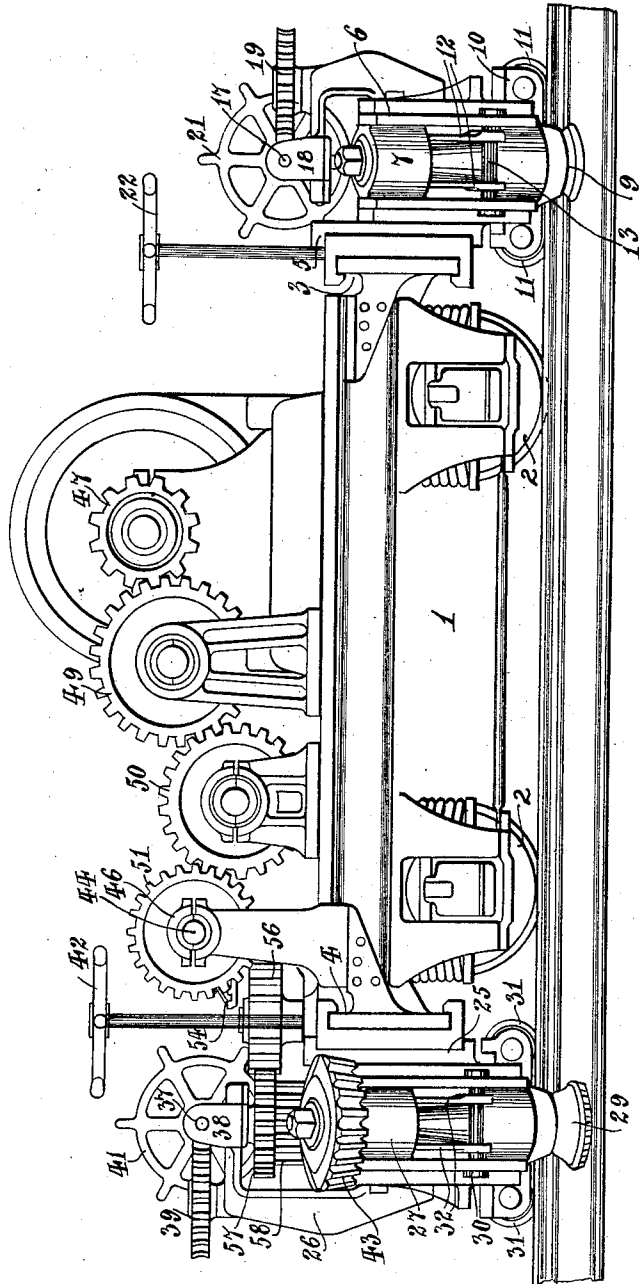


J. NOLL.
MACHINE FOR WORKING ON COMPOUND RAILS.
APPLICATION FILED JUNE 16, 1912.

1,047,555.

Patented Dec. 17, 1912.
3 SHEETS—SHEET 1.

Fig. 1.



Witnesses:
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Edwin A. Packard.

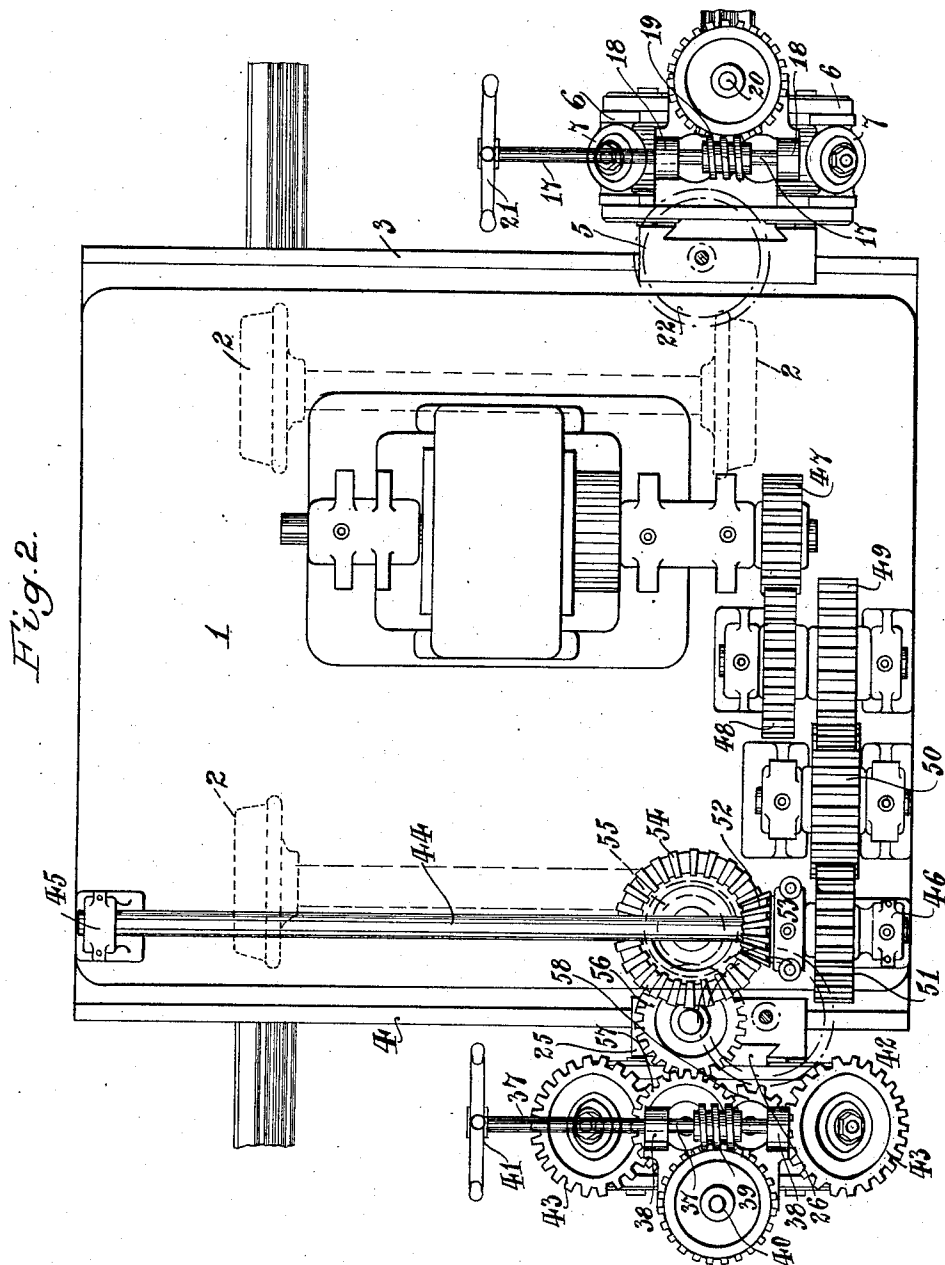
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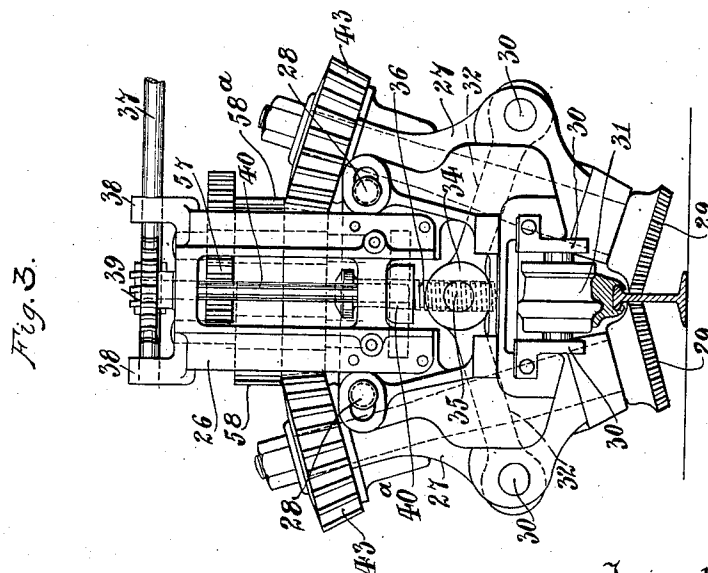
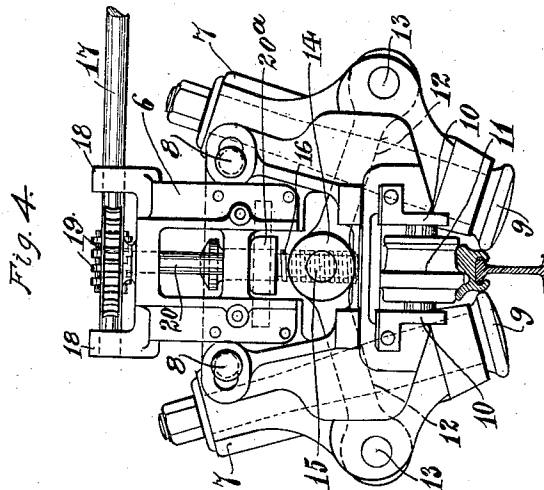
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

JOHN NOLL, OF NEW YORK, N. Y., ASSIGNOR TO CONTINUOUS RAIL COMPANY, OF WILMINGTON, DELAWARE, A CORPORATION OF DELAWARE.

MACHINE FOR WORKING ON COMPOUND RAILS.

1,047,555.

Specification of Letters Patent.

Patented Dec. 17, 1912.

Application filed June 15, 1912. Serial No. 703,952.

To all whom it may concern:

Be it known that I, JOHN NOLL, a citizen of the United States, and a resident of the borough of Brooklyn, in the city of New York, county of Kings, and State of New York, have invented certain new and useful Improvements in Machines for Working on Compound Rails, of which the following is a specification.

The invention relates to machines for working on compound rails.

One object of the invention is to provide a construction in which adjustable working rolls on a movable head can engage the holding lip portions of a compound rail and be forced along the rail by other propelling or traction means which travel along the rail as it is operated upon by the first mentioned rollers.

A further object of the invention relates to a movable carriage having connected thereto a plurality of sets of opposing rollers that engage side portions of a rail, the rollers of at least one of the sets performing an operation upon the rail as the carriage travels along the same.

As showing a specific embodiment of the invention reference is made to the drawings forming a part of the specification and in which—

Figure 1 is a side elevation of the machine showing a propelling means at one end thereof and an operating means at the other end. Fig. 2 is a plan view of the machine shown in Fig. 1. Fig. 3 is an end elevation of the propelling or traction means which comprise opposing rollers that engage opposite sides of the web portion of the rail. Fig. 4 is an end elevation of the operating means which comprise the opposing rotary tools or rolls which engage the holding lips that are located on opposite sides of the rail.

In the drawings 1 designates a movable carriage supported on the wheels 2 that rest directly upon the track rails. This carriage is provided at opposite ends thereof with the horizontal transverse members 3 and 4 extending the full width thereof. On one of the transverse members, namely No. 3, there is supported a head 5 which is horizontally movable along the same. This head comprises the vertically adjustable member 6 having movable bearings 7 pivoted thereto at 8, said bearings carrying the opposed rotary tools 9—9. The movable member 6 is

also provided with the bearings 10—10 which receive the shafts of the horizontal pressing or guide rollers 11—11.

A toggle link construction 12 is connected at the outer ends of the links at the points 13—13 to the movable bearings 7—7. The adjacent ends of the links constituting the toggle are pivotally connected at 14 and provided with a nut 15 for receiving the screw threaded portion of the vertical shaft 16 carried in the vertically adjustable member 6. This shaft 16 is operated from horizontal shaft 17, carried in bearings 18—18 on the vertical adjustable member 6, by a worm and gear means 19 extending between the horizontal shaft 17 and a vertical shaft 20 which in turn operates the threaded shaft 16 through spur gearing 20^a. The horizontal shaft 17 is provided with a hand wheel 21 and it will therefore be apparent that by merely turning this hand wheel the toggle links can be operated to cause the opposing tools or rolls 9—9 to advance and recede from each other as desired. The vertically movable member 6 can be adjusted to the desired height by any suitable mechanism such as is indicated at 22. On the transverse members 4 located at the other end of the machine there is carried a head 25. This head is movable along the horizontal member 4 to any desired position and comprises the vertically adjustable member 26 having movable bearings 27 pivoted thereto at 28 and said bearings carrying the opposed rotary propelling means 29—29. The movable member 26 is also provided with the bearings 30—30 which receive the shafts of the horizontal rollers 31—31. A toggle link construction 32 is connected at the outer ends of the links at the points 33—33 to the movable bearings 27—27.

The adjacent ends of the links constituting the toggle are pivotally connected at 34 and provided with a nut 35 for receiving the screw threaded portion of the vertical shaft 36 carried in the vertically adjustable member 26. This shaft 36 is operated from a horizontal shaft 37, carried in bearings 38—38 on the vertical adjustable member 26, by a worm and gear means 39 extending between the horizontal shaft 37 and a vertical shaft 40 which in turn operates the threaded shaft 16 through spur gearing 40^a. The horizontal shaft 37 is provided with a hand wheel 41 and it will therefore be apparent

that by merely turning this hand wheel 41 the toggle links can be operated to cause the opposing propelling rollers 29—29 to advance and recede from each other as desired.

5 The vertical movable member 26 can be adjusted to the desired height by any suitable mechanism such as is indicated at 42.

A motor is supported on and secured to the carriage 1 and the shafts of the propelling rollers have secured thereto beveled gears 43 which are driven from the motor by the following described mechanism. A shaft 44 is supported in bearings 45 and 46 located at opposite sides of the carriage and is driven from the motor through the chain of gearing 47, 48, 49, 50 and 51. A beveled gear 52 is mounted on the shaft 44 so as to slide along the same and to be driven therefrom. This gear, however, is supported in a bearing 53 located on the movable head. The gear 52 meshes with a gear 54 carried on and movable with the movable head 25. A spur gear 55 is mounted and rotatable with the beveled gear 54 and through the chain of gearing 56, 57, 58 and 58^a drives the beveled gears 43 which are secured to the upper ends of the vertically extending shafts carrying the propelling rollers 29. Thus it will be seen that the propelling rollers can be operated by the motor on the carriage as desired. The gear 56 is provided with a comparatively long facing of teeth whereby the teeth on gear 57 can mesh therewith when the head occupies a comparatively large number of different vertical positions.

It will be observed that the opposed rotary operating tools and the opposed rotary propelling means have their axes extending upwardly while the axes of the carriage supporting wheels 2—2 extend horizontally. It will furthermore be noted that the operating tools, the supporting wheels and the propelling means are arranged in tandem and in the succession above enumerated, and that in the device as adjusted the operating tools engage one portion of the rail while the propelling means engage a different portion of the rail, that is, one engages the head of the rail and the other the web. As both the operating tools and the propelling means are carried on vertically adjustable members which are comprised in horizontally movable heads, it will be apparent that the rotary members can be adjusted both horizontally and vertically to any desired position.

The operation of the machine is as follows: When the machine is in a proper position on the rails to perform the operation desired the operating rollers are caused to approach each other and properly engage the holding lips at opposite sides of the rail. The propelling rollers are also caused to approach each other and engage the opposite sides of the web portion of the rail and the

motor is then started, thus causing the propelling rollers to force the carriage carrying the operating rollers along the track as desired. It will be apparent, however, that the operating rollers and the pressing rollers can be caused to approach or recede as the machine travels along the rail, this being accomplished by merely operating the hand wheels 21 and 41 respectively.

The improvements herein set forth are not limited to the precise construction and arrangement shown and described and they may be embodied in various forms and modifications without departing from the spirit and scope of the invention.

I claim as my invention:

1. In an apparatus of the class described, the combination of opposing rotary tools arranged to engage the side portions of a rail and opposed rotary propelling members for causing relative movement between the tools and rail whereby the tools can operate along the longitudinally extending side portions of the rail, said propelling members being arranged to engage side portions of the rail.

2. In an apparatus of the class described the combination of opposing rotary tools for working on and along the side portions of a rail and propelling means movable along and in engagement with the rail for forcing the tools along the same in operative engagement therewith.

3. In an apparatus for working on compound rails the combination of a movable carriage supported on wheels which rest on the top of the rail, heads connected to the carriage, opposing working rotary tools whose axes extend upwardly and opposing propelling rollers whose axes extend upwardly, the working tools being adjustable relative to and supported by one of the heads and the propelling rollers connected to the other head.

4. An apparatus of the class described for operating on rails comprising in combination therein a movable frame carrying a motor and supporting a set of rotary tools and a set of propelling means, the rotary tools and propelling means being arranged in tandem and the latter being operated by the motor.

5. An apparatus comprising a frame having connected thereto and arranged in tandem and in the following succession opposing working rollers having vertically extending axes, supporting wheels or trucks having horizontally extending axes and opposing propelling wheels having vertically extending axes, said frame also having connected thereto a motor for operating the propelling means.

6. The combination of a carriage having supporting wheels therein which rest on a rail, a horizontal transverse member at each

end of the carriage, a head movable on each transverse member and a set of vertically adjustable rotary members on each head, said last mentioned members having axes
5 extending in a vertical direction, and faces which engage opposite side portions of the rail along which the carriage wheels pass.

7. The combination of a carriage having supporting wheels therein which rest on a
10 rail, a horizontal transverse member at each end of the carriage, a head movable on each transverse member and a set of vertically adjustable rotary members on each head,
15 said last mentioned members having axes extending upwardly and faces which engage

opposite side portions of the rail along which the carriage wheels pass, one of said sets of rotary members being working tools to operate upon the side portions of the rail at one elevation and the other set of
20 rotary members serving as a propelling means and adjustable to engage side portions of a rail at a different elevation from that engaged by the working tools.

This specification signed and witnessed
this 11th day of June, A. D. 1912.

JOHN NOLL.

Signed in the presence of—

EUGENE DELMAR,

EDWIN A. PACKARD.

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