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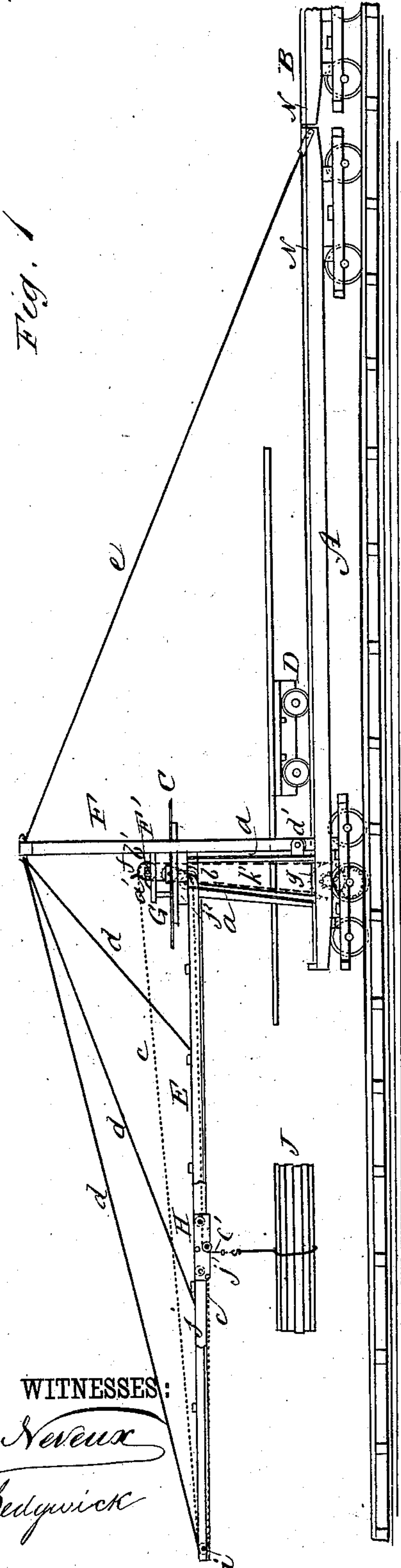
2 Sheets—Sheet 1.

E. N. WING.

CONSTRUCTION TENDER FOR RAILROADS.

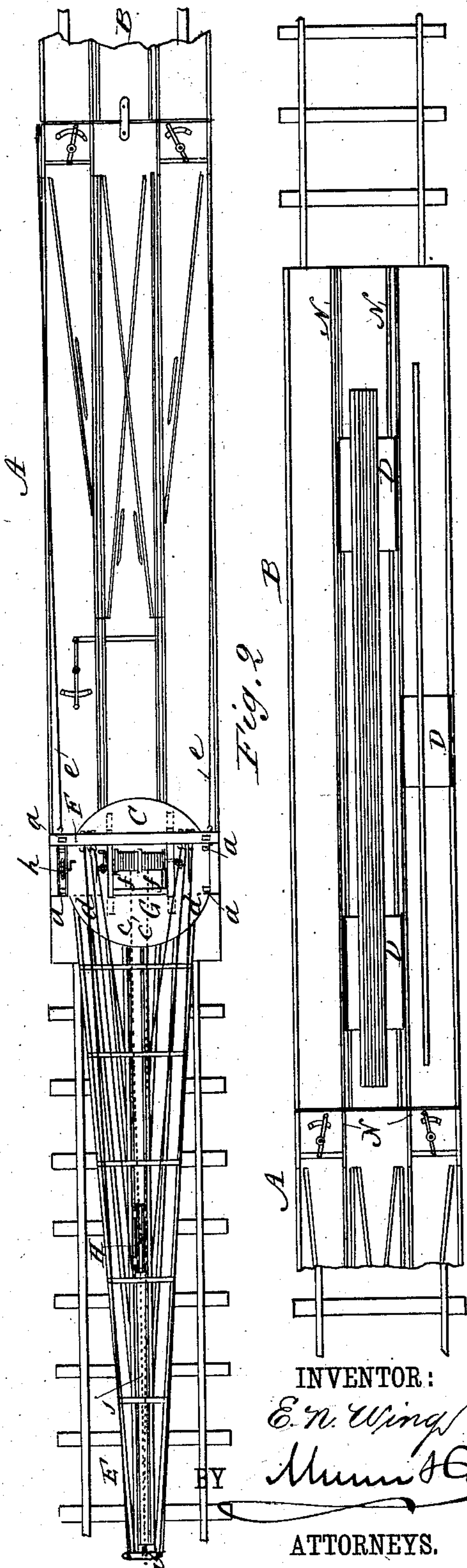
No. 259,962.

Patented June 20, 1882



WITNESSES:

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BY

ATTORNEYS.

(No Model.)

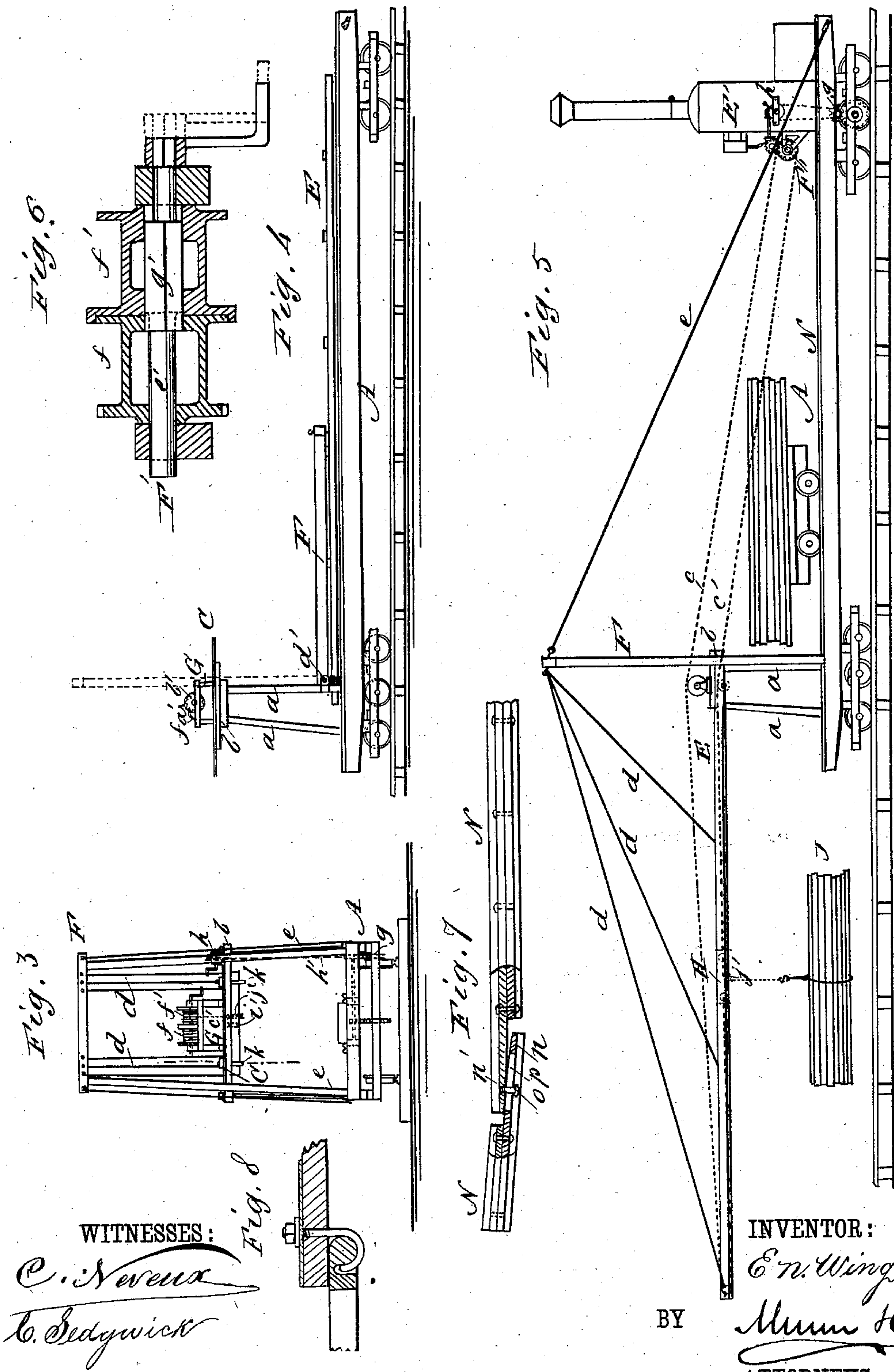
2 Sheets—Sheet 2.

E. N. WING.

# CONSTRUCTION TENDER FOR RAILROADS.

No. 259,962.

Patented June 20, 1882



N. PETERS. Photo-Lithographer, Washington, D. C.



# UNITED STATES PATENT OFFICE.

EPHRAIM N. WING, OF GREEN BAY, VIRGINIA.

## CONSTRUCTION-TENDER FOR RAILROADS.

SPECIFICATION forming part of Letters Patent No. 259,962, dated June 20, 1882.

Application filed November 4, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, EPHRAIM N. WING, of Green Bay, in the county of Prince Edwards and State of Virginia, have invented a new and Improved Construction-Tender for Railroads, of which the following is a full, clear, and exact description.

My invention consists mainly of a platform-car provided with a horizontal derrick-arm or boom having a traveling block, the car being provided with suitable tracks upon which hand-trucks are adapted to run, and carrying mechanism for moving the traveling block backward and forward along the derrick-arm or boom, and also mechanism for moving the car forward as the laying of the track proceeds.

The invention further consists in hinging the truss-frame to the car so it can be tipped backward upon the car for passing through covered bridges, tunnels, &c., the derrick-arm being adapted to be detached from the derrick-frame or posts and also carried back upon the car.

The invention also consists of certain details of construction, all as hereinafter more fully described.

In most instances a series or train of platform-cars will be used having tracks connected with the tracks of the main platform-car, so that the hand-trucks may be run from one car to the other at will.

The mechanism for moving the traveling block and for moving the car forward may be operated by hand or steam power.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of my invention arranged for operation by hand-power, a part of the derrick-arm being broken away to show the traveling block. Fig. 2 is a plan view, showing both platform-cars. Fig. 3 is a rear elevation of the main-car truss-frame and winding-drums. Fig. 4 is a side elevation, showing the derrick removed from the derrick posts or frame and placed upon the car and the truss-frame tipped back. Fig. 5 is a side elevation of my invention as it appears when arranged to be operated by steam-power. Fig. 6 is a cross-section of the winding-drums; and

Fig. 7 is a plan view, partly in section, of the rail-joint for connecting the rails of the cars. Fig. 8 is a detail sectional view, showing the detachable connection of the boom or derrick.

A represents the main platform-car, and B the auxiliary or secondary car, both of which are provided with the tracks, switches, &c., as clearly shown in Fig. 2, for the proper handling and convenient shifting of the hand-trucks D D, which are adapted to run upon the tracks.

From the forward end of the car A rises the upright posts *a a*, four in number, (two on each side of the car,) which are tied together at the top by the plate *b*. To the under side of this plate is hinged the rear end of the derrick-arm or boom E, which reaches in front of the car, as shown in the drawings, and is held in a horizontal position by the guys *d d* and *e e*, which reach from the truss-frame F forward to the derrick-arm and rearward to the car, as shown. Upon the upper side of this plate *b*, when the car is arranged to be operated by hand-power, is placed the platform C, upon which is placed the frame-work G, in which is supported and journaled the winding and hoisting drums *ff'*. At one side of this frame-work G, between the two side posts of the derrick-frame, in suitable uprights, is journaled the sprocket-wheel *h*, over which the chain *h'* passes, which runs from thence around the sprocket-wheel *g* of the forward truck of the car A, suitable gearing being also provided upon the truck, whereby the car may be moved forward as the laying of the track proceeds by the operation of a winch connected with the axle of the upper sprocket-wheel, *h*.

The derrick-arm or boom is formed with the central way or track, *j*, (shown clearly in Fig. 2,) upon which the block H travels, being moved backward and forward over the track by means of the ropes or chains *c c'*, the rope or chain *c* being attached to the forward end of the block, and from thence passed over the pulley *i* at the forward end of the derrick-arm and back over the winding-drum *f*, the rope or chain *c'* being passed over the hoisting-drum *f'*, and thence down around the pulley *i'*, journaled in the platform *b*, and thence over the pulley *j'* in the block H, the end of it being free, and provided with a hook or similar means for at-



tachment to any object or load—such as a bundle of ties, J—which it may be desired to elevate and carry out to the end of or along the derrick-arm or boom.

5 The winding and hoisting drums are placed upon the same shaft,  $F'$ , which is formed with the cylindrical portion  $e'$  and the square portion  $g'$ . This shaft is adapted to be moved longitudinally in its bearings and through  
10 the drums. The winding-drum  $f'$  fits upon the square portion of the shaft and turns at all times with it. The hoisting-drum  $f$  is placed loosely upon the round portion of the shaft, and is formed with a square recess in  
15 one of its heads, which acts as a clutch upon the square portion of the shaft when the shaft is moved longitudinally to the position shown in full lines in Fig. 6, and thus causes the drum to turn with the shaft for elevating the  
20 load. Upon moving the shaft to the position shown in dotted lines in Fig. 6 the hoisting-drum, unless held by the pawl  $a'$  engaging with the ratchet  $b'$ , will be free to turn upon the shaft for lowering the load.

25 When the car is provided with steam-power, as shown in Fig. 5, the winding and hoisting drums, instead of being placed upon the platform  $b$ , will be located near the engine  $E'$ , and will be connected therewith for operation by  
30 suitable gearing; or belts and pulleys may be employed, if desired, and suitable guide-pulleys will be placed upon the platform  $b$  for the ropes or chains to pass over; and when the engine is used it will be placed over the  
35 rear truck in the center of the car, and the sprocket-wheels and gearing  $g$  and  $h$  for moving the car, instead of being connected to the forward truck and operated by hand from the said platform  $b$ , will be connected to the rear  
40 truck and operated by the engine, as shown in Fig. 5.

The truss-frame  $F$  is hinged at  $d'$   $d'$  to the derrick-frame, and when the guys are unhooked it is adapted to be tipped back upon  
45 the car, as shown in Fig. 4, and upon removing the bolts  $k$   $k$ , by which the derrick or boom arm is secured to the plate  $b$ , the arm may also be carried back upon the car, in which position they in no way interfere with the passage  
50 of the car through bridges, tunnels, or other covered places.

The rails  $N$   $N$ , which continue the track from one car to the other, may be connected, as shown in Fig. 7, by means of the laps or scarfs  
55  $n$   $n'$ , the lap  $n$  being formed with the slot  $p$ , through which the bolt or pin  $o$  passes, which slot and pin allow the two rails to move out of line with each other to permit the cars to be drawn around curves in the road.

60 It is obvious that the tracks and switches upon the cars  $A$  and  $B$  may be variously arranged, as may be deemed most expedient and as experience may suggest; but ordinarily only the car  $A$  will have switches, the car  $B$   
65 being provided with three straight tracks to

accommodate the use of three sets of hand-trucks simultaneously, so that in case a quantity of rails, for example, are to be carried forward to be laid on the ties, they may be loaded  
70 from the supply-car upon two of the hand-trucks  $D$  and pushed forward upon the central track of the car  $B$  to the rear end of the car  $A$ , and then transferred to a single truck standing upon one of the side tracks, as indicated  
75 in Fig. 2, and then upon the single truck forced along upon the car  $A$  over either of the switches, which may be arranged to conduct the load to either side of the car desired.

The load having reached the forward end of the car  $A$ , it will be observed that the rails  
80 will be in convenient position for the gang of men to simply slide or draw the rails off from the hand-truck and lower them to place upon the ties.

As fast as the rails are laid the cars  $A$  and  
85  $B$  will be moved forward upon them, so that the next pair of rails may be laid in the same manner without carrying or extra handling of the rails.

The ties will be brought forward in bundles  
90 of a dozen or more, and will be elevated from the hand-truck by the hoisting-drum  $f$  and rope  $e'$ , and carried out by the traveling block  $H$  to the end of the derrick-arm or boom and lowered near the spot where they are to be  
95 placed upon the road-bed.

In the construction of roads where all the material has to be brought forward from the rear, as through the western prairies, many cars like the car  $B$  will be used, each provided  
100 with its quota of hand-trucks, upon which the material—the ties and the rails—will be loaded in the first instance, so that when the train is backed up to the car  $A$  the whole train-load may be moved forward upon the trucks  $D$   
105 and laid from the forward end of the car  $A$ . By this system it will be seen that the materials are supplied with the minimum amount of handling, and that the handling is done in the easiest and most expeditious manner.  
110

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The car  $A$ , provided with the hinged truss-frame  $F$ , and the detachable derrick or boom  $E$ , substantially as and for the purposes  
115 set forth.

2. The drum-shaft  $F'$ , having the cylindrical portion  $e'$  and square portion  $g'$ , in combination with the drum  $f'$  and loose socketed drum  
120  $f$ , the shaft being capable of longitudinal movement, substantially as and for the purposes set forth.

3. The car  $A$ , having the derrick  $E$  and truss-frame  $F$ , and having the tracks, in combination with the car  $B$  and the hand-trucks  $D$ ,  
125 substantially as and for the purposes set forth.

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Witnesses:

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