No. 721,783. PATENTED MAR. 3, 1903.

C. CONRAN.

TIE DUMPING AND TURNING MECHANISM FOR RAILWAY BUILDING.

APPLICATION FILED AUG. 26, 1902.

NO MODEL.

FIG. 5.

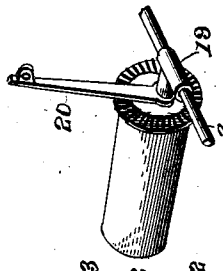


FIG. 3.

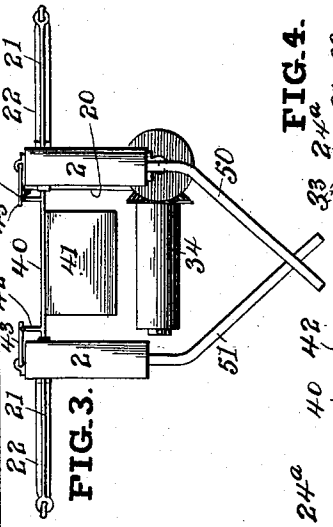


FIG. 4.

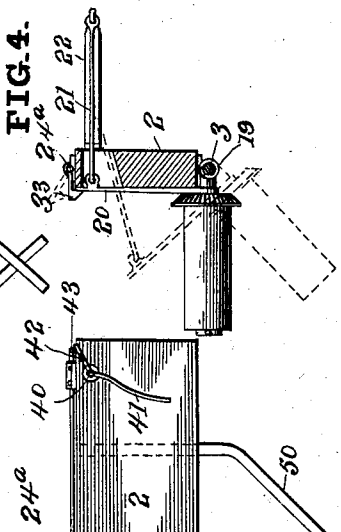


FIG. 1.

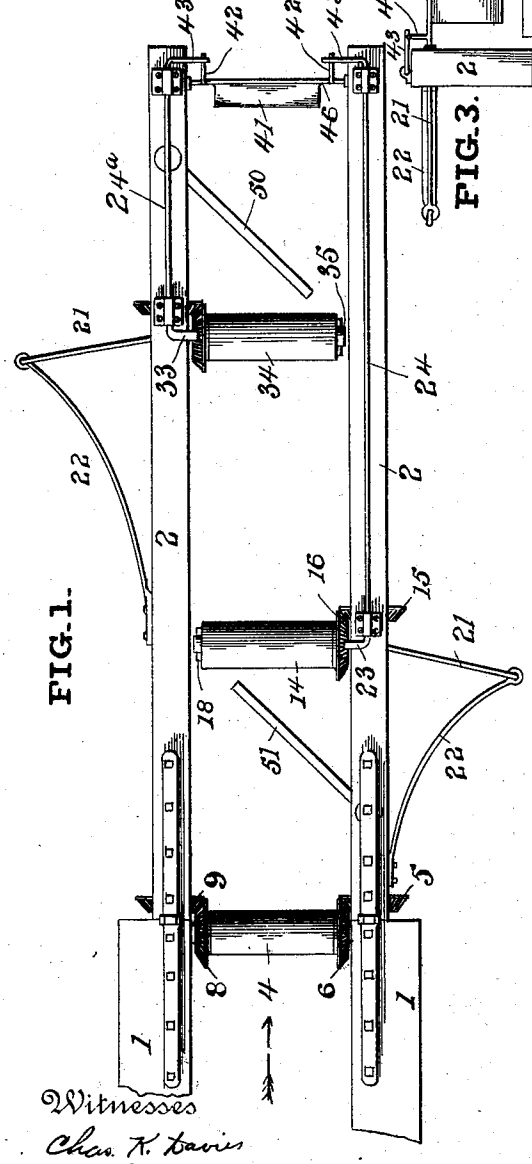
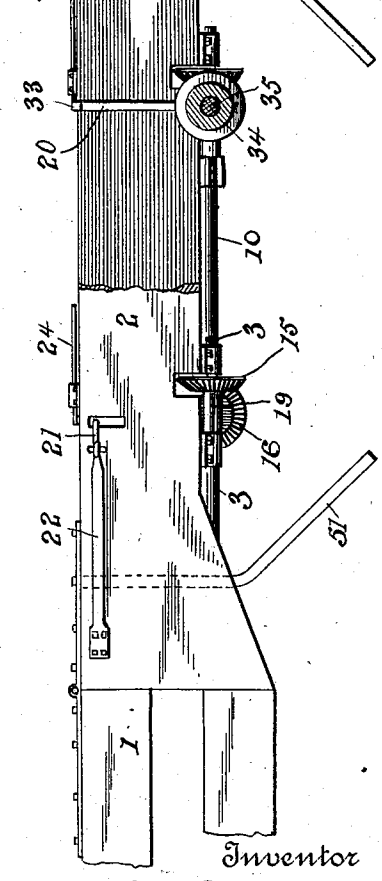


FIG. 2.



Witnesses
Chas. K. Davis
M. E. Brown

Inventor
C. Conran
By W. A. Bartlett
Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES CONRAN, OF OGDEN, UTAH.

TIE DUMPING AND TURNING MECHANISM FOR RAILWAY BUILDING.

SPECIFICATION forming part of Letters Patent No. 721,783, dated March 3, 1903.

Application filed August 26, 1902. Serial No. 121,099. (No model.)

To all whom it may concern:

Be it known that I, CHARLES CONRAN, a citizen of the United States, residing at Ogden, in the county of Weber and State of Utah, have invented certain new and useful Improvements in Tie Dumping and Turning Mechanism for Railway Building, of which the following is a specification.

This invention relates to tie droppers and shifters for track-laying machines.

The object of the invention is to produce a machine which is carried by a flat-car, as usual in track-laying mechanisms, and which shall feed the tie forward lengthwise of the track on which said car moves and which shall drop the tie in a position substantially transverse to the track.

The invention consists in certain constructions and combinations of mechanism, substantially as hereinafter described and claimed.

Figure 1 is a top plan of so much of the mechanism as is needed to give an understanding of my invention. Fig. 2 is a broken side elevation, partly in section. Fig. 3 is a front end view of so much of the operating mechanism as is needed to explain the operation of turning a tie. Fig. 4 is a cross-section of one of the stringers of the frame, showing feeding position of one of the dollies and dropping position in dotted lines. Fig. 5 is a perspective detail of one of the dollies or feed-rollers mounted on its driving-shaft, showing lifting-lever.

Many machines for track-laying are known. Most such machines are mounted on flat-cars and feed the ties and rails forward on said cars until they drop at the front end of the machine and are then moved by hand to proper position to form a short piece of track, onto which the cars may be pushed forward and the operation repeated. Such machines usually have a series of power-driven rollers or dollies, and a tie or rail placed on such dollies moves forward to the end of the car. My present invention is supposed to have these feeding appliances.

The improvement consists in the tie-shifting device, which is quite automatic.

Let 1 represent the side pieces of the frame of a machine along which the ties are fed. This frame in use rests on a flat-car. 2 2 denote extensions of this frame, the extensions being shown as hinged to the main frame. A driving-shaft 3 extends lengthwise of the frame and drives all the dollies or feed-rolls of said frame, the dolly 4 being the last of a series, having both ends in bearings and being driven by a bevel pinion 5 on said shaft 3, engaging pinion 6, as usual, so as to feed ties forward on the dollies, as indicated by the arrow, Fig. 1. Dolly 4 has a bevel-pinion 8, which engages a similar pinion 9, which pinion 9 is on a short shaft 10, supported in bearings on the opposite side of the machine. The shaft 3 has a pinion 15, which engages a pinion 16 on dolly 14. Dolly 14 normally extends across the frame much as does the dolly 4; but dolly 14 is supported at one end only by an axle 18, which axle is rigidly connected to a sleeve 19, surrounding shaft 3. Sleeve 19 has a rigid arm 20, projecting upward. A link 21 extends from this arm 20 outward through a mortise in the frame, and a strong spring 22 draws on this link with force enough to hold the dolly in horizontal position when not weighted. Spring 22 is on the frame. A hook 23 at the end of a rock-shaft 24 catches the end of the arm 20 when in upright position, and thus holds the dolly horizontal when weighted, except when this hook is released, as will be explained.

The dolly 34 is mounted on shaft 10 in manner similar to what has been described of dolly 14; but as the support of this dolly is at the opposite side of the frame each dolly 14 and 34 will when weighted and released swing down under the frame-bar, by which it is supported. The dolly 34 is supported on an axle 35 by a suitable sleeve 19, journaled on shaft 10, and has an arm 20, link 21, and spring 22. Rock-shaft 24^a is the complement of shaft 24, and its hook 33 engages arm 20.

A rock-shaft 40 extends across the front end of the frame and has an arm 41 in the path of movement of a tie fed forward by the dollies. When a tie strikes this arm, it rocks shaft 40, and arms 42 on this rock-shaft 40 lift the arms 43 of the rock-shafts 24 and 24^a, thus simultaneously releasing the hooks 23 and 33 and permitting the weight of the tie

to swing down the free ends of the two dollies 14 and 34, the springs 22 yielding for such purpose.

As the dollies incline from opposite sides of the frame, one end of the tie slides down the dolly toward the left and the other end toward the right, thus turning or spinning the tie around its center. To continue and increase this spiral movement, inclined bars 50 and 51 project downwardly and inwardly from the opposite frame-bars, and the ties slide down these inclined bars and are turned around their centers until they extend across the line of the track or practically at a right angle to their direction when fed forward on the dollies. As soon as the weight of the tie is taken from the dollies 14 and 34 the springs 22 restore these dollies to horizontal position, and the hooks 23 and 33 automatically engage the upper ends of arms 20, and so hold the dollies until they are again released by the action of another tie. The weight of arm 41 holds the rock-shaft 40 in position normally to permit such automatic engagement of the hooks with arms 20.

From the above description it is thought the operation of the machine will be generally understood. Ties are fed along singly on top of the "live" dollies or feed-rolls in a trough formed by the frame-bars 1 1 and 2 2. When the leading tie strikes with its front end the arm or trigger 41, the catches which hold dollies 14 and 34 are tripped, and the free ends of these dollies drop, so that the tie is skewed around while sliding down these surfaces inclined in opposite directions. The inclined bars 50 51 continue this skew movement of the tie and bring it to position about transverse to the track, where it can be readily grasped and alined by workmen.

The arm of trigger 41 may be short enough to permit the passage of rails or may be turned out of the way. As the rails are much longer than ties and are not laid transversely of the track, the shifting device is not used when rails are fed forward on the machine.

What I claim is—

1. In a machine for laying ties, the combination of the frame-bars at opposite sides of the way, a pair of dollies or feed-rolls, each having one free end, and hinged to the opposite bars of the frame, means for supporting these dollies in horizontal position, and means for releasing them so that they may swing downward to inclined position.

2. The combination of the frame-bars at opposite sides of the feed-trough, a pair of power-driven dollies or feed-rolls supported on bearings hinged to the opposite frame-bars, means for holding the dollies in horizontal position, and means for releasing said holding mechanism.

3. In a machine of the character described, the frame-bars, dollies extending in opposite directions from the frame-bars and hinged thereto, a spring for lifting each dolly to horizontal position, a catch engaging the dolly-support, and a trip for releasing said catch, all combined.

4. The combination of the frame-bars, dollies or feed-rolls hinged to the opposite frame-bars so as to swing downward in opposite directions, and fixed inclined bars extending in opposite directions from the frame-bars.

5. The combination of frame-bars at opposite sides of the trough in which the ties advance, dollies or feed-rolls supporting the ties in said trough, and inclined bars extending in opposite directions from the frame-bars, to shift or skew the falling ties.

6. The combination of the frame-bars, a pair of hinged dollies projecting from opposite bars each having an upwardly-extending arm connected to its supporting-axle, catches engaging said arms, and tripping mechanism controlled by the advancing tie to release the said catches.

7. The combination of the hinged dollies, the springs acting to raise them, catches to hold them in horizontal position, and a trip operated by the advancing tie to release said catches.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES CONRAN.

Witnesses:

VALENTINE GIDEON,

FRANCIS C. WOODS.