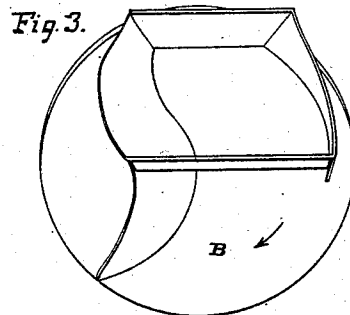
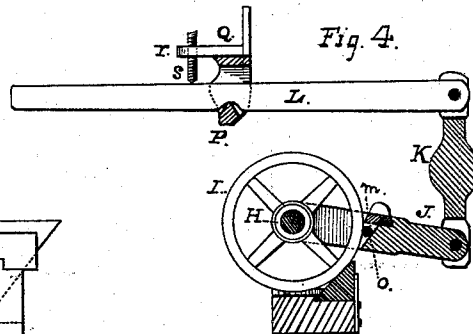
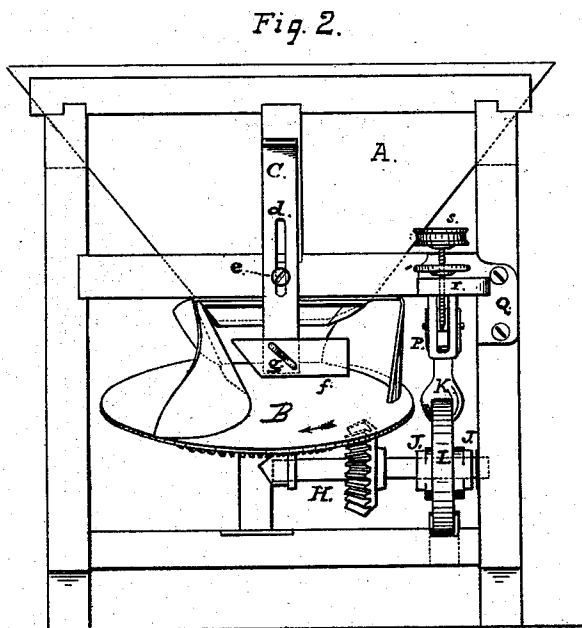
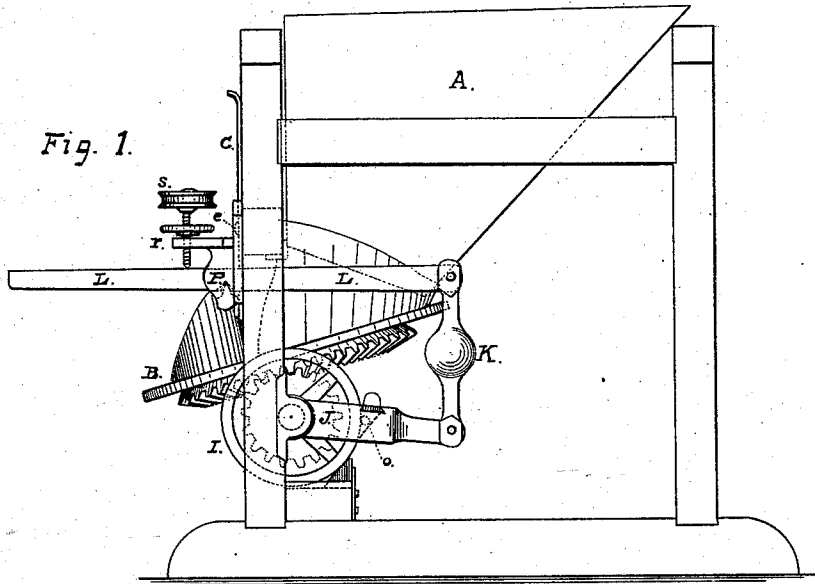


(No Model.)

J. HENDY.
Ore Feeder.

No. 235,872.

Patented Dec. 28, 1880.



Witnesses: *J. L. Boone*
Wm. P. Black

Inventor:
Joshua Hendy.
by his Attys,
Boone & Co.

UNITED STATES PATENT OFFICE.

JOSHUA HENDY, OF SAN FRANCISCO, CALIFORNIA.

ORE-FEEDER.

SPECIFICATION forming part of Letters Patent No. 235,872, dated December 28, 1880.

Application filed March 27, 1880. (No model.)

To all whom it may concern:

Be it known that I, JOSHUA HENDY, of the city and county of San Francisco, in the State of California, have invented certain new and useful Improvements in Ore-Feeders; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings.

My invention relates to certain improvements in machines for feeding ore to stamp-mills; and it consists, first, of an adjustable gage attachment for regulating the feed of the ore in its passage from the hopper to the tray or ore-table, all as hereinafter more fully described.

For the purpose of this application I have represented my improvements as applied to the automatic ore-feeder for which Letters Patent No. 148,597 were issued to Thomas A. Cochrane on the 17th day of March, 1874; but the adjustable gage attachment can be applied to any of the automatic ore-feeders in use, while the device for rotating the ore-table is only applicable to such machines as have a rotary feeding device.

Referring to the drawings, Figure 1 is a side elevation of my improved ore-feeder. Fig. 2 is a front elevation of the same. Fig. 3 is a top view of the feeding-table and the lower part of the ore-hopper removed from the frame of the machine. Fig. 4 is a detail view, in vertical section, of the frictional feed.

A is the hopper, and B the ore-table, of an automatic ore-feeder. The ore which is dumped into the hopper settles down upon the tray, and an opening is made in the front side of the hopper. The tray has an approximate angle of inclination of about forty-five degrees, to cause the ore to rest thereon in a position to promote the feeding of the ore therefrom. This permits the ore in the hopper to settle downward as fast as the ore on the tray or table is fed into the battery. The angle which the pile of ore that rests on the table or tray must assume varies according to the character of the ore being fed—that is, if the ore is perfectly dry the angle must be less steep than if it is damp or wet. This necessitates increasing or decreasing the height of the opening in the hopper. To do this is the office of my gage attachment. This gage consists of a bar or

plate, C, which is provided with a longitudinal slot, *d*, extending a portion of its length. This bar or plate I secure vertically to the front side of the hopper by a binding-screw, *e*, which passes through the slot and into the front of the hopper, so that when the screw is set down against the bar or plate it will hold the bar or plate firmly in place. When the binding-screw is loosened the bar or plate can be adjusted up or down a distance equal to the length of the slot, and secured in any desired position. To the lower end of this bar or plate I attach a cross bar or plate, *f*, by means of a binding-screw, *g*. This bar or plate I can place horizontally or at any desired angle, and secure it in either position by means of the screw *g*. This cross bar or plate can, therefore, be adjusted across the opening in the front of the hopper in any desired position, so as to increase or diminish the height of the opening, according to the character of the ore in the hopper, or it can be placed at an angle in either direction, so as to increase the size of the opening on one side or diminish it on the other side. This gives me complete control of the feed of the ore from the hopper to the tray or table, which is one of the most important features in an ore-feeder.

H is the shaft which drives the rotary ore table or feeder. On this shaft I secure a plain-faced wheel, I, as a driver.

J is a casting, which has a recess in it, in which one-half of the wheel I will fit. One end of this casting is journaled on the shaft H, as represented, while its opposite end is suspended by a rod, K, from the tappet-lever L, so that the casting stands horizontally. An inclined recess, *m*, is made in this casting opposite the face of the wheel I, in which recess I place a small steel roller, *o*, so that when the roller drops to the bottom of the inclined recess it will bite against the face of the wheel. Now, when the outer end of the tappet-lever L is depressed by the blow of the tappet on the stamp-stem, the upward motion of the opposite end of the lever raises the outer end of the casting J, causing the wheel I to be partially rotated by the gripe of the steel roller against its face. As the outer end of the casting drops downward again the roller is forced up into the wider part of the recess, ready to

drop down and bind again the instant the tappet strikes the lever again. This gives a positive feed, and the amount of rotation communicated to the wheel is exactly in proportion to the depression of the outer end of the lever L. This is what is called a "friction ratchet feed." The recess in which the roller moves is covered over by a slide to prevent the entrance of dust and dirt.

- 10 The lever L has its fulcrum in a hanger, P, which forms part of a casting, Q. This casting is attached to the side of the feeder-frame, and has a bracket, r, projecting from it directly over the lever L. A set-screw, s, passes
15 down through the bracket, so that the lever will strike the lower end of the screw when it rebounds after being depressed by the tappet. The screw can be adjusted up or down in order to shorten or lengthen the stroke of the
20 lever, and thus regulate the feed of the ore.

Heretofore the lever L has been secured in the hanger by a pin or bolt; but for convenience in throwing the feeder out of action I

simply make a hole through the hanger or block, through which the lever passes. The 25 bottom of this hole I make in the form of an inverted V, and in the under side of the lever, at the proper point, I make a V-shaped notch, which will straddle the V-bottom, and thus form a sufficient attachment and bearing, 30 which can be readily unshipped when desired.

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

The adjustable gage attachment for regulating the feed of ore from the hopper to the tray or table B, consisting of the vertically-adjustable bar or plate C, with its adjustable cross bar or plate f, substantially as specified.

In witness whereof I have hereunto set my 40 hand and seal.

JOSHUA HENDY. [L. S.]

Witnesses:

WM. F. CLARK,
EDWARD E. OSBORN.