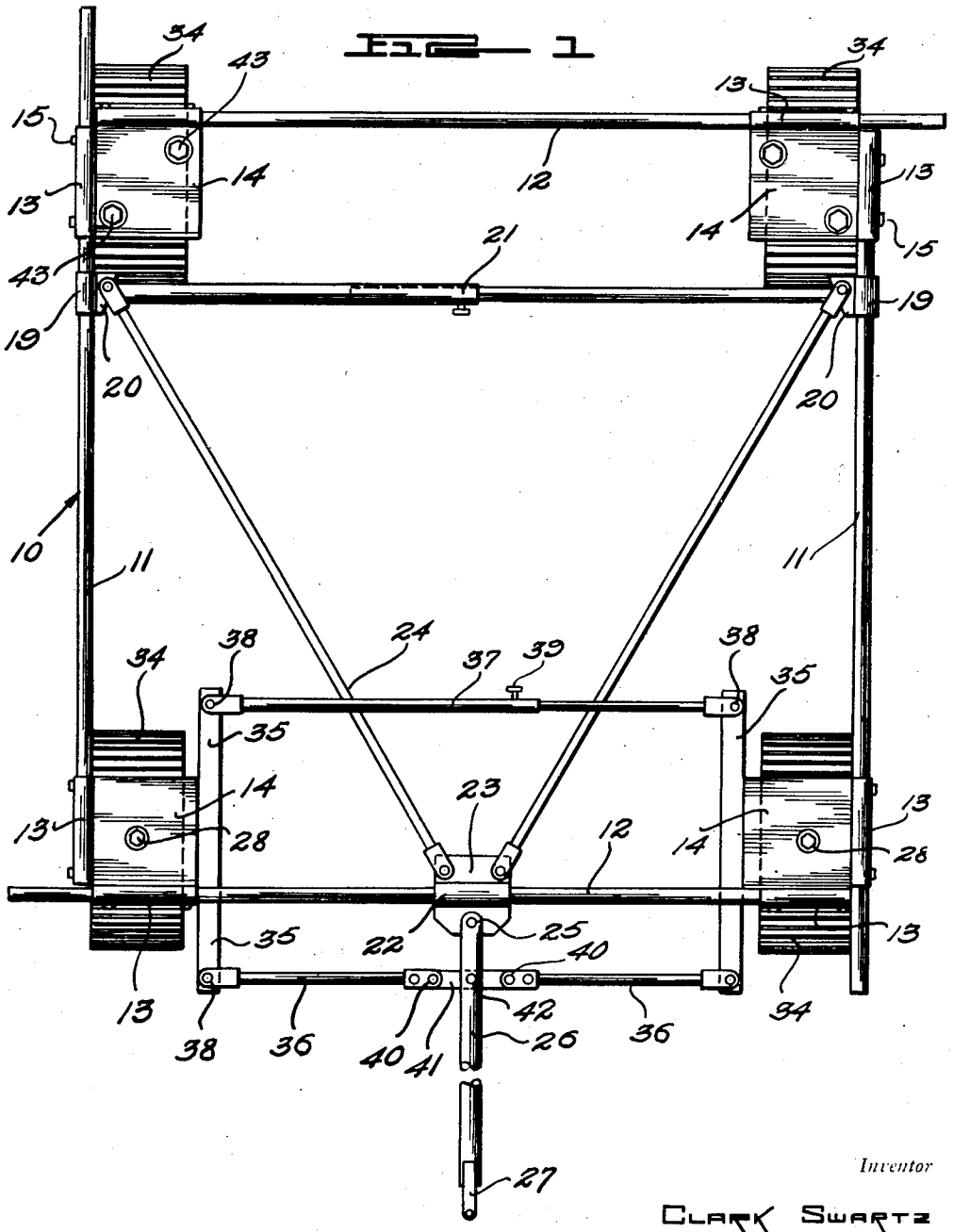
May 3, 1949. C. SWARTZ 2,469,087

DERRICK MOVER

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FIG. 1



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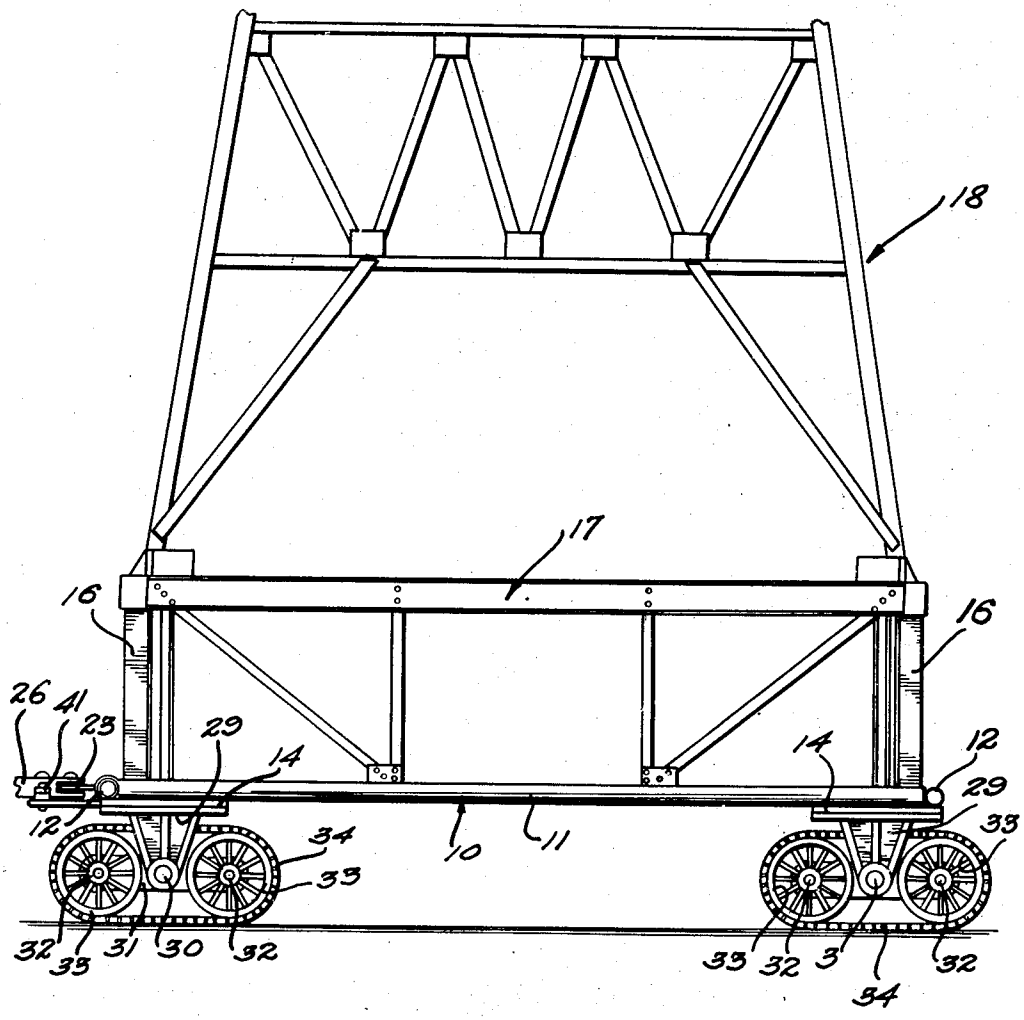
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DERRICK MOVER

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FIG. 2



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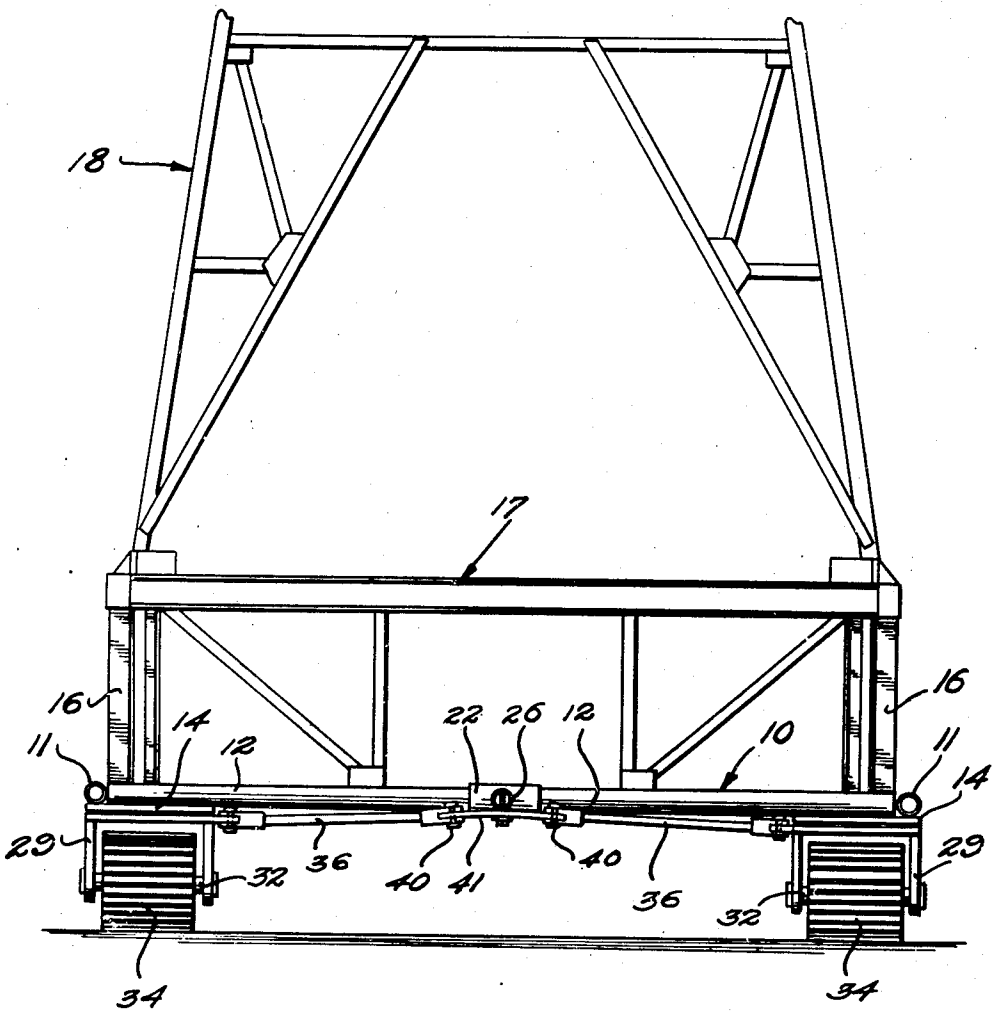
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FIG. 3



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FIG. 4

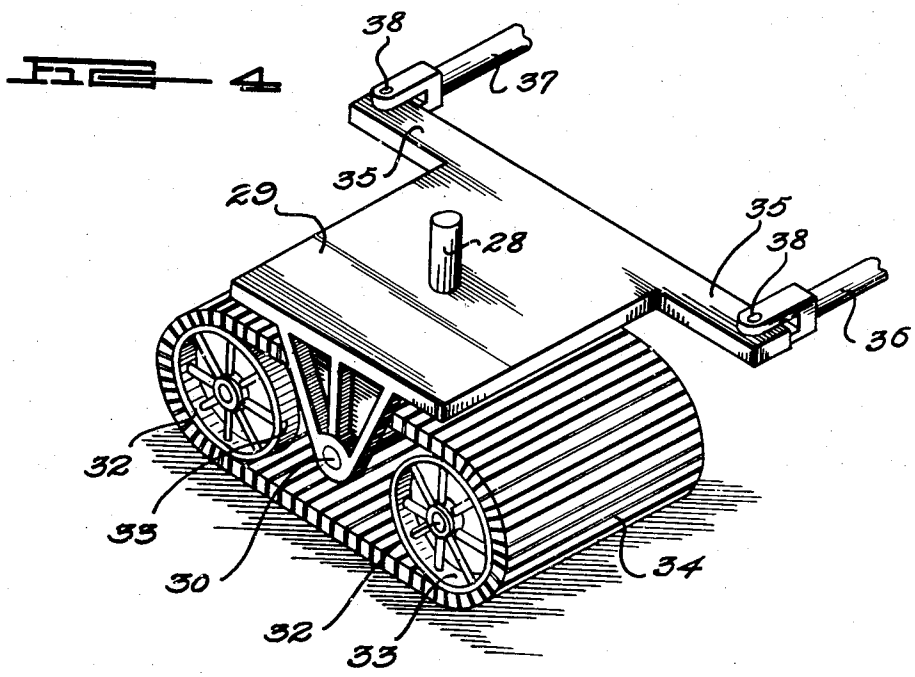
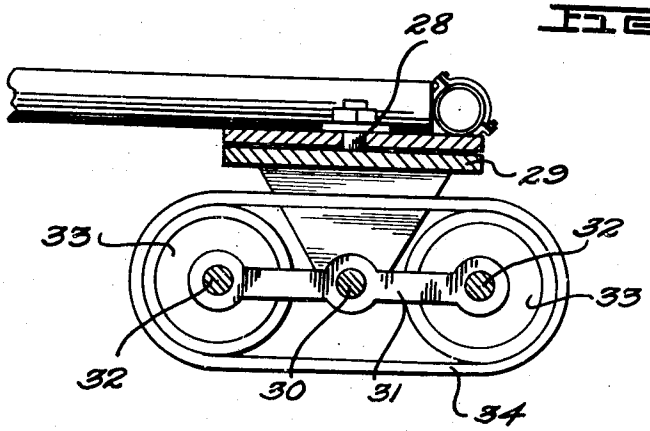


FIG. 5



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Patented May 3, 1949

2,469,087

UNITED STATES PATENT OFFICE

2,469,087

DERRICK MOVER

Clark Swartz, Cody, Wyo.

Application August 13, 1946, Serial No. 690,303

2 Claims. (Cl. 280—81)

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This invention relates to a derrick mover and more particularly to a device for moving a derrick from place to place.

In the oil fields it has become a practice to erect a derrick or drill rig for the purpose of supporting the well-drilling equipment, and then after the well has been drilled and cased to leave the derrick or drill rig in place over the mouth of the well where it serves no useful purpose, once the well has been drilled. Such practice has resulted in not only the waste of materials, but also complete loss of the time required to erect the derrick or drill rig.

It is the primary object of this invention to salvage the derrick or drill rig intact so that it may be employed for drilling and casing other wells.

Another object is to save the time which would be consumed in the erection of a derrick or drill rig in a new location, and hence effect economies in the production of oil.

A further object is to facilitate the transfer of an already erected derrick or drill rig from one location to another.

The above and other objects may be attained by employing this invention which embodies among its features a frame of a size and shape to conform to the size and shape of the base of a derrick or drill rig, a derrick foot-supporting plate at each corner of the frame and a carriage in vertical alignment with each of certain derrick foot-supporting plates to lend mobility to the frame.

Other features include means to turn at least two of the carriages in unison about vertical axles to facilitate the steering of the frame while the device is in transit with a derrick or drill rig supported thereon.

Still other features include means to couple a tractor to the frame in such a manner that the frame may be steered to follow the path of the tractor.

More specific features include a carriage under each corner of the frame which comprises an inverted U-shaped yoke, a supporting frame mounted in each yoke to rock about a horizontal axis, frame supporting wheels at opposite ends of each supporting frame and an endless tread trained over the wheels of each supporting frame.

In the drawings:

Figure 1 is a plan view of a derrick mover embodying the features of this invention.

Figure 2 is a side view of Figure 1 showing a fragment of a derrick supported thereon.

Figure 3 is a front view of Figure 2,

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Figure 4 is an enlarged perspective view of one of the carriages,

Figure 5 is a longitudinal sectional view through one of the carriages, and a fragment of the supporting frames.

Referring to the drawings in detail my improved derrick mover comprises a main frame 10 comprised of tubular side bars 11 and tubular front and rear bars 12 forming a rectangular supporting frame. The ends of the side and end bars 11 and 12 are adjustably connected together by sleeves 13 each of which carries a corner plate 14. The sleeves 13 are held in various adjusted positions on the bars 11 and 12 by means of adjusting screws or bolts 15 so that the device may be expanded or contracted to fit the bases of derricks of different sizes.

The plates 14 form the supports for the lower ends of columns 16 forming portions of the substructure of the base designated generally 17 of a derrick designated generally 18.

Secured to the side bars 11 near their rear ends are sleeves 19 carrying supporting brackets 20, and extending transversely of the frame 10 from one supporting bracket to the other is a telescopic bar 21. Fixed by means of a sleeve 22 to the forward end bar 12 midway between its ends is a plate 23 to which radius rods 24 are connected. These radius rods extend rearwardly and outwardly to the brackets 20 and serve to transmit pull on the frame 10 adjacent its rear end as will be more fully understood from the following description. Pivotally supported at 25 adjacent the forward edge of the plate 23 is a tongue 26 which projects forwardly from the frame 10 and is provided at its extreme forward end with a coupling element 27 by means of which the device may be coupled to a tractor.

Pivotally supported at 28 to rotate about a vertical axis in each plate 14 at the forward end of the frame 10 is an inverted U-shaped yoke 29 between the depending arms of which is pivotally supported as at 30 a carriage 31 carrying at opposite ends axles 32 upon which wheels 33 are mounted for rotation. An endless tread 34 is trained over each pair of wheels 33 to form a relatively wide track, so that the weight of the device will be distributed over a wide surface of the ground being traversed. Formed along one side of each yoke 29 at the forward end of the frame 10 are lever arms 35 to which tie bars 36 and 37 are pivoted as at 38. The tie bar 37 is of telescopic construction and serves to connect the rear ends of the foremost yokes 29 so that when one of the yokes is rotated about its vertical

pivot 28, the other will move in unison therewith. The link or the tie bar 37 is adjusted to suit the width of the base of the derrick to be moved and the adjustment is secured by means of a set screw 39. The ends of the tie bars 36 opposite those connected to the arm 35 are pivotally connected as at 40 to a link 41 which is pivoted at 42 to the tongue 26, so that as the tongue 26 moves about its pivot 25 the link 41 will move in unison therewith, and thus cause the yokes 29 to move about their pivots 28. It will thus be seen that as the tractor attached to the coupling 27 changes its course, the frame 10 will be caused to follow.

The carriages at the rear end of the frame 10 correspond in all respects to the carriages at the forward end of the frame 10 except that they are not equipped with the pivotal supports 28, but instead are bolted as at 43 directly to their respective corner plates 14.

In use the derrick mover 10 is moved to a position beside a derrick already erected and which has been properly prepared for moving. The sleeves 13 are then adjusted on their respective side and end bars 11 and 12 to form a rectangle equal in size to the base of the derrick. The derrick is then loaded on to the frame 10 with the corner plates 16 of the sub-frame of the derrick resting on the corner plates 14 of the frame 10. The rearmost carriages may be rigidly bolted to the sub-frame of the derrick, whereupon the forward end of the derrick is securely anchored to the plates 14. The load of the derrick will be transmitted directly to the carriages beneath the four corners of the mover, so that the frame 10 serves merely to tie the carriages in proper position beneath the corners of the derrick. Upon coupling a tractor to the coupling 27 it will be obvious that the derrick mover and the derrick may be moved in unison so that the derrick may be transferred to a new location without requiring that it be dismantled. In this way much time and labor can be saved and the same derrick or drill rig may be employed to drill an unlimited number of wells in an oil field.

While in the foregoing there has been shown and described the preferred embodiment of this invention it is to be understood that minor changes in the details of construction, combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

What I claim as my invention is:

1. A derrick mover which includes a pair of spaced parellel side bars, a pair of spaced parallel end bars, said side and end bars being assembled to form a rectangle, a mobile carriage at each corner of the rectangle, a derrick-foot supporting plate carried by each carriage, means coupling the foot supporting plates to the side and end bars for longitudinal adjustment thereon, a plate mounted intermediate the ends of one of the end bars, a draft tongue connected to the plate and radius rods connecting the plate with the side bars near the opposite end bar whereby pull on the draft tongue will be transmitted to the side bars.

2. A derrick mover which includes a pair of spaced parallel side bars, a pair of spaced parallel end bars, said side and end bars being assembled to form a rectangle, a mobile carriage at each corner of the rectangle, a derrick-foot supporting plate carried by each carriage, means coupling the foot supporting plates to the side and end bars for longitudinal adjustment thereon, a plate coupled to one of the end bars intermediate the ends thereof, a draft tongue pivoted to the plate, a radius rod coupled at one end to a corner of the plate on the side remote from the draft tongue and at its opposite end to a side bar near the end bar remote from that to which the plate is coupled, and means coupling the draft tongue with the carriages adjacent the end bar carrying the plate for turning said carriages in unison about spaced vertical axes.

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