I. J. TRENCH.

STONE BALLAST CLEANER.

APPLICATION FILED MAY 21, 1914.

1,129,820.

Patented Feb. 23, 1915.

Fig. 1.

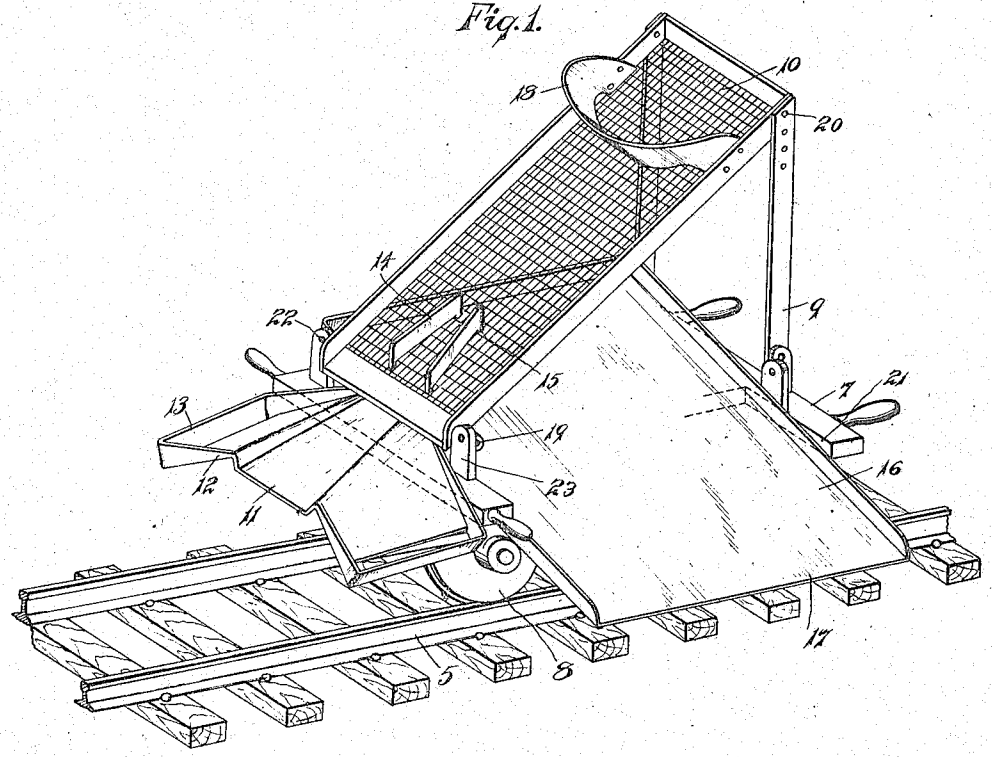
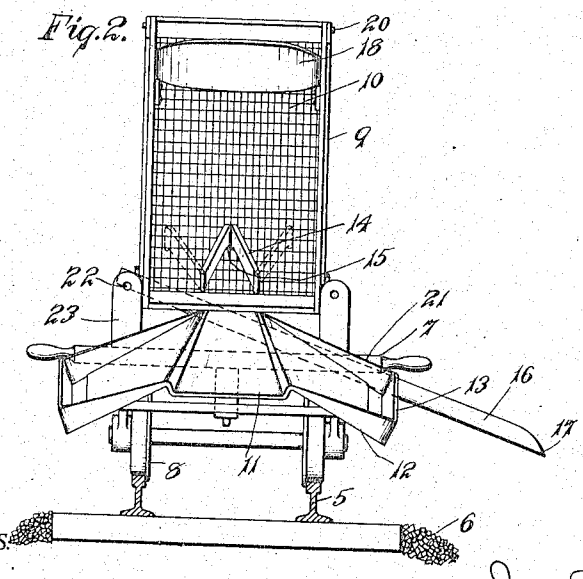


Fig. 2.



WITNESSES.

Louis Lucia

E. F. Eaton.

INVENTOR.

Ira J. Trench.

BY

Arthur B. Jenkins.

ATTORNEY.

UNITED STATES PATENT OFFICE.

IRA J. TRENCH, OF MIDDLETOWN, CONNECTICUT.

STONE-BALLAST CLEANER.

1,129,820. Specification of Letters Patent. Patented Feb. 23, 1915.

Application filed May 21, 1914. Serial No. 839,977.

To all whom it may concern:

Be it known that I, IRA J. TRENCH, a citizen of the United States, residing at Middletown, in the county of Middlesex and State of Connecticut, have invented a new and Improved Stone-Ballast Cleaner, of which the following is a specification.

My invention relates more especially to the class of devices employed for cleaning the broken stones composing the ballast for the tracks of railways, and an object of my invention, among others, is to provide a device of this class, by the use of which the broken stones composing the ballast may be thoroughly separated from the finer dirt with which it becomes mixed, and that will effectually distribute both the screened matter and the dirt separated therefrom.

One form of device embodying my invention and in the construction and use of which the objects herein set out, as well as others, may be attained is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a ballast screen embodying my invention. Fig. 2 is a view in front elevation of the same.

In the accompanying drawings the numeral 5 indicates the rails of a railway, laid in the ordinary manner and 6 that part of the roadbed located outside of the rails and occupied by the broken stones composing the ballast.

The numeral 7 indicates a platform mounted on wheels 8 arranged to travel on the rails 5, the platform and wheels in fact constituting a flat hand car of any ordinary construction. Upright supports 9 rise from the platform to support one end of a screen 10 that is obliquely arranged, its lower end resting upon or near the platform, any suitable manner of supporting this end being employed, and in the form of construction herein shown, this lower end of the screen is located at a little distance above the platform upon a ballast distributer extending forward from the screen. This distributer includes in its construction a central trough 11 located to receive a portion of the broken stones that move down the inclined screen, this trough being suitably formed and of a width to deliver the broken stones between the rails 5. Ballast aprons 12 also constitute a portion of the distributer, these aprons being located on opposite sides of the trough 11 and so arranged that a portion of the stones will be received from the lower edge of the screen and distributed outside of the rails for a sufficient distance therefrom to complete the ballast section of the railway. Guards 13 are located at the lower edge of the aprons 12 in position to form a space between the guards and the lower edges of the aprons through which the screened stones will pass, these guards being so located as to prevent the stones from passing over their upper edges and also to otherwise prevent them from extending beyond the limits intended. In the preferred form of construction these guards have a flat surface against which the stone will strike, said surface being disposed at an angle to the surface of the main part of the apron.

Guides 14 are located upon the screen 10, preferably near its lower end, one end of each guide being pivotally secured to the apron and the opposite end having means for detachably securing it in place, this construction enabling the upper ends of the guides to be located in various positions crosswise of the screen and secured in such position. In the construction herein shown lugs 15 arranged to pass into the openings formed by the meshes in the screen are employed for securing the ends of the guides in different positions. From this construction it will be observed that all of the stone may be caused to enter into the central trough, or all of it may be caused to pass onto either apron, or any portion of the stone desired may be caused to pass on to such parts, simply by adjusting the upper ends of the guides to attain the desired result.

A dirt apron 16 is arranged in a position inclined downwardly and laterally of the platform and occupies the space underneath the screen to an extent to receive all of the dirt therefrom. The outer edge 17 of this dirt apron is located in such position with respect to the edges of the ballast aprons that the dirt will be deposited outside of that portion of the roadway occupied by the stones and separated therefrom.

A hopper 18 is located at or near the upper end of the screen to properly direct the material into the latter.

In the preferred form of apparatus and as illustrated herein, the screen 10 is pivotally mounted at its lower end, as at 19, so that by removing the pins 20 at the opposite end of the screen, this end of said screen

may be lowered. The pivots 19 are formed in supports 23 rising from the platform, these supports also serving to pivotally receive one end of the dirt apron 16, that is located in recesses 21 formed in opposite edges of the platform. The pivots 22 of the apron are removable so that the dirt apron may be reversed from the position shown in the drawings, and be thus used to deliver the dirt at either side of the car as may be desired.

It is remarked that the stones composing the ballast of railways, after a certain length of time, become so mixed with dirt of the finer sort that its effectiveness is impaired, and for this reason the ballast is at this time taken up, the dirt with which it has become mixed separated and the broken stones replaced. My improved ballast cleaner hereinbefore described and illustrated in the drawings herein, produces a device in the use of which this screening of the broken stones and the replacing thereof on the roadbed may be effectively accomplished with comparatively little labor.

While I have shown and described herein a satisfactory form of apparatus for accomplishing my purpose, this may be departed from to a greater or lesser degree and yet be within the spirit and intent of the invention.

I claim—

1. A screening device including a screen disposed in an inclined position, and a distributer located to receive screened material delivered from the upper side of said screen, said distributer being constructed to conduct said screened material simultaneously in different directions.

2. A screening device including a screen disposed in an inclined position, and a distributer located to receive screened material delivered from the upper side of said screen, said distributer having surfaces inclined in different directions and arranged to simultaneously conduct said screened material to different places.

3. A screening device including a screen disposed in an inclined position, and a distributer located to receive screened material delivered from the upper side of said screen, said distributer being constructed to deliver said screened material in the direction of length of the screen and also, simultaneously with such delivery, to deliver said material laterally of the screen and in opposite directions.

4. A screening device including a screen disposed in an inclined position, and a distributer located to receive screened material delivered from the upper side of said screen, said distributer having apron members inclined in a direction laterally of the screen, a central trough member to deliver screened material in the direction of length of the screen and means for simultaneously delivering the screened material to a plural number of said members.

5. A screening device including a screen disposed in an inclined position, and a distributer located to receive screened material delivered from the upper side of said screen, said distributer including a central trough member to deliver material from the central portion of the screen, laterally disposed apron members to receive material from the screen at opposite sides of said trough and means for simultaneously delivering the screened material to a plural number of said members.

6. A screening device including a support, a screen disposed in an inclined position lengthwise of said support, a distributer located to receive screened material delivered from the upper surface of said screen, said distributer being formed to conduct material simultaneously in different directions, and an imperforate dirt apron arranged in an inclined position underneath said screen to deliver dirt in a direction laterally of the screen.

7. A screening device including a support, a screen disposed in an inclined position lengthwise of said support, a distributer located to receive screened material delivered from the upper surface of said screen and conduct it laterally thereof simultaneously in different directions, and an imperforate dirt apron disposed in an inclined position underneath the screen to conduct dirt in a direction laterally of said screen and to a distance farther from the screen than that to which the screened material is delivered by said distributer.

8. A screening device including a screen disposed in an inclined position, a distributer to receive material delivered from the upper surface of said screen and including laterally disposed aprons, disposed to conduct material simultaneously in different directions, and an imperforate dirt apron located in an inclined position underneath said screen and extending laterally thereof farther from the screen than said laterally disposed aprons.

9. A screening device including a screen disposed in an inclined position, a distributer located to receive screened material delivered from the upper surface of said screen, a guide located on said screen, and means for movably positioning either end of said guide to conduct material in different directions.

10. A screening device including a screen disposed in an inclined position, guides mounted on said screen, and means for movably positioning either end of said guides to conduct material in different directions from said screen.

11. A screening device including a screen

disposed in an inclined position, a distributing device located to receive screened material delivered from the upper surface of said screen, guides supported by said screen, and means for movably positioning either end of said guides to deliver material into different parts of said distributer.

12. A screening device including a support, a screen disposed in an inclined position, pivotally mounted at one end and detachedly secured at its opposite end, a distributing device located to receive screened material delivered from the upper surface of said screen, and an imperforate dirt apron located in an inclined position underneath said screen said apron having a removable pivotal support for one end thereof.

13. A screening device including a support, a screen disposed in an inclined position, pivotally mounted at one end and detachedly secured at its opposite end, an imperforate apron underlying said screen, said apron being supported intermediate its ends, and means for detachedly securing one end of said apron.

IRA J. TRENCH.

Witnesses:
E. F. EATON,
LOUIS LUCIA.