

(No Model.)

2 Sheets—Sheet 1.

J. C. GIBSON.

ORE FEEDER.

No. 389,456.

Patented Sept. 11, 1888.

Fig. 1.

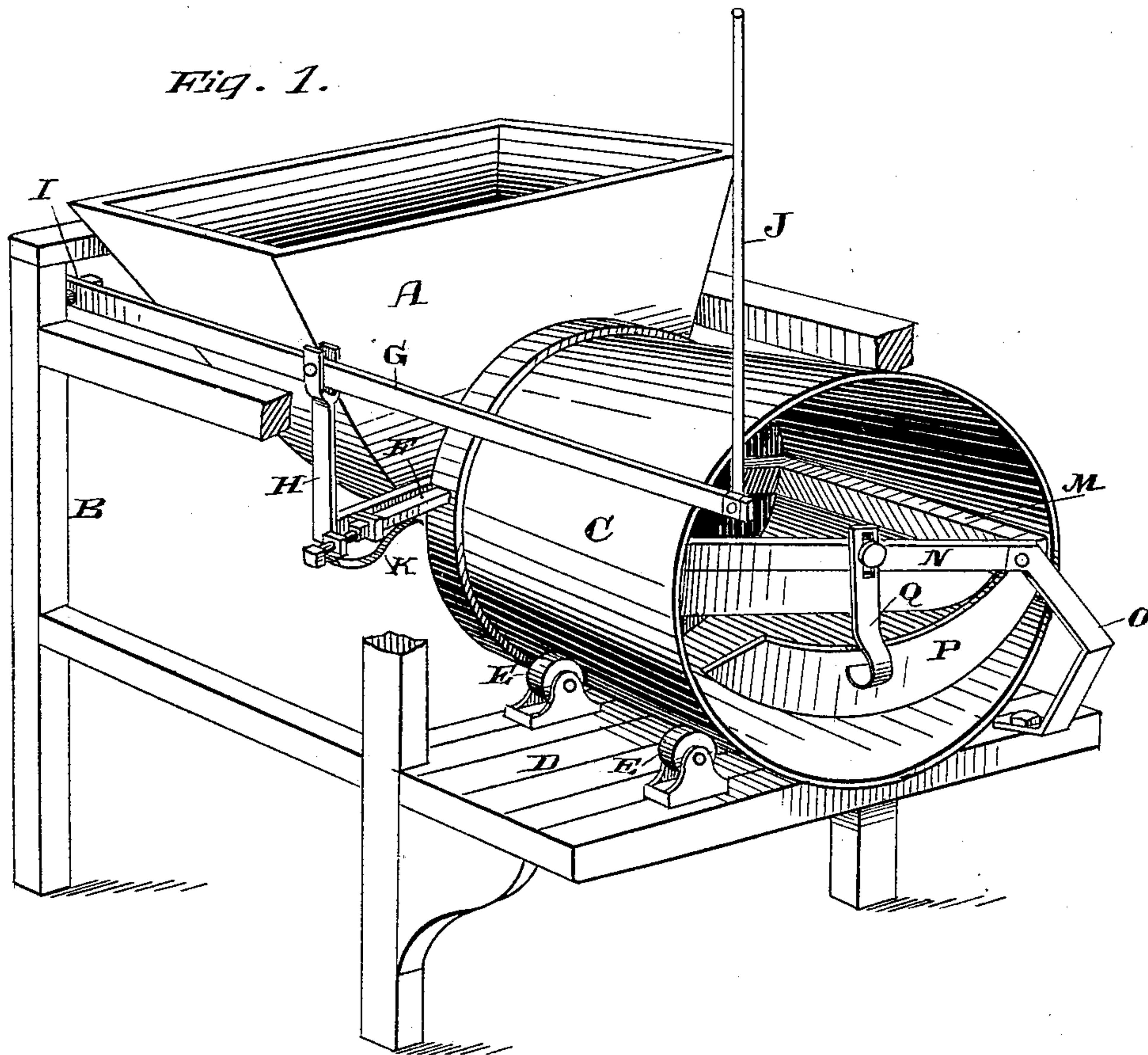
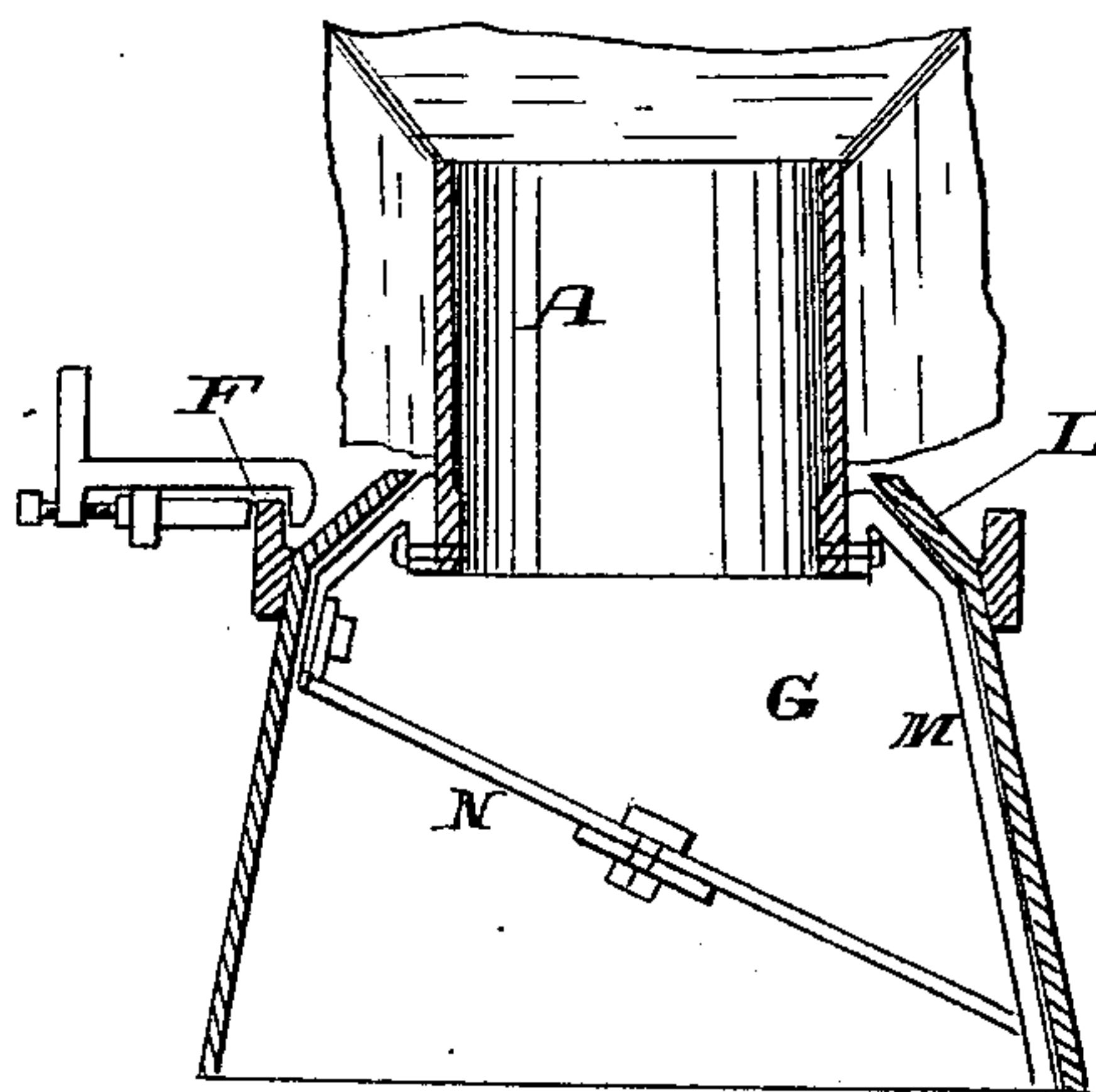


Fig. 2.



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2 Sheets—Sheet 2.

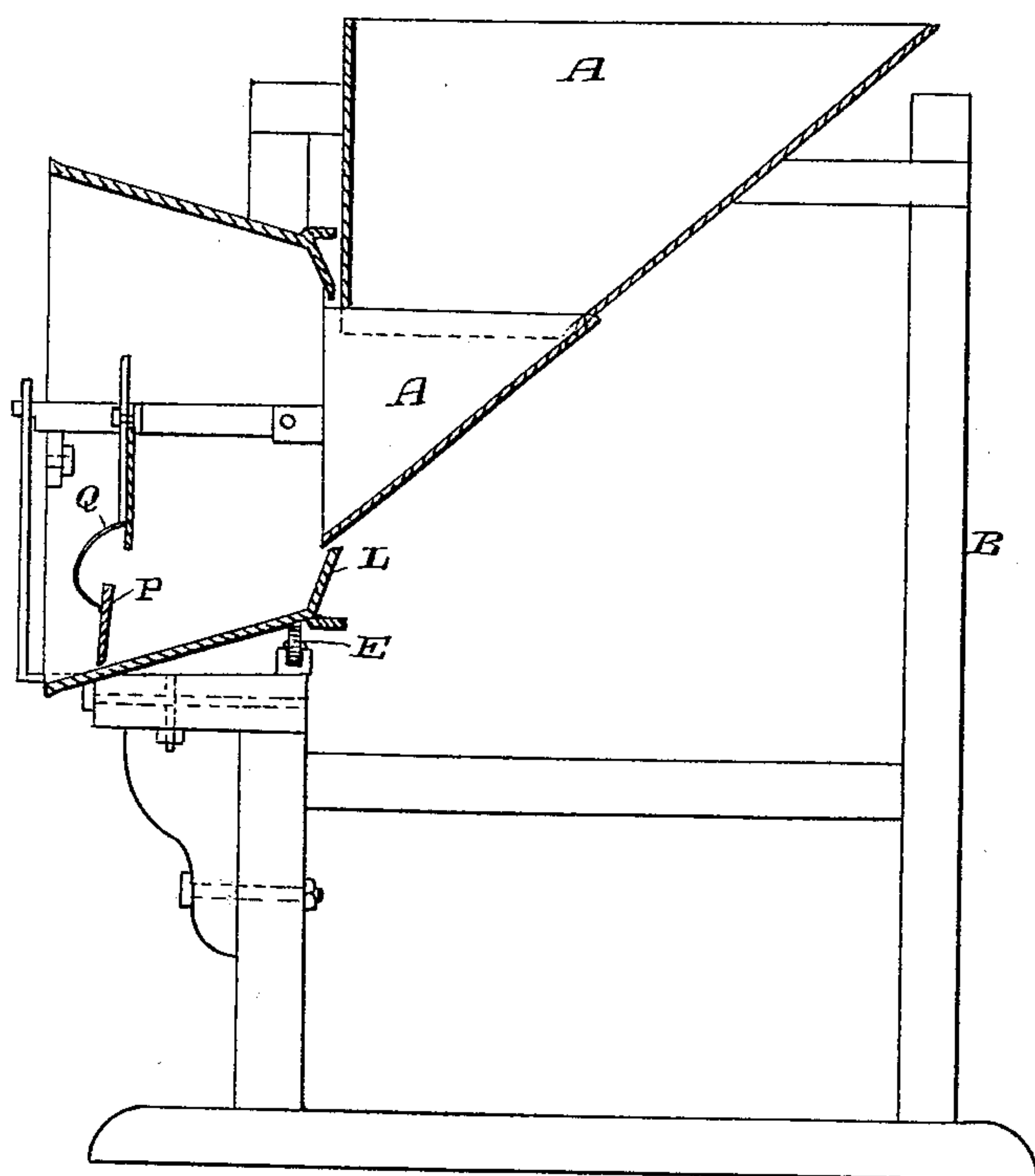
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Fig. 3.



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UNITED STATES PATENT OFFICE.

JAMES C. GIBSON, OF SAN FRANCISCO, CALIFORNIA.

ORE-FEEDER.

SPECIFICATION forming part of Letters Patent No. 389,456, dated September 11, 1888.

Application filed November 5, 1887. Serial No. 254,436. (No model.)

To all whom it may concern:

Be it known that I, JAMES C. GIBSON, of the city and county of San Francisco, State of California, have invented an Improvement in Ore-Feeders; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to an improved device for feeding ores to crushing or stamp mills; and it consists in the constructions and combinations of devices which I shall hereinafter fully describe and claim.

Figure 1 is a perspective view of my apparatus. Fig. 2 is a horizontal section taken through the rotary cylinder and the lower part of the supply-hopper. Fig. 3 is a vertical section of the same.

A is a hopper or receiver, supported by suitable frame-work, B. The upper part of this hopper may be made of wrought-iron and the lower part of cast-iron, the upper part being bolted or otherwise secured thereto; or it may be constructed in other suitable or convenient manner. Through an opening in the lower part of this hopper ore is discharged into a cylindrically or conically shaped receiver, C, which is supported upon a platform or frame-work, D, in front of the hopper, and resting upon rollers E, upon which it is caused to turn by means of a friction-clutch, F, a lever, G, and an intermediate connecting-link, H. The lever G has one end fulcrumed to the frame B, as shown at I, Fig. 1, and the other end is caused to oscillate intermittently by the action of a rod, J, the lower end of which is at or nearly in contact with the end of the lever G, while the upper end is in position to be struck by the tappet of a rising and falling stamp.

K is a spring which acts upon the clutch mechanism so that it grasps the edge or flange of the hollow cone or cylinder C, and the movement of the lever G acts through the clutch to give the cylinder an intermittent rotary motion. This clutch mechanism being common in various ore-feeding devices which have previously been patented, I do not claim it as new. The rear portion of the cone or cylinder has a flange, L, which inclines inwardly, so that this portion is of smaller diameter where the lower part of the hopper or chute

A enters the cylinder, and the flange prevents the ore from escaping at the rear.

On the outside of the hopper, at the end where it enters the cylinder C, is bolted a bar or arm, M. This bar extends along in close proximity to the side of the cylinder or cone C, and acts as a scraper to prevent wet or sticky ore from being carried up the side of the cylinder during its revolution.

An angular bar, N, is secured to the outer end of the scraper M, and the two are supported by an arm or brace, O, from the table or frame-work beneath the cylinder, so that they will be held rigidly in place. From this angle a segmental-scraper, P, is supported, its lower curved edge following the curvature of the interior or cone C, while the point or inner end extends angularly toward the inner end of the cone or cylinder.

A spring, Q, is adjustably fixed to the arm N, and presses upon the outer face of the segmental plate P, thus holding it in position with sufficient firmness and at the same time allowing a certain amount of elasticity, so that in case any ore becomes entangled beneath the plate P, the latter will yield sufficiently to allow it to escape without damage.

The operation of the device will then be as follows: When the ore within the battery (which is not here shown) becomes so low as to allow the tappet of the stamp-stem to strike the upper end of the rod J, it presses the vibrating arm G down, and, through the connecting-link H, actuates the clutch mechanism F, and thus moves the cylinder by short impulses, causing it to rotate upon its supporting-rollers E. The ore from the hopper A, flowing into the cylinder or cone C, lying upon its bottom or lower side, is acted upon by the diagonally-placed segment P, which gradually scrapes it out, causing it to fall out from the outer end of the cylinder and into the battery, where it is to be crushed.

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

1. The horizontally-placed rotary cone or cylinder C and feed chute or hopper discharging into the rear end, in combination with a diagonally-placed segmental scraper extending into the front or discharge end, the diago-

nal bar N, the supporting arm O, and the adjustable spring Q, pressing upon the back of the scraper, substantially as herein described.

2. The horizontally-placed rotary cone or
5 cylinder, means by which the same is rotated, the feed chute or hopper having the lower end opening into the rear of the cylinder, a scraper having one end secured to the chute and the other extending along the side of the cylinder,
10 the diagonal brace N, the diagonal scraper P,

extending into the mouth of the cylinder, and the spring Q, supporting said scraper, substantially as described.

In witness whereof I have hereunto set my hand.

JAS. C. GIBSON.

Witnesses:

S. H. NOURSE,
H. C. LEE.