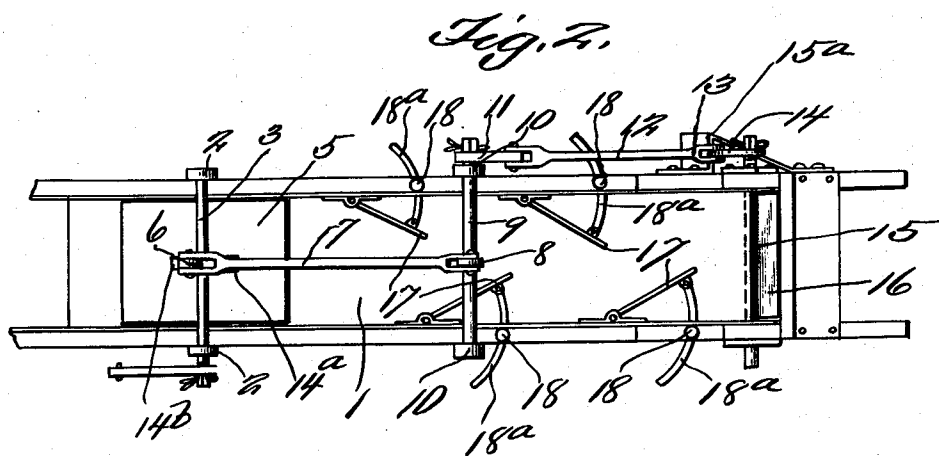
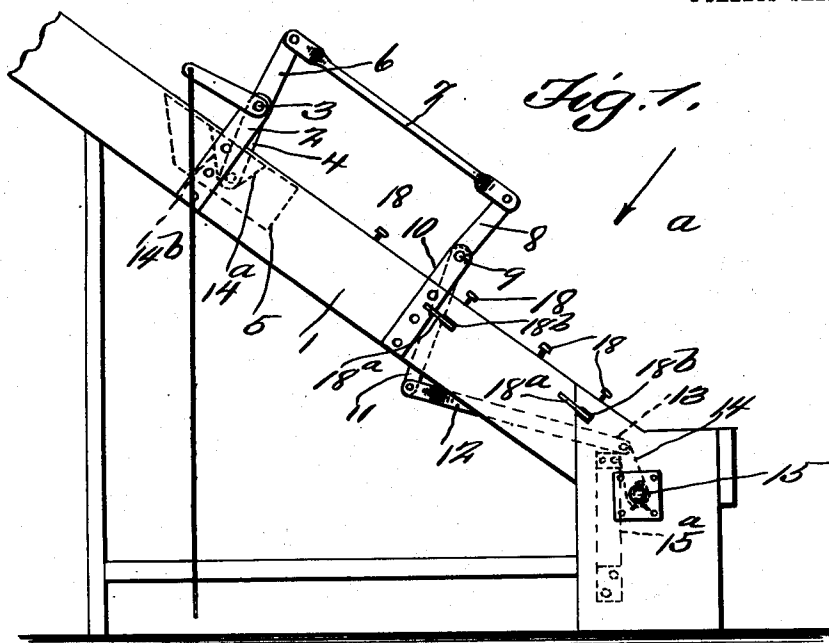


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 AUTOMATIC REGULATOR FOR COAL CHUTES.
 APPLICATION FILED JUNE 17, 1911.

1,008,684.

Patented Nov. 14, 1911.

2 SHEETS—SHEET 1.



Witnesses

Francis G. Brownell.
 C. C. Frothingham

Inventor
 W. N. White,

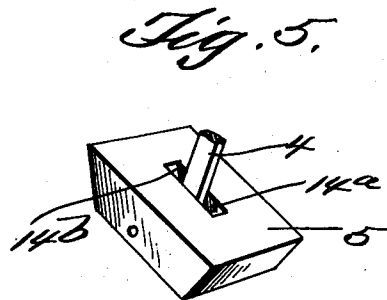
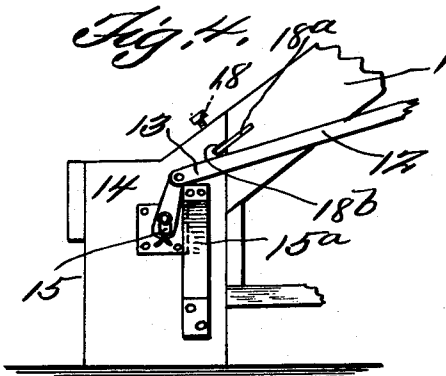
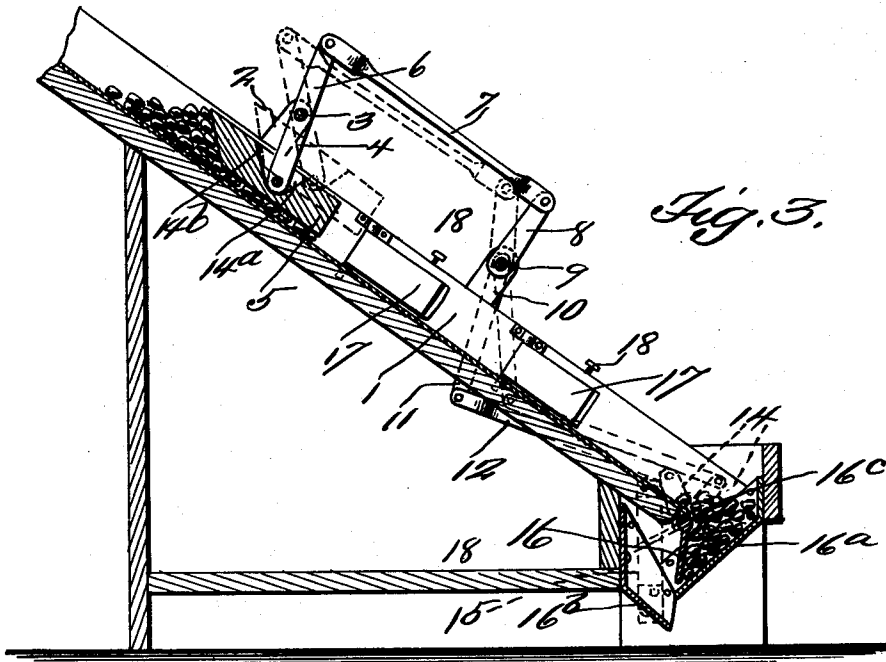
By D. Swift & Co.
 Attorney

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UNITED STATES PATENT OFFICE.

WILLIAM N. WHITE, OF FORTYFORT, PENNSYLVANIA.

AUTOMATIC REGULATOR FOR COAL-CHUTES.

1,008,684.

Specification of Letters Patent. Patented Nov. 14, 1911.

Application filed June 17, 1911. Serial No. 633,866.

To all whom it may concern:

Be it known that I, WILLIAM N. WHITE, a citizen of the United States, residing at Fortyfort, in the county of Luzerne and State of Pennsylvania, have invented a new and useful Automatic Regulator for Coal-Chutes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a new and useful coal chute.

The invention in its broadest scope aims as its primary object to provide a coal chute, by which the discharge of the coal is regulated correspondingly as fast as it is received into the hopper of the chute.

To accomplish the above operation, the passage of the coal is checked at the upper portion of the chute, by means of a gravitating member. When the coal above the gravitating member reaches a certain quantity, the pressure and the weight of the coal forces the gravitating member slightly from its path, thus allowing the coal to pass more freely, and as the coal reaches the bottom of the chute it is again slightly retarded, by means of a gate. However, when the gravitating member is moved slightly from the path of the coal, the gate at the bottom of the chute is opened, thus allowing the discharge of the coal. As the coal passes through the chute, between the gravitating member and the gate, it is also retarded or checked by deflectors or baffle plates. The object of retarding the coal in this manner, is to overcome the breakage, caused by the lumps of coal striking together, which causes it to chip off in pieces too small to be marketed, thus entailing considerable loss.

In the drawings there is disclosed only one form of the present invention, but in practical fields this form requires alterations, to which the applicant is entitled, provided the alterations are comprehended within the scope of what is claimed.

The invention comprises further features and combination of parts, as hereinafter set forth, shown in the drawings and claimed.

In the drawings:—Figure 1 is a view in side elevation of a coal chute constructed in accordance with the invention. Fig. 2 is a plan view of the coal chute, looking in the direction of the arrow *a* in Fig. 1. Fig. 3 is a longitudinal sectional view through the

chute. Fig. 4 is a detail view. Fig. 5 is a perspective view of the gravitating member 5 and a portion of the arm 4.

Referring to the drawings 1 designates a trough like chute, which may be constructed of any suitable material and in any desired shape. Preferably this chute is constructed of sheet metal, such as sheet steel or the like, in order to obviate the possibility of the chute becoming distorted in shape. The chute is arranged on an angular pitch with relation to the floor line, as shown in Fig. 1. Mounted in bearings of bracket arms 2 of the upper portion of the chute is a rock shaft 3, with the central portion of which an arm 4 is movable. Carried at the inner end of the arm 4 is a gravitating member 5, which constitutes means for retarding or checking slightly the coal as it enters the chute. When the weight or pressure of the coal becomes great enough, the gravitating member is pushed from its path, thus allowing the coal to pass more freely.

Fixed to one end of the rock shaft 3 and movable therewith is an arm 6, to which the connecting rod 7 is connected. This connecting rod 7 is in turn connected to the lever 8, which is movable with the rock shaft 9. The rock shaft 9 is mounted in suitable bearings of the bracket arms 10. Connected to the arm 11 of the shaft 9 is a connecting bar 12, the lower end 13 of which is pivotally connected to an arm 14 of the rock shaft 15. This rock shaft 15 is mounted in suitable bearings of the side portions of the chute at the lower end thereof. Movable with the rock shaft 15 is a gate 16, which catches the coal as it passes by the gravitating member 5, as shown in Fig. 3. When the gravitating member is pushed slightly from the path of the coal, the gate 16 is opened at the same time thus allowing the coal collected by the gate to discharge.

Fixed upon the interior of the chute and to the sides thereof are a plurality of deflectors or baffle members 17. These deflectors or baffle members or plates may be adjusted at different angles, and held so by the devices 18. The object of providing these deflectors is to further retard the passage of the coal.

From the foregoing it will be apparent that there has been devised a novel, efficient, and cheaply constructed chute for coal and the like, and one which has been found to be practicable in operation, because it permits

all kinds of coal, whether "mud screen" or "dry" coal to pass therethrough with a minimum amount of breakage. The "mud screen" coal is so called on account of its wet muddy appearance.

The invention having been set forth, what is claimed as new and useful is:—

1. In combination, a trough like chute arranged angularly to the floor level, a gravitating coal checking member arranged in the upper portion of the chute, an oscillatory gate arranged adjacent the lower portion of the chute, and connections between the gravitating member and the gate, whereby as the gravitating member is moved from the path of the coal, the gate will be opened.

2. In combination, a trough like chute, a gravitating member pivotally mounted in the chute at its upper end, a gate normally closed and pivotally mounted at the outlet mouth of the chute, connections between the gravitating member and the gate, whereby as the gravitating member is removed from the path of the coal the gate will be opened, and adjustable angularly arranged deflectors in the chute intermediate the gravitating member and the gate.

3. In combination, a trough like chute arranged angularly to the floor level, arms projecting outwardly of the chute at its upper portion, a rock shaft journaled in bearings of the arms and provided with a gravitating member having a beveled portion arranged in the chute, a rock shaft journaled

in bearings at the lower end of the chute and provided with a gate normally closed, a third rock shaft journaled in bearings of the chute intermediate the first and second rock shafts, and connections between the three rock shafts, whereby as a gravitating member is moved from the path of the coal the gate will be opened.

4. In combination, a trough like chute arranged angularly to the floor level, arms projecting outwardly of the chute at its upper portion, a rock shaft journaled in bearings of the arms and provided with a gravitating member having a beveled portion arranged in the chute, a rock shaft journaled in bearings at the lower end of the chute and provided with a gate normally closed, a third rock shaft journaled in bearings of the chute intermediate the first and second rock shafts, and connections between the three rock shafts, whereby as a gravitating member is moved from the path of the coal the gate will be opened, a plurality of deflectors arranged in the chute intermediate the gravitating member and the gate, and means for adjusting the deflectors.

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

WILLIAM N. WHITE.

Witnesses:

JOHN H. DOUGHTY,
E. H. WESTON.