

950,238.

4 SHEETS--SHEET 1.



Inventor
John McMyler,
By his Attorneys,
Thurston & Bates.

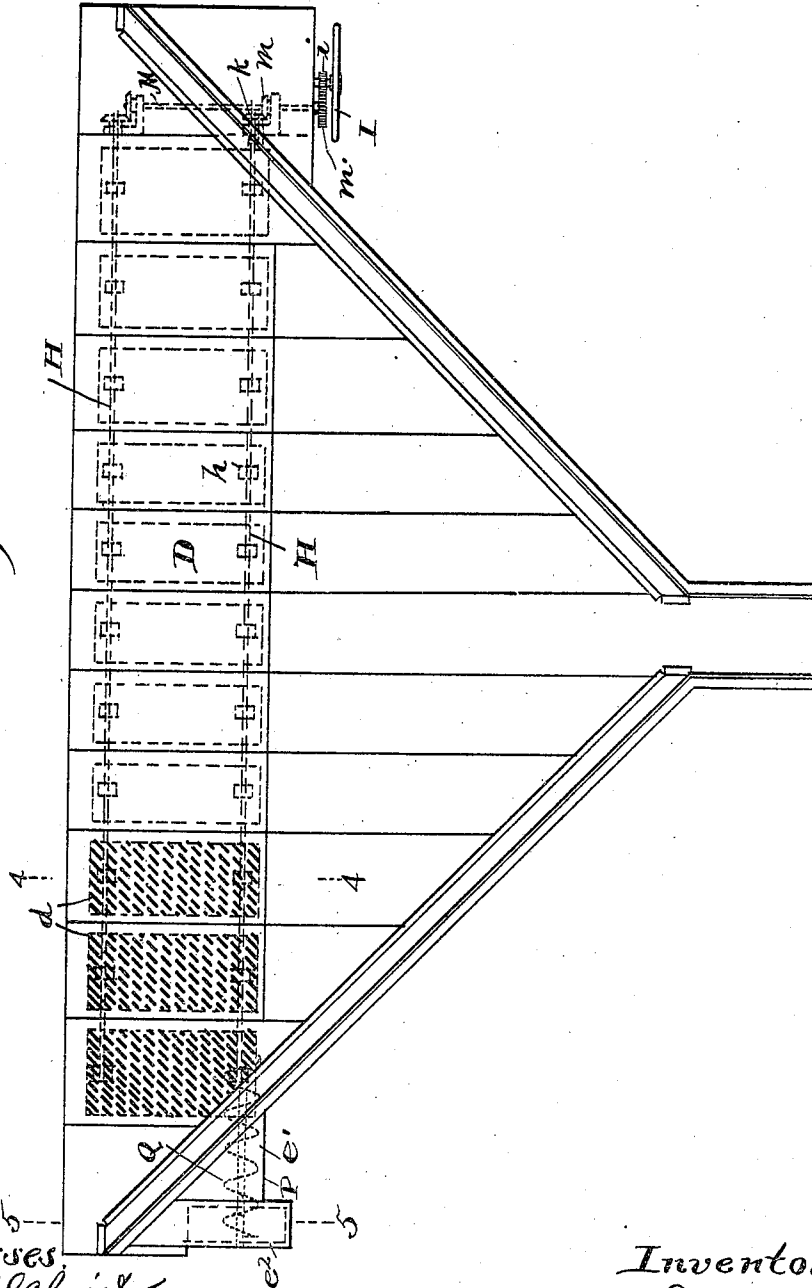
J. McMYLER.
CAR UNLOADING MACHINE.
APPLICATION FILED AUG. 16, 1904.

950,238.

Patented Feb. 22, 1910.

4 SHEETS—SHEET 2.

Fig. 2.



Witnesses
E. B. Gilchrist
B. W. Brockett.

Inventor
John McMyler,
By his Attorneys,
Thurston & Bates.

J. McMYLER.
CAR UNLOADING MACHINE.
APPLICATION FILED AUG. 15, 1904.

950,238.

Patented Feb. 22, 1910.

4 SHEETS—SHEET 3.

Fig. 5.

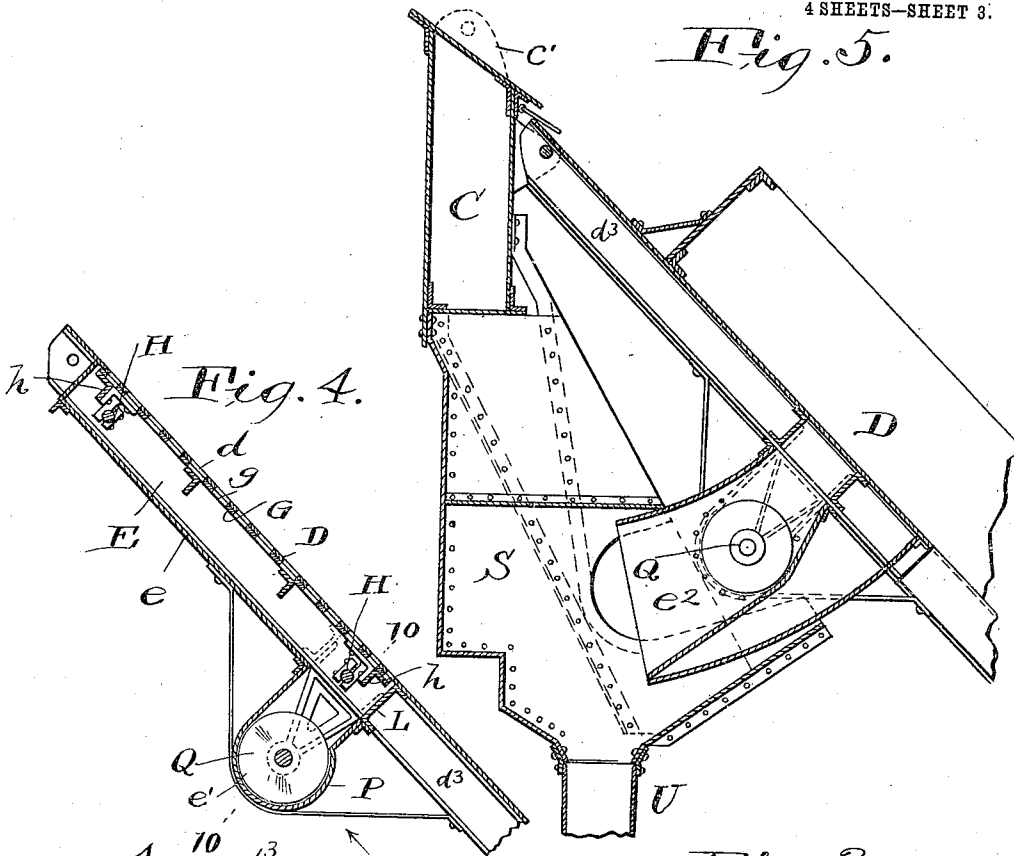


Fig. 4.

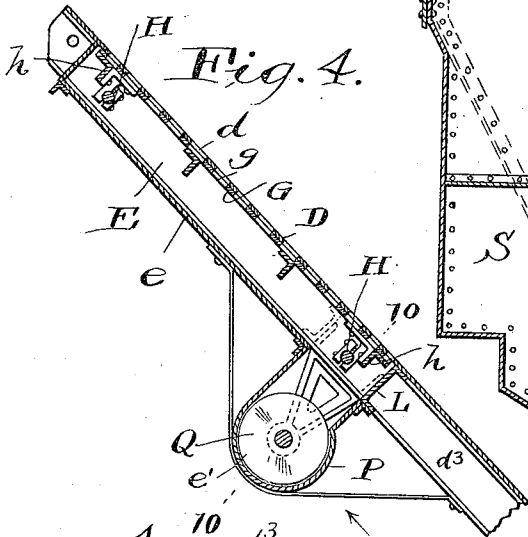
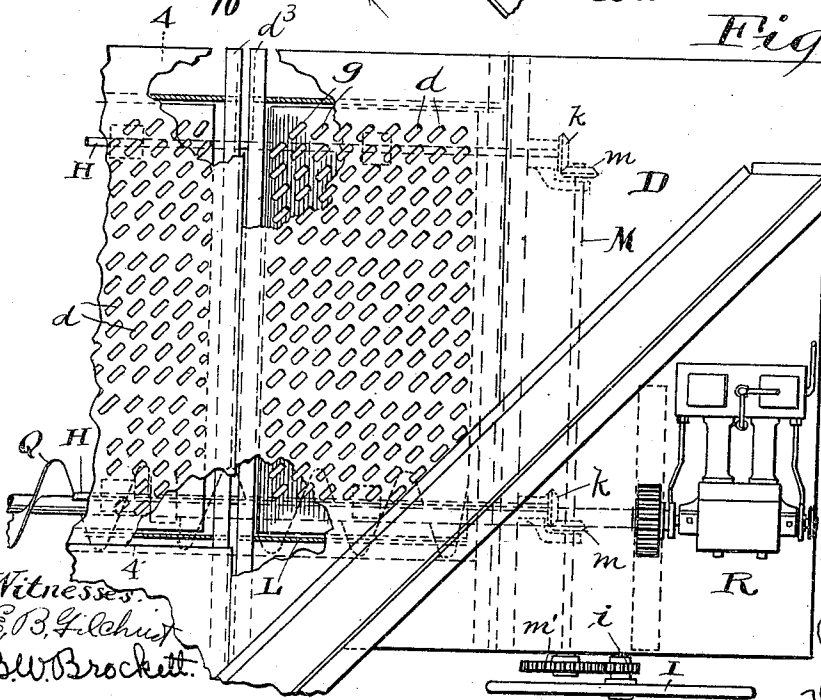


Fig. 3.



Witnesses:
E. B. Gilchrist
B. W. Brockett.

Inventor:
John McMyler,
By his Attorneys,
Thurston & Bates.

J. McMYLER.
CAR UNLOADING MACHINE.
APPLICATION FILED AUG. 15, 1904.

950,238.

Patented Feb. 22, 1910.

4 SHEETS—SHEET 4.

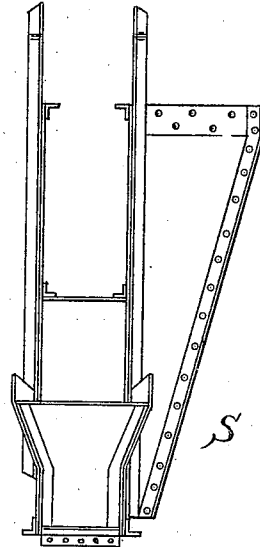
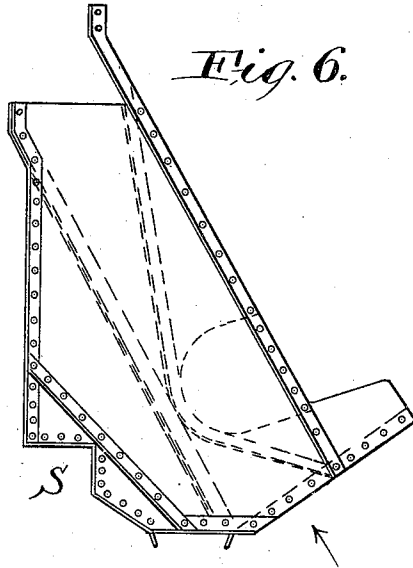


Fig. 8.

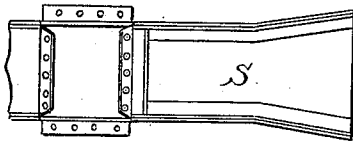


Fig. 10.

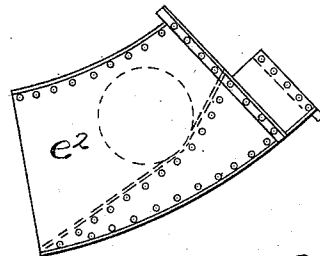
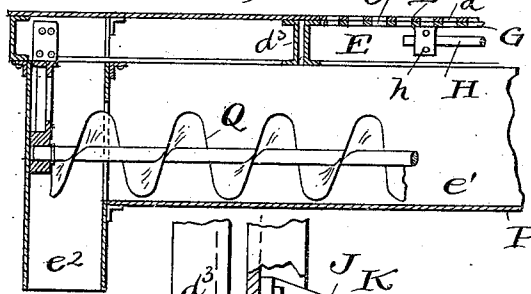
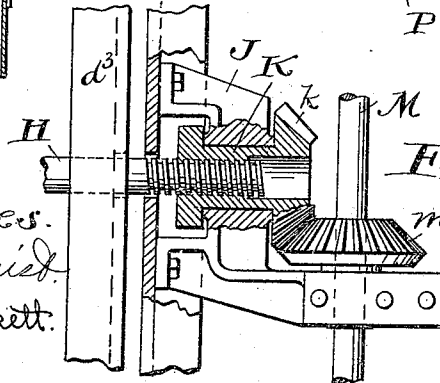


Fig. 9.



Witnesses.
E. B. Gilchrist.
B. W. Brockett.

Inventor.
John McMyler,
By his Attorney,
Shurston & Bates.

UNITED STATES PATENT OFFICE.

JOHN McMYLER, OF CLEVELAND, OHIO, ASSIGNOR TO THE McMYLER MANUFACTURING COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

CAR-UNLOADING MACHINE.

950,238.

Specification of Letters Patent.

Patented Feb. 22, 1910.

Application filed August 15, 1904. Serial No. 220,693.

To all whom it may concern:

Be it known that I, JOHN McMYLER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Car-Unloading Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention is intended primarily as an improvement on the type of car unloading machines which raise the loaded car to any desired height, and then turn it over so as to spill its contents on to an inclined apron, or chute, which is vertically adjustable to accommodate itself to any desired dumping elevation of the car. These machines are used for most part to dump cars which are loaded with coal, and serve as the means for readily transferring said coal from the cars into the holds of vessels, inasmuch as said apron is generally arranged to discharge the material thereon through the vessel's hatchway. Coal is apt to become broken, more or less, in transit, or when being dumped, wherefore it ought to be screened before it is delivered into the vessel.

This machine has for its object to screen the coal dumped onto the vertically adjustable apron of such a car unloading machine, and to convey the screenings to a suitable discharge point, irrespective of the height of the apron.

The invention may be characterized as consisting of the combination of parts shown in the drawing and hereinafter described and pointed out definitely in the claims.

In the drawings, Figure 1 is a side elevation of a car dumping machine equipped with my invention; the full lines showing the apron in its lowest position, and a car in position to discharge its load upon the same, and the dotted lines showing the same parts when the apron is in its most elevated position; Fig. 2 is a plan view of the apron forming part of that machine; Fig. 3 is an enlarged plan view of one side of said apron; Fig. 4 is a sectional side elevation of said apron in the plane indicated by line 4 in Fig. 2; Fig. 5 is a sectional end view of the left end of the apron in the plane indicated by line 5—5 on Fig. 2; Fig. 6 is a side elevation of the hopper which is attached to the vertically movable girder, at the left end thereof; Fig. 7 is a front view of the same

hopper; Fig. 8 is a view of the hopper shown in Fig. 6 looking in the direction of the arrow at the bottom of said figure; Fig. 9 is a detached side elevation of the spout fastened to the apron through which the screenings are delivered into said hopper; Fig. 10 is a sectional view, in the plane indicated by line 10—10 of Fig. 4, looking in the direction of the arrow below said figure; Fig. 11 is an enlarged view, partly in section, of certain mechanism to be hereinafter described.

Referring to the parts by letters, A represents the trestle tower, or frame of the car unloading machine.

B is the vertical movable cradle whereon the car is held while it is being lifted and dumped.

C represents the horizontal beam, or girder, which extends across the front of the machine. Car dumping machines, as they have been constructed for many years, have contained such a girder, to which an apron, corresponding with apron D, has been pivoted, and in such machines suitable mechanism has been used for adjusting said girder up and down to the required height and for holding it in any required position. It has not been thought necessary to show in the drawing any mechanism for so adjusting the girder for the reason that such mechanism is so well known, and for the further reason that the present invention does not include any particular means for imparting to the girder the required vertical movement or adjustment. Ears *c'* may be formed upon the girder C near its ends; and to these ears lifting cables, as X in Fig. 5, may be attached, said cables extending upward and being suitably guided to and connected with mechanism for taking them in and paying them out as required.

D represents the apron which is pivoted on a horizontal axis to this girder,—the front end of this apron being supported by suitable cables F in such position that the apron will have the desired inclination.

So much of the machine as is above described is of familiar form, and needs no further description.

The upper part *d* of the floor of the apron is a screen of any suitable construction. Below this screen-formed part of said apron is a screenings chamber E, into which falls such material as may find its way through said screen—this chamber having an in-

clined floor plate *e*. The inclined chamber E is downwardly enlarged at its front end, to form a trough *e'*, which serves as the housing of a conveyer screw Q. It is evident that the screenings which fall into chamber E onto the floor plate *e* will find their way by gravity into said housing which extends the entire width of the apron. The screw conveyer Q is constantly rotated by means of the engine R supported upon a shelf like lateral extension *d*² of the apron.

At the left end of the structure there is a hopper S which is secured to the girder C. The entrance to this hopper is through its front side; and a rearwardly extended discharge spout *e*² which is at the left end of the trough *e'*, projects through the opening in the front side of this hopper, wherefore the screenings which are moved along the trough by the screw conveyer fall through this spout into the hopper. This spout is curved about the pivot which connects the apron with the girder, so that whatever may be the inclination at which the apron is set, this spout will project into the hopper and perform its described functions. The outside dimensions of this spout are such that the spout substantially fills the opening in the front of the hopper at all times, and will therefore prevent dust from escaping from the hopper.

A discharge pipe U which is made of a plurality of telescoping sections *u'* *u*² *u*³ receive the material delivered into the hopper and convey it to the foot of the trestle tower. The upper one of these telescoping sections is secured to the hopper, and the lower section is fixed to the machine trestle at its lower end. When the apron is at its lowest position these telescoping pipe sections are collapsed, but when the apron is raised they are automatically withdrawn one from the other, as much as may be necessary, so as to always form a discharge pipe to the same discharge point.

The screen-formed part of the floor of the apron may be of any suitable construction. But it is desirable that the holes through this screen shall be variable in size, to suit different conditions and different requirements as to the size of the pieces of coal which shall be screened out. In the construction shown the floor *d* has a plurality of rows of diagonal perforations *d'*. Underneath this perforated floor are a plurality of laterally movable plates G,—there being one plate between each pair of floor supporting beams *d*³. In each of these plates are rows of perforations *g* which are similar to the perforations *d'* in form and arrangement; wherefore in one position of a plate G its perforations will register with the perforations *d'*.

All of the plates G are secured to two endwise movable bars H, supported in suitable

brackets *h* secured to the under side of the apron. By moving these bars all of the plates G may be moved crosswise of the apron so as to close the perforations in the apron to a greater or less extent, or entirely, as desired. The endwise movement of said bars H is effected by the mechanism which is shown in Fig. 11. Each bar H is threaded at its right end and engages with a nut K having an annular groove which is embraced by a fixed bracket J secured to the apron. Each of these nuts is formed with a bevel gear *k* on its outer end; and these bevel gears engage with bevel gears *m* secured to a shaft M, which is rotatably mounted on the apron. A hand wheel I affords convenient means for turning the shaft M, the movement of said hand wheel being transmitted to said shaft through two gears *i* and *m'*.

Having described my invention, I claim:

1. In a car dumping machine, the combination of an inclined apron having a part of its floor in the form of a screen, a screenings chamber supported by said apron beneath said floor in position to receive the material which passes through said screen, a downwardly extended discharge pipe located at one side of said apron and having its upper end in position to receive the screenings discharged by the conveyer from said screenings chamber, and a conveyer in the screenings chamber for moving the screenings therein crosswise of the apron and discharging it into said discharge pipe, and means for adjusting the inclination of said apron.

2. In a car dumping machine having a transverse girder, the combination of an inclined apron hinged to such girder and having a part of its floor in the form of a screen, a screenings chamber supported by said apron beneath said screen, which chamber has a discharge opening through its floor at the lower end thereof, a laterally extended conveyer pocket secured to the apron beneath said discharge opening, a conveyer in said pocket, a hopper supported by the girder at one side of said apron in position to receive material forced out of the end of said pocket by said conveyer, and a downwardly extended discharge pipe secured to said hopper.

3. In a car dumping machine, the combination of an inclined apron having a part of its floor in the form of a screen, a screenings chamber secured to said apron beneath said screen, there being a transverse discharge opening through the floor of said chamber at the lower end thereof, a transversely extended pocket secured to the apron beneath said discharge opening and in communication therewith, a conveyer in said pocket for forcing material delivered thereto toward the end of said pocket at one side of said apron,

and a downwardly extended discharge pipe arranged with its upper end communicating with the discharge end of said pocket.

5 4. In a car dumping machine having a trestle tower, and a girder adjustable up and down thereon, the combination of an inclined apron pivoted to such girder and having a part of its floor in the form of a screen, a screenings chamber supported by said
10 apron beneath said screen, a laterally disposed screw conveyer operating in said chamber, a motor supported upon said apron and operatively connected with said screw conveyer and a downwardly extended
15 discharge pipe communicating with the discharge end of said chamber.

5. In a car dumping machine having a vertically adjustable apron, the combination of such apron having a part of its floor in the form of a screen, a screenings chamber supported by said apron beneath said screen, a conveyer in said chamber for moving the screenings to the discharge end thereof, and a telescoping discharge pipe whose lowest
20 section is fixed and whose upper section is vertically movable with the apron and is arranged to receive the screenings delivered from the discharge end of said screenings chamber.

30 6. In a car dumping machine having a supporting girder, the combination of an apron pivoted to such girder and having a part of its floor in the form of a screen, a screenings chamber below the screen and
35 secured to said apron, said chamber having

at its discharge end a rearwardly curved discharge pipe, a conveyer in said chamber, a hopper secured to said girder and having an inlet opening in its front side through which said curved spout projects, and a
40 discharge pipe connected with said hopper.

7. In a car dumping machine, having a vertically adjustable pivoted apron the combination of such apron having a smooth floor converging to a discharge opening, the
45 upper portion of said floor having perforations extending across it, a chamber beneath such perforations, a lateral conveyer carried by the apron and operating to convey the screenings laterally, and means
50 mounted on the apron for operating such conveyer.

8. In a car dumping machine, having a vertically adjustable girder the combination of an apron pivoted to the girder, a screen
55 in the floor of the apron, a screenings chamber carried by the apron on its under side beneath the screen, a discharge spout communicating with such screening chamber and carried by the apron, a hopper carried
60 by the girder with which such discharge spout movably connects and a telescoping discharge pipe from the hopper.

In testimony whereof, I hereunto affix my signature in the presence of two witnesses. 65

JOHN McMYLER.

Witnesses:

E. B. GILCHRIST,
E. L. THURSTON.