

No. 717,370.

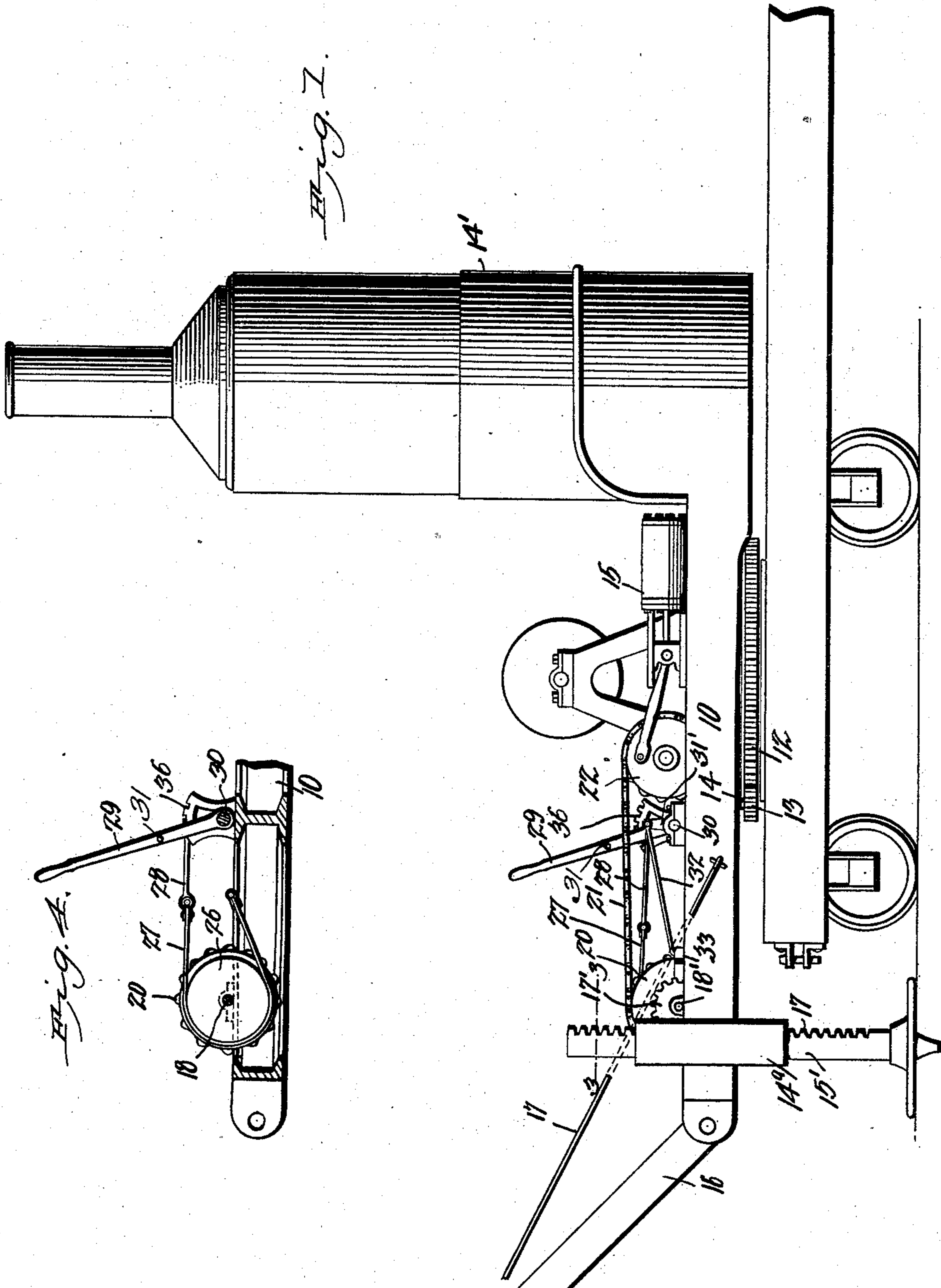
Patented Dec. 30, 1902.

J. G. FAIRBANKS.  
TRAVELING CRANE.

(Application filed Apr. 9, 1902.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses  
*E. J. Stewart*  
*J. M. G. Parker*

J. G. Fairbanks, Inventor.  
by *Chas. H. Snow & Co.*  
Attorneys

No. 717,370.

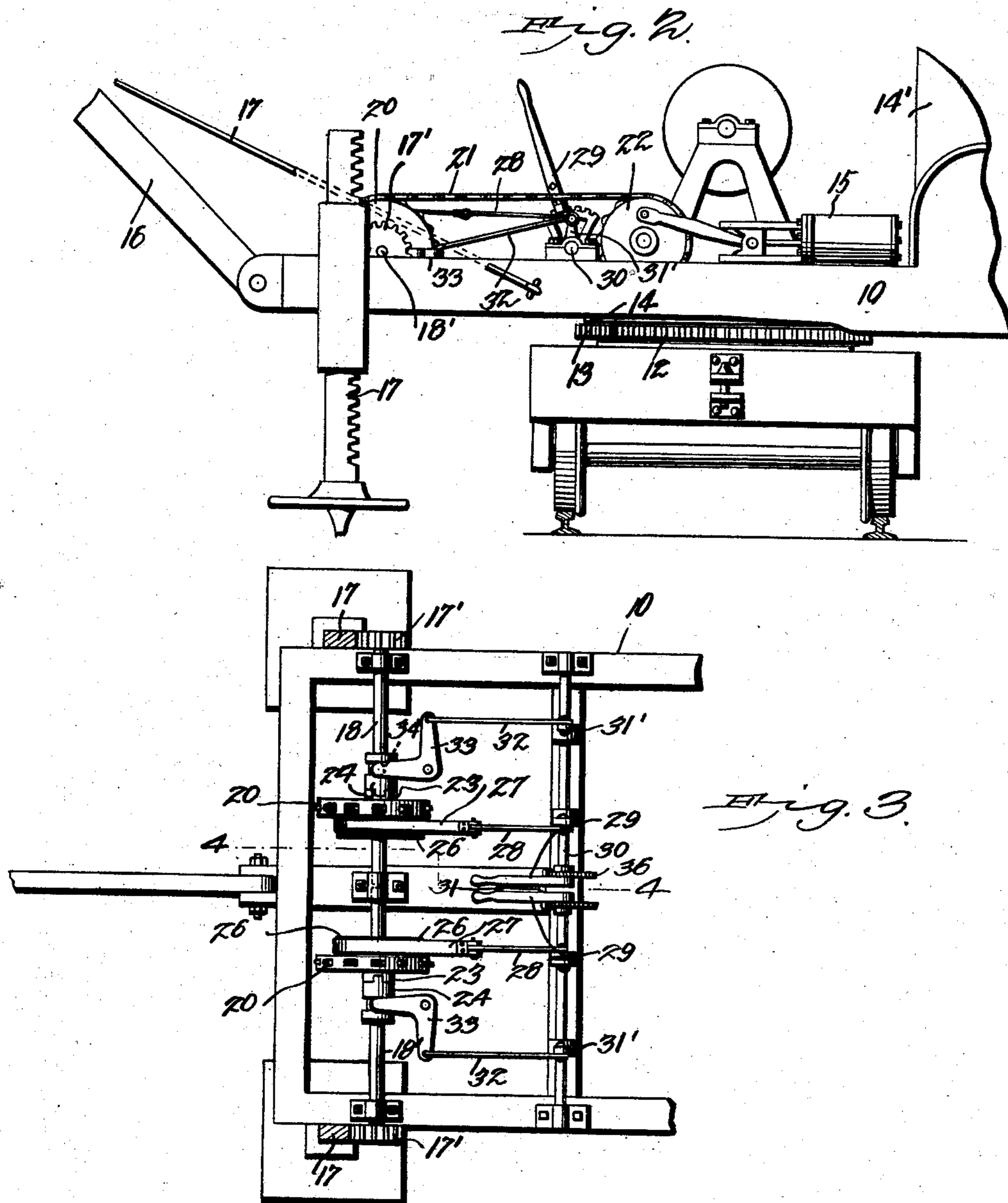
Patented Dec. 30, 1902.

J. G. FAIRBANKS.  
TRAVELING CRANE.

(Application filed Apr. 9, 1902.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses  
*E. J. Stewart*  
*J. M. C. Parker*

J. G. Fairbanks, Inventor.  
by *C. A. Snow*  
Attorneys

# UNITED STATES PATENT OFFICE.

JAMES G. FAIRBANKS, OF MARION, OHIO.

## TRAVELING CRANE.

SPECIFICATION forming part of Letters Patent No. 717,370, dated December 30, 1902.

Application filed April 9, 1902. Serial No. 102,110. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES G. FAIRBANKS, a citizen of the United States, residing at Marion, in the county of Marion and State of Ohio, have invented a new and useful Traveling Crane, of which the following is a specification.

My invention relates to certain improvements in traveling cranes, and more especially in that type of cranes mounted on railroad wrecking-cars or employed for the support of excavating-shovels.

One of the principal objects of the invention is to provide for the proper bracing and support of the crane regardless of the position to which the boom is adjusted, so that the shovel or other load may be raised from either side of the car, as well as from the front of the car, without strain on the car proper and without danger of tilting of the crane and car.

A further object of the invention is to provide a wrecking-car with an adjustable crane-carrying platform which will permit of the adjustment and use of the crane with the boom at any desired angle to the line of the traffic-rails.

With these and other objects in view the invention consists in the novel construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims.

In the drawings, Figure 1 is a side elevation of a wrecking-car provided with a crane and crane supporting and bracing devices in accordance with my invention. Fig. 2 is an end elevation of the car, showing the crane adjusted for operation at the side of said car. Fig. 3 is a sectional plan view of the front end of the structure on the line 3 3 of Fig. 1. Fig. 4 is a transverse sectional elevation of a portion of the mechanism on the line 4 4 of Fig. 3.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

In wrecking-cars as usually constructed the crane while adjustable for operation in any direction is not, as a general rule, properly braced to resist the strain resulting from a

side lift, the braces ordinarily employed extending from the car-platform to the ground, and while bracing the crane for a front lift, as in the removal of wreckage lying on the rails, do not properly resist the strain when the crane is turned with the boom at a right angle to the line of the rails, as in depositing a weight lifted from the rails or in the manipulation of a steam-shovel making a wide cut.

In carrying out my invention I provide the railway-car with a platform 10, the front end of which projects slightly beyond the front ends of the railway-car proper, as shown in Fig. 1. On the top of the car is an annular rack 12, and in the center of the rack is a vertically-disposed stud on which the platform 10 is pivoted, the platform being provided with a pinion 13, mounted on the shaft 14, which may be revolved by hand or by any suitable mechanism for the purpose of adjusting the angular position of the platform.

The platform carries at one end a boiler 14' and steam-engine 15 for the purpose of operating a winding-drum or other mechanism, and at the opposite end of the platform is pivoted a boom 16, having the usual bracing-guys 17. In the present instance the boom is provided with an excavating-shovel, which may be operated in the ordinary manner, the shovel and its connections being removable, so that the boom when provided with a block and tackle may act as a crane.

On the front end of the platform 10 at opposite sides of the bottom of the boom are vertically-disposed guideways 14<sup>a</sup> for the reception of vertically-disposed bracing-posts 15', having at their lower ends laterally-enlarged feet for contact with the ground. On the inner faces of the bracing-posts are racks 17, with which engage pinions 17', mounted on two alining shafts 18 and 18', adapted to suitable bearings carried by the platform.

On each of the shafts is loosely mounted a sprocket-wheel 20, connected by a link belt 21 to a sprocket-wheel 22, mounted on a suitable shaft and adapted to be actuated by the hoisting-engine or other suitable mechanism. On the hub of the sprocket-wheel is a clutch member 23, adapted for engagement with a clutch member 24, feathered on the shaft and

movable into and out of engagement with the clutch member 23 when it is desired temporarily to secure the sprocket-wheel to the shaft. On each of the shafts is secured a fixed drum 26, over which passes a band-brake 27, having one end secured to a fixed point and the opposite end being secured by a link 28 to an operating-lever 29, it being understood that the mechanisms at opposite sides of the machine are separate and each mechanism being under the control of a separate operating-lever. Each of the levers 29 is rigidly secured to a rock-shaft 30, suitably journaled on the platform, and the levers are connected to the ends of said shafts and adjacent to each other, so that they may be coupled together, as by the pin 31, for simultaneous movement. Each shaft 30 is provided with a rocker-arm 31', connected by a link 32 to one arm of a bell-crank lever 33, the opposite arm of said lever being bifurcated and having pins or rollers 34, which enter annular grooves in the clutch members 24 and serve as a means for transmitting the movement of the lever to the clutch. The platform is provided with two locking-segments 36 for the reception of a locking-bolt carried by the lever, so that said levers may be securely locked to any adjusted position.

In the operation of the device the platform 10 is first turned to any desired position with respect to the work to be performed, and the operator by pushing on the levers 29 releases the band-brakes 27 and allows the bracing-posts 15 to descend by gravity until the feet 16 are in contact with the ground. By moving the levers to vertical position in the center of the locking-segments the clutches are disconnected, and on further movement, as to the position illustrated by dotted lines in Fig. 4, the band-brakes are tightened to an extent sufficient to hold the shafts 18 and 18' from rotative movement and preventing, through the pinions and the racks of the bracing-posts, any upward movement of the bracing-posts or any downward movement of the platform 10.

As each bracing-post has an independent movement and an independent operating mechanism, one may be lowered to a greater or less extent than the other to compensate for any unevenness in the ground-level, and after both are in contact with the ground the securing means, being exerted with equal force on each of the posts, will prevent any tendency to tilting movement of the platform.

When the posts are to be raised, the levers are moved in the direction of the sprocket-wheels, the clutch members being connected to the hub of said sprocket-wheel and the brakes released. Power may then be transmitted from the hoisting-engine through the pinion 23 and link belt 21 to raise the bracing-posts from the ground.

It will readily be seen that by bracing the forward end of the crane-carrying platform

at each side of the boom no strain whatever will be exerted on the carrying-bar, while at the same time the crane is given a much wider range of movement, and they operate more effectually, especially for side lifts, than the devices ordinarily employed for this purpose.

While the construction herein described, and illustrated in the accompanying drawings, is the preferred form of the device, it is obvious that various changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described my invention, what I claim is—

1. The combination with a supporting-platform, of a crane including a boom, a rotatable platform of which the forward end projects beyond the end of the supporting-platform, said rotatable platform supporting the crane and being adjustable on the supporting-platform to present the boom at any angular position in front or at either side of the supporting-platform, and braces provided at each side of the forward end of said rotatable platform and adapted for contact with the ground.

2. The combination with a crane including a boom, of a rotatable platform to which the lower end of the boom is pivotally connected, a supporting-platform on which the rotatable platform is adjustable to present the boom at any angular position in front or at either side of the supporting-platform, vertically-disposed guides provided at each side of the forward end of the rotatable platform, adjustable bracing-posts disposed in said guides, racks on said posts, pinions in engagement with the racks, shafts carrying said pinions, means for locking the shafts to prevent rotative movement, and means for rotating the shafts to elevate said posts.

3. The combination with a supporting-platform, of a crane including a boom, a rotatable platform supporting the crane and adjustable on the supporting-platform to present the boom at any angular position in front or on either side of the supporting-platform, vertically-disposed guides carried at the front end of the rotatable platform and on each side of the boom, braces disposed in said guides, means for controlling the movement of the braces to operative position, means for locking the braces in operative position, and a common operating means to which said braces may be independently connected.

4. The combination with a crane, of a rotatable crane-supporting platform, vertically-adjustable posts carried by the platform on each side of the boom, racks on said posts, pinions intermeshing with said racks, independent shafts for the support of the pinions, friction-drums secured to said shafts, band-brakes for said friction-drums, power-driven wheels loosely mounted on said shafts, clutches feathered on the shaft and adapted

to engage the wheels, independent rock-shafts  
operatively connected to the band-brakes and  
clutch members, operating-levers connected  
to said shafts, and means for locking the le-  
5 vers in any position to which they may be ad-  
justed.

In testimony that I claim the foregoing as

my own I have hereto affixed my signature in  
the presence of two witnesses.

JAMES G. FAIRBANKS.

Witnesses:

WALLACE LINDER,  
FRANK NORTON.