W. F. SPARKS.

MACHINE FOR RAISING AND LOWERING RAILWAY TRACKS AND APPLYING BALLAST THERETO.

APPLICATION FILED MAY 22, 1913.

1,083,302.

Patented Jan. 6, 1914.

2 SHEETS—SHEET 1.

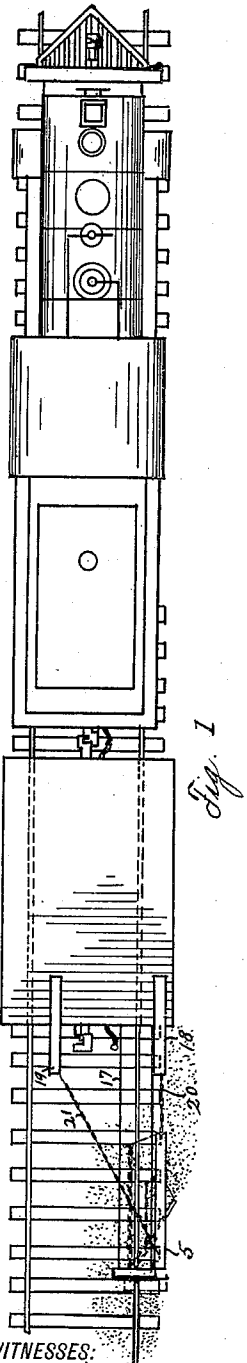


Fig. 1.

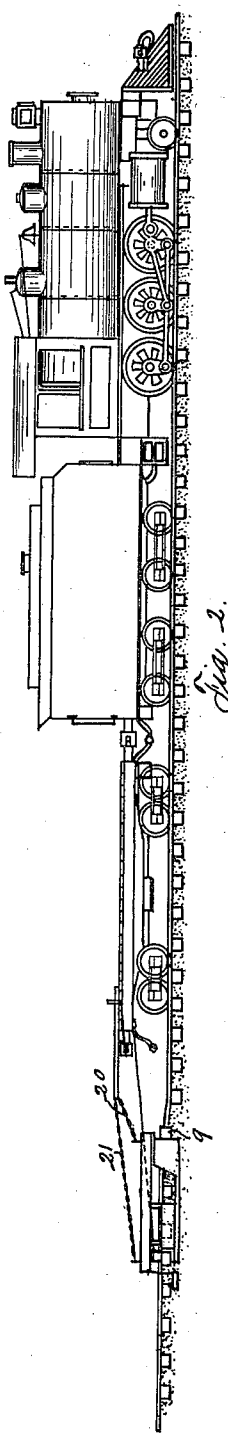


Fig. 2.

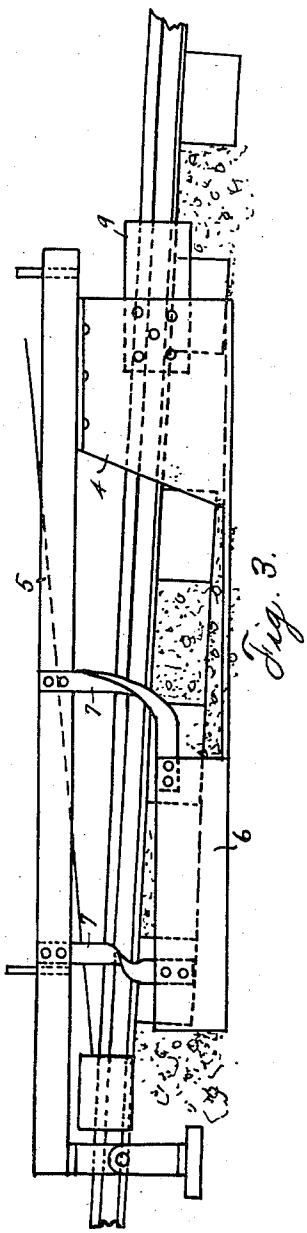


Fig. 3.

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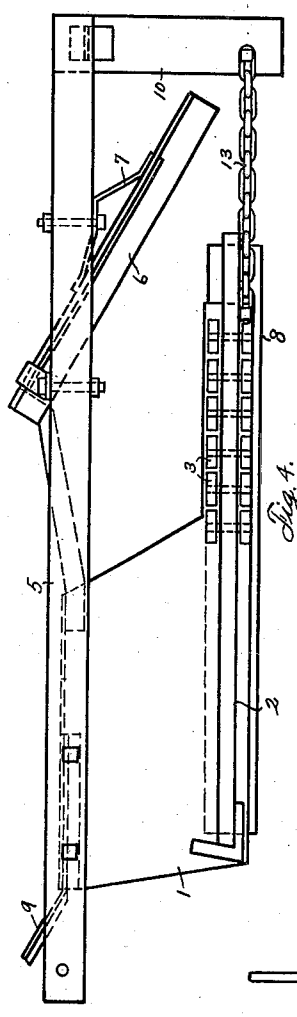


Fig. 4.

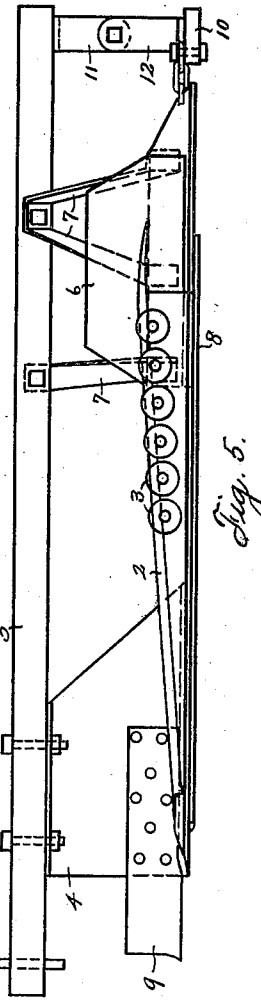


Fig. 5.

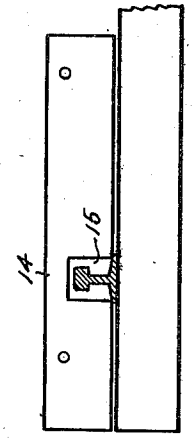


Fig. 7.

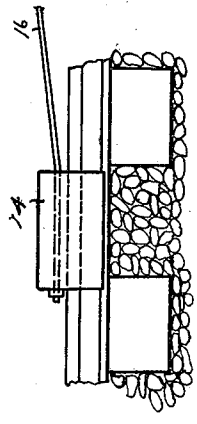


Fig. 6.

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UNITED STATES PATENT OFFICE.

WALTER F. SPARKS, OF SINTON, TEXAS.

MACHINE FOR RAISING AND LOWERING RAILWAY-TRACKS AND APPLYING BALLAST THERETO.

1,083,302. Specification of Letters Patent. Patented Jan. 6, 1914.

Application filed May 22, 1913. Serial No. 769,172.

To all whom it may concern:

Be it known that I, WALTER F. SPARKS, a citizen of the United States, residing at Sinton, in the county of San Patricio and State of Texas, have invented certain new and useful Improvements in Machines for Raising and Lowering Railway-Tracks and Applying Ballast Thereto, of which the following is a specification.

This invention relates to improvements in machines for raising and lowering railway tracks and applying ballast thereto.

One object of the invention is to provide a machine of this character adapted to be drawn along the road bed under the ties, thereby lifting the latter and the tracks and having means whereby when the ties and rails are thus lifted for forcing ballast beneath the same. The device is arranged to be drawn along one side of the road bed at a time so that one side of the track will be elevated and ballasted while the other remains stationary, and then the other side of the track may be elevated and ballasted in the same manner.

Another feature of the invention resides in the provision of a leveler which is arranged to pass underneath the elevated ends of the ties and which is attached to the ballasting device and which is provided for the purpose of leveling down the ballast thrown under the ends of the ties by the device.

A still further object of the invention resides in the provision of a drag which is attached to and follows the ballasting device and which moves along on top of the ties for the purpose of throwing off the excess ballast from the top thereof.

With the above and other objects in view, the invention has particular relation to certain novel features of construction, operation and arrangement of parts, an example of which is given in this specification and illustrated in the accompanying drawings, wherein—

Figure 1 is a plan view of a section of railway track, showing the application of the invention thereto. Fig. 2 is a side elevation of the machine as shown in Fig. 1. Fig. 3 is a side elevation of the ballasting machine showing the position it will occupy relative to the track when in use. Fig. 4 is a plan view of the machine. Fig. 5 is a side elevation thereof. Fig. 6 shows an end view of the drag, and Fig. 7 shows a side elevation thereof.

Referring now more particularly to the drawings, wherein like numerals of reference designate similar parts in each of the figures, the numeral 1 designates the base plate, which is formed of sheet metal and is of sufficient width to extend from the ends of the ties to a point underneath the near rail; the width of this plate, however, may be varied to suit conditions. Secured to the inner edge of this base plate is the track raising bar 2, the forward end of which is formed at a suitable inclination for engaging the under sides of the ties, thus raising one end of the latter and the rails secured thereto, as the machine is drawn along one side of the road bed beneath the ties and tracks, as shown. In order to cause the ends of the ties to more readily ride up, the inclined forward end of the bar 2, said inclined end is preferably provided with a series of anti-friction rollers 3, for which there may be any suitable number, arranged as shown in the drawing. These rollers are not essential, however, and a practical machine can be constructed without them.

The outer portion of the base plate 1 is turned upwardly forming a vertically extending plate 4 to the upper edge of which is bolted a lengthwise extending beam 5 formed of strong timber, or some other strong material. This beam is somewhat longer than the machine, projecting a distance forwardly and rearwardly therefrom.

In order to force the ballast inwardly beneath the ends of the elevated ties a ballast applying wing or blade 6 has been provided which is removably secured to the rear portion of the beam 5 by means of braces 7, or other suitable securing means. This wing or blade 6 is arranged obliquely underneath the beam 5, or at a suitable angle to the line of the tracks, as shown, thus forcing the ballast back beneath the ends of the ties when elevated by the raising bar 2. Secured underneath the inner edge of the base plate 1 and the raising bar 2 is an oblong runner 8, the same being a metallic bar of considerable thickness which is bolted underneath said base plate. This runner extends some distance rearwardly beyond the rear end of the raising bar 2, but its front end falls short of the front end of said bar and said

front end is beveled or turned upwardly so as to keep the front end of the plate 1 closely against the ties and prevent the same from going too deep into the ground. The front end of the plate 4 has a guard 9 extending obliquely therefrom, said guard being provided to prevent the plate which carries the same from engaging against the ends of the ties, and particularly from engaging against the end of a tie which may project out farther than the others.

A leveler 10 has been provided which is arranged to follow the ballasting machine underneath the elevated ends of the ties. This leveler 10 may be formed either of wood or metal as may be desired and is of a sufficient length to extend to about the center of the track. The outer end of the leveler is suspended from the rear end of the beam, in any suitable manner, preferably by means of links 11 and 12, the former of which depends from the rear end of the beam 5 and the latter of which projects upwardly from the outer end of the leveler 10, said links being pivoted together. The numeral 13 refers to a chain formed of strong links, one end of which is attached to the inner end of the leveler and the other end of which is attached to the rear end of the raising bar 2. This leveler is provided to smooth down and level the ballast thrown under the elevated ends of the ties by the wing or blade 6.

A drag 14 has been provided which is formed of a heavy wooden beam extending from the outer end of the ties to about the center of the track and having a notch 15 in its under side in which the rail rests. Two cables 16 and 17 are provided. One end of each of these cables is secured to the respective ends of this drag and their other ends may be secured, either to the ballasting machine or to the car, by means of which said machine is drawn. In the drawings these cables are shown attached to the car. This drag rides along on the track behind the ballasting machine and is provided to throw off from the ties any ballast that may remain thereon after the ends of the ties have been elevated. This drag is arranged just in front of the leveler and the ballast removed from the ties by the drag falls down between them and is leveled by the leveler 10 beneath the ties. This machine is usually attached to the rear of a flat car drawn by a locomotive. Secured to the rear end of said car and extending rearwardly therefrom are two beams 18 and 19, the former of which is directly in front of the beam 5 and the latter of which is located on the opposite side of the flat car. A draw chain 20 is attached at one end to the rear end of the beam 18 and at its other end to the front end of the beam 5 and a similar chain 21 is attached at one end to the rear end of the beam 19 and at its other end to the rear end of the beam 5. As the flat car is pulled forward by the locomotive, the ballasting machine is forced along by the draw chains 20 and 21 and the lateral pull of the chain 21 serves to hold the machine in proper position underneath the ends of the ties. After one side of the track has been elevated and ballasted then the machine may be applied to the other side of the track which by it may be raised and ballasted in a similar manner to that just described.

What I claim is:—

1. A track raising and lowering machine consisting of a base plate, a track raising bar secured to the upper face thereof near its inner edge, a draft beam fixed to said plate and a deflecting wing depending from said beam and arranged to force ballast beneath the ties when elevated by said bar.

2. A track raising and lowering machine consisting of a base plate, a track raising bar secured to the upper face thereof near its inner edge, a deflecting wing arranged to follow said bar and to force ballast beneath the ends of the ties when elevated by the bar and a deflector extending obliquely from the front end of the machine and provided to deflect the front end thereof from engagement with the tie ends.

3. A track raising and lowering machine consisting of a base plate, a track raising bar secured to the upper face thereof, a deflecting wing arranged to follow said bar and to force ballast beneath the ends of the ties when elevated by the bar and a leveler arranged in the rear of said machine and attached thereto and provided to follow the deflecting wing and level the ballast thrown under the ties thereby.

4. A track raising and lowering machine consisting of a base plate, a track raising bar secured to the upper face thereof near its inner edge, a draft beam fixed to the outer edge of said plate, a deflecting wing depending from said beam and arranged to follow said bar and to force ballast beneath the ends of the ties when elevated by the bar, a transverse drag arranged to follow said machine, said drag having a notch underneath forming a seat in which the track rail rests.

5. A track raising and lowering machine consisting of a base plate, a track raising bar secured to the upper face thereof near its inner edge, a draft beam fixed to the outer edge of said plate, a deflecting wing depending from said beam and arranged to follow said bar and to force ballast beneath the ends of the ties when elevated by the bar, and a deflector extending obliquely from the front end of the machine and provided to deflect the front end thereof from engagement with the tie ends.

6. In a track raising and lowering ma-

chine, a base plate, a track raising bar secured to the upper face thereof near its inner edge, a draft beam fixed to said plate, a deflecting wing depending from said beam and arranged to follow said bar and to force ballast beneath the ends of the ties when elevated by the bars, a deflector extending obliquely from the front end of the machine and provided to deflect the front end thereof from engagement with the tie ends, a leveler attached to the rear of said machine and arranged to follow the same, underneath the elevated tie ends and a drag arranged upon the track in the rear of said machine and in front of said leveler and provided for the purpose of removing the ballast from the top of said ties.

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

WALTER F. SPARKS.

Witnesses:

J. W. YEAGLEY,

MAY MONTGOMERY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."