J. E. JOINER.

TAMPING MACHINE.

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1,079,770.

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Fig. 2.

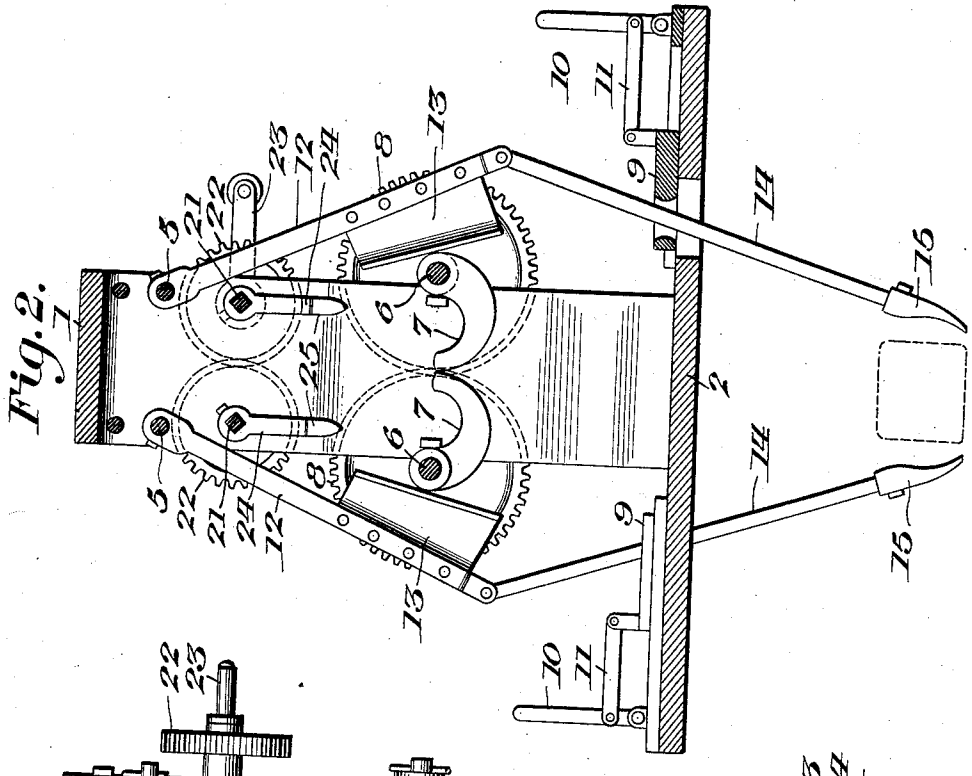
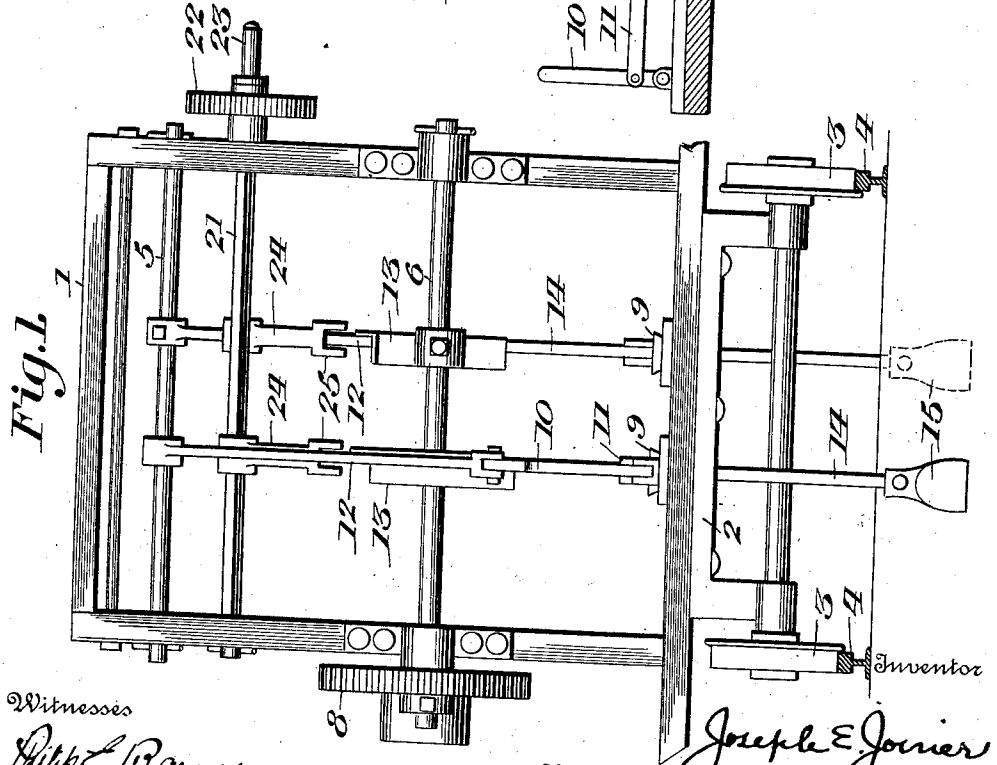


Fig. 1.



Witnesses

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JOSEPH E. JOINER, OF MERIDIAN, MISSISSIPPI.

TAMPING-MACHINE.

1,079,770. Specification of Letters Patent. Patented Nov. 25, 1913.

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To all whom it may concern:

Be it known that I, JOSEPH E. JOINER, a citizen of the United States, residing at Meridian, in the county of Lauderdale and State of Mississippi, have invented new and useful Improvements in Tamping-Machines, of which the following is a specification.

My present invention pertains to the tamping of gravel and dirt as well as broken stone under railway ties; and it consists in the simple and easily operated and adjusted tamping machine hereinafter described and definitely claimed.

In the drawings accompanying and forming part of this specification: Figure 1 is a front elevation of a tamping machine constituting one embodiment of my invention. Fig. 2 is a longitudinal vertical section of a portion of the machine.

Similar numerals of reference designate corresponding parts in all of the views of the drawings.

Among other features, my novel machine comprises a main frame 1 that is connected with and rises from a truck 2, having wheels 3 arranged to bear on the rails 4 of a railway, so that the machine can be expeditiously and easily moved from one point to another on the railway. The side uprights of the frame 1 rise from the body or platform of the truck as shown, and journaled in the said uprights adjacent the upper ends thereof are transverse rods 5, while journaled in suitable bearings carried by the uprights are transverse shafts 6, to which are fixed cams 7, arranged out of alinement with each other as illustrated. The shafts 6 are also provided with intermeshed spur gears 8 to transmit rotary motion from one shaft to the other, and one shaft is suitably equipped to be rotated either manually or by a suitable motor, as occasion requires.

Suitably guided on the body or platform of the truck and movable in the direction of the length thereof are guides 9, and connected with the said guides are devices for adjusting the same. The said devices are preferably in the form of hand levers 10 fulcrumed on the body or platform of the truck, and connected through links 11 with the guides.

Fixed on the transverse rods 5 are vertically swinging arms 12 having shoes 13 that are opposed to the cams 7, and pivoted to the lower portions of the said arms 12 and extending loosely through the guides 9 and through an opening or openings in the body or platform of the truck are tamping bars 14. These bars 14, which are quite heavy, are provided at their lower ends with heavy tamping feet 15 which are, by preference, detachably secured on the lower ends of the bars 14 by set screws, as shown, or other suitable means. While I have shown but two cams 7, two arms 12 and two tamping bars, I would have it understood that any number of the said elements may be employed, so that in one operation dirt or gravel can be tamped under a sleeper or tie at intervals between the rails and also at points at the outer sides of the rails.

In the practical use of the machine, when one of the shafts 6 is rotated, the arms 12 and the tamping bars 14 will be raised, by the coöperation of the cams with the inclined faces of the shoes, and suddenly released, and then by reason of the weight of the tamping bars and feet, the said feet will forcibly tamp the gravel, dirt or other ballast under the tie. Incidental to the tamping operation, attendants are enabled by manipulating the levers 10 to position the strokes of the tamping feet and to hold the said feet to their work so as to secure the best results.

In order that the tamping feet and their appurtenances may be maintained in a raised position to permit of the machine being conveniently moved from a position above one tie to a position above the next tie, I provide the mechanism shown. The said mechanism comprises shafts 21, of angular form in cross-section, journaled in the uprights of the frame 1, intermeshed spur gears 22 fast on and connecting said shafts, a crank 23 or other suitable actuating device fixed on one of the shafts 21, and arms 24 having angular apertures receiving the angular portions of the shafts 21 and also having outer bifurcated end portions 25.

When it is desired to move the machine from a position above one tie to a position above the next tie, the bifurcated portions of the arms 24 are engaged with the arms 12, and the shafts 21 are rotated through the crank 23 to raise the arms 12 and the parts connected therewith sufficiently far to enable the tamping feet to clear the tie. The crank 23 is then held to maintain the tamp-

ing feet in raised position, and the machine is moved, after which the crank is released to enable the arms 24 to assume an idle pendent position, out of engagement with the arms 12.

Having described my invention, what I claim and desire to secure by Letters Patent, is:

1. In a tamping machine, a truck having a body or platform, a frame on said body or platform, transverse rods journaled in said frame, transverse shafts journaled in the frame, below the first-named shafts and connected by intermeshed gears, vertically swinging arms adjustably fixed on the first-named shafts and having shoes with inclined faces, cams fixed on the second-named shafts and opposed to the inclined faces of the shoes, guides mounted on the body or platform of the truck and movable in the direction of the length thereof, means connected with said guides for moving the same, tamping bars movable through the guides and pivoted to the arms, and tamping feet carried by said bars.

2. In a tamping machine, the combination of a portable frame, vertically swinging arms connected with the frame, tamping bars pivoted to the said arms and equipped with tamping feet, means for raising said arms and enabling the same to suddenly gravitate, shafts journaled in the frame and connected together by intermeshed gears, means for actuating one of said shafts, and arms mounted to swing with said shafts and having bifurcated portions adapted to be detachably engaged with the first-named arms, for the purpose set forth.

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

JOSEPH E. JOINER.

Witnesses:
GEO. F. HAND,
W. N. DENTON.

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