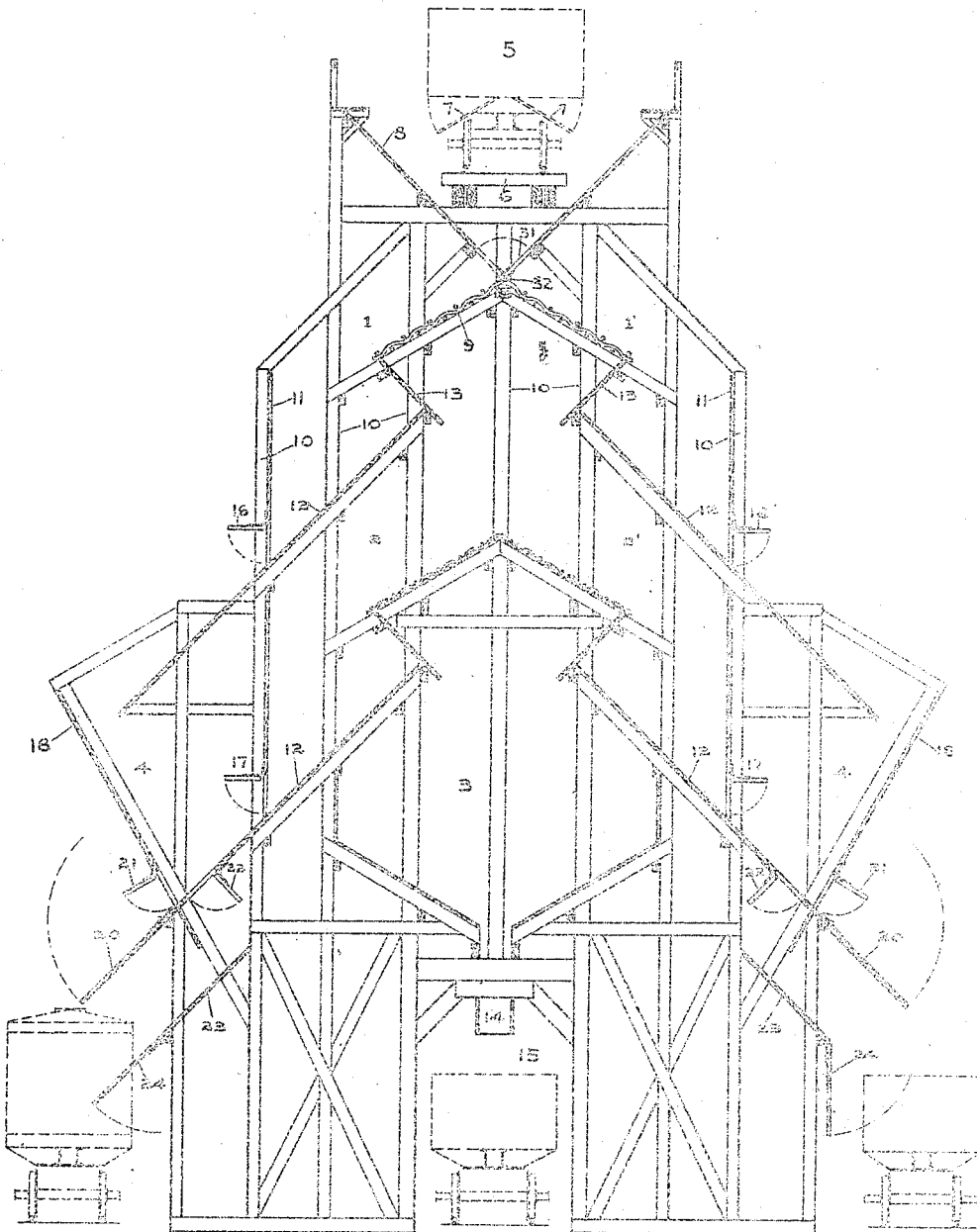


S. OTIS.
GRAVITY COAL SCREEN AND BIN.
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1,052,946.

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WITNESSES:

A. L. Davis
E. M. Anderson

INVENTOR.

Spencer Otis

BY

Shuman & Milburn
ATTORNEYS

UNITED STATES PATENT OFFICE.

SPENCER OTIS, OF CHICAGO, ILLINOIS, ASSIGNOR TO GRAVITY COAL BIN COMPANY, A CORPORATION OF MAINE.

GRAVITY COAL SCREEN AND BIN.

1,052,946.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, SPENCER OTIS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Gravity Coal Screens and Bins, of which the following is a specification.

The object of my invention is to provide improved means for sorting coal or other material, for temporarily storing the same and discharging it at different levels in order that it may be received either through top doors or side doors of box cars, or may be discharged into gondola cars.

The drawing is a transverse sectional elevation of my improved apparatus.

The structure illustrated is divided into a vertical series of compartments 1, 1', 2, 2' and 3 supported upon suitable framing. The structure is surmounted by a railway track 6, upon which is illustrated in dotted lines a car 5 with drop doors 7, which in the present instance are hinged adjacent the center of the car. The track 6 extends longitudinally of a hopper 8, the downwardly and inwardly sloping sides of which are designed to conduct the material discharged from the car to the central opening at the bottom of the hopper. Beneath the hopper 8 and sloping downwardly toward either side from the center of the opening in said hopper is a screen 9 supported upon transverse framing secured to the uprights 10. The screen 9 extends in the present instance about half way from the center of the structure to the outer walls 11 thereof. The remainder of the floor of the upper compartment 1, 1' consists of solid floor sections 12, which slope downwardly and outwardly from points beneath and slightly inside of the outer edges of the screen 9. In order to prevent material passing from the compartment 1, 1' through the screen 9 from again entering the lower part of said compartment, I provide sloping side walls 13 connecting the lower edges of the screen 9 with the upper edges of the solid floor sections 12. The next lower compartment 2, 2' is provided with a screen and solid floor section similar to those above described in connection with compartment 1, 1'. Beneath the compartment 2 is a compartment 3 provided with a floor which slopes downwardly from the sides toward

an outlet chute 14 at the center adapted to discharge the contents of the lower compartment into a car or other vehicle in the longitudinal passageway 15 at the base of the structure.

The compartments 1, 1' and 2, 2' are provided with outlet doors 16 and 17 located in the side walls 11 just above the outer edge of the floor sections 12. Through these doors the contents of the compartments 1, 1' and 2, 2' may be discharged into dumping bins 4, 4' located outside of the main walls 11 of the structure. The solid floor sections 12, 12 of the upper compartment are continued outwardly into the dumping bins in the form of aprons. The outer walls 18 of the dumping bins 4, 4' slope downwardly and inwardly toward the walls of the main structure in the manner illustrated. The solid floor sections 12 of the compartment 2, 2' are continued outwardly beyond the side walls 18, forming the bottoms of the bins 4, 4' and aprons 20 which extend beyond the outer walls of said bins, for the purpose of conducting the contents of said bins over the center of a car. I have shown tracks at either side of the structure and cars in dotted outline thereon. The extended portions of the floor sections 12 of the lower compartment 2, 2' may be hinged, if desired.

The outer walls 18 of the dumping bins 4, 4' are provided with doors 21, whereby the contents of said bins may be discharged upon aprons 20. The bottoms of the bins 4, 4' are also provided with doors 22, whereby the contents of the bins may be discharged upon aprons 23, the lower portions 24 of which are hinged to the upper portions. By this means the contents of the bins 4, 4' may be discharged at a higher or a lower level according to the type of car being loaded or the location of the doors therein.

The screen 9 of the upper compartment 1, 1' may be comparatively coarse, while that of the lower compartment 2, 2' may be considerably finer. By this means the coarsest material will be retained in the upper compartment 1, 1' until discharged therefrom through the doors 16. The material next smallest in size will be retained in the compartment 2, 2' until discharged therefrom through the doors 17, while the finest material will pass through the lower

screen into the compartment 3. The material in the compartments 1, 1' and 2, 2' may be kept separate, and may be separately discharged through the dumping bins 4, 4', by means of the arrangement above described.

I provide a deflector 31, hinged at 32 over the center of the upper screen 9 and immediately beneath the outlet of the hopper 8. The deflector may be adjusted to either the full line or the dotted line position shown in the drawing, thus causing the coarse material to be discharged wholly upon either side of the structure at will.

What I claim is:

1. In an apparatus of the class described, floors forming a plurality of compartments disposed at different levels, the floor of each compartment being inclined and provided with a screen, said compartments having outlets at different levels, and separate means whereby either compartment may be placed in communication with either outlet.

2. In an apparatus of the class described, an elevated track, a hopper beneath said track, partitions forming a plurality of sorting and storing compartments beneath the hopper, the bottoms of said compartments consisting in part of screens sloping downwardly from a line beneath the outlet of said hopper, each of said sorting compartments having solid floor portions sloping downwardly from a point beneath the screen to the outer wall of the compartment, dumping bins at the sides of said sorting compartments, doors controlling communication between said sorting compartments and said dumping bins, outlets at the bottom of said dumping bins, and aprons whereby the material in the dumping bins may be discharged at different levels.

SPENCER OTIS.

Witnesses:

GEO. L. WILKINSON,
ANNA L. SAVOIE.