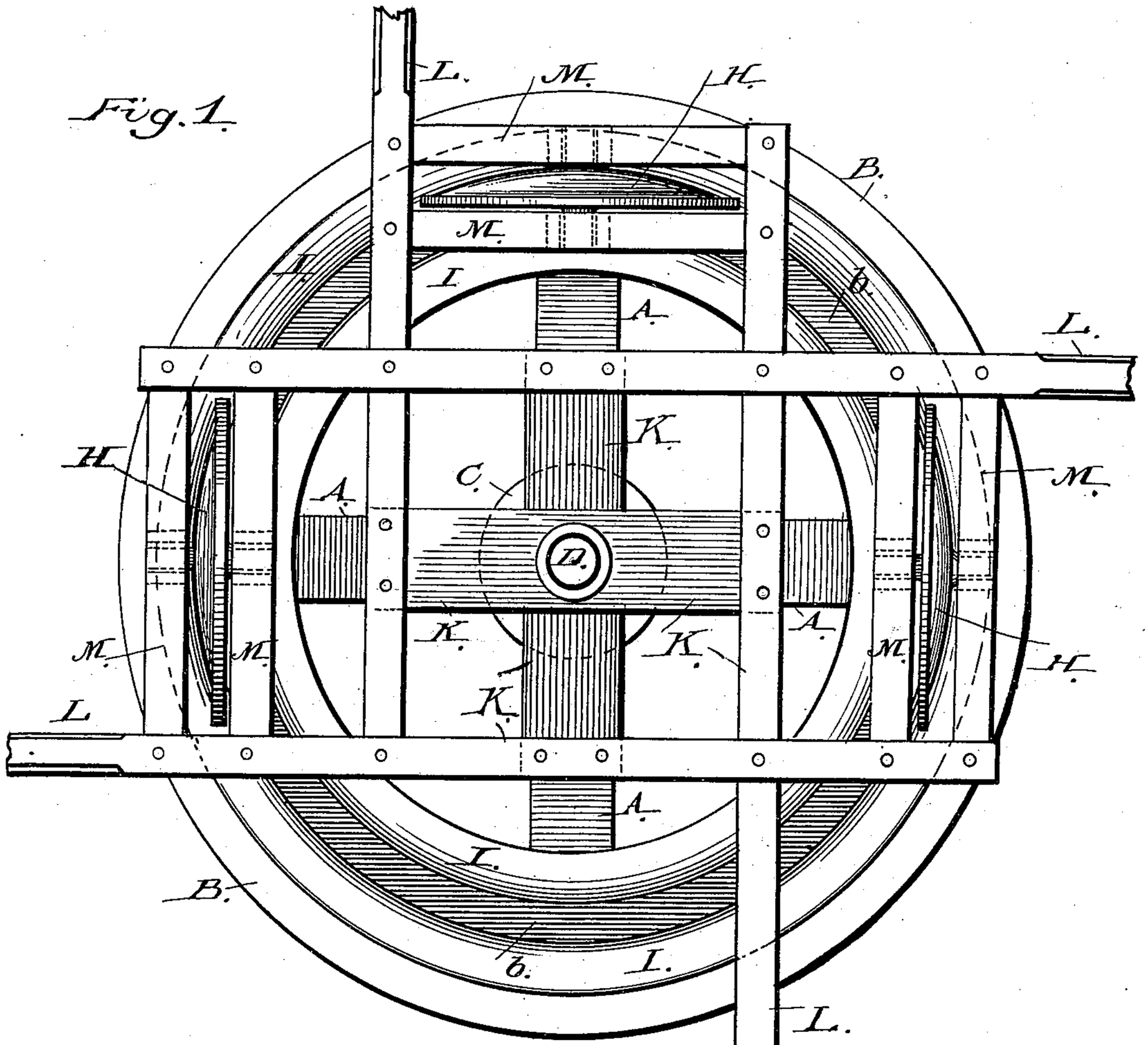
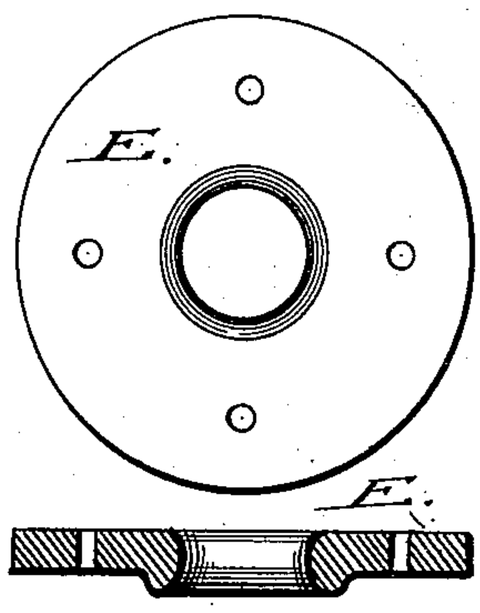


Fig. 3.



Witnesses.
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(No Model.) 2 Sheets—Sheet 2.

W. C. BIBB.

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No. 333,383. Patented Dec. 29, 1885.

Fig. 2.

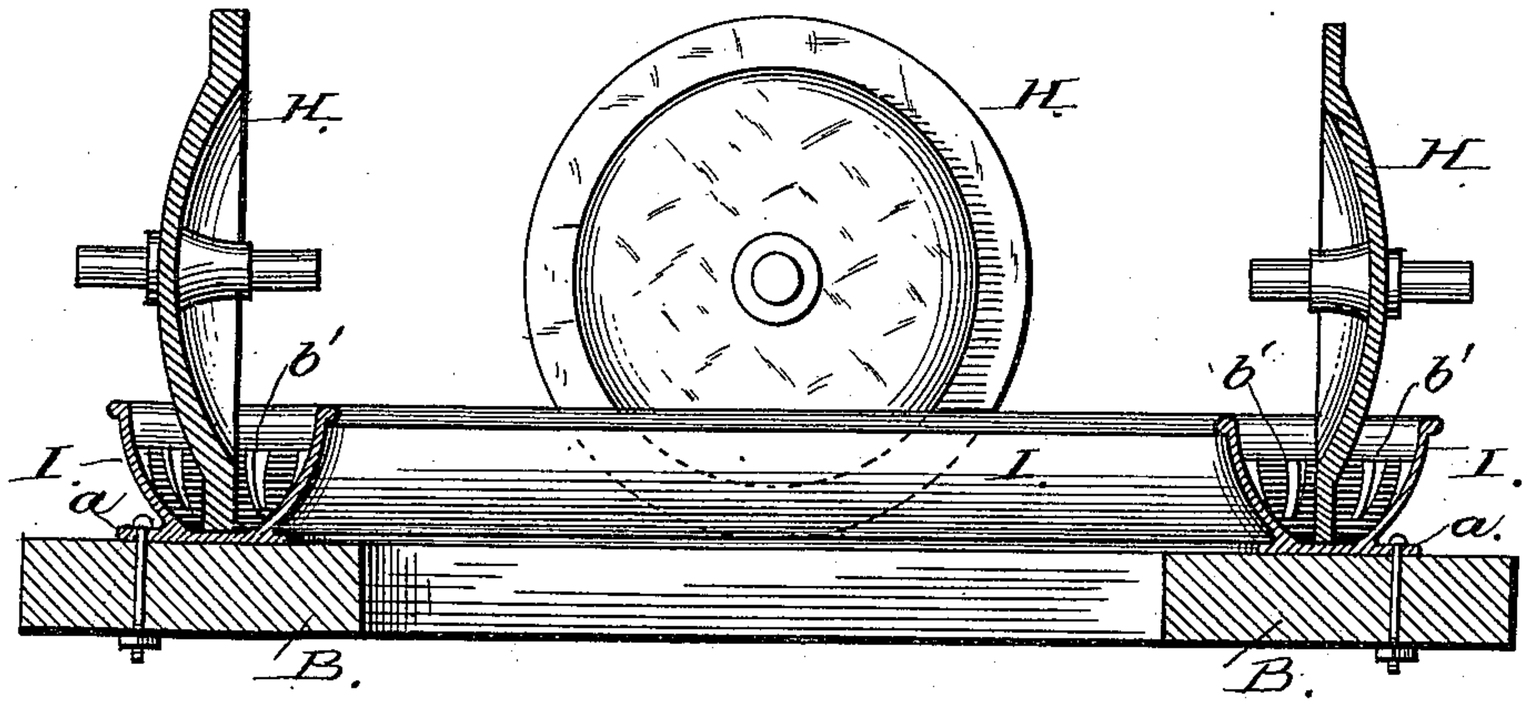


Fig. 4.

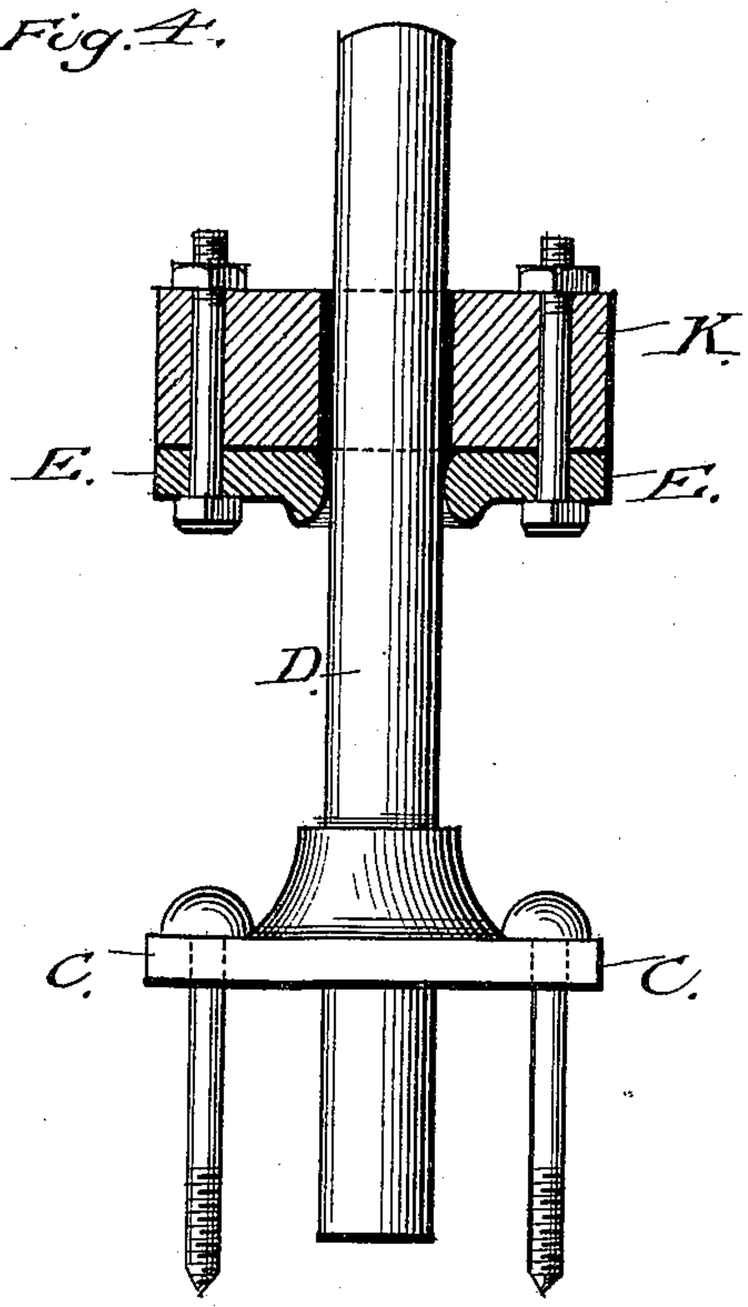
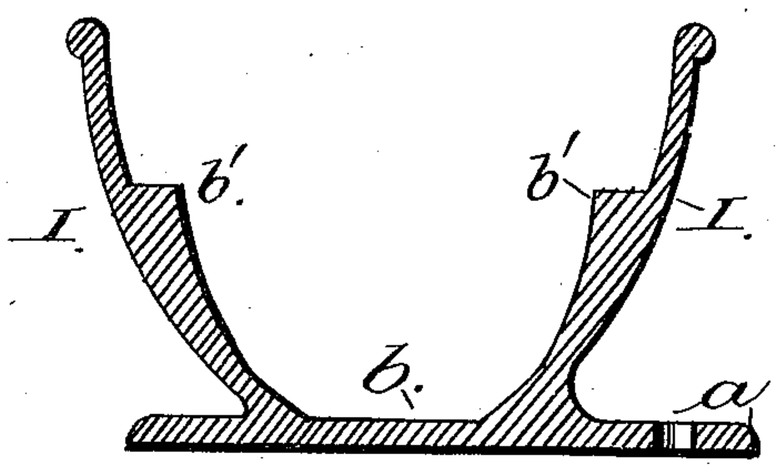


Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM C. BIBB, OF ATLANTA, GEORGIA.

MACHINE FOR CRUSHING ORES, PHOSPHATES, &c.

SPECIFICATION forming part of Letters Patent No. 333,383, dated December 29, 1885.

Application filed October 2, 1885. Serial No. 178,831. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. BIBB, a citizen of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have invented certain new and useful Improvements in Machines for Crushing Ores, Phosphates, &c., of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top plan view of my improved crushing-machine. Fig. 2 is a section of the trough, the crushing-disks, and foundation-timbers. Figs. 3, 4, and 5 represent, respectively, detail views of the plate E, the spindle D, and its connections, and an enlarged sectional view of the trough.

The same letters of reference indicate the same or corresponding parts.

My invention relates to a machine for crushing ores, phosphates, marls, corn-cobs, &c.; and it consists in the peculiar construction, arrangement, and combination of devices, which will be hereinafter fully set forth, and specifically pointed out in the claims.

In the said drawings, A A represent heavy timbers, upon which is supported the annular base or foundation B. Secured to the foundation by bolts or otherwise is a plate, C, which is cast around the lower end of a vertical spindle, D, which passes upward through a plate, E, and the timbers K, as shown in detail in Fig. 3. The plate E is provided with a central perforation, the sides of which are rounded to permit of a rocking movement of the supporting-frame and to relieve the spindle from unnecessary strain, which is occasioned when an uncrushable substance comes beneath the crushing-disks H.

I represents a metallic annular trough nine inches (more or less) in width at its top. This trough is provided with projecting flanges *a*, by means of which it is bolted or otherwise firmly secured to the foundation-timbers, as shown in Fig. 2. The trough I has concave sides, which approach each other toward its bottom, terminating in a level bed, *b*, about two inches (more or less) in width, and in this bed the disks H, mounted upon a suitable supporting-frame, revolve. This supporting-frame consists, essentially, of the cross-timbers K, which are provided with an opening for the spindle, thereby holding the frame in its proper position and permitting the same to be easily revolved.

The timbers L of the supporting-frame are extended to form levers by which to revolve the frame, while to the under side of timbers M are secured suitable journals for the shafts of the crushing-disks. These disks, as seen in the drawings, have their crushing-edges of varying widths, the object of which is, that the wheel having the narrowest edge will cut the material, while the succeeding wheels, whose edges are of increased widths, will thoroughly crush and pulverize the material within the trough. The trough is also provided on its inner concave sides with lugs or ribs *b'*, (see Figs. 2 and 5,) which greatly assist in crushing the material. Thus it will be seen that when the trough is partially filled with the material to be crushed and the supporting-frame weighted by placing on its top a heavy weight, (not shown,) and applying power to the levers L, the supporting-frame revolves, carrying with it the crushing-disks, which also revolve around their own axes. Should the disks meet with some uncrushable substance they would ride over it by the tilting of the frame, which is due to the peculiar shape of the plate E, or else the frame would move upward on the spindle and permit the disks to clear the object, the frame and disks resuming their normal position as soon as this is done.

I am aware it is not new to construct a crushing-machine with an annular trough and with wheels to travel in said trough. I am also aware a frame revolving around a spindle is not broadly new, and these features I therefore do not claim; but

What I do claim, and desire to secure by Letters Patent, is—

1. In a crusher, an annular trough having curved sides and a level bed or bottom, vertical ribs formed upon the curved sides, and flanges *a*, by which the trough is adapted to

be secured to a suitable base, substantially as herein described.

2. A crusher comprising a revolving frame, crushing-disks having edges of varying widths, an annular trough provided with ribs and flanges, a spindle passing through the frame, and around which the said frame revolves, and the plates C and E, substantially as herein described.

WILLIAM C. BIBB.

Witnesses:
EUGENE M. HARRI
J. H. GROVES.