(No Model.)

G. H. HULETT.

DUMPING APPARATUS.

No. 370,624. Patented Sept. 27, 1887.

Fig. 1

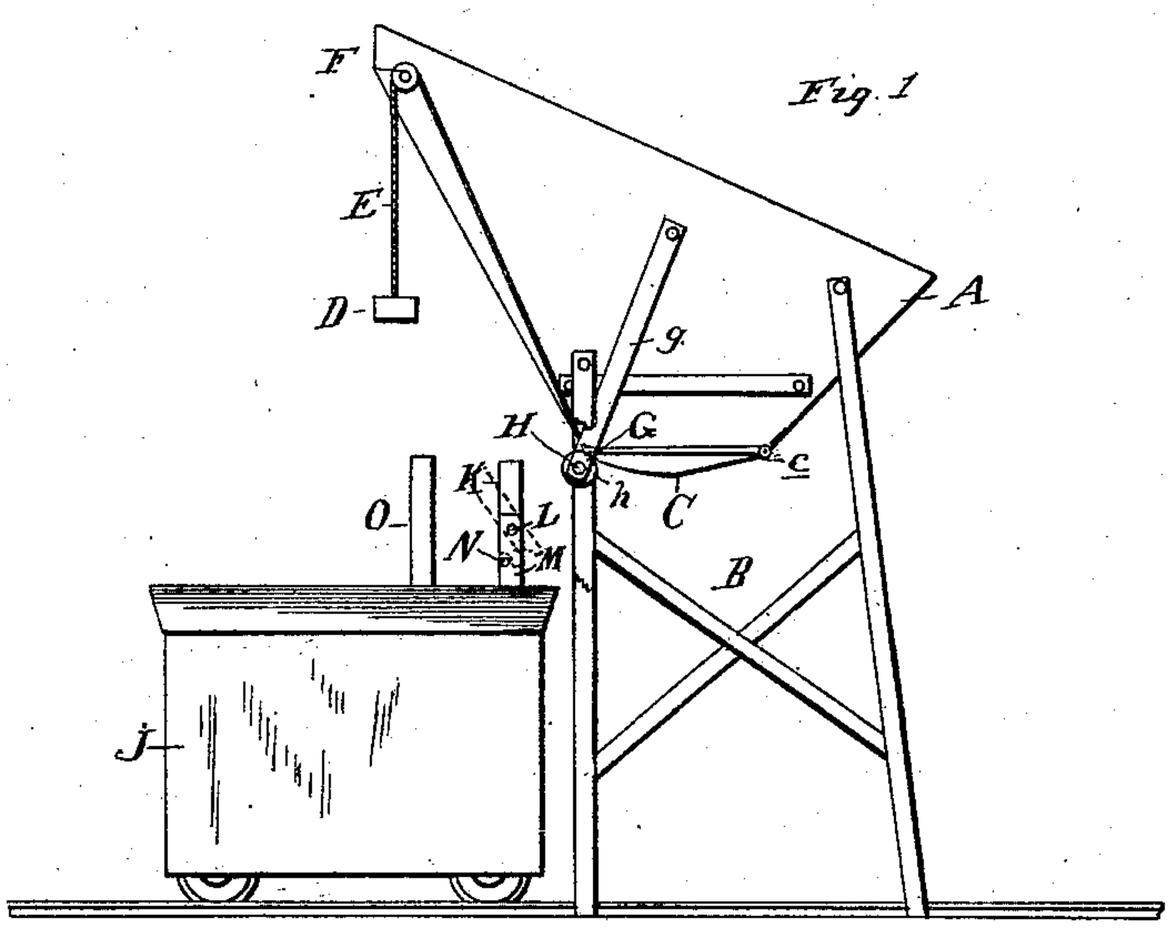
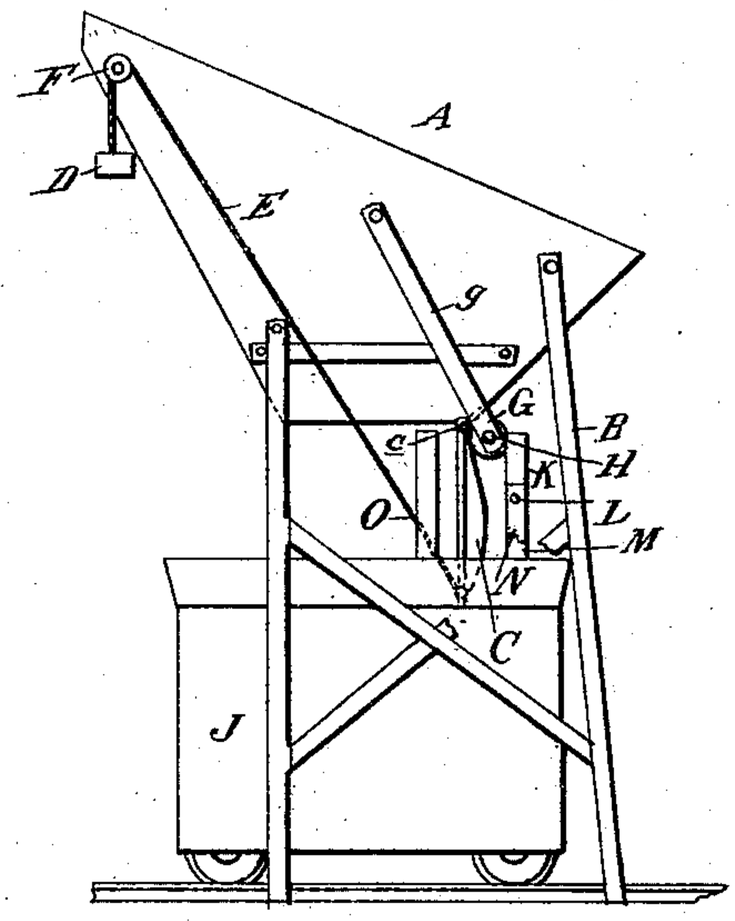
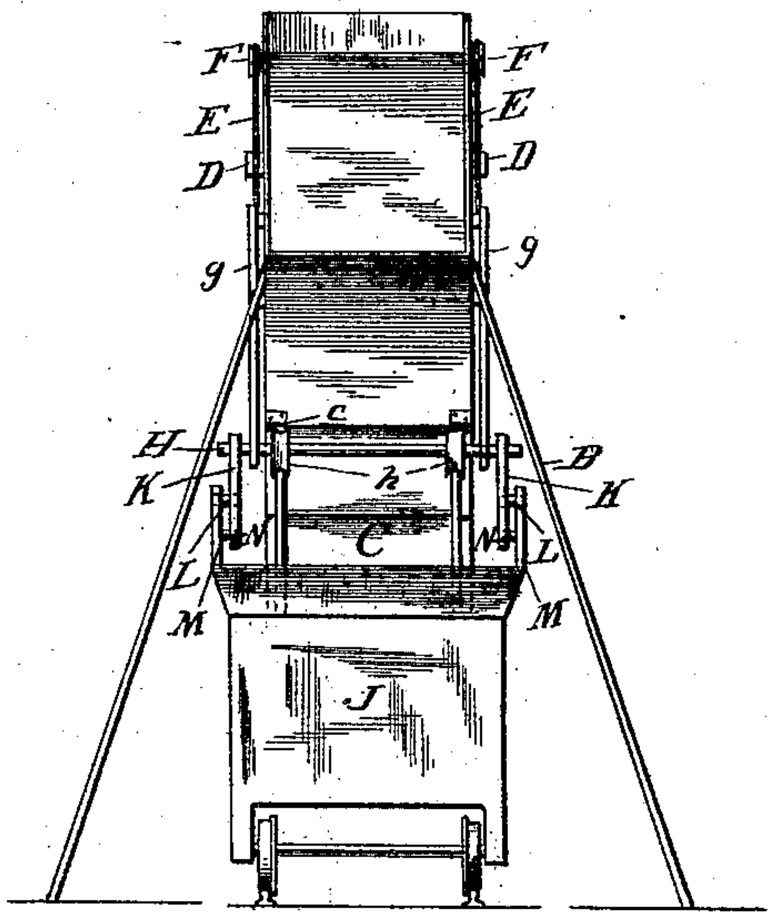


Fig. 2.



A Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE H. HULETT, OF CLEVELAND, OHIO.

DUMPING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 370,624, dated September 27, 1887.

Application filed January 14, 1887. Serial No. 224,365. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. HULETT, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Dumping Apparatus, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 represents a side view of my apparatus with the door closed; Fig. 2, a similar view with the door open, and Fig. 3 a rear view with door open.

This improvement relates to a dumping-hopper and car, which hopper is automatically opened and closed by the movement of the car as it passes under and is withdrawn from under the hopper; and the invention consists in the peculiar combinations and construction and arrangement of parts, hereinafter more particularly described, and then definitely pointed out in the claims.

Referring now to the details of the drawings, A represents the hopper, which is securely held by suitable supports, B, and is provided with a swinging convex bottom or door, C, hinged at *c* and counterbalanced, so as to move easily in any convenient way, but preferably by a weight, D, hung from a cord or chain, E, attached to the front of the swinging bottom C, and passing over a pulley, F, attached to the hopper A or some part of the frame.

Hung from the sides of the hopper is a stirrup, G, formed of two bars, *g*, connected at their lower ends by a rod, H, on which are journaled two (preferably grooved) rollers, *h*, which rollers run underneath the convex bottom of the car on curved bars I, securely attached to said bottom.

At J is shown a car, of any appropriate or approved form, provided with a dog, K, pivoted at L to a fixed bar, M, which bar is provided with a stop of any approved form—such as the pin N—the whole being so arranged that the dog will readily swing over in one direction, but is rigid in the other.

O represents a rigid post or bar, whose use will be hereinafter explained.

The operation is as follows: Suppose the hopper-bottom to be closed, as shown in Fig. 1, and the hopper full of coal or ore. The car J is pushed under the hopper and the dog K tilts, as shown in dotted lines, as it passes under the rod H, so that it has no action on the rod or stirrup G, and passes under it without effecting anything; but the post O, when it comes in contact with the rod H, moves it and the stirrup backward, and thus the bottom of the hopper is allowed to drop with the weight of the coal contained in the hopper. As soon as the hopper has emptied its contents into the car, the latter is drawn out, and the dog K, being now rigid and coming in contact with the rod H, pushes it and the stirrup G back to its original position, thus closing the swinging bottom, which will take but very little power, as the bottom is counterbalanced by the weight D.

It is obvious that there is no absolute necessity of the bottom being convex, as it may be flat and the bars or ways I made convex.

I prefer to make the ways nearly or quite straight for about one-half of their length; but the front part should be curved substantially on the same line as that which the rod H describes as it moves from front to rear, or the reverse.

From this it will be seen that I have provided a very convenient automatically-opening door to my hopper that is not only very convenient in use, but, although comparatively cheap in construction, is very durable and not likely to get out of order.

Having thus pointed out what I consider the preferable form of my improvement, but without limiting myself to the construction shown, what I claim as new is—

1. A hopper provided with a swinging door, combined with a vibrating stirrup rolling under said door for securely fastening the same, substantially as described.

2. The combination of a hopper provided with a swinging door and a fastening therefor, with a car independent of said hopper, having a device for operating the fastening, substantially as described.

3. The combination, with a hopper having a falling bottom and a swinging stirrup, of a car provided with a rigid post and a pivoted dog co-operating with said stirrup, substantially as described.

4. In a dumping apparatus, and in combi-

nation with a hopper having a door and vibrating fastening, a car provided with a dog, K, adapted to swing in one direction and be held rigid in the other to co-operate with said door-fastening, substantially as described.

5. In a dumping apparatus, the combination, with a hopper provided with a counterbalanced door, of a swinging stirrup, and a car provided with means for operating said stirrup, substantially as described.

6. In a dumping apparatus, the combination of a hopper provided with a swinging bottom and a swinging stirrup provided with rollers running on curved ways, substantially as described.

7. The combination, in a dumping apparatus, of a hopper provided with a convex bottom with a vibrating stirrup provided with rollers, substantially as described.

8. The combination, with a hopper and a swinging stirrup, of a bottom to said hopper provided with ways, the front part curved substantially on the same line as that described by said stirrup and the remainder substantially straight, as set forth.

In testimony whereof I affix my signature, in presence of two witnesses, this 12th day of January, 1887.

GEORGE H. HULETT.

Witnesses:

E. J. FOSTER,

JNO. A. PATTERSON.