No. 641,390. Patented Jan. 16, 1900.

C. D. HOOPER.

FRICTION WHEEL GRIP FOR ORE FEEDERS.

(Application filed Sept. 7, 1899.)

(No Model.)

Fig. 1.

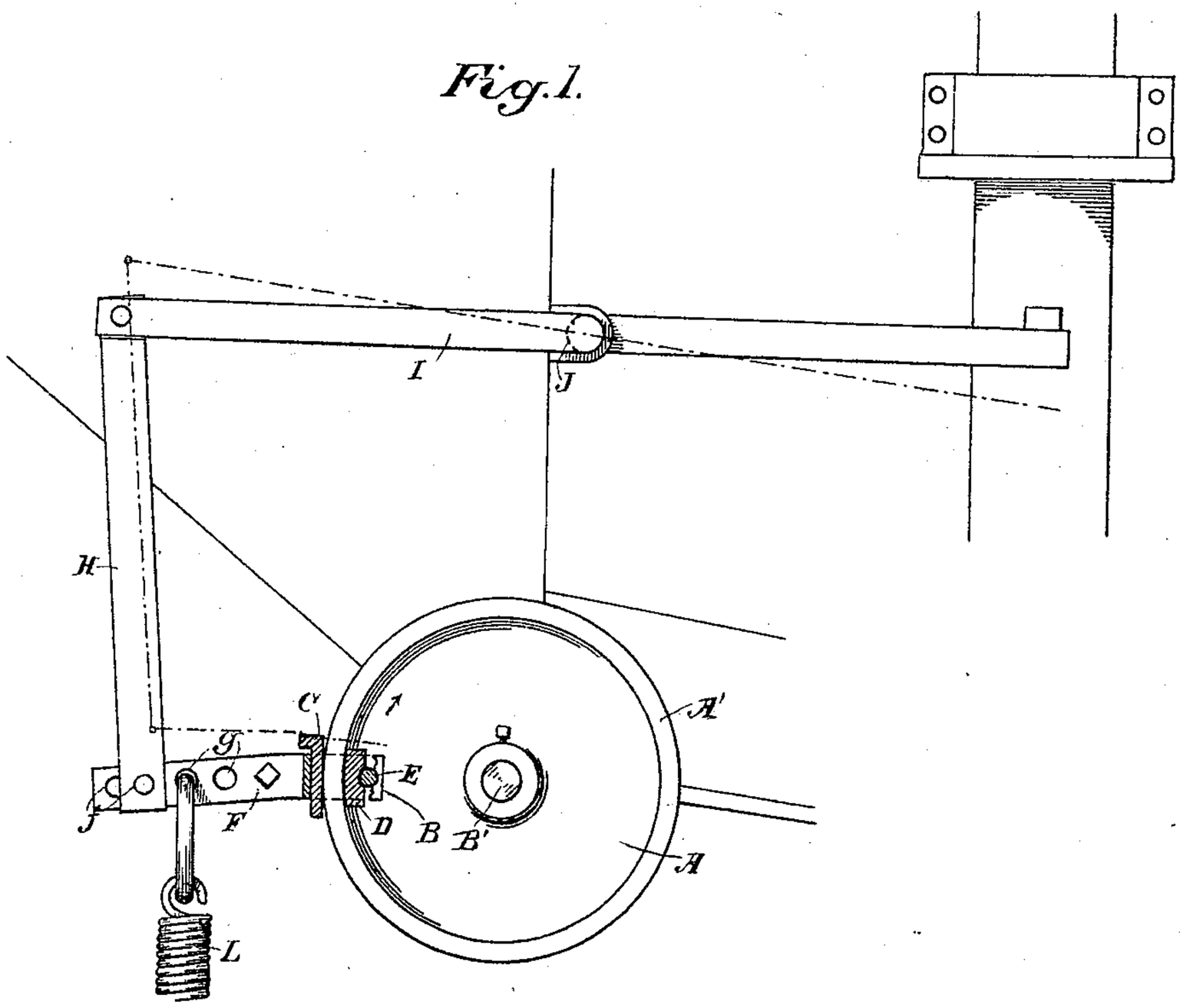
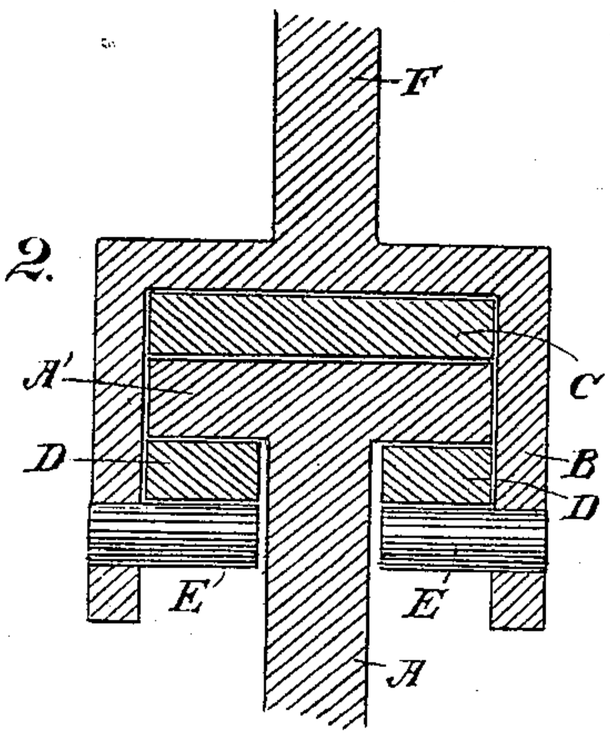


Fig. 2.



Witnesses,
J. B. Howe
G. F. Ascheck

Inventor,
Charles D. Hooper
By Davey Thorp & Co.
attys

UNITED STATES PATENT OFFICE.

CHARLES DICKENS HOOPER, OF TELLURIDE, COLORADO.

FRICTION-WHEEL GRIP FOR ORE-FEEDERS.

SPECIFICATION forming part of Letters Patent No. 641,390, dated January 16, 1900.

Application filed September 7, 1899. Serial No. 729,674. (No model.)

To all whom it may concern:

Be it known that I, CHARLES DICKENS HOOPER, a citizen of the United States, residing at Telluride, county of San Miguel, State of Colorado, have invented an Improvement in Friction-Wheel and Grip for Ore-Feeders; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a friction-wheel and gripping device which is adapted to be connected with ore-feeders so as to advance the latter by small impulses and to thus regulate the feed of ore from the hopper or receptacle to stamp or crushing mill.

It consists of a wheel having the rim formed to project upon each side of the web, an arm having a fork or yoke at the end extending radially upon each side of the rim, with stub-bolts fitted into the ends and projecting toward the web inside the rim or flange, wooden shoes having one surface of each curved to fit the interior of the rim, and a concavity made in the opposite surface to fit and rest upon the corresponding stub-bolt, by which it is held in place and allowed to rock freely upon the bolt, and a wooden block fitted in the outer portion of the fork or yoke and adapted to press upon the periphery of the rim. The yoke has an extended arm and means for connecting it with a rock-shaft which is actuated by the tappet of the falling stamp, so as to pull upon the arm and cause the blocks to bind upon the rim, so as to advance it slightly at each movement. A spring connected with the opposite side of the yoke-arm serves to return it after each impulse.

My device also comprises details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a side elevation showing the application of my device. Fig. 2 is an enlarged sectional view in the plane of the axis of the wheel.

A is the wheel, mounted upon a shaft B′ and secured thereto by key set-screws or other like device. The periphery of the wheel is in the form of a flange A′, which projects to some distance each side of the web.

B is a yoke made rectangular in shape and having a sufficient width between its arms to allow it to extend inwardly upon each side of the rim A′. Between this yoke and the periphery of the rim is fitted a wooden block C, adapted to press against the outer periphery of the rim.

D D are wooden shoes having the outer periphery curved to approximately fit the inner periphery of the rims or flanges A′. Interior to these shoes are the stub-bolts E, which are fitted into the sides of the fork or yoke and project inwardly toward the web A of the wheel. The central inner portions of the shoes D are cut out in a small curve, which allows them to fit the periphery of the stub-bolts and rock freely thereon, but the curvature is sufficient to prevent their dropping out.

The yoke B has an arm F projecting from it, with holes *f* and *g* made at intervals in its length. The hole *f* serves for the connection of a link or rod H, which unites it with the rocker-arm I. This rocker-arm projects from a shaft J, and an arm projecting in the opposite direction from this shaft extends to a point where it is in the line of motion of the tappet, which is fixed to the stamp-stem and which will strike the arm whenever there is not a sufficient quantity of ore in the mortar. This action serves to oscillate the shaft slightly, and through the arm I and the link H it acts upon the arm F of the yoke and pulls it upwardly. This causes the shoes D and block C to grip or clamp upon the rim or flange of the wheel and slightly advance it. As soon as the stamp again lifts, the parts are removed in the opposite direction by the action of a spring L, which is connected, as shown, with some stationary point, so that its tension will be sufficient to return the yoke, the clamping-blocks being loosened, so that they move freely over the rim in this direction, while binding and gripping the rim when moved in the opposite direction. By this construction the wheel is constantly rotated by small impulses whenever the amount of material in the mortar of the battery falls below what is required for good work, and by connection with the ore-feeder it causes the latter to constantly feed ore into the battery until the amount is sufficient to prevent the tappet striking the arm of the rock-shaft, when the feed will cease until the ore has again been reduced in quantity sufficient to allow the tappet to strike. In this manner an

even and regular feed of ore is automatically produced.

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

An improved ore-feeder, consisting of a wheel having a central web and a flange extending some distance each side thereof, a rectangular yoke having sufficient width between its arms to permit it to inclose said flange and extend inwardly upon each side to a point beyond the inner periphery thereof, a block having approximately the width of the flange of the wheel and introduced between the flange and the inner wall of the cross-bar of the yoke, stub-bolts projecting inwardly one from each arm of the yoke and at a point interior to the inner periphery of the flange, and independent blocks one on each side of the web and confined between one of the said bolts and the inner periphery of the flange, and having a curvature substantially corresponding thereto, the inner portions of said last-named blocks being cut away to fit the bolts whereby they rock on the latter, an arm extending from the cross-bar of the yoke and provided with adjusting-holes, and means for operating the yoke by the tappet of a rising and falling stamp.

In witness whereof I have hereunto set my hand.

CHARLES DICKENS HOOPER.

Witnesses:
W. A. NICODEMUS,
JAS. N. HAMILL.