

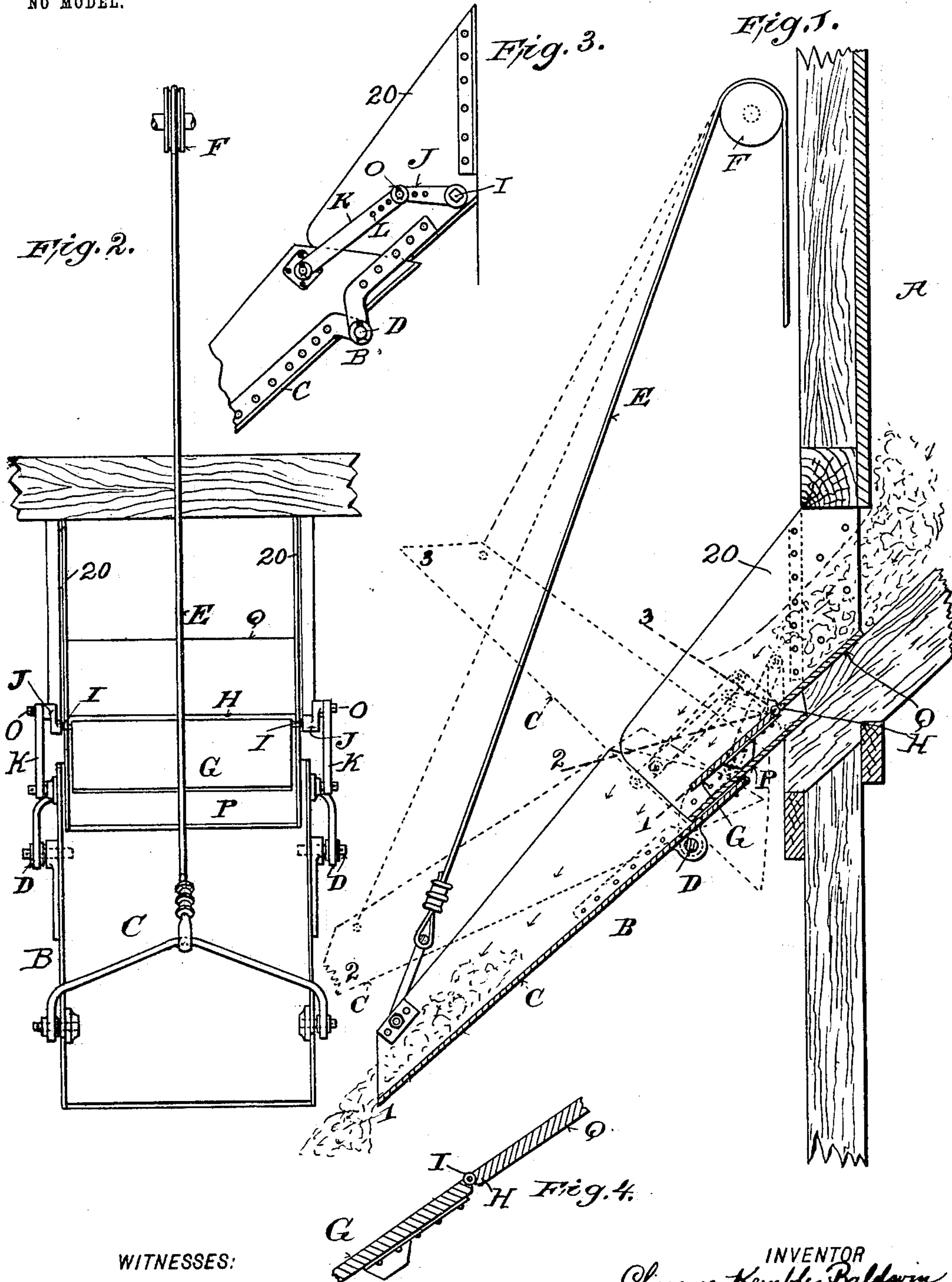
No. 758,809.

PATENTED MAY 3, 1904.

C. K. BALDWIN.
CHUTE.

APPLICATION FILED APR. 25, 1903.

NO MODEL.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CLARENCE KEMBLE BALDWIN, OF NEW YORK, N. Y., ASSIGNOR TO THE
ROBINS CONVEYING BELT COMPANY, A CORPORATION OF NEW JERSEY.

CHUTE.

SPECIFICATION forming part of Letters Patent No. 758,809, dated May 3, 1904.

Application filed April 25, 1903. Serial No. 154,242. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE KEMBLE BALDWIN, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Chutes, of which the following is a specification, accompanied by drawings.

My invention relates to delivery-chutes for materials such as coal, coke, and the like; but it relates more particularly to folding chutes for locomotive-coaling stations and such uses, although it may be used in any connection where it may be found applicable.

The objects of my invention are to improve upon the construction of such folding chutes and to enable them to be readily and frequently operated with quickness and despatch, to decrease the liability of loss of material during the operation of discharging, and to prevent interference with the operation of the apparatus by reason of ice collecting about the movable joints of the chute.

Further objects of my invention will hereinafter appear; and to these ends my invention consists of apparatus for carrying out the above objects constructed and arranged and having a general mode of operation substantially as hereinafter fully described and shown in the accompanying specification and drawings, in which—

Figure 1 is a side elevation, partly in section, of the apparatus embodying my invention shown in connection with a suitable coal-pocket. Fig. 2 is a front elevation of the same. Fig. 3 is an enlarged detail side view of the operative connections of the apparatus, and Fig. 4 is a detail sectional view of a portion of the apparatus.

Referring to the drawings, a suitable coal-pocket A, which may be of the ordinary character placed on railways, is provided with a chute B, (shown in this instance and in accordance with my invention as a folding chute having a main delivery portion or folding apron C, movable relatively to the remainder of the chute, and in this instance pivotally connected thereto, as at D, in any suitable

manner. Means are provided for raising and lowering the apron C, as shown there being an operative connection E, connected to the apron and passing over the sheave F.

According to my invention means are provided other than the apron C for cutting off the flow of material from the chute, as shown there being a stop or gate G, in this instance shown as a flap pivotally mounted above the main portion or apron C of the chute and arranged within the chute. The gate or stop G is pivoted, as shown at H, within the chute and is connected to be operated by the movement of the apron C.

The bearings for the hinge of the gate or stop G are shown in the sides of the chute and outside of the chute-body to prevent freezing or clogging, and to the hinge rod or rods I are rigidly secured arms J, while connecting-rods K, pivoted to the apron C, are also loosely connected with the arms J, in this instance the connecting-rods K being shown as adjustably connected with the arms J, as by means of the holes L and pins O, so that the distance between the ends of the rods J and the apron C and also the angle of the rods J relatively thereto may be varied as desired.

It will thus be seen that there are operative connections between the stop G and the apron C whereby movement of the apron will operate the stop G, and according to my invention the stop in closing reaches the angle of repose before the delivery-apron reaches said angle, so that the material within the pocket A is cut off in its flow from the chute by means of the stop, and the apron may be left in a position which will not stop the flow of material. Therefore when it is desired to stop the flow of material from the pocket the flow is stopped by the gate G, and any material remaining in the apron C slides off—as, for instance, into the tender of the locomotive, if the locomotive is being coaled—and this leaves the apron empty when it is raised out of the way near the vertical. It will be apparent that according to my invention great labor is saved in raising the apron, for it will always be raised empty, and therefore compara-

tively light, while the material is completely shut off by means of the gate, and waste and loss of time are prevented.

In Fig. 1 the gate G and apron C are shown in full lines in their lowermost position when material is being fed from the chute, these positions being marked 1, while in the dotted position (marked 2) the apron C has been raised slightly from its delivery position, but has not yet reached the angle of repose, the gate G having reached the angle of repose, however, in the position marked 2, whereby the flow of material from the pocket is stopped. On continuing to raise the apron to the position marked 3 the gate will also be raised, and this may continue as far as desired. In lowering the chute in readiness for feeding it will be seen that the apron reaches and passes beyond the angle of repose before the gate reaches said angle, so that in raising and lowering the apron reaches the angle of repose after the gate reaches said angle on raising or closing, but passes the angle first on lowering or opening.

In chutes of the character described one of the objections to their operation has heretofore been that fine coal-dust works through at the joints or by the apron or by the gate and the chute-body; but according to my construction this drip is caught by the false bottom P, (shown beneath the small gate G,) and to keep the minimum gap between the gate and the chute the gate G is hinged on an axis substantially coincident with the upper meeting edges of the plate Q and of the gate, or, in other words, the axis of the hinge lies in the plane coincident with the upper surfaces of the plate Q and the gate G.

Obviously my invention may be embodied in widely-varying forms, and some features of my invention may be used without others.

Therefore, without enumerating equivalents or limiting myself to the construction shown and described, I claim, and desire to obtain by Letters Patent the following:

1. In a chute, the combination of a folding delivery-apron, and a pivotally-mounted gate or stop arranged in the chute and operatively connected to be positively actuated to open and close by the movements of the apron, for substantially the purposes set forth.

2. In a chute, the combination of a folding

delivery-apron, and a pivotally-mounted gate or stop arranged in the chute, and operatively connected to be positively actuated to open and close by the movements of the apron, both the apron, and the stop opening downwardly and closing upwardly, the operative connections between the apron and gate or stop being so arranged that the gate is raised to stop the flow of material from the chute before the apron reaches the angle of repose, for substantially the purposes set forth.

3. In a chute, the combination of a folding delivery-apron, and a pivotally-mounted gate or stop arranged in the chute, and operatively connected to be positively actuated to open and close by the movements of the apron, both the apron and the stop opening downwardly and closing upwardly, the operative connections between the apron and gate or stop being so arranged that the gate or stop in closing reaches the angle of repose before the delivery-apron reaches said angle, for substantially the purposes set forth.

4. In a chute, the combination of a folding delivery-apron, and a pivotally-mounted gate or stop arranged in the chute, and operatively connected to be positively actuated to open and close by the movements of the apron, both the apron and the stop opening downwardly and closing upwardly, the operative connections between the apron and gate or stop being so arranged that the gate or stop passes the angle of repose for the material last in opening, and reaches said angle first when closing, for substantially the purposes set forth.

5. In a chute, the combination of a folding delivery-apron, a pivotally-mounted gate or stop arranged in the chute, and adjustable operative connections for positively actuating the gate or stop to open and close by the movements of the apron, for substantially the purposes set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

CLARENCE KEMBLE BALDWIN.

Witnesses:

EMIL CHAS. EGER,
LINCOLN MOSS.