

(No Model.)

I. BURNETT & J. E. CLIFTON.

COAL CHUTE.

No. 270,736.

Patented Jan. 16, 1883.

Fig 2

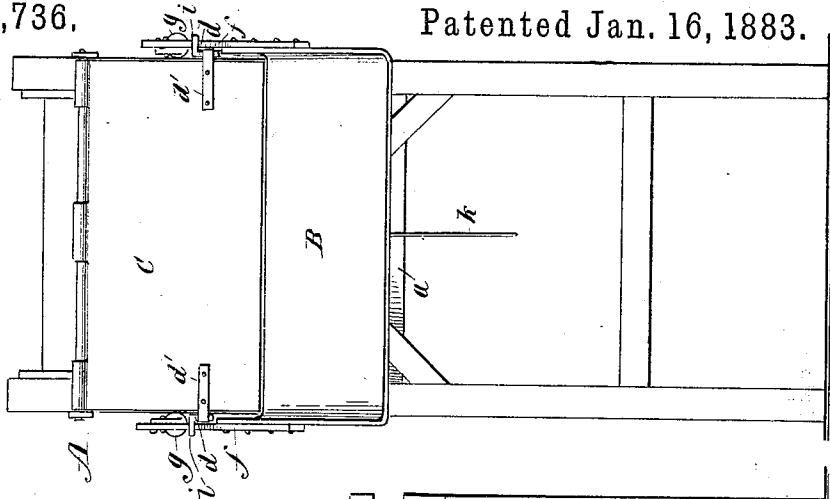
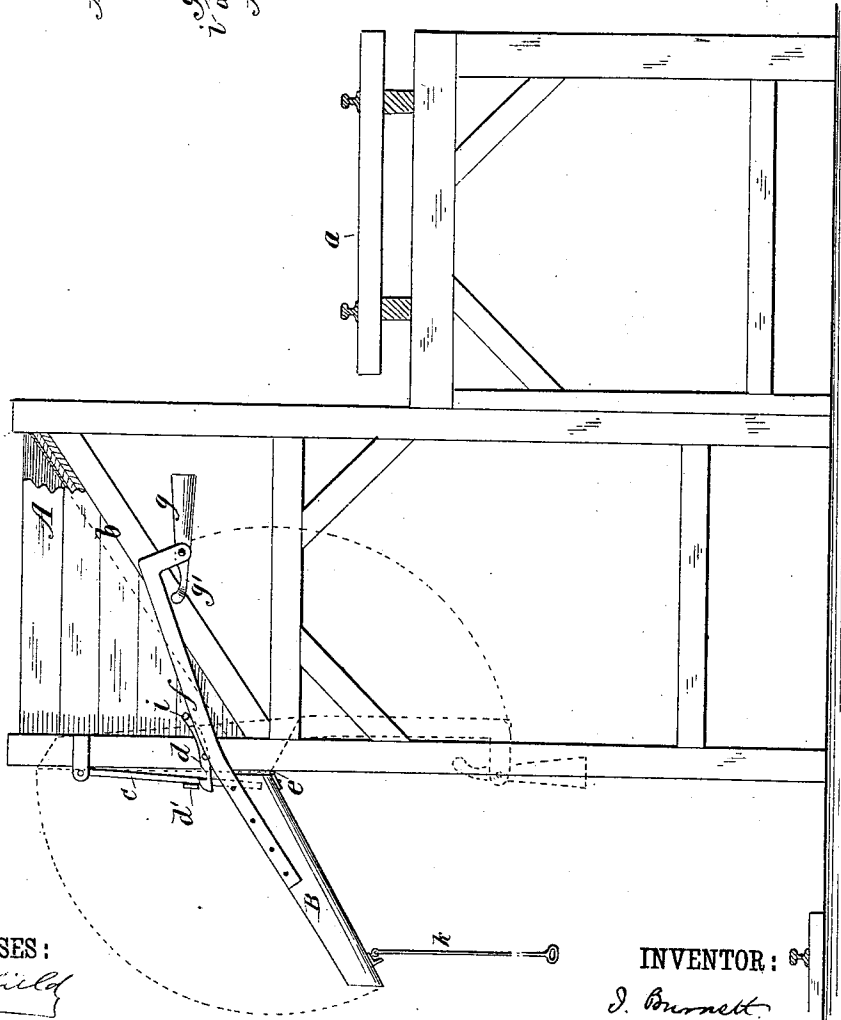


Fig 1



WITNESSES:

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ISAAC BURNETT AND JOSEPH E. CLIFTON, OF GENESEO, ILLINOIS.

COAL-CHUTE.

SPECIFICATION forming part of Letters Patent No. 270,736, dated January 16, 1883.

Application filed November 21, 1882. (No model.)

To all whom it may concern:

Be it known that we, ISAAC BURNETT and JOSEPH E. CLIFTON, of Geneseo, in the county of Henry and State of Illinois, have invented new and useful Improvements in Coal-Chutes, of which the following is a full, clear, and exact description.

Our improvements relate to the construction and arrangement of coal-chutes used for coal-ing locomotive-tenders and other carriages, the object being to dispense with complicated mechanism and to save time in the coaling operation.

Our invention consists in the combination, with the coal box or chute, of a balanced apron, which, when turned down, forms a chute or slide from the delivery end of the main box or chute.

It consists, further, in the construction whereby the operation is rendered more effective and the gate of the coal-box is automatically released when the apron is brought in place for discharge of the coal, as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a side elevation, partly sectional, of our improved coal-chute. Fig. 2 is a front view of the same.

A is the box or chute, which is elevated upon a suitable frame at the side of the elevated track *a*, as usual, on which the coal-cars are conveyed for filling the chutes or boxes placed alongside of the track. The chute A is formed with an inclined bottom, *b*, that is constructed of planking covered on the upper side by iron plates. The object of thus constructing the bottom is to obtain durability, and also to facilitate the discharge of the coal in cold weather, when the coal is apt to adhere to wooden-bottomed chutes. At the front of the chute A is a swinging gate, *c*, hinged at its upper edge, so as to close the front or open side of the box, and this gate is held in its closed position by means of latches *d*, which are pivoted at each side of the supporting-frame of the chute. B is the apron, formed of sheet-iron, and with side rims or flanges. This apron is attached to the supporting-frame of the chute by hinged joints,

at *e*, at the lower end of the inclined bottom *b*, so that when the apron is in the lowered position shown by full lines it forms a continuation of the inclined bottom and extends from the side of the elevated frame-work a sufficient distance to discharge the coal into the tender or other carriage. At the sides of the apron B are arms *f f*, which are rigidly attached to and project a suitable distance from the inner end of the apron. At their outer ends the arms *f* are bent at right angles, so as to form offsets, to which weights *g g* are pivoted. The weights *g* have an arm or projecting portion, *g'*, of suitable length and form for taking against the under sides of the arms *f* when the latter are raised by the downward movement of the apron B, so that the weights shall be held in a position projected from the ends of the arms *f*, as shown in Fig. 1. The arms *f* are bent and the weights so placed that they hang directly, or nearly so, beneath the center *e*, on which the apron swings when the apron is in its raised position, the object being to insure the raising of the apron by the weight closely against the gate *c* and the face of the chute A. A suitable handle or rope, as shown at K, is fitted to the outer end of the apron, for use in drawing it downward.

In operation, the gate *c*, being closed, is held by the latches *d*, the inner ends of which are of a weight sufficient to throw the latches into engagement with the lugs *d'* on the gate, these inner ends being also provided with lugs or projections *i*, projecting outward. The chute, being also in the raised position, as shown by dotted lines in Fig. 1, is held by the weights *g*. The apron being drawn down, the arms *f* are thereby raised, and, coming in contact with the projections *i* of the latches *d* when the chute is fully down, the latches are thereby moved out of engagement with the lugs on the gate *c*, and the gate, being thereby released, will be forced open by the coal, and the coal will pass down over the apron to the tender or carriage. In this downward movement of the apron, as soon as the arms *f* approach a horizontal position, or nearly so, the projections *g'* of the weights take against the under sides of the arms, and the weights are thereby prevented from swinging downward, and are held rigidly,

projecting from the ends of the arms, so that the weights act to the fullest extent during the completion of the movements. That construction allows the use of lighter weights, the ready starting of the apron, and also its quick start upward when first raised. When the coal is discharged and the chute raised again the latches *d* are released, and the gate *c*, falling by its own weight, is again caught by the latches and held.

We do not limit ourselves to any particular form or arrangement of the chute or coal-box.

The apron *B* may be provided at its outer end with a latch or bolt arranged for engaging a fixed catch when the apron is raised for holding the apron. The handle *k* will be connected to the bolt, so that at the first pull of the handle the bolt will be disconnected. This arrangement is to prevent the apron from being thrown down by the weight of coal in case the latches *d* should fail to catch or become disconnected by the jar of passing trains.

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

1. The combination, with a coal-chute, of a hinged apron provided with balancing arms and weights, and arranged to form, when moved

downward, an inclined plane on the end of the chute or box, substantially as shown and described. 30

2. The combination, with a coal-chute, of the hinged apron *B*, provided with the weighted arms *f*, substantially as and for the purpose set forth. 35

3. The combination, with a coal box or chute, of the hinged apron *B*, the weighted arms *f*, the hinged gate *c*, and the latches *d*, substantially as shown and described.

4. The combination, with the chute *A*, of the hinged gate *c*, the latches *d*, provided with projections *i*, and hinged apron *B*, provided with arms *f*, constructed and arranged substantially as described, for effecting the automatic release of the latches when the apron is lowered, as specified. 45

5. In coal-chutes, the combination, with the hinged apron *B* and arms *f*, of the pivoted weights *g*, having projections or arms *g'*, substantially as shown and described.

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Witnesses:

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