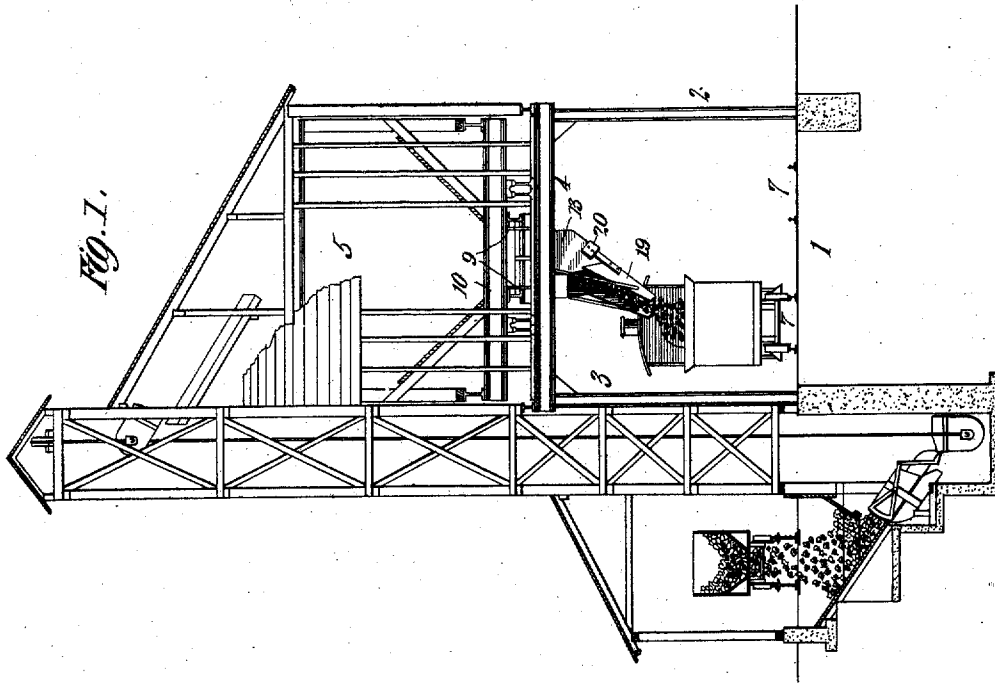


G. W. FREELAND.
DISTRIBUTING SPOUT FOR COAL BINS.
APPLICATION FILED MAY 20, 1909.

984,551.

Patented Feb. 21, 1911.

3 SHEETS—SHEET 1.



Witnesses:
Paul S. Ober
William Day

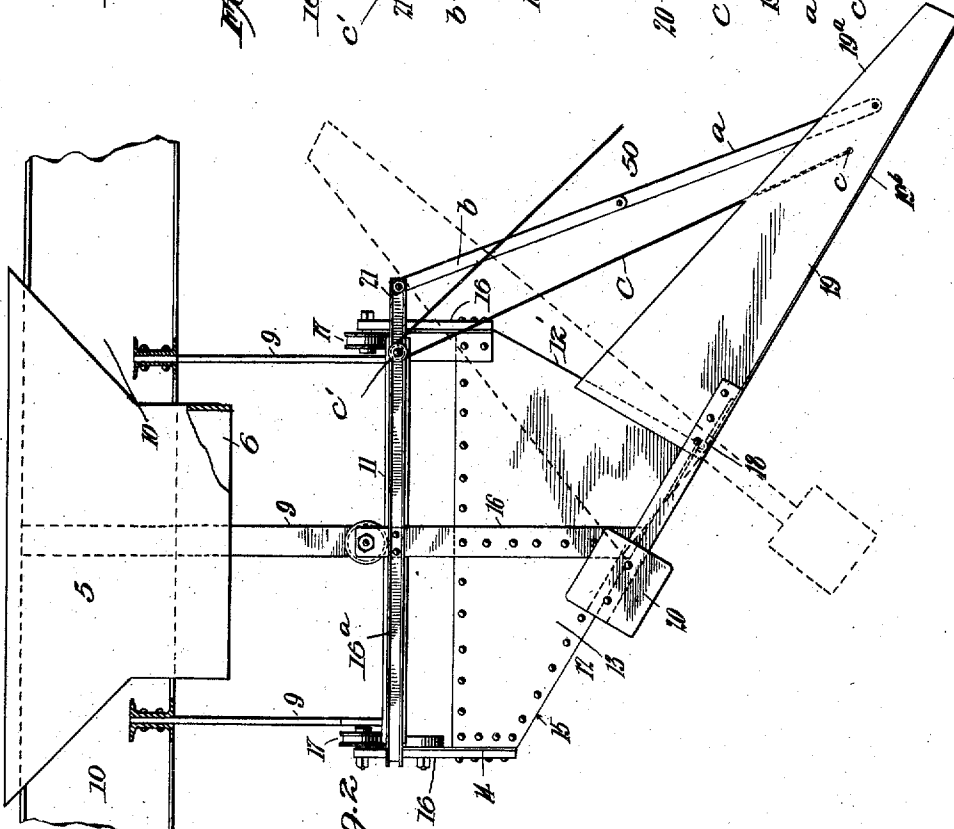
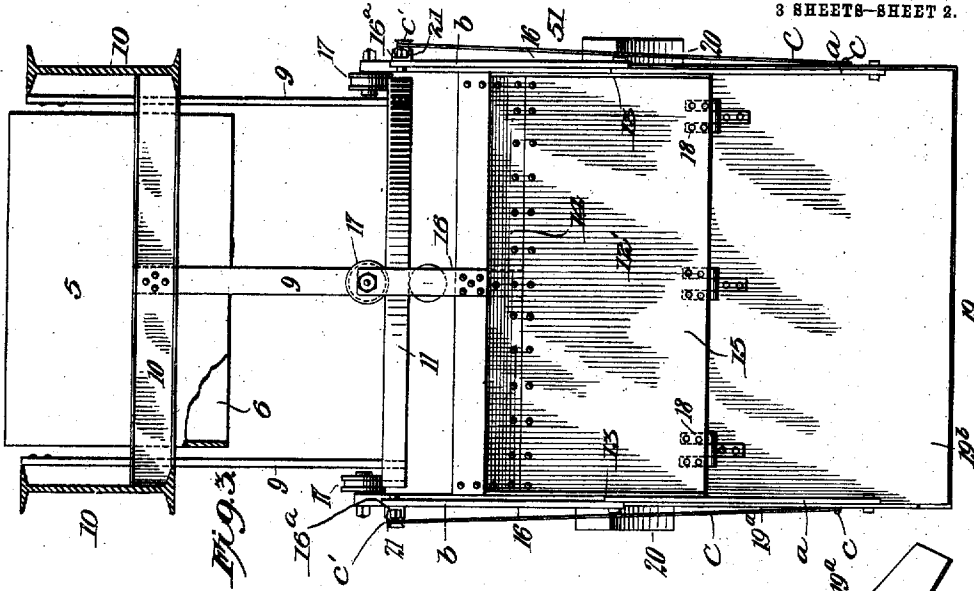
Inventor
G. W. Freeland
By *his Attorney* *P. F. Dodge*

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3 SHEETS-SHEET 2.



Witnesses:
Edward Ober
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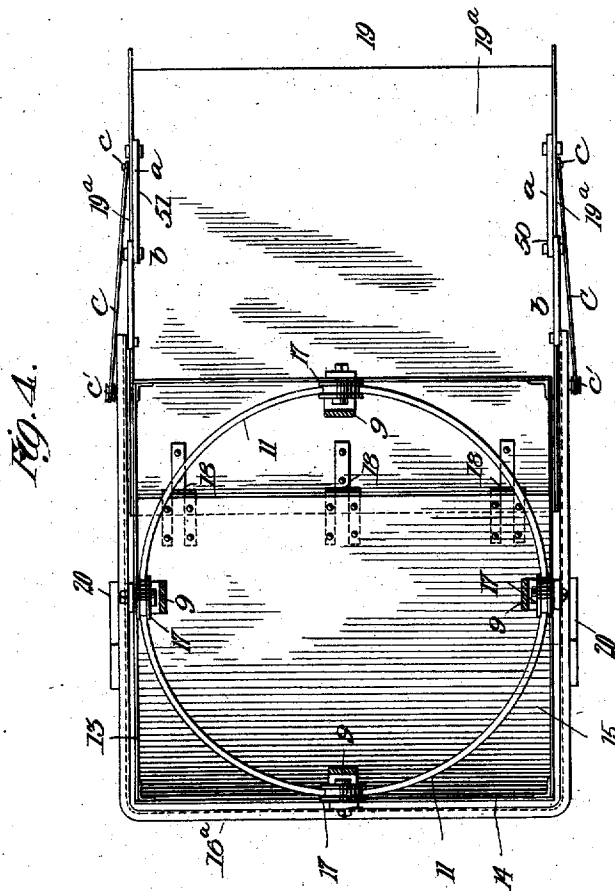
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3 SHEETS—SHEET 3.



Witnesses:
Thos. S. Orr
William Cary

Inventor
G. W. Freeland
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UNITED STATES PATENT OFFICE.

GEORGE W. FREELAND, OF MOLINE, ILLINOIS, ASSIGNOR TO WILLIAMS, WHITE AND COMPANY, A CORPORATION OF ILLINOIS.

DISTRIBUTING-SPOUT FOR COAL-BINS.

984,551.

Specification of Letters Patent.

Patented Feb. 21, 1911.

Application filed May 20, 1909. Serial No. 497,186.

To all whom it may concern:

Be it known that I, GEORGE W. FREELAND, a citizen of the United States, residing at Moline, county of Rock Island, and State of Illinois, have invented a new and useful Improvement in Distributing-Spouts for Coal-Bins, of which the following is a specification.

This invention relates to pockets or bins for the storage of coal, and has special reference to a distributing spout for directing the coal into its receiving receptacle, such for instance as a locomotive tender; and the object of the invention is to provide a simple and easily manipulated device of this character whereby the point of discharge may be varied so that the coal may be discharged at different points into locomotive tenders on different tracks.

The invention consists of the combination of a general storage bin, a circular track supported adjacent to the discharge opening in the bin, a chute box rotatably mounted on the track, and an inclined delivery apron or spout hinged to said chute box.

The invention consists further in the details of construction and combination of parts hereinafter described and claimed.

In the accompanying drawings, in which like reference characters indicate corresponding parts, and in which I have illustrated one embodiment of my invention, Figure 1 is a view in front elevation of a coaling station having my invention embodied therein; Fig. 2 is a sectional elevation of the delivery device; Fig. 3 is a front view of the same; and Fig. 4 is a top plan view thereof.

Referring to the drawings: 1 designates the general foundation of the structure, and 2 and 3 front and rear uprights or posts upon which rest cross-girders 4, constituting the support for the superstructure, which superstructure supports a general storage bin is provided in its bottom with delivered by any suitable means, and which storage bin is provided in its bottom with an opening 6 through which the coal passes to the distributing device. The storage bin may obviously be provided with a valve or equivalent device, not shown, for controlling the flow of material therefrom.

Arranged contiguous to the opening 6 of the storage bin and preferably in a plane somewhat below said opening, is a station-

ary suspended frame comprising four depending hangers 9 suitably secured at their upper ends to beams 10 on the superstructure and supporting at their lower ends a horizontal circular track or guideway 11 rigidly secured to the hangers. This track is formed in a full circle for the purpose presently to be described. Occupying a position beneath the track is a chute box 12 comprising side walls 13, 13, a rear wall 14, and an inclined bottom 15, thereby leaving a side discharge opening 12'. The chute box is suspended on hangers 16, on the upper ends of which are mounted wheels or rollers 17, one for each hanger, which wheels traverse the track 11. A frame 16^a of general U form extends around the hangers 16 and is connected rigidly to them, and thus serves to stiffen the hangers and at the same time afford a support for certain suspension and operating devices hereinafter described.

It will be seen therefore that by this arrangement the chute box forms in effect a turn-table and may be turned around an upright axis to different positions; or it may be given a complete rotation, in order to direct the coal flowing from the bin to different points.

Pivoted to the lower portion of the bottom of the chute box, as by the hinged members 18, is an apron or spout 19 comprising elongated sides 19^a and a bottom 19^b. In normal operative position this apron occupies the position shown in Fig. 2 so that the bottom of the chute box 12, and the bottom of the apron are in the same inclined plane.

Mounted on the sides of the apron are rearwardly extending arms, which at their rear extremities carry counterweights 20 to facilitate the elevation of the apron when the latter is closed across the discharge opening in the chute box, as indicated by dotted lines in Fig. 2.

50 and 51 represent suspension members for the apron, which comprise two jointed links *a* and *b*, the former being pivoted to the outer free end of the apron and the latter being pivoted to an extension 21 projecting forwardly from the U shaped frame 16^a, before alluded to. A rope *C* connected to the apron at *c* and passing over an elevated pulley *c'*, preferably supported by the frame 16^a, provides a convenient means for raising and lowering the apron. When it is desired to fill a locomotive tender or other re-

ceptacle, it is positioned beneath the chute box on one or the other of the tracks 7 as indicated in Fig. 1. The chute box is then turned on its supporting track to operative relation with respect to the tender, and the apron is lowered to direct the coal into the same. After the proper amount of coal has been thus discharged, the apron 19 is, by means of its actuating rope *c*, elevated to close the chute box, as shown by dotted lines in Fig. 2. If it is desired to fill a locomotive tender on the other track, then the chute box is swung on its support to the opposite position and the apron lowered. So also, by reason of the capability of the chute box to be revolved on an upright axis on its track or support, the coal may be directed to intermediate points, and to whatever point desired.

It will be observed from the construction described that my apparatus is of very simple form and comprises few parts, is of durable construction and effective in operation, and by means of the same, the coal may be delivered from the bin at any point within its circle of rotation.

While in the accompanying drawings I have illustrated my invention in the form which I prefer to adopt, and which in practice has been found to answer to a satisfactory degree the results to be accomplished, I wish it to be understood that the invention is not limited to any particular form of the parts or details of construction, except in so far as such limitations are specified in the claims.

Having thus described my invention, what I claim is:

1. In an apparatus of the type described, and in combination with a storage bin provided with a discharge opening, a chute box movable about an upright axis, and in position to receive the contents of the bin, said chute box being provided with a lateral delivery opening, and a delivery apron hinged to the mouth of said opening and adapted to be closed across the same.

2. In an apparatus of the type described, the combination of a circular track, a chute box having a lateral opening therein and mounted on said track for rotation thereon, a storage bin having an opening adapted to discharge into the chute box, and a delivery apron or spout hinged to said chute box and adapted to receive the material from the opening in the chute box.

3. In an apparatus of the type described, the combination of a circular track, a chute box having a lateral opening therein and mounted on said track for rotation thereon, a storage bin having an opening adapted to discharge into the chute box, and a delivery apron or spout hinged to said chute box, said apron being adapted to be elevated to close the lateral opening in the chute box.

4. In an apparatus of the type described, the combination of a circular track, a chute box having a lateral opening therein and mounted on said track, a supply bin having an opening adapted to discharge into the chute box, a hinged delivery apron or spout carried by the chute box, means for swinging the apron or spout to a position to close the lateral opening in the chute box, and a foldable suspension member by which the apron is suspended.

5. In an apparatus of the type described, the combination of an overhead support, a circular track suspended therefrom, a wheeled support mounted on the track, a chute box carried by the wheeled support and having a lateral opening therein, a hinged apron or spout adapted to open or close the lateral opening in the chute box, and a suspension member connecting the free end of the apron with the wheeled support.

In testimony whereof I hereunto set my hand this 10th day of May, 1909, in the presence of two attesting witnesses.

GEORGE W. FREELAND.

Witnesses:

HARRY AINSWORTH,
C. R. ROSBOROUGH.