

(No Model.)

2 Sheets—Sheet 1.

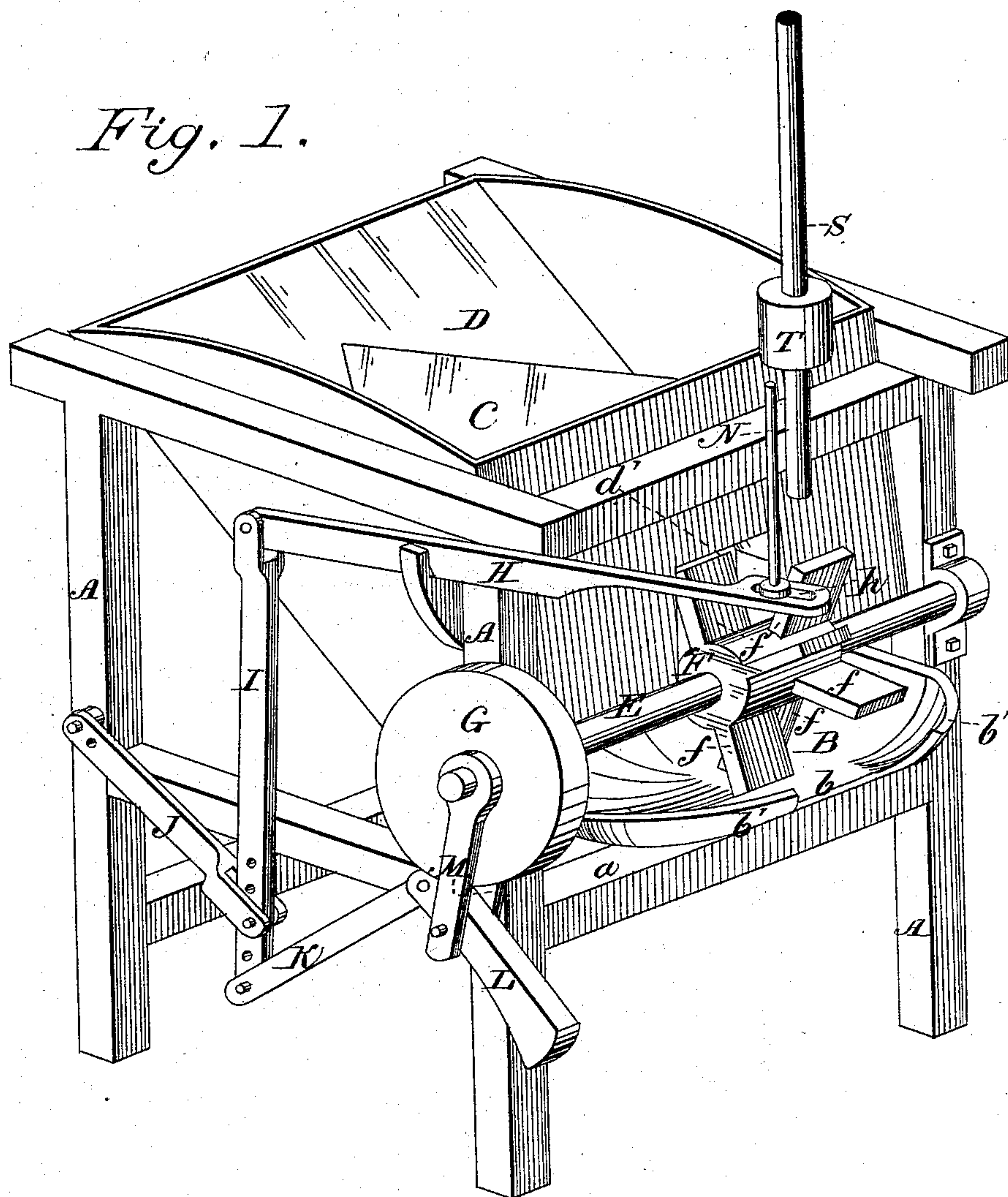
W. E. WILD.

ORE FEEDER.

No. 283,180.

Patented Aug. 14, 1883.

Fig. 1.



Witnesses,
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2 Sheets—Sheet 2.

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Fig. 2.

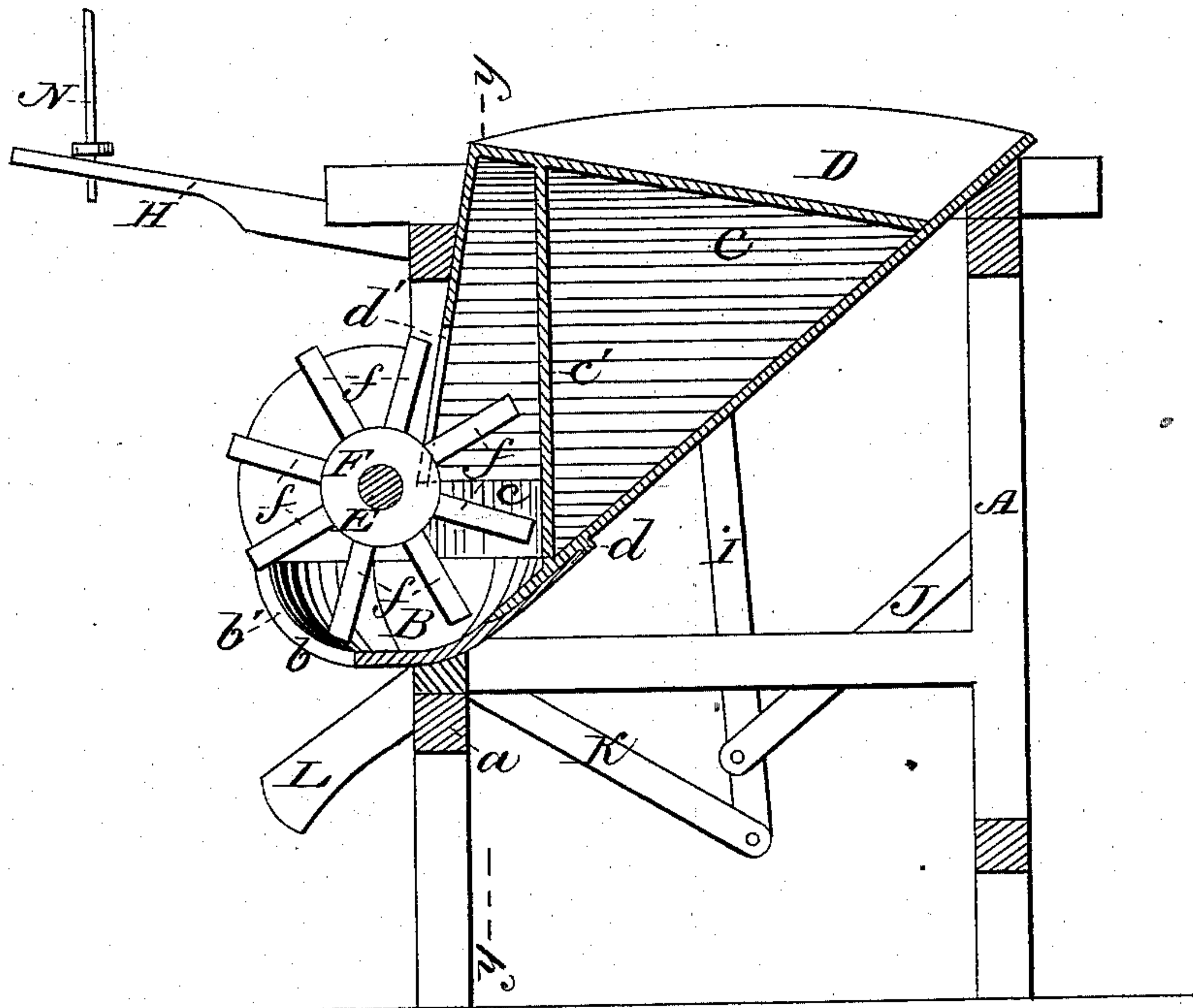
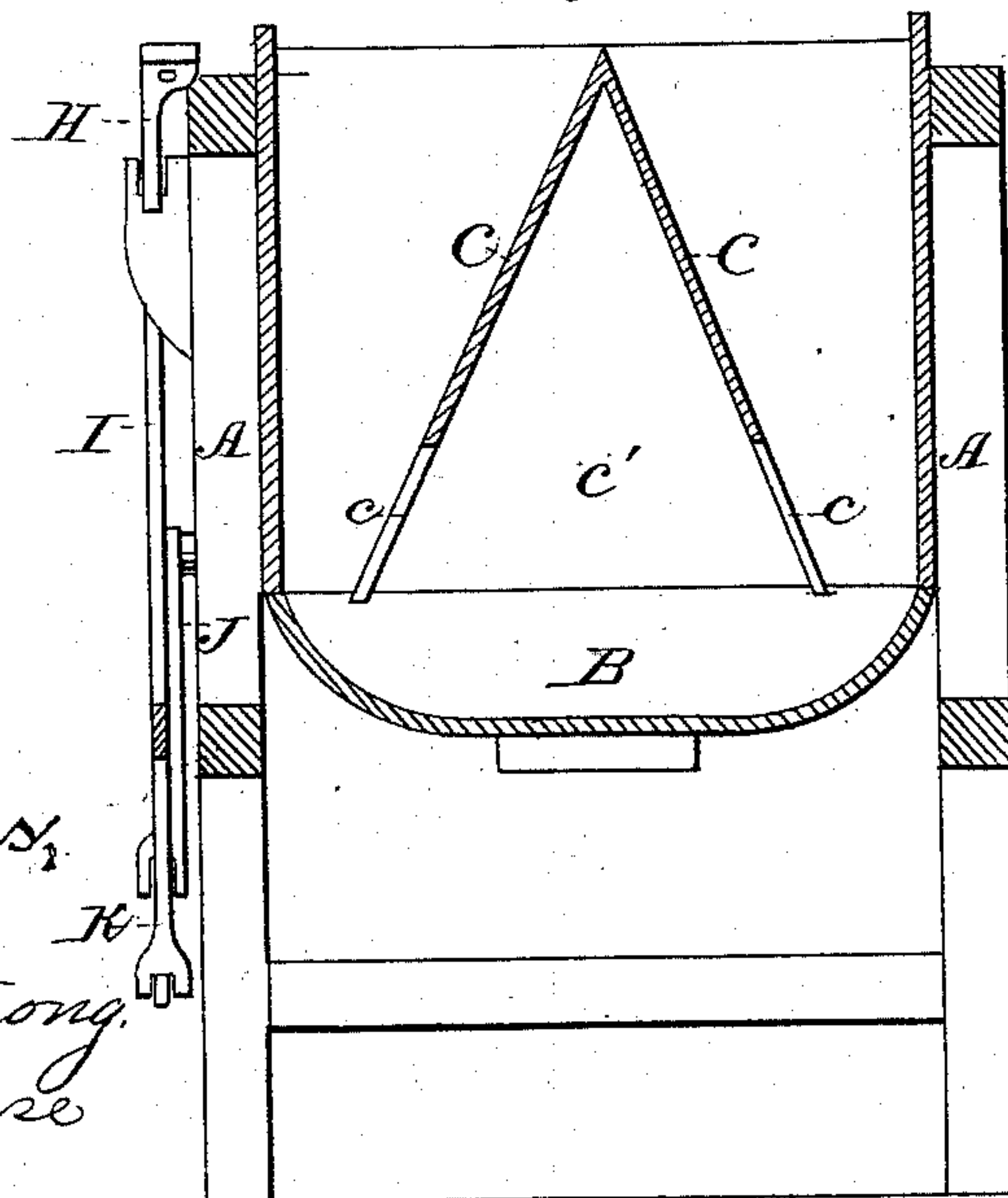


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM E. WILD, OF SAN FRANCISCO, CALIFORNIA.

ORE-FEEDER.

SPECIFICATION forming part of Letters Patent No. 283,180, dated August 14, 1883.

Application filed May 21, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. WILD, of the city and county of San Francisco, State of California, have invented an Improved Ore-Feeder; and I hereby declare the following to be a full, clear, and exact description thereof.

The object of my invention is to feed ore to the battery with accuracy and in quantities regulated according to the wants of the stamp.

Referring to the accompanying drawings, Figure 1 is a perspective view of my ore-feeder. Fig. 2 is a vertical section taken through the center from front to rear. Fig. 3 is a vertical section on the line *y y*, Fig. 2, with the feeding mechanism removed.

A is a stand or frame, between the front standards of which is supported upon a cross-beam, *a*, a tray, B.

D is a hopper supported within the stand. The lower edge of its rear wall extends within the rear of the tray, and a cross-rib, *d*, on its back, rests upon the rear edge of the tray, and its sides rest upon the sides of the tray. Within the hopper is a partition, C. This consists of two plates, converging to the top, thus dividing the hopper into two compartments, which narrow to the bottom. The rear edges of the partition extend to the lower edge of the rear wall of the hopper, but its forward edges extend only to the base of the front wall of the hopper, which terminates short of the upper edges of the tray. To do this, the lower edges of the partition are cut away at *c*, thus forming passages on each side for the ore to pass from the hopper to the center of the tray. A guard-wall, *c'*, is put in the partition, just back of its front. The partition C is open in front, and the front wall of the hopper is also cut, forming an opening, *d'*. All these parts may be constructed separately and fitted together in any suitable manner; or, as I prefer to make them, the tray and the partition may be made integral or secured together and the hopper slipped or fitted down to its place by having suitable slots or openings in its rear wall to admit the rear edges of the partition.

The tray B is dish-shaped, its forward edge projecting in front of the stand A. This edge is rounded, and its center is cut out at *b*, thus forming an opening at that point and leaving on each side what may be termed "lips" *b'*.

Mounted in the front standards of frame A is a shaft, E, upon which is keyed a hub, F, having radial arms *f*. This hub is over the longitudinal center of the tray, and a portion of it fits within the opening *d'* of the front wall of the hopper. The arms *f* are arranged alternately and move within the opening *d'*, and travel outward just over the bottom and front opening, *b*, of the tray. The end of shaft E carries a large friction pulley or wheel, G.

Pivoted upon one side of the stand A is a long lever, H, with one end of which is connected a rod, I. The lower end of this rod is connected by a link or arm, J, with the rear standard of frame A. It has also pivoted to its lower end a bar, K, the forward end of which is pivoted to the friction-arm L. This friction-arm is pivoted in the lower ends of hangers M, mounted above upon shaft E. It consists of a heavy bar pivoted near its rear end, in order that, by reason of the weight of its forward end, its upper surface may be held in impingement with the friction-pulley. The weight of the rod I, arm J, and bar K is sufficient to maintain the forward end of the lever H in an elevated position.

N is the tappet-rod. This is fitted to the forward end of the lever through an elongated slot, *h*, therein, whereby it may be adjusted to any proper position to be struck by the tappet. This is rendered necessary by reason of the gradual working out of position of the stand A and the constant care required to adjust it with such nicety that the tappet shall always strike the tappet-rod. By being mounted in the slot *h* the upper end of the rod may be kept in position, notwithstanding that the whole feeder may move from its place. When the tappet T of the stamp-stem S in descending strikes the tappet-rod N, it forces down the forward end of lever H, raising rod I, which, by reason of its connection with arm J, forces forward and upward the bar K. This upward movement of bar K tends to hold the friction-arm L closely against friction-pulley G, and its forward movement rotates said pulley, which revolves shaft E and causes the feeder-arms *f* to move inward above and outward below over the bottom of the tray, thus scraping or pushing whatever may be in the tray forward over the edge of its opening *b*. When

the lever H is relieved the weight of the rod I, arm J, and bar K is sufficient to throw its forward end up again, and the friction-arm L slips back over the pulley G without turning it. These means for operating the feeder-arms are simple and sufficiently positive for the purpose, which requires but a comparatively short movement. By constructing a partition within the hopper all clogging of the ore in its throat is prevented. The ore works down the sides of the tray and reaches the feeder-arms from each side. These, by revolving in the partition, encounter no ore behind them, but only when they move down to and scrape over the bottom of the tray. They are therefore not impeded in their forward movement, and will feed the ore forward through opening *b* without becoming clogged. The raised side lips, *b'*, of the tray prevent the ore from falling out. They direct it down to the bottom, to subject it to the action of the arms *f*. If there were no partition in the hopper, and the ore were allowed to gravitate to the tray over its entire surface, the arms would not be able to revolve, but would bind against the mass from the rear, which would soon clog in the throat of the hopper and in the tray; but in my feeder the ore is allowed to fall into the tray from each side, and it does not interfere with the arms, as these are protected within the partition. It is therefore pushed forward from the bottom of the tray without trouble.

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

1. In an ore-feeder, the dish-shaped tray B and the rotating feeder-arms *f*, in combination with the hopper D and a means for directing the ore into the tray on each side of the feeder-arms, substantially as and for the purpose herein described.

2. In an ore-feeder, the dish-shaped tray B

and the rotating feeder-arms *f*, in combination with the hopper D and the central partition, C, within the hopper, said partition being constructed with a wide base and open front to direct the ore into the tray upon the sides of the feeder-arms and to protect said arms, substantially as herein described.

3. In an ore-feeder, the dish-shaped tray B, having a front opening, *b*, and the rotating feeder-arms *f*, mounted over said tray, in combination with the hopper D, having a front opening, *d'*, and the partition C, having sloping sides, a wide base, open front, and side openings, *c*, to direct the ore into the tray on each side of the feeder-arms, all arranged substantially as herein described.

4. In an ore-feeder, an ore-tray, in combination with a revolving feeding device, the friction-pulley G, the lever H, means for oscillating it, the rod I, arm J, bar K, the weighted friction-arm L, and the hangers M, as herein described.

5. In an ore-feeder, the hopper D and the ore-tray B, in combination with the shaft E, hub F, feeder-arms *f*, tappet T, tappet-rod N, lever H, rod I, arm J, bar K, weighted friction-arm L, and friction-pulley G, all arranged and operating substantially as herein described.

6. In an ore-feeder, an ore-receptacle, a feeding device, intermediate operating devices, and lever H, having an elongated slot, *h*, in its forward end, in combination with the tappet-rod N, fitted loosely in said slot, and the tappet T of the stamp, substantially as and for the purpose herein described.

In witness whereof I hereunto set my hand.

WILLIAM E. WILD.

Witnesses:

W. W. SCOGIN,
E. M. GOSS.