H. Merriman,

Coal Chute,

No. 84,749. Patented Dec. 8, 1868.

Fig. 1.

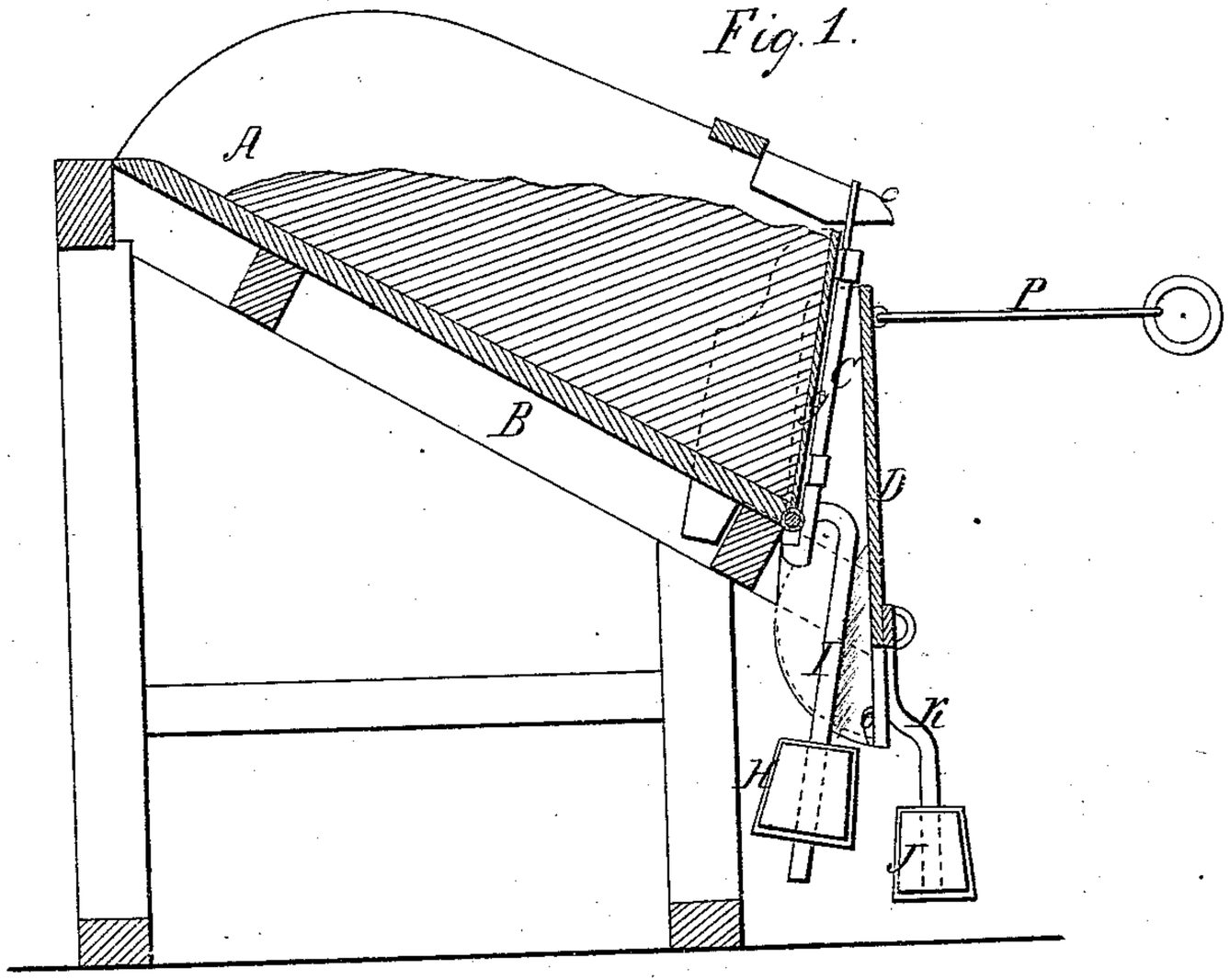
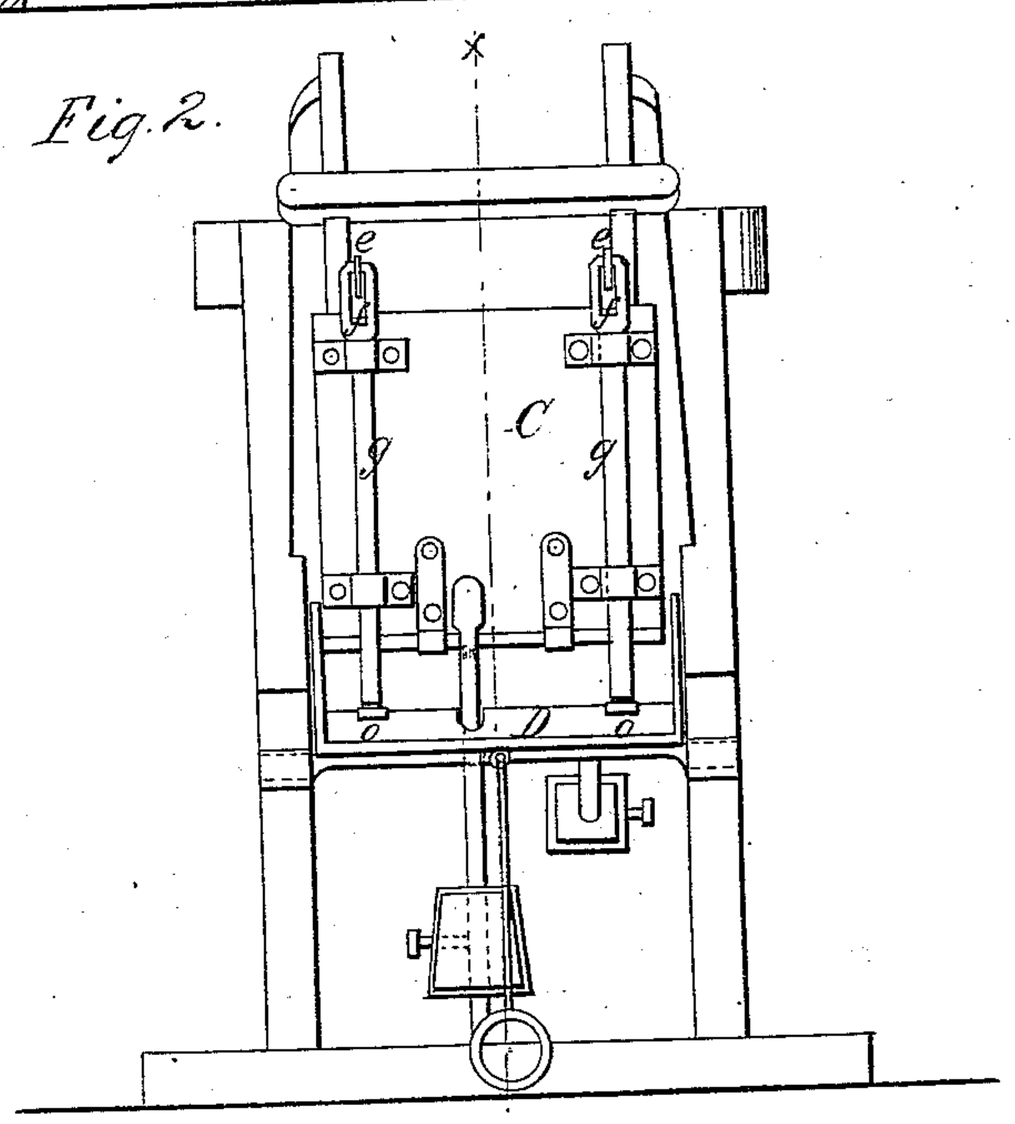


Fig. 2.



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HENRY MERRIMAN, OF BLOOMINGTON, ILLINOIS.

Letters Patent No. 84,749, *dated December* 8, 1868.

IMPROVED COAL-CHUTE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, HENRY MERRIMAN, of Bloomington, in the county of McLean, and State of Illinois, have invented a new and useful Improvement in Coal-Chute; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art so make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a new and useful improvement in coal-chutes, used for loading or discharging coal into boats, cars, or vehicles of any kind, whereby the operation of discharging coal is greatly facilitated.

The invention consists in constructing and operating a double self-sustaining and self-fastening apron, so arranged that the use of chains and pulleys is avoided, as will be hereinafter more fully described.

In the accompanying plate of drawings—

Figure 1 represents a sectional side elevation of the coal-chute, showing the counter-weights attached to the apron, and the apron as closed, the section being through the line *x x* of fig. 2.

Figure 2 is a front elevation, representing the outer portion of the apron as down, with the chute closed by the other portion.

Similar letters of reference indicate corresponding parts.

A represents the chute-box, which is made in the ordinary form, as regards shape and size.

The inclined side-pieces of the frame marked B are extended at their lower ends, so as to support the outer portion of the apron.

The chute is closed by a double apron, or it may be said that there are two aprons, an outer and an inner one, acting in concert.

The inner part is marked C, and the outer part, D.

The front side of C is seen in fig. 2. It is hinged to the mouth of the chute, so that when open it is on the same plane with the bottom of the chute-box.

When it is closed, it is fastened at the top of the chute by the hooks marked *e*, which enter slots *f* in the top ends of the loose-sliding bars *g g*. These bars are attached to C by the clasps marked *h*, which allow them to play freely up and down.

The hooks *e* are in the form of latch-catches, which raise the bars when they come in contact, so that the bars drop into the catch when the apron is closed, as seen in the drawing.

The bars *g g* extend down a little below the lower edge of the part C, as seen in fig. 1, so that the part D may operate on them, to raise them at the proper time.

H is a counter-weight, which is connected with the part C by the rod or shank I.

The apron C is nearly balanced on its hinges by the weight H.

The outer part or apron D is attached to a shaft or rod, which has bearings at each end, supported in suitable boxes on the ends of the inclined side-timbers B, as before mentioned.

J is a counter-weight, connected with D by the shank K, by which weight D is nearly balanced.

o o represent two cams on the upper surface and back edge of D, which are so placed as to operate on and raise the bars *g g*, when D is brought nearly down to its lowest position.

The act of raising the bars *g g* releases the apron C from the catches *e*, and the pressure of the coal in the chute will force it down, and with it the part D, to a position parallel with the bottom of the box or chute.

When in operation, the chute is placed so as to load carts, wagons, cars, or tenders for locomotives, which are brought beneath it. The engineer pulls the rod P, and draws down D. As it descends, the cams *o o* strike the lower ends of the bars *g g*, which releases the inner apron C, as before mentioned, so that the coal passes over both. When the coal has passed into the tender, the outer apron is lifted up, when the counter-weights bring both the aprons to an upright position, when the inner one fastens automatically, while the counter-weight J keeps the outer one in an upright position.

The counter-weights are attached to their respective shanks by set-screws, so that they are adjustable thereon.

By this arrangement the delivery of coal into wagons, carts, cars, or tenders, or on to boats, is greatly facilitated.

I claim as new, and desire to secure by Letters Patent—

The inner-weighted apron C, having the loose catch-rods *g*, and pivoted at its lower edge to the chute, and the outer-weighted apron D, also pivoted at its lower edge, and provided with the lugs *o o*, all operating as described, whereby, as the outer apron is swung down to form a spout, the lugs *o o* release the rods *g* from the catches *e*, and permit the inner apron to open the chute for the discharge of coal, substantially as herein shown and described.

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