W. F. SPARKS.

TRACK RAISING, LOWERING, AND BALLASTING MACHINE.

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966,613.

Patented Aug. 9, 1910.

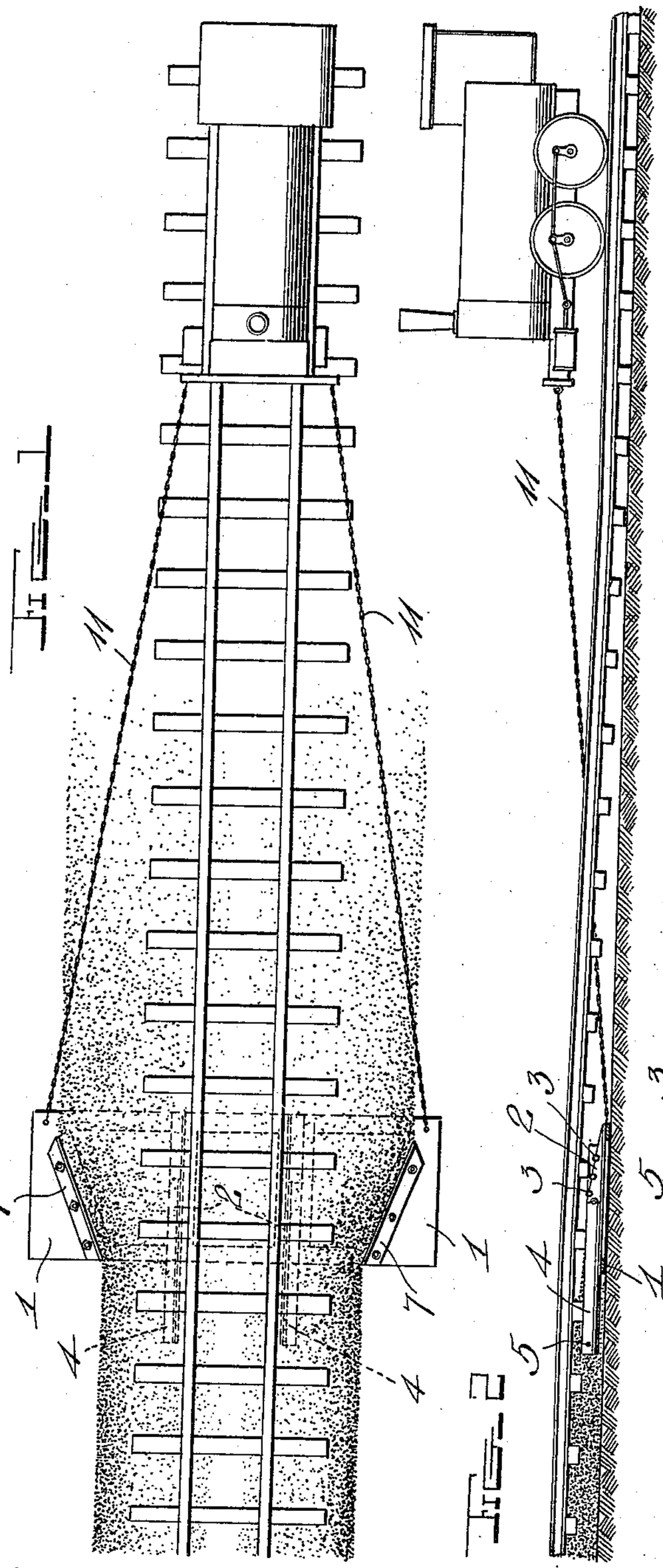

FIG. 1.

FIG. 2.

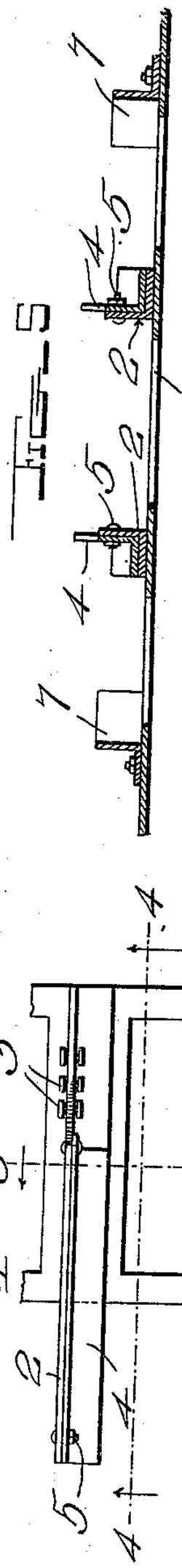

FIG. 5.

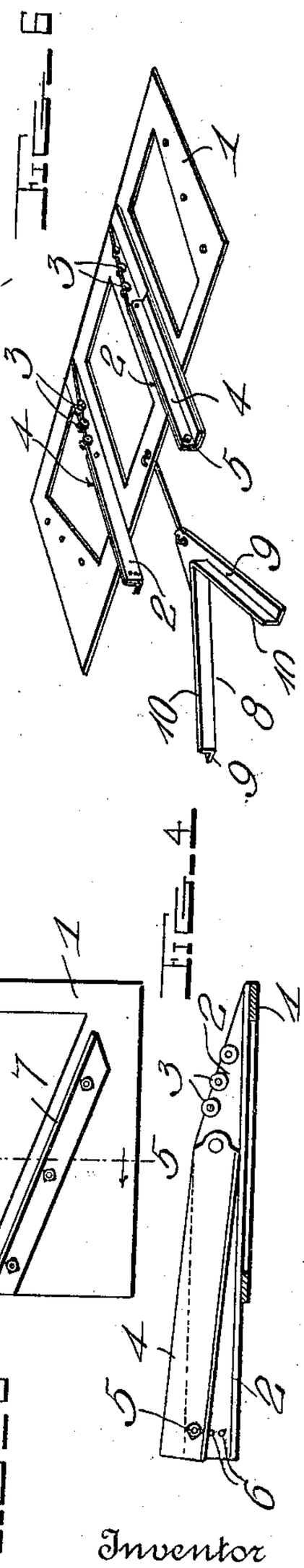

FIG. 6.

FIG. 3.

FIG. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

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TRACK RAISING, LOWERING, AND BALLASTING MACHINE.

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Application filed May 24, 1910. Serial No. 563,139.

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 Track Raising, Lowering, and Ballasting Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

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.

Another object is to provide a machine of this character having means whereby the road bed or ballast may be scooped out from beneath the ties between the rails.

With these and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings: Figure 1 is a plan view of a section of a railway track showing the application of the invention thereto; Fig. 2 is a side elevation of the machine as shown in Fig. 1, parts being broken away. Fig. 3 is a plan view of a portion of the machine on an enlarged scale. Fig. 4 is a transverse sectional view on the line 4—4 of Fig. 3. Fig. 5 is a similar view on the line 5—5 of Fig. 3. Fig. 6 is a perspective view of the machine arranged for scooping out the road bed or ballast from between the rails.

In the embodiment of the invention a base frame or member 1 is provided which may be of any suitable construction and is preferably of skeleton form as shown. At suitable positions intermediate the ends of the frame 1 are secured track raising bars 2 the forward ends of which are formed at a suitable inclination for engaging the under sides of the ties thus raising the latter and the rails secured thereto as the machine is drawn along the road bed beneath the ties and tracks as shown. In order to cause the ties to more readily ride up the inclined forward ends of the bars 2 said inclined ends are preferably provided with a series of tie engaging rollers 3 of which there may be any suitable number arranged as shown in the drawings.

In order to increase the height of the track raising bars 2 and to thus regulate the height at which the ties and rails are raised I provide adjusting bars 4 which are pivotally connected at their forward ends to the outer sides of the bars 2 adjacent to the forward inclined portions of the bars 2 whereby when said adjusting bars are swung upwardly a continuation of the inclined tie engaging surface is provided. The adjusting bars are secured in their elevated positions by any form of fastening mechanism said mechanism being here shown in the form of bolts 5 which are adapted to be engaged with series of alined bolt holes 6 formed in the bars 2 and 4 whereby the latter may be bolted and thus securely fastened in their adjusted positions on the bars 2.

In order to force the ballast inwardly beneath the ties and rails when elevated by the raising bars 2 ballast applying wings or blades 7 are provided which are removably secured to the outer portions of the base frame 1 by bolts or other suitable fastening devices. The wings or blades 7 are arranged obliquely on the frame 1 or at suitable angles to the line of the tracks as shown thus forcing the ballast back beneath the ties while the latter are in a raised position.

This improved track raising machine may also be employed for lowering the tracks or for removing the ballast or road bed from beneath the ties and when so employed the ballast applying blades 7 are removed and a deflecting plow or scraper 8 coupled onto the rear side of the frame 1 midway between the track raising bars as clearly shown in Fig. 4 of the drawings. The plow or scraper 8 is constructed in the form of blades 9 which are arranged in V-shape or diverge from their forward ends toward their rear ends as shown. On the inner edges of the blades 9 are formed upwardly projecting flanges 10 which throw the dirt or ballast scooped up by the blades 9 outwardly toward or beyond the tracks thus hollowing out the road bed or removing the ballast from beneath the ties which will

permit the latter and the rails to be lowered. When it is desired to form a skeleton road bed or to simply remove the ballast or dirt from beneath the ties between the rails the blades of the plow or scraper 8 are made smaller or do not diverge to a sufficient extent to throw the dirt or ballast entirely from beneath the ties.

This improved track raising machine may also be employed in connection with the operation of removing and replacing ties, the old ties being driven or knocked off the rails by a sledge hammer or other suitable means while the rails are held in an elevated position by means of the machine at which time new ties may also be placed in position between the rails so that when the latter are lowered they may be spiked to the new ties. The machine is drawn along beneath the ties and rails in any suitable manner the same being here shown as having connected to the forward corners of the frame 1 suitable draft chains 11 which extend forwardly and are connected to a locomotive or other motive power.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as defined in the appended claims.

Having thus described my invention, what I claim is:

1. In a track raising and lowering machine, a base plate, track raising bars secured to the upper face thereof and means to adjust said bars whereby the ties and rails may be raised to a greater or less height.

2. In a track raising, lowering and ballasting machine, a base frame the upper face thereof, track raising bars secured to said base frame and ballast applying blades secured to the upper face of said base frame whereby ballast may be forced beneath the ties and rails.

3. In a track raising, lowering and ballasting machine, a base frame, track raising bars secured to said frame, said bars having inclined forward ends adapted to engage beneath the ties whereby the latter and the rails are raised, tie engaging rollers arranged in the inclined ends of said bars and ballast applying blades secured to said base frame at suitable angles for applying the ballast beneath the ties and rails when raised by said bars.

4. In a track raising, lowering and ballasting machine, a base frame, track raising bars secured to said frame, said bars having inclined forward ends adapted to engage beneath the ties whereby the latter and the rails are raised, tie engaging rollers revolubly mounted in said bars, adjusting bars pivotally connected to said raising bars whereby the height of the latter may be increased, means to secure said adjusting bars in their adjusted positions on said raising bars, ballast applying bars detachably secured to said base frame and draft devices connected to the latter whereby the machine is drawn along the road bed of the railway.

5. A track raising, lowering, and ballasting machine comprising a base member, track raising bars secured to the upper face thereof and ballast applying blades detachably secured to the upper face of said base member, said blades being arranged with one end flared outwardly to provide for the forcing of the ballast beneath the ties and rails.

6. In a track raising, lowering, and ballasting machine, a base plate, track raising bars secured to the upper face of said plate and having downwardly inclined forward ends, adjusting bars pivotally connected to said raising bars to provide for the variation of the height of the latter, and means for securing said adjusting bars in adjusted position relative to said raising bars.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WALTER F. SPARKS.

Witnesses:
C. E. HUNT,
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