

(No Model.)

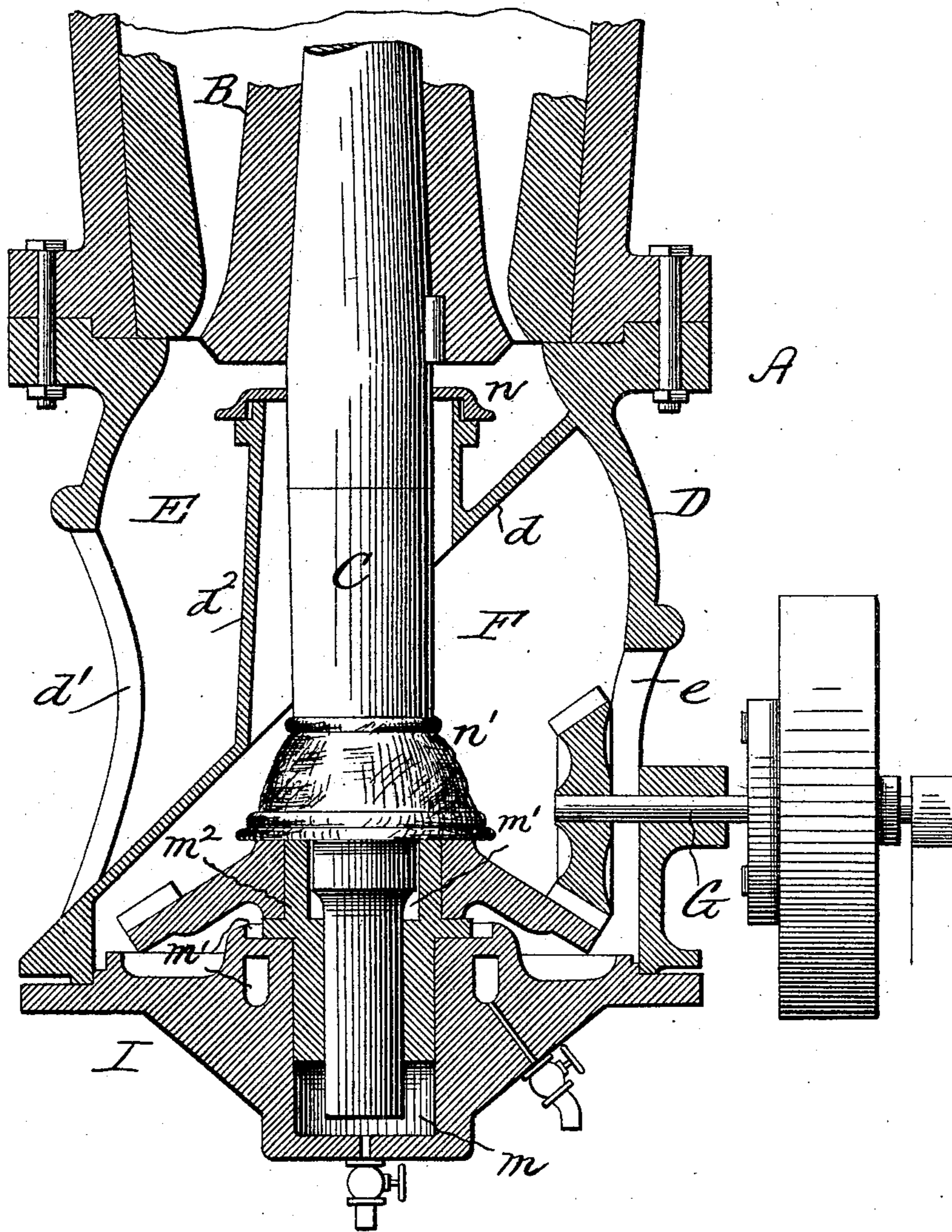
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R. McCULLY.
CRUSHING MACHINE.

No. 500,596

Patented July 4, 1893.

Fig. 1



Witnesses:

Arthur Ashley

G. M. Copenhagen

Inventor

Robert McCully

By S. J. Vanstavern
attorney

(No Model.)

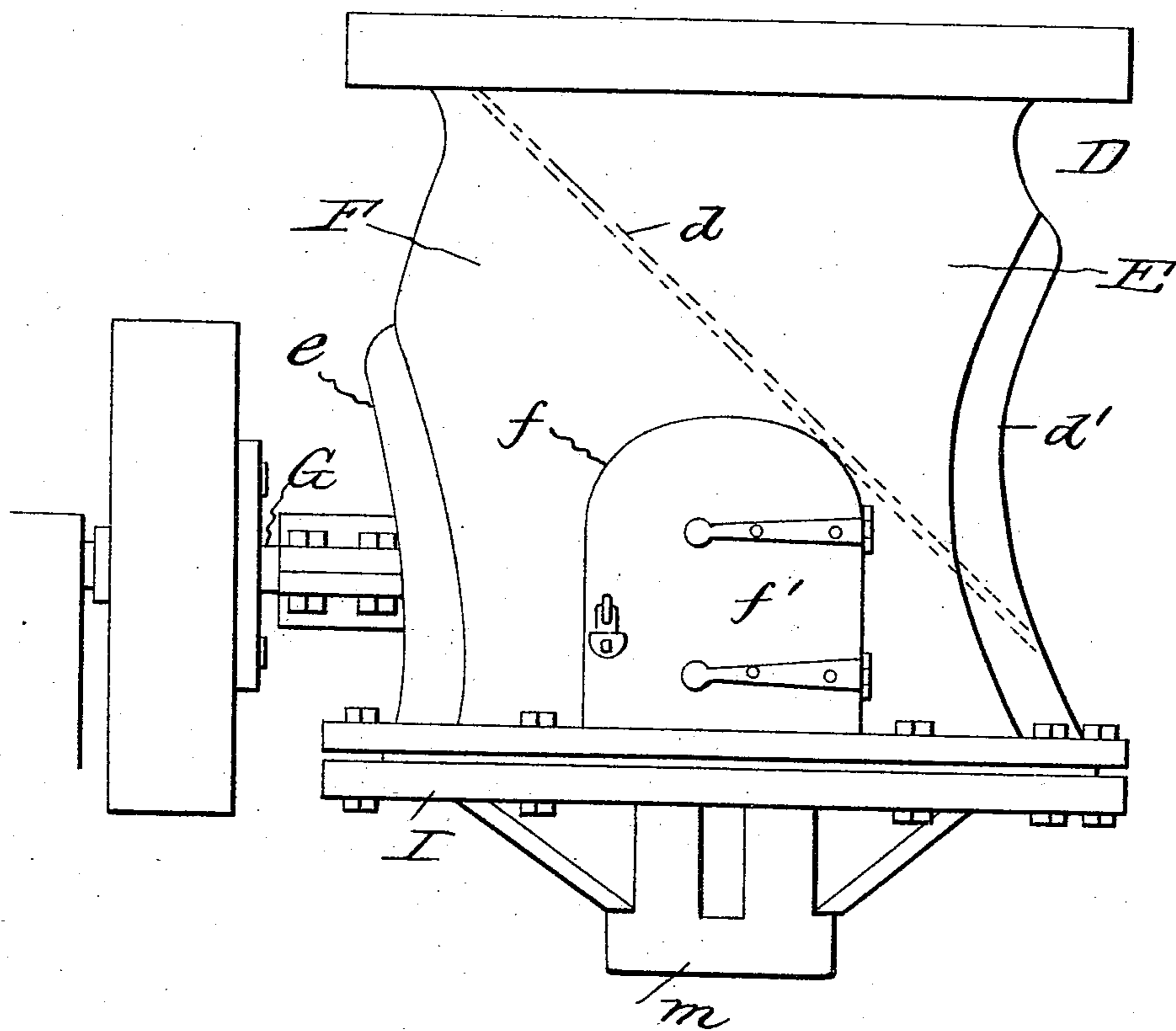
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R. McCULLY.
CRUSHING MACHINE.

No. 500,596.

Patented July 4, 1893.

Fig. 2



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UNITED STATES PATENT OFFICE.

ROBERT McCULLY, OF PHILADELPHIA, PENNSYLVANIA.

CRUSHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 500,596, dated July 4, 1893.

Original application filed August 20, 1888, Serial No. 283,194. Divided and this application filed April 8, 1891. Serial No. 388,123. (No model.)

To all whom it may concern:

Be it known that I, ROBERT McCULLY, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Crushing-Machines, of which the following is a specification.

My invention has relation to that form of crushing machines wherein a gyratory crusher head operates in a crushing chamber located above a casing section divided by a chute or chutes into an upper chute chamber and a lower chamber wherein is located the driving mechanism for gyrating the shaft and crusher-head, said chute chamber having an exit opening for the escape of the crushed material, and the lower chamber having an opening for the passage of counter shafting by means of which power is transmitted to the driving mechanism located in said lower chamber of said casing section. Prior to the time of my present invention which is a division of a pending application filed by me on the 20th day of August, 1888, Serial No. 283,194, the counter-shaft opening in the lower chamber of said lower casing section afforded the only means of obtaining access to the driving mechanism located in said lower chamber, either for the purpose of adjusting said mechanism or for direct oiling of the same, except a divided or sectional chute one part of which is removable was used, or indirect oiling by means of pipes passing from the outside of the chamber to the driving mechanism was employed.

In using the counter-shaft opening for direct oiling, inspection or adjustment of the mechanism the machine must be stopped, and in using a sectional chute a corresponding stoppage must be made, which entails a loss of output so long as the machine is not running and this very materially decreases its output per day and increases the cost of operating as the power for running the machine is kept up while it is stopped for oiling or for adjustment.

The use of pipes for indirect oiling of the driving mechanism is objectionable in that the oil is liable to congeal in cold weather

and the machine must be stopped for adjustment of its driving mechanism.

My invention has for its object to avoid all of the foregoing described disadvantages, or in other words to so construct the lower casing section, that access to the lower chamber thereof for direct oiling and for inspection and adjustment of the driving mechanism therein is obtained without liability of danger and without necessitating the stoppage of the machine, thereby admitting of running the machine to its full capacity to obtain the greatest possible output per running hour from the machine and decreasing the cost of operating the same.

My invention accordingly consists of a crushing machine of the type described having a lower casing section which forms part of the machine proper, divided by a chute into an upper and lower chamber, the upper chamber having an exit opening for the escape of the crushed material, and the lower chamber having a counter-shaft opening, and a second large or man-hole opening suitably covered if desired through which access is obtained to said lower chamber for direct manual oiling, adjustment or inspection of the driving mechanism in said chamber.

Reference is had to the accompanying drawings, wherein—

Figure 1 is a sectional elevation of so much of the type of gyratory crushing machine described as is necessary to illustrate my invention; and Fig. 2, is an elevation of the lower casing section.

A represents the crushing chamber, B the crusher head, C the shaft, D the lower casing-section having chute *d* dividing it into an upper chute chamber E and a lower chamber F, the former having an opening *d'* for the escape of the crushed material, and the latter an opening *e* for the counter-shaft G and said lower section D having a bottom plate L with well *m*, oiling openings or channels *m'*, and eccentric driving mechanism *m*² in engagement with the counter-shaft G for gyrating the shaft C and its crusher-head all constructed and arranged for operation preferably as described in detail and claimed in said other pending application, or in any other usual or

suitable manner, the chute d having a tubular opening d^2 for the passage of shaft C and the latter having suitable shields or dust-protectors n and n' .

5 The chamber F of the lower casing section D below the chute d and intermediate of the counter-shaft opening e and chute-opening d' in the upper chamber E is provided with a large man-hole or opening f having a suitable door or cover f' which may be hinged thereto or it may be of any desired material and secured in position as deemed fit. This opening f admits of access to the chamber F for direct manual oiling of the driving mechanism in said chamber, also inspection and adjustment of the same without stopping the machine and without liability of danger from the operative or moving parts.

As the machine can be oiled without stopping it, the largest possible output therefrom is obtainable during every run of the same, thereby greatly increasing its capacity and proportionately reducing the cost of running it. As the machine or its driving mechanism is oiled directly all pipes therefor are dispensed with.

I am aware that the chamber F in addition to its counter-shaft opening e has been provided with a small or drill hole opening for the passage of oiling pipes, but this differs from my invention in that such pipes are used, and the machine must be stopped when access is desired to be obtained to the driving mechanism in chamber F for inspection or adjustment.

In using the wood casing section D, it is understood that it is so used irrespective of being a separate casting or integral with the crushing chamber casting.

40 What I claim is—

1. In a crushing machine, the combination of a lower casing section D forming part of the machine, a chute d in said section having shaft opening d^2 and dividing the section into upper and lower chambers, exit opening d' for the upper chamber, gyratory shaft C, driving

mechanism for said shaft located in said lower chamber, opening e in said lower chamber, counter-shaft passing through opening e and engaging with said driving mechanism, a second large or man-hole opening f in said lower chamber intermediate of the openings d' and e and below the chute d , substantially as and for the purpose set forth.

2. In a gyratory crushing machine, a lower casing section D divided by a chute d into an upper and a lower chamber, an opening d' in the wall of said upper chamber in front of said chute, driving mechanism located within said lower chamber, an opening in the wall of the latter for a counter-shaft in gear with said driving mechanism, a second large or man-hole opening in the wall of said lower chamber intermediate of the chute and counter-shaft openings and below chute d to admit of direct manual oiling, inspection and adjustment of said driving mechanism while it is in motion, substantially as set forth.

3. In a gyratory crushing machine, a lower casing section D having an oblique chute or partition dividing such section into an upper and a lower chamber, an opening in the wall of the upper chamber and in front of said partition or chute, driving mechanism in said lower chamber, an opening in the wall of the latter back of said partition or chute for a counter-shaft in gear with said driving mechanism, a second large or man-hole opening with removable cover or door in the wall of said lower chamber intermediate of said chute and counter-shaft openings and below the chute or partition to admit of manual oiling, inspection and adjustment of said driving mechanism while in motion substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ROBERT McCULLY.

Witnesses:

JOHN RODGERS,
S. J. VAN STAVOREN.