J. E. FARRELL & W. A. MEEHAN.

RAILWAY TAMPING MACHINE.

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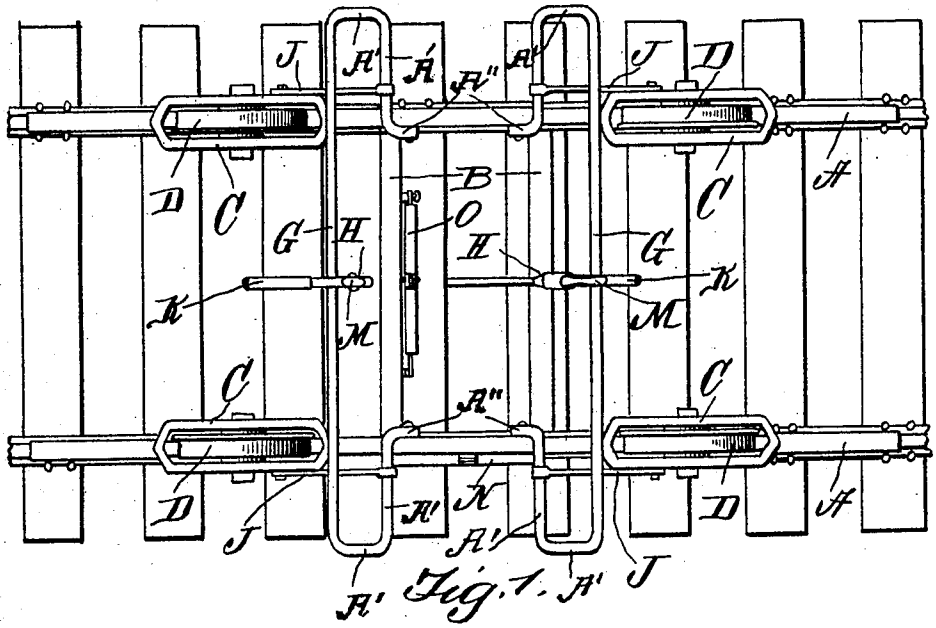


Fig. 1.

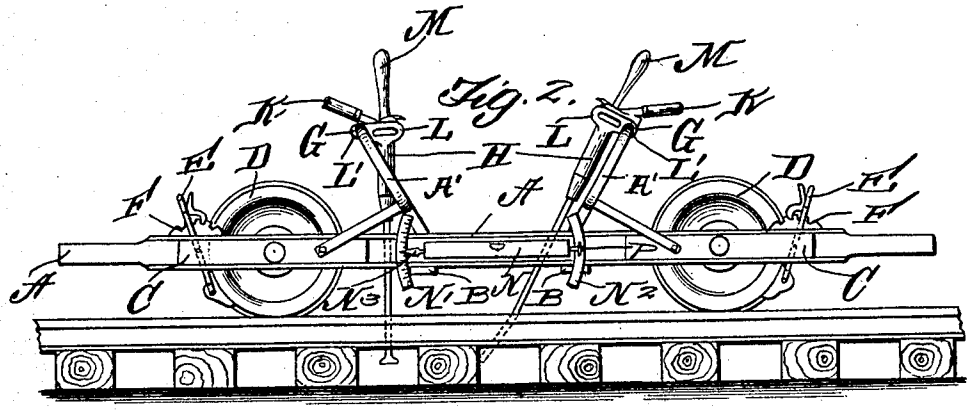


Fig. 3.

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RAILWAY TAMPING-MACHINE.

No. 913,716. Specification of Letters Patent. Patented March 2, 1909.

Application filed September 5, 1908. Serial No. 451,802.

To all whom it may concern:

Be it known that we, JAMES E. FARRELL and WILLIAM A. MEEHAN, citizens of the United States, residing at Olyphant and Dickson City, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Railway Tamping-Machines, of which the following is a specification.

This invention relates to improvements in the class of railroad building machinery, and refers more particularly to that type of machine used for tamping railroad ties.

The object of the invention is to improve the general efficiency of machines of this class, attention being more particularly directed toward constructing a machine which will be light and capable of ready removal from the tracks.

A further object is to provide a machine the tampers of which are adapted to be readily pointed in any angular direction between the tracks, and moved transversely of the tracks to reach every point between and under the ties, without interrupting the operation of the machine.

A further object of the invention is to provide means on the machine frame whereby it is possible to ascertain directly when a track has been tamped to any predetermined grade or bank.

With these and other objects which will hereinafter appear, in view, the invention will now be fully described, reference being had to the accompanying drawings, which form a part of this specification, and subsequently pointed out in the appended claims.

Referring to said drawings: Figure 1 is a top plan view of the invention, showing its general construction and arrangement. Fig. 2 is a side elevation showing the position of the tamping tools with relation to the track and ties. Fig. 3 shows three forms of tampers, which may be interchangeably used with the machine.

The supporting frame-work of the machine comprises longitudinal parallel bars A and transverse frame-bars B, which are rigidly and securely joined, and may be constructed of any suitable material. Interposed between sections of the longitudinal bars A, or constructed integrally therewith, are yoke-members C, in which are journaled the supporting wheels D, which are the usual railroad wheels, such as are used on railway hand-cars. The extremities of the bars A are shown provided with hand-grips for removing the car from or to the track. As shown in Fig. 2, the truck or car may be provided with suitably applied brakes. In this embodiment, brake-rods E are shown, provided with brake-shoes at their lower extremities, which are adapted to bear on the wheels D. Said brake-rods E are also provided with pawls adapted to engage segmental racks F to keep the brakes applied at any desired point.

Carried by the truck-frame and supported thereabove in any suitable manner are transverse bearing rods G, G, which carry the pneumatic tamping tools H, H. Said bearing-rods G comprise horizontal bars or rods of circular cross-section which extend beyond the sides of the truck-frame sufficiently to overhang the ends of the railway ties, and are then carried downwardly at an angle to bars A, as at A′, and then inwardly, as at A″, to lie parallel with said bars A, the extreme ends B′, being turned downwardly at right angles to A″, and secured to the inner faces of bars A, as by bolts B″.

Braces J are provided to sustain bearing-rods G, immovable, said braces having an inclined disposition, as shown, and being secured to parts A″ and rods G and to the bars A, as shown. Obviously, the above described construction is merely a preferred one, since the bearing-rods G may be supported from any other part of the car.

The above mentioned pneumatic tamping tools H may be of any desired construction or well-known type, and are operated by air or other fluid means, which may be supplied from any central or portable source, through the feed-pipe K.

Fig. 3 indicates various tampers which may be used interchangeably with the tamping-tools. Said tamping-tools H are also provided with suitable handles or grips L and M, for directing their working from the truck. To permit said tools to be carried along the bearing rods G, or swung at various angles in a vertical plane for tamping from various positions, they are pivotally mounted on said bearing-rods so as to be capable of being slid along the rods G from end to end, or swung about said rod as a center. This permits said tools to be directed toward any point between or below the ties. The pivoting means illustrated in the drawings comprise

enlargements L′ formed on the grips L, and having openings L″ drilled therethrough for journaling said tamping tools on the bearing-rods G.

For determining when a certain desired grade or bank has been given to the track through the tamping operation, the following means are provided: Fastened on one of each of the lateral and transverse frame-members or bars A and B are the spirit-levels N and O. Said levels N and O are so arranged that one lies parallel with the track-way, while the other points transversely thereof when the truck is in operating position on said track. Their further construction and arrangement being identical, a description of one will suffice for both. The level N is pivotally mounted at its central point to swing in a vertical plane. Adjacent to each end of the level is an arc-shaped plate N′ and N^2. Plate N′ bears on its surface a scale of suitable graduations, as feet and inches, over which a pointer N^3, carried by said level N, is adapted to register predetermined measurements. For holding the level in fixed position, there is provided at its opposite end a lug, through which is entered a set-screw P, which bears frictionally against the plate N^2. When it is desired to grade a road-bed to any desired raise per unit length, the pointer N^3 is set over the desired grade-mark on the plate N′, and the level held in that position by tightening the set-screw P down upon the plate N^2. When the machine is placed in operation, its efforts are directed toward raising or lowering the tracks in the desired direction, until the level registers zero, giving evidence that the proper grade has been reached. For banking a track on curves, the same method is followed with the transverse level O. It is obvious that any other suitable level than a spirit level may be used for the above described purpose.

It is evident from the above description that this invention embodies a simple, compact, light and practical structure, and one that can be manufactured at a minimum cost.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent of the United States, is:

1. A railroad tamping machine, comprising, in combination with a supporting frame, a tamping tool, a supporting member for said tamping tool carried by said supporting frame, and means whereby said tamping tool may be moved longitudinally along said support and angularly about said supporting member as a pivot.

2. A railroad tamping machine, comprising in combination with its supporting truck, a tamping tool, a supporting member for said tamping tool composed of a bar arranged transversely of said supporting truck, and a head carried by said tamping tool and having a perforation through which said bar is passed, whereby said tamping tool may be shifted to any point on said bar, and pivotally directed toward any point about said bar as a center.

3. A tamping machine comprising in combination with a supporting truck, a tamping-tool, a supporting bar for said tamping-tool carried transversely of said supporting truck, said bar having its ends turned downwardly and then inwardly and subsequently bent to form fastening means for said bar, and having braces for maintaining said bar in an inclined position.

4. A tamping machine comprising in combination with a supporting truck, tamping tools, supporting members for said tamping tools, and means whereby any predetermined adjustment of the truck is registered.

5. A tamping machine comprising in combination with a supporting truck, tamping tools, supporting members for adjustably carrying said tools, and means whereby any predetermined measurements may be registered, said means comprising levels pivotally arranged longitudinally and laterally of said truck, scales adjacent to said levels for registering said predetermined measurements, and means for fixing said levels in position.

6. A tamping machine comprising in combination a supporting truck, tamping tools, supporting members for adjustably carrying said tools, and means whereby any predetermined adjustment of the truck may be registered.

In testimony whereof we affix our signatures, in presence of two witnesses.

JAMES E. FARRELL.
WILLIAM A. MEEHAN.

Witnesses:
HARRY A. KELLY,
JOHN A. INGOLDSBY.