

(No Model.)

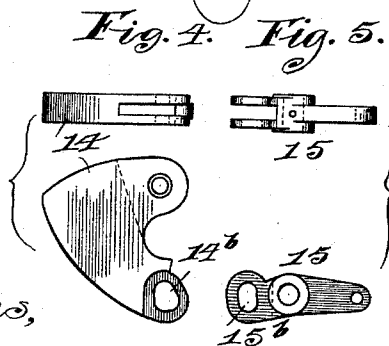
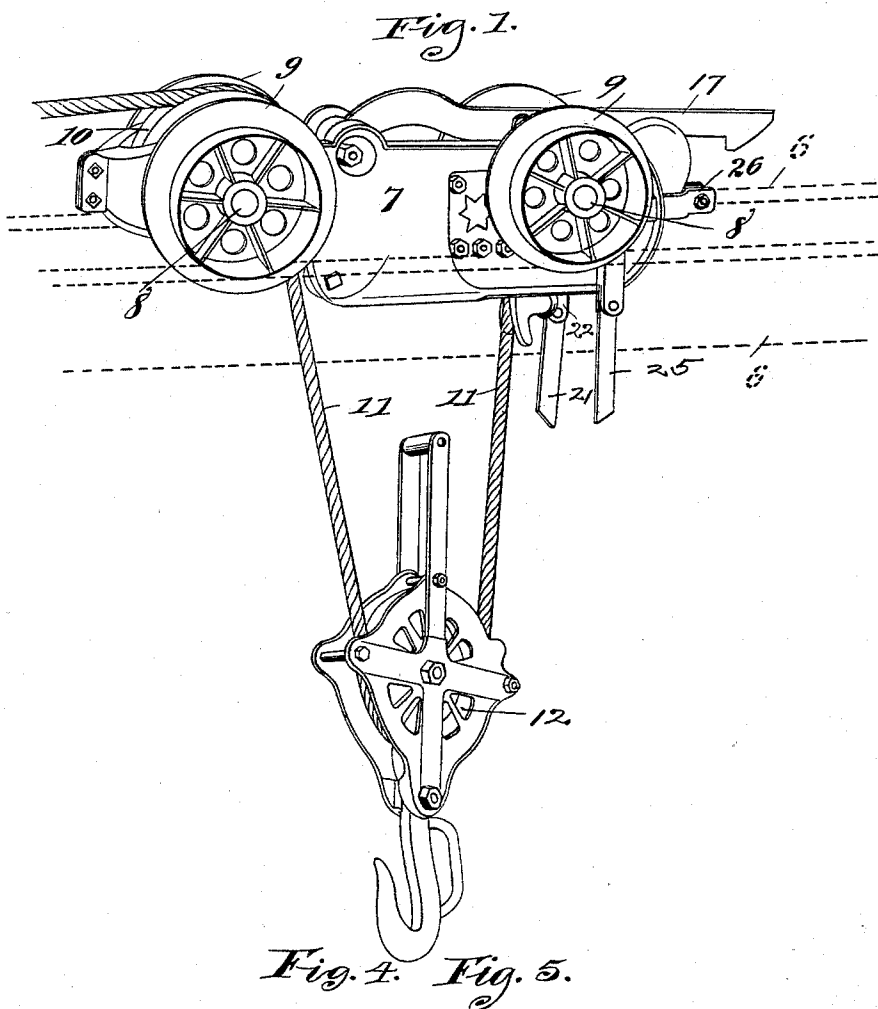
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H. B. TEFFT.

TRANSFER CARRIAGE FOR ELEVATED WAYS.

No. 483,183.

Patented Sept. 27, 1892.



Witnesses,
J. E. Mann
R. J. Jacker

Inventor,
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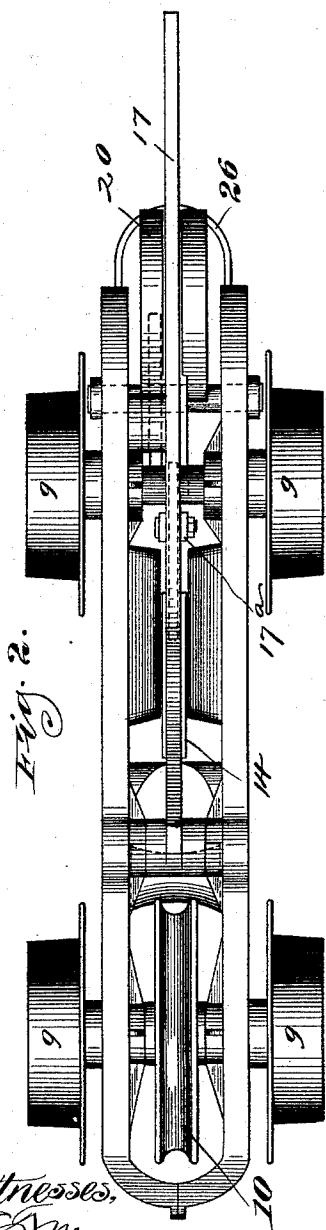
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H. B. TEFFT.

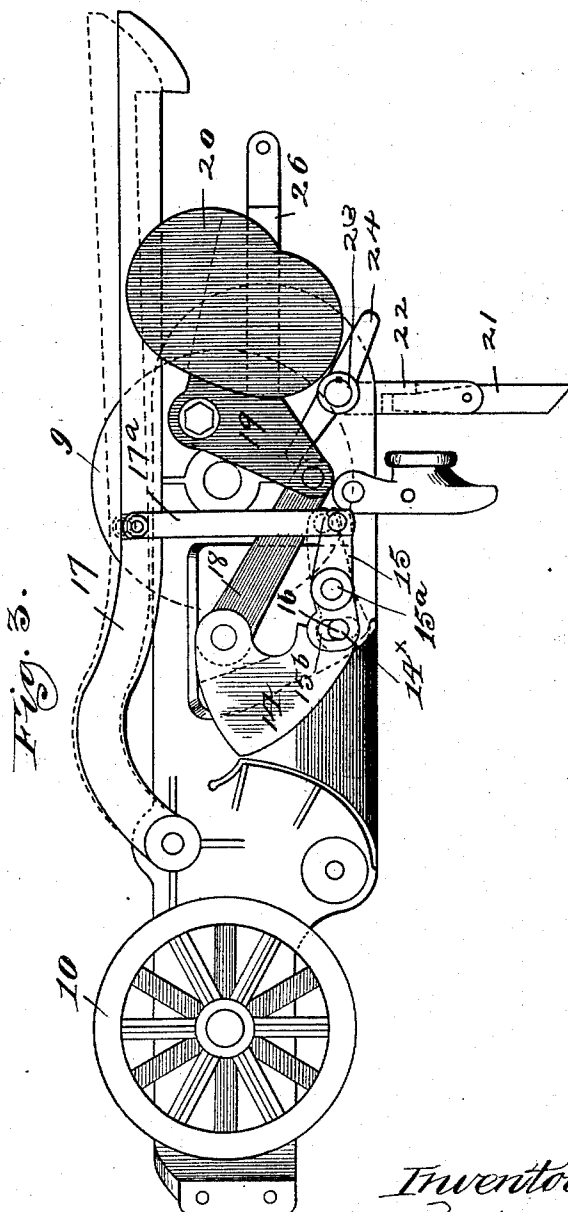
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Inventor,
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UNITED STATES PATENT OFFICE.

HENRY B. TEFFT, OF CHICAGO, ILLINOIS, ASSIGNOR OF TWO-THIRDS TO
WALTER S. BOGLE, OF SAME PLACE.

TRANSFER-CARRIAGE FOR ELEVATED WAYS.

SPECIFICATION forming part of Letters Patent No. 483,183, dated September 27, 1892.

Application filed March 19, 1892. Serial No. 425,584. (No model.)

To all whom it may concern:

Be it known that I, HENRY B. TEFFT, of Chicago, Illinois, have invented certain new and useful Improvements in Transfer-Carriages for Elevated Ways, of which the following is a specification.

My invention relates to certain improvements in transfer-carriages such as are used on elevated ways in connection with a transfer-bucket—for example, such as are used for handling coal, ore, &c.; and my improvements relate more particularly to a novel means of automatically locking the bucket-block to and unlocking it from the carriage and for locking and unlocking the carriage to the track.

In the accompanying drawings, Figure 1 is a perspective view showing the track, the carriage, and the bucket-block suspended on the cable, but unlocked from the carriage. Fig. 2 is a plan view of the carriage. Fig. 3 is a longitudinal section through the frame, the other parts showing in elevation; and Figs. 4 and 5 are detail views of the locking device.

In the drawings, 6 represents the track-rails, sustained in an elevated position in any convenient way. The carriage comprises the frame 7, having journaled therein the axles 8, having track-wheels 9. On the front axle is mounted the sheave 10, over which passes the cable 11, said cable passing under the sheave 12 of the bucket-block and its end made fast to the carriage. This block is provided with a hook to engage the bucket or other receptacle for the load, and its upper end has a cross pin or bolt, which is engaged by the cam device 14. This device is substantially heart-shaped in form, and it rocks around the center 14^x, the lower lobe of the cam 14 being slotted, as at 14^b.

15, Fig. 5, represents a rocking beam, which is pivoted at 15^a to the frame of the carriage, and its forward end is bifurcated and slotted, the bifurcations being marked 15^b and adapted to receive between them the slotted lobe 14^b of the heart-shaped part 14, while the pin 16 passes through the slots of both the cam and the beam.

17 represents a locking-lever pivotally connected at its forward end to the frame of the carriage and having its rear end hooked to adapt it to engage a locking-block (not shown)

to be secured upon the track. The lever 17 is pivotally connected to beam 15 by the link 17^a. The upper lobe of the heart-shaped cam is connected by a link 18 with one member of a bell-crank 19, the other member whereof carries a weight 20, integral therewith. This weight may be slotted, as shown in Fig. 2, so that the locking-lever may play freely in said slot.

21 represents a latch pivoted to one arm of a bell-crank 22, the latter being pivoted at 23 to the frame of the carriage and its member 24 being adapted to engage the weight.

25, Fig. 1, represents a tripping device in all respects similar to that just described, except that it is adapted to operate when the carriage is moving in the opposite direction to that in which the first-described tripping device would be effective. Tripping projections are located at certain points along the track for the purpose of operating these tripping devices and unlocking the bucket-block from the carriage to permit it to be lowered at any desired point.

In operation when the cable is drawn up it carries with it the sheave and block. The bolt or pin in the head of the block will strike the inclined surface of the heart-shaped cam, and thereby rock the latter on its pivot, thus acting through the link 18 and bell-crank to raise the weight. After the cross-bolt of the bucket-block has passed above the point of the cam the weight will drop, shoving the point of the cam under the bolt and prevent its dropping away again, thus locking the block to the carriage. When the bucket-rope is slackened, the weight of the bucket resting on the point of the heart-shaped cam will cause it to bear upon the front end of the rocking beam, thus rocking the latter about its pivot and through the link 17^a raising the lever 17, thus releasing the carriage from the track. During the movement the cam will descend until the rigid pin 14 engages the upper part of the slot in the cam; but the cam cannot drop, because its point will engage the frame of the carriage and also because it is restrained by the link 18.

It will be seen that the bucket can be raised and locked to the carriage without unlocking the carriage from the track, and to

insure this the lever 17 is arched above the point of the cam, so that it will in no case be struck by the bolt of the bucket-block, the carriage being always unlocked by the weight of the bucket on the cam, and should the cam for any reason fail to act the bucket will simply drop through again, taking up the slack of its cable, while the carriage remains locked to the track.

- 10 A safe, efficient, and reliable carriage is thus provided whose parts are strong enough to withstand the shocks and thrusts of service without making the carriage so heavy as to necessitate the expenditure of great power in operation. The tripping devices for raising the bucket may be varied as to their construction, and to return the carriage to the loading-point a tail-rope will be attached to the bar 26.
- 20 It is obvious that the details of construction may be varied somewhat without departing from the principle of my invention. For example, I have shown the cam and the rocking beam slotted and a fixed pin passed through their slots; but this arrangement is not essential, the requirement being, however, that the heel of the cam shall bear upon the front end of the rocking beam, so that when the weight of the bucket rests upon the cam this weight will be transmitted through the rocking beam to lift the carriage-locking lever. Again, it is obvious that instead of the bell-crank having the weighted arm a spring might be arranged to return the bell-crank to its normal position and to thrust forward the point of the cam under the locking-bolt.

Without limiting myself to the exact details of construction, I claim—

- 40 1. In a transfer-carriage having a bucket-block, the combination of a locking-lever, a rocking beam and a link connecting the lever and beam, a cam device pivotally supported

on the carriage and adapted to bear upon the rocking beam, and means for returning the cam to its normal position after it has been rocked by the upward passage of the bucket-block, whereby to lock said block to the carriage, substantially as described. 45

2. In a transfer-carriage, the combination of a locking-lever pivotally connected at its forward end to the frame of the carriage and having its rear end hooked to engage a locking-stop on the track, a link pivotally connected to said lever and depending therefrom, a rocking beam pivoted on the frame of the carriage below the lever and pivotally connected with said link, a heart-shaped cam pivotally connected to the frame of the carriage and adapted to bear upon the front end of the rocking beam, a link connected to the cam above its bearing on the beam, and a bell-crank pivoted to the frame of the carriage, whereby the cam may be rocked by the passage of the bucket-block, and means for forcing the point of the cam under the bolt of the bucket-block, whereby the weight of the bucket on the cam operates to rock the beam and disengage the locking-lever to free the carriage, substantially as described. 50 55 60 65 70

3. In a transfer-carriage, the combination of a cam device pivotally connected to the carriage, a link connected to the cam above its pivotal attachment to the carriage, a bell-crank one arm of which is connected to the link, a weight or equivalent actuating device to act upon the other arm of the bell-crank, and a tripping device comprising a cranked lever pivoted on the carriage and adapted when tripped to raise the bell-crank, whereby to withdraw the cam, substantially as described. 75 80

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