

Sept. 18, 1956

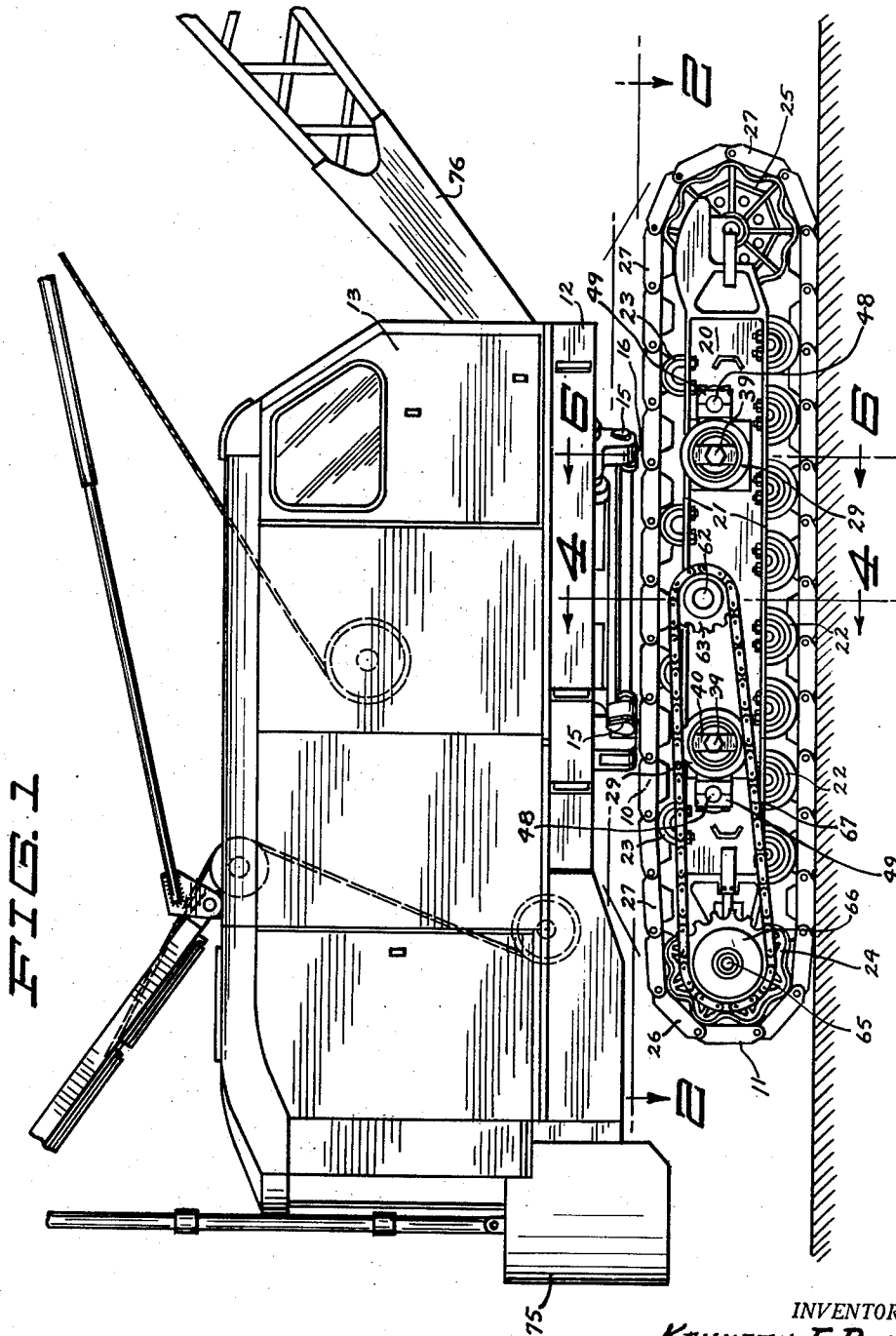
K. F. POTTER

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LATERALLY ADJUSTABLE TREADS FOR CRAWLER CRANES.

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5 Sheets-Sheet 1



INVENTOR.
KENNETH F. POTTER
BY
Braddock and Braddock
ATTORNEYS

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K. F. POTTER

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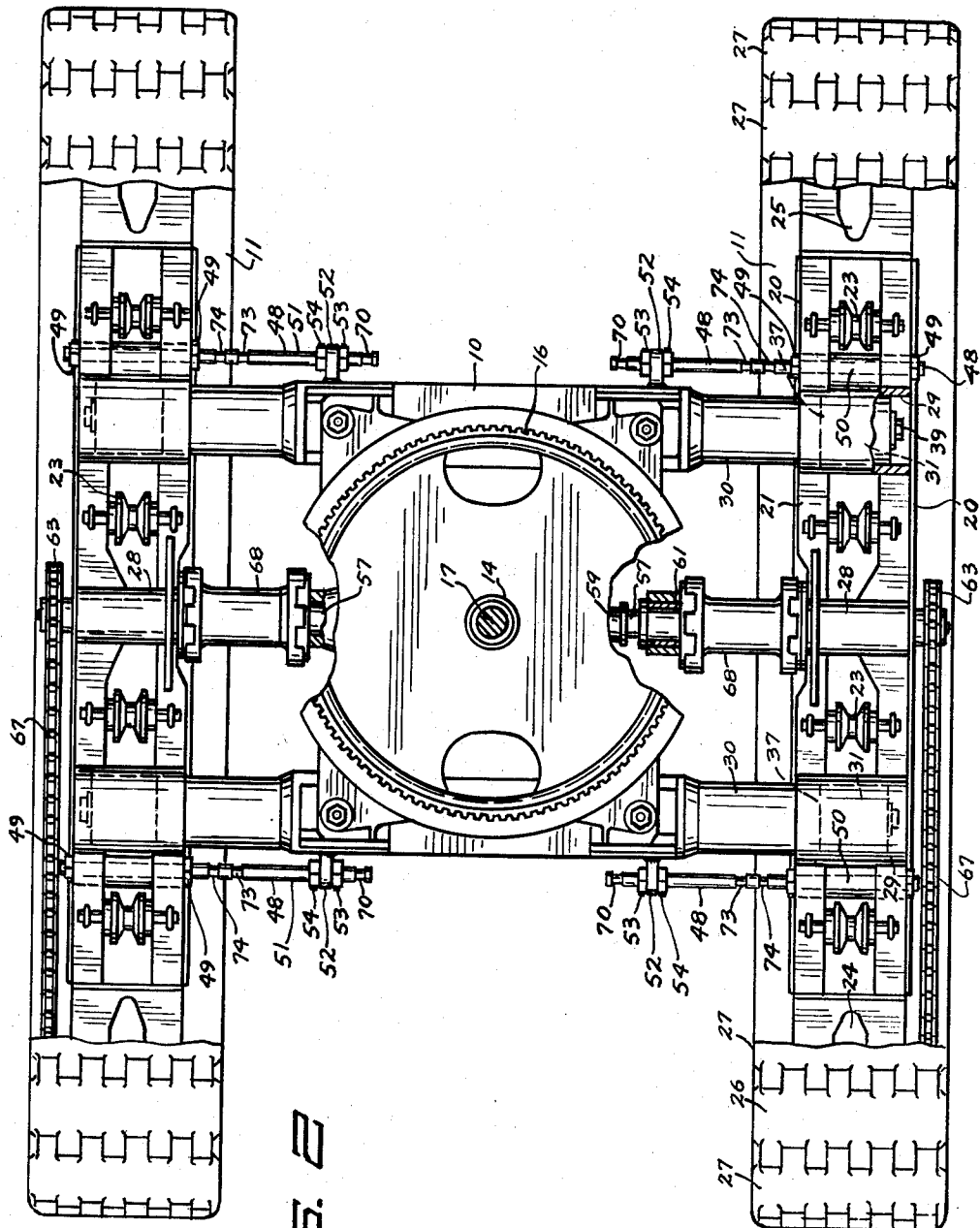


FIG. 2

INVENTOR.

KENNETH F. POTTER

BY

Braddock and Braddock
ATTORNEYS

Sept. 18, 1956

K. F. POTTER

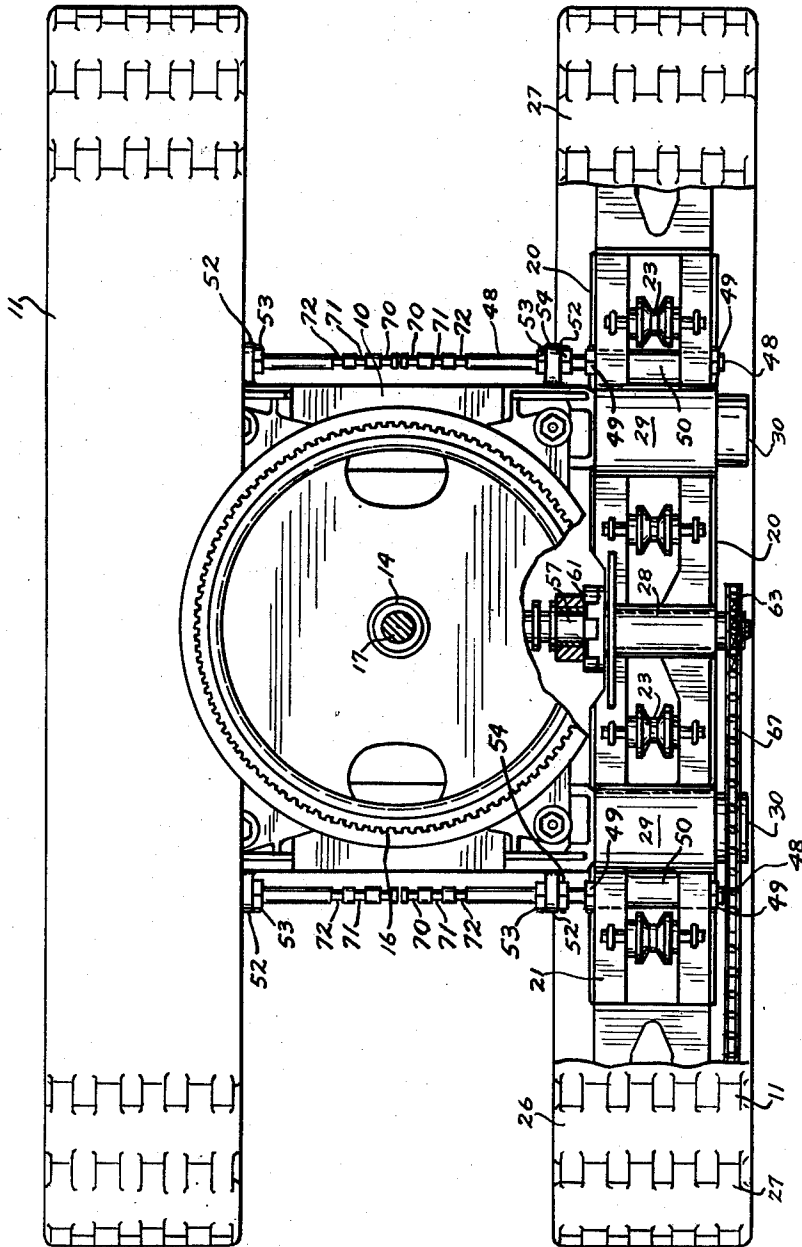
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5 Sheets-Sheet 3

FIG. 3



INVENTOR.

KENNETH F. POTTER

BY

Braddock and Braddock

ATTORNEYS

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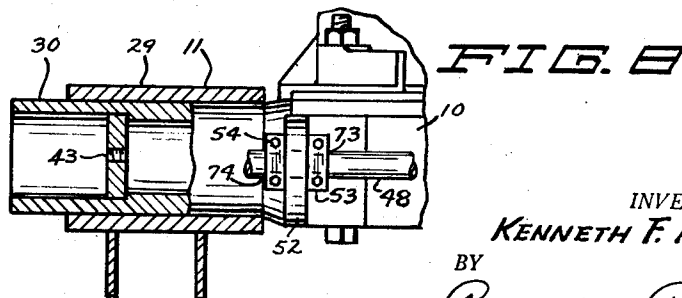
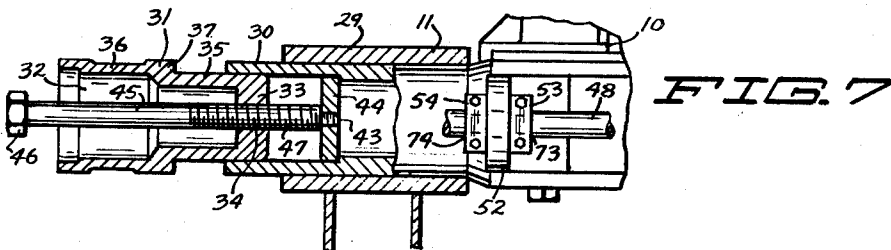
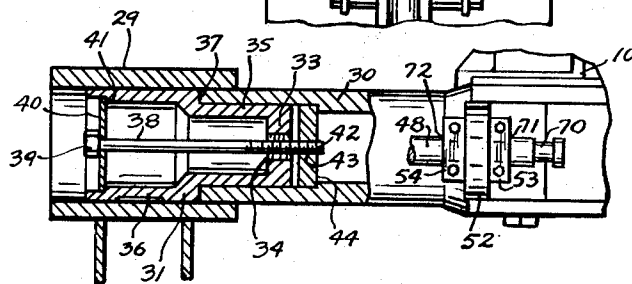
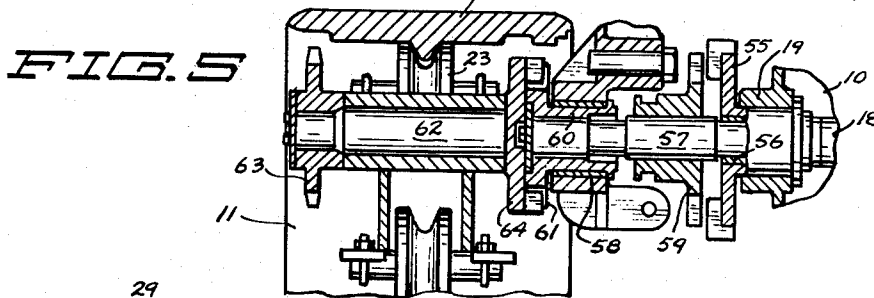
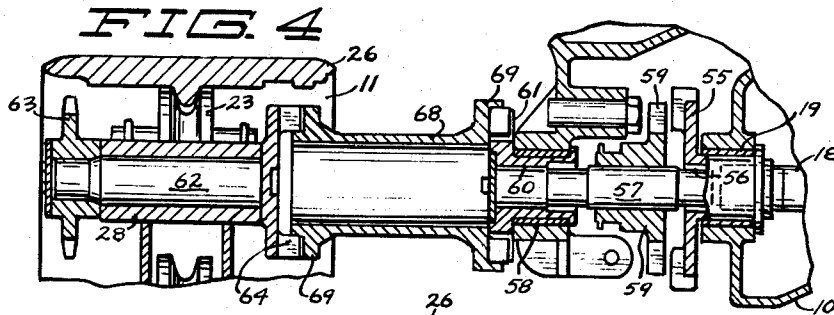
K. F. POTTER

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5 Sheets-Sheet 4



INVENTOR.
KENNETH F. POTTER
BY
Braddock and Braddock
ATTORNEYS

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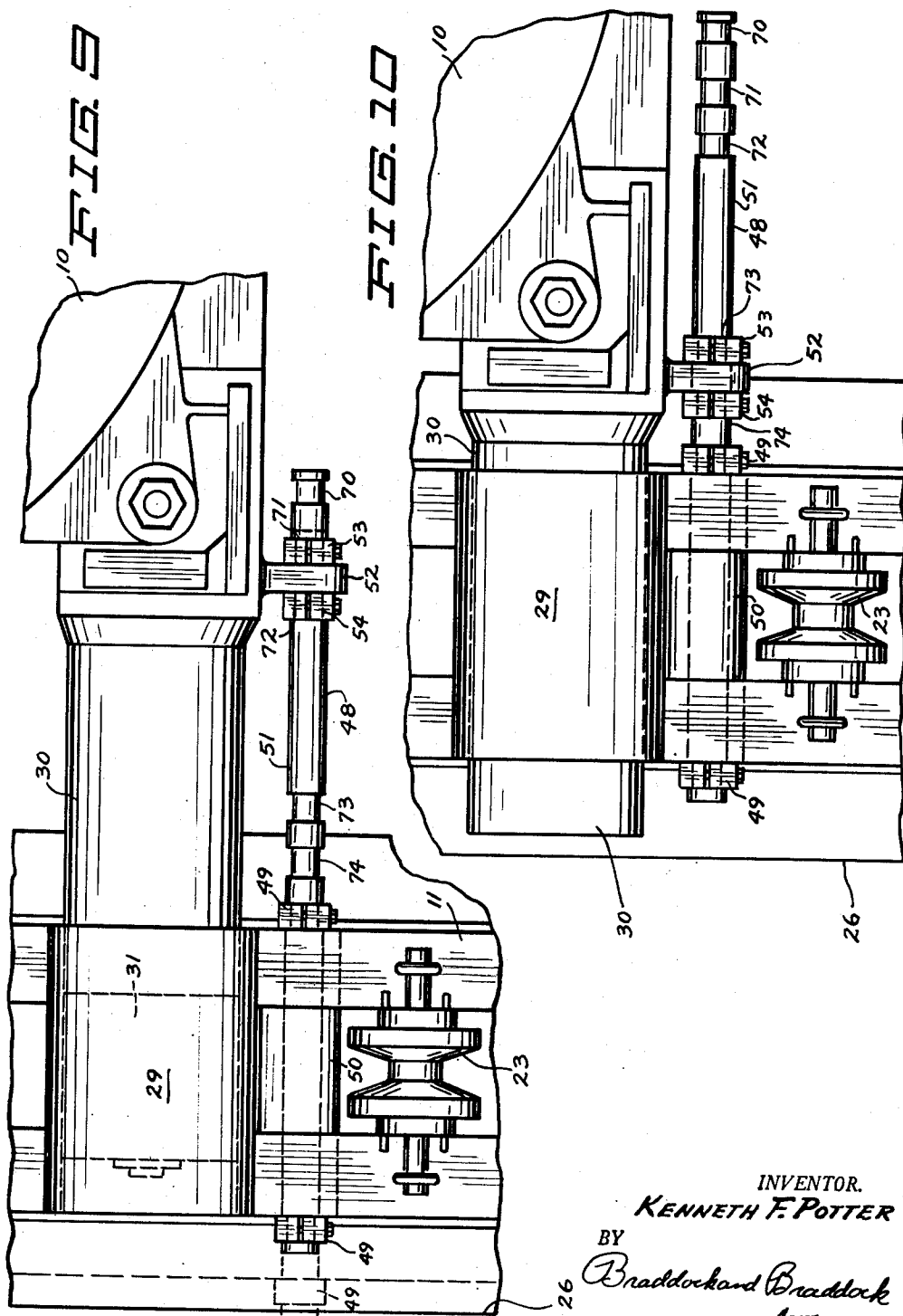
K. F. POTTER

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LATERALLY ADJUSTABLE TREADS FOR CRAWLER CRANES

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5 Sheets-Sheet 5



INVENTOR.

KENNETH F. POTTER

BY

Braddock and Braddock
ATTORNEYS

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LATERALLY ADJUSTABLE TREADS FOR CRAWLER CRANES

Kenneth F. Potter, St. Paul, Minn., assignor to American Hoist & Derrick Company, St. Paul, Minn., a corporation of Delaware

Application March 2, 1955, Serial No. 491,751

11 Claims. (Cl. 180—9.1)

The invention herein presents a crawler crane incorporating new and improved features and characteristics of construction adapted to render the crawler crane capable of being adjusted, without the necessity for removal of its crawlers, selectively to have relatively great width and stability as when to be put to use and comparatively small width as when to be shipped. A crawler crane made according to the invention will include removable and replaceable jaw clutch units, and, by selection of jaw clutch units of appropriate length, said crawler crane can be set up to be of greater or less width to suit any of various operating requirements in practical use.

In the accompanying drawings forming a part of this specification,

Fig. 1 is a side elevational view of a crawler crane made according to the invention;

Fig. 2 is a horizontal sectional view, taken on line 2—2 in Fig. 1 and partially in section and partially broken away, disclosing the crawler crane as when adjusted to have relatively great width;

Fig. 3 is a view corresponding generally with the disclosure of Fig. 2, but showing the crawler crane as when adjusted to have comparatively small width;

Fig. 4 is an enlarged sectional view, taken on line 4—4 in Fig. 1;

Fig. 5 is a view corresponding generally with the disclosure of Fig. 4, but showing a crawler of the crawler crane as when adjusted inwardly to position as in Fig. 3;

Fig. 6 is an enlarged sectional view, taken on line 6—6 in Fig. 1;

Fig. 7 is a view corresponding with the disclosure of Fig. 6, but showing a crawler of the crawler crane as when adjusted inwardly to position as in Fig. 3 and an axle extension of said crawler crane as when being removed from an axle thereof;

Fig. 8 is a view illustrative of the disclosure of Fig. 7 after removal of the axle extension;

Fig. 9 is an enlarged fragmentary plan view showing a crawler as when adjusted outwardly; and

Fig. 10 is a view corresponding with the disclosure of Fig. 9 showing a crawler as when adjusted inwardly.

The crawler crane of the invention includes a horizontal car frame 10 supported by right and left crawlers, each denoted generally at 11, and rotatably supporting a platform or deck 12 with cab 13 thereon.

A hollow upright or standard 14 is suitably and conveniently secured upon the car frame 10 to extend upwardly therefrom. A circumferential portion of the platform or deck 12 includes conveniently mounted rollers 15 spaced about said platform or deck and concentric with a vertical opening through the upright or standard 14, said rollers being supported upon and rideable over a bull gear 16 which is fixedly secured in suitable and convenient manner upon the car frame 10.

The revolvable platform or deck 12 will support a power plant and ordinary or preferred appurtenances of crawler cranes as now in use, not necessary to be de-

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scribed. Suffice it to say that a vertical drive shaft 17 is suitable and conveniently mounted in the vertical opening through the hollow upright or standard 14 to be capable of being rotated selectively in each of opposite directions by a power plant upon said platform or deck.

Horizontal, transverse shaft elements 18, 18, beneath the car frame 10 and supported thereon as represented generally at 19, are connected up with the vertical shaft 17 to be propelled thereby. In turn, the horizontal, transverse drive shaft elements 18, 18 are connected up with the right and left crawlers 11, 11 to accomplish their propulsion. Said horizontal, transverse drive shafts 18, 18 are, in fact, constituted as a single horizontal drive shaft in the illustrated and described embodiment of the invention.

Each of the right and left crawlers 11 includes spaced, inner and outer vertically disposed members 20, 20 and spaced, upper and lower horizontally disposed members 21, 21 comprising an elongated, rectilinear frame which suitably and conveniently supports longitudinally spaced load rollers 22 situated at a lower portion of the elongated, rectilinear frame and longitudinally spaced idler rollers 23 situated at an upper portion of said elongated, rectilinear frame. Driven and idler tumblers, denoted 24 and 25, respectively, are suitably and conveniently mounted upon opposite end portions of the elongated, rectilinear frame of each crawler 11, and a tread belt 26, consisting of pivotally connected tread pads 27, of each crawler rides the load and idler rollers 22 and 22 and the driven and idler tumblers 24 and 25 thereof in a well known manner.

The elongated, rectilinear frame of each crawler 11 fixedly supports a horizontal, transversely extending bearing member 28 situated at the midlength of said elongated, rectilinear frame at elevation above the load rollers 22 and below the idler rollers 23, and also fixedly supports a pair of horizontal, transversely extending bearing members 29, 29 situated at either side of the bearing member 28 in equally spaced relation thereto, above the load rollers 22 and below the idler rollers 23. The bearing members 29, 28, 29 are in a single horizontal plane also including the driven and idler tumblers 24 and 25, and, in the disclosure as made, said bearing members 29, 29 are spaced at farther distance from the driven and idler tumblers, respectively, than from the bearing member 28.

The horizontal car frame 10 fixedly supports horizontal, transversely extending axles, each represented 30, which are mounted for longitudinal sliding movement in the bearing members 29 of the crawlers 11. More explicitly stated, there are two axles 30 extending outwardly from each side of the car frame 10, and each of said axles is slidably supported in a different one of the bearing members 29, 29 of the crawler 11 at the corresponding side of said car frame.

Each axle 30 removably supports an axle extension 31, in a manner which will be apparent from the disclosure of Fig. 6 of the drawings, and each axle extension, when in use, also is slidably situated in a corresponding bearing member 29. The exterior end portion of each axle 30 is open, and each axle extension 31 is a hollow cylindrical member open at its exterior end 32 and closed at its interior end by a transverse wall 33 having a central threaded opening 34 therethrough. An interior end portion 35 of each axle extension is of reduced diameter to be snugly, slidably fitted in the open end of a corresponding axle 30, and an exterior end portion 36 of each axle extension is of enlarged diameter to provide an interiorly facing annular shoulder 37. When each axle extension is set at its innermost position, as in Fig. 6 of the drawings, its annular shoulder 37 will be engaged against the exterior end of the correspond-

ing axle and the external surface of its cylindrical exterior end portion 36 will lie in the same circumference as does the external surface of said corresponding axle. Stated differently, the external surfaces of the exterior end portions 36 of the axle extensions 31 are continuations of the external surfaces of the axles 30, and said axles and axle extensions are longitudinally slidable as a unit in the bearing members 29.

Each axle extension 31 can be detachably secured in its corresponding axle 30 by a locking rod 38 having a head 39 thereof engageable against the exterior surface of a cross bar 40 removably seated against an exteriorly facing annular shoulder 41 within the exterior end portion of the axle extension and a threaded end portion 42 thereof, opposite said head 39, engaged in a threaded opening 43 in a block 44 fixedly secured, as by welding, in said corresponding axle. The blocks 44, when inserted desirably can be in slightly spaced relation to the transverse walls 33 of the axle extension 31. The locking rods 38 will extend freely through the threaded openings 34 in said transverse walls 33, as in Fig. 6 of the drawings, when the axle extensions 31 are in locked position.

Each axle extension 31 can be removed from its corresponding axle, after removal of the corresponding locking rod 38 and cross bar 40, by employment of an actuator rod 45, disclosed in Fig. 7, having a head 46 thereof situated to be accessible exteriorly of the axle extension, a threaded end portion 47 thereof, opposite said head 46, operable in the threaded opening 34 through the transverse wall 33 of the corresponding axle extension and a free end thereof engageable against the exterior surface of a corresponding block 44. The axle extensions 31 obviously will be forced out of the axles 30 in response to turning of the actuator rod 45 against the blocks 44 in direction to cause the transverse walls 33 of said axle extensions to ride or be moved outwardly along said actuator rod.

A pair of spacer rods, each denoted 48, are employed, in connection with instrumentalities to be described, both to retain each crawler 11 at an outer position, as in Fig. 2, when the crawler crane is to have relatively great width, and at an inner position, as in Fig. 3, when said crawler crane is to have comparatively small width. An exterior end portion of each spacer rod 48 is fixedly secured, as by split collars 49, 49, in a tubular element 50 rigid with the elongated frame of the corresponding crawler 11. Each of said tubular elements 50 is in adjacent, parallel relation to a bearing member 29 at the side thereof opposite the bearing member 28. An exterior end portion 51 of each spacer rod 48 passes freely through an opening in a corresponding bracket 52 suitably and conveniently fixed upon the car frame 10. There is a bracket 52 at each of the four corners of said car frame, as clearly disclosed in Figs. 2 and 3 of the drawings. In said Figs. 2 and 3, there are two split collars, indicated 53 and 54, respectively, upon each spacer rod 48, the collars 53 being situated at the sides of the brackets 52 opposite and the collars 54 being situated at the side of said brackets adjacent the corresponding crawler 11. Each spacer rod 48 includes portions, indicated 70, 71, 72, 73, 74, respectively, of reduced diameter spaced apart along the length of the interior end portions 51 of the spacer rods for removably receiving the split collars. Each reduced diameter portion has length equal to a measurement representing the thickness of each split collar, and the reduced portions 70, 71, 72 and 73, 74, respectively, are spaced apart a distance equal to a measurement representing the thickness of each bracket 52. Ordinarily, the crawlers will be jacked up during their sliding adjustment along the axles 30 and the axle extensions 31. Upon completion of each adjustment, in a manner to be set forth, the split collars 53, 54 will be situated in appropriate portions of reduced diameter in engagement with opposed surfaces of the brackets 52 thus to retain the crawlers 11 in the positions intended.

As clearly disclosed in Figs. 4 and 5 of the drawings, an

outwardly facing coupling member 55, propelled through the instrumentality of the vertical drive shaft 17, is fixed, as at 56, upon one of the horizontal, transverse drive shaft elements 18. The other horizontal, transverse drive shaft element 18 fixedly carries an outwardly facing coupling member (not shown) similar to the outwardly facing coupling member 55.

First auxiliary horizontal, transverse drive shafts 57, 57, one situated exteriorly of each horizontal, transverse drive shaft element 18 in alinement therewith, are suitably and conveniently rotatably supported, as denoted generally at 58, upon the car frame 10. A coupling member 59 slidably keyed to each of the first auxiliary horizontal, transverse drive shafts 57 is for releasably engaging the outwardly facing coupling member, such as 55, fixed upon the corresponding horizontal, transverse drive shaft element 18. When it is desired that both of the first auxiliary horizontal, transverse drive shafts 57, 57 be propelled in unison, the coupling members 59 will be placed in engagement with the outwardly facing coupling members fixed upon the horizontal, transverse drive shaft elements 18. When it is intended that either or both of said first auxiliary horizontal, transverse drive shafts remain idle, the corresponding coupling member, or coupling members, 59 will be released. The exterior end portion of each of the first auxiliary horizontal, transverse drive shafts 57 fixedly supports, as at 60, an outwardly facing coupling member 61.

The central bearing member 28 of each of the crawlers 11 supports a second auxiliary horizontal, transverse drive shaft 62 for rotative movement. A drive sprocket 63 fixed upon the exterior end and an inwardly facing coupling member 64 fixed upon the interior end of each of the second auxiliary horizontal, transverse drive shafts 62 preclude longitudinal movement of said second auxiliary horizontal, transverse drive shafts relative to the bearing members 28. The second auxiliary horizontal, transverse drive shafts 62, 62 are in longitudinal alinement with the drive shaft elements 18 and the first auxiliary horizontal, transverse drive shafts 57.

The elongated, rectilinear frame of each crawler 11 rotatably supports a horizontal, transverse shaft 65 upon which the corresponding driven tumbler 24 is fixed, and a driven sprocket 66 also is fixedly secured upon each horizontal, transverse shaft 65. Chains 67, one at either side of the crawler crane, ride the drive sprockets 63 and the driven sprockets 66.

Jaw clutch units, each denoted 68 are employed as elements of the crawler crane when set up for use. When said crawler crane is to be transported along a highway or shipped, the jaw clutch units are removed therefrom. In Figs. 2 and 4 of the drawings, there is a jaw clutch unit 68 at each side of the car body, between and assembled with alined first and second auxiliary horizontal, transverse drive shafts 57, 62 at the same side of said car body. In Figs. 3 and 5, the jaw clutch units have been removed and alined coupling members 61, 64 at each side of the car body are interengaged.

Each jaw clutch unit 68 is constituted as a hollow cylindrical member having coupling members, represented 69, 69, upon its opposite ends. Each of the coupling members 69 faces exteriorly of its corresponding jaw clutch unit, and said coupling members 69 are disposed in perpendicular relation to said jaw clutch units. The coupling member upon one end of each jaw clutch unit when in use will be engaged with a coupling member 61 while the coupling member upon the other end of the jaw clutch unit is engaged with a corresponding coupling member 64.

When the crawler crane is set up as disclosed in Figs. 2, 4, 6 and 9 of the drawings, the drive of the tread belts 26 of the right and left crawlers 11 will be through the instrumentality of the vertical drive shaft 17, the horizontal, transverse drive shaft elements 18, the first auxiliary horizontal, transverse drive shafts 57, the jaw clutch

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units 68, the second auxiliary horizontal, transverse drive shafts 62, the drive sprockets 63, the chains 67 and the driven sprockets 66. In Figs. 3, 5, 8 and 10, the jaw clutch units have been removed, and the coupling members 61, 64 upon each set of drive shafts 57, 62 are interengaged. Stated differently, the first and second auxiliary drive shafts 57, 62 are directly connected when the jaw clutch units are omitted from the crawler crane.

Jacking up of first one and then the other of the crawlers 11, when to be adjusted inwardly or outwardly, can be accomplished in any suitable and convenient manner. For instance, the platform or deck 12 desirably can be rotated to situate a counterbalancing weight 75 thereon, opposite a boom 76, at a position where adjacent to and disposed exteriorly of one of the crawlers. With said weight so situated, cables and operating mechanism of the crawler crane can be employed to lift the crawler which is at the side of said crane adjacent the weight off of its supporting surface, and while said crawler is so lifted, a prop can be placed under an intermediate portion of the car frame 10 to extend longitudinally thereof. When then the crane lift is released, the counterbalancing weight 75 will tip the crane into a sidewise tilted position with the crawler opposite the weight suspended above said supporting surface. Upon completion of inward or outward adjustment of the last mentioned crawler, the platform or deck 12 can be rotated to situate the weight on the opposite side of the crane at a position where adjacent to and disposed exteriorly of the crawler which had been lifted, thus to tilt the crane to situate the adjusted crawler on the supporting surface and elevate the crawler needing adjustment. Upon completion of adjustment of both crawlers, the cables and operating mechanism of the crawler crane can be employed to lift a side of said crane to release the prop. Upon removal of said prop, the crane lift can be manipulated to lower the last adjusted crawler to the supporting surface.

The crawler crane when set up, as in Fig. 2, to have relatively great width and stability in use, can be readily and easily adjusted to have comparatively small width suitable for travel on a highway or shipment upon a flat car. When the crawlers are to be adjusted toward each other, from position as in Fig. 2 toward or to position as in Fig. 3, the split collars 53 will be removed from the reduced portions 71 and placed in the reduced portions 70, and said crawlers will be moved apart, in any suitable and convenient manner, until said split collars 53 engage the brackets 52. Stated differently, the crawlers will be moved apart a distance permitting removal of the jaw clutch units 68. After said jaw clutch units are removed from the crane and the split collars 54 are removed from the reduced portions 72 and placed in the reduced portions 74, the crawlers will be adjusted inwardly until said split collars 54 are engaged with the brackets 52. When then the split collars 53 are situated in the reduced portions 73, as in Figs. 3 and 10, in engaged relation with surfaces of said brackets opposite the split collars 54, the crawlers 11 will be at their inner positions, as in said Fig. 3, and the coupling members 61, 64 will be interengaged, as in Fig. 5. After inward adjustment of the right and left crawlers is accomplished, the axle extensions 31 and their appurtenances will be removed from the axles 30 in the manner as hereinbefore set forth. Said axle extensions with their appurtenances, the actuator rod, or rods, 45, and the jaw clutch units when not in use can be stored at a suitable location in the cab 13.

The crawler crane when set up, as in Fig. 3, to have comparatively small width to be suitable for shipment, or travel on the highway, can be adjusted to have relatively great width. When the crawlers are to be adjusted away from each other, from position as in Fig. 3 toward or to position as in Fig. 2, the split collars 53 will be removed from the reduced portions 73 and placed

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in the reduced portions 70, and said crawlers will be moved apart until said split collars 53 engage the brackets 52 thus to permit insertion of the jaw clutch units 68. After the jaw clutch units are inserted and the split collars 54 are removed from the reduced portions 74 and placed in the reduced portions 72, the crawlers will be adjusted inwardly until said split collars are engaged with the brackets 52. When then the split collars 53 are situated in the reduced portions 71, as in Figs. 2 and 9, in engaged relation with surfaces of said brackets opposite the split collars 54, the crawlers 11 will be at their outer positions, as in said Fig. 2, and the coupling members 69, 69 on opposite ends of the jaw clutch units 68 will be engaged, as in Fig. 4, with the coupling members 64, 61 of the different sets. The axle extensions 31 desirable will be inserted and fastened in the axles 30, as disclosed in Fig. 6 of the drawings, before the crawlers are moved from their positions as in Figs. 3, 5, 7, 8 and 10 toward their positions as in Figs. 2, 4, 6 and 9.

By proper selection of removable jaw clutch units, such as 68, and spacer rods, such as 48, with spaced apart portions of reduced diameter, such as 70, 71, 72, 73, 74, the width of the crawler crane can be made greater or less, when this may become necessary or desirable, to suit requirements in practical use. Stated otherwise, a crawler crane made according to the invention can be adjusted to have a maximum width, a minimum width, or any of an infinite number of different widths. Evidently, the crawlers 11 will be secured in fixed relation to the car frame 10, no matter at what location the bearings 29, 29 may be situated along the axles 30, when the split collars 53, 54 are engaged against opposed surfaces of the brackets 52 upon said car frame.

The crawler crane when set up as in either Fig. 2 or Fig. 3 can be propelled by its own power, as when in practical use, or upon a highway, or onto and off of vehicles by which to be transported. Inasmuch as the crane of the invention will be supported by its crawlers in transit it need not be supported on blocks. Inward adjustment of the crawlers will be accomplished before loading upon a flat car or other transporting vehicle, or commencement of travel on a highway. The drive chains 67, the sprockets 63 and 66 and appurtenant parts are not disturbed during inward and outward adjustment of the right and left crawlers.

What is claimed is:

1. In a crawler crane, a car frame, right and left crawlers each including a tread belt, right and left axles upon said car frame supported by said crawlers for adjustment of the crawlers toward and away from the car frame, and mechanism for propelling the tread belts of said right and left crawlers, respectively, including first right and left transversely extending drive shafts upon said car frame, second right and left transversely extending drive shafts upon said right and left crawlers, respectively, a first coupling member upon each of said first right and left transversely extending drive shafts, a second coupling member upon each of said second right and left transversely extending drive shafts for detachable engagement with said first coupling members, respectively, when said right and left crawlers are adjusted inwardly of said car frame, right and left clutch units for removable insertion between the first and second coupling members upon the first and second right and left transversely extending drive shafts, respectively, and third and fourth coupling members upon each of said right and left clutch units for detachable engagement with the first and second coupling members upon the first and second right and left transversely extending drive shafts, respectively, when said right and left crawlers are adjusted outwardly of said car frame.

2. In a crawler crane, a car frame, right and left crawlers each including a tread belt, front and rear right and left axles upon said car frame supported by said crawlers for adjustment of the crawlers toward and away

from the car frame, means for securing said crawlers in fixed position upon said axles at any position to which the crawlers may be adjusted upon said axles, and mechanism for propelling the tread belts of said right and left crawlers, respectively, including first right and left transversely extending drive shafts upon said car frame, second right and left transversely extending drive shafts upon said right and left crawlers, respectively, a first coupling member upon each of said first right and left transversely extending drive shafts, a second coupling member upon each of said second right and left transversely extending drive shafts for detachable engagement with said first coupling members, respectively, when said right and left crawlers are adjusted inwardly of said car frame, right and left clutch units for removable insertion between the first and second right and left transversely extending drive shafts, respectively, and third and fourth coupling members upon each of said right and left clutch units for detachable engagement with the first and second coupling members upon the first and second right and left transversely extending drive shafts, respectively, when said right and left crawlers are adjusted outwardly of said car frame.

3. The combination as specified in claim 2 wherein said first and second right and left transversely extending drive shafts and said right and left clutch units are situated in alinement between and in spaced relation to said front and rear right and left axles.

4. In a crawler crane, a car frame, right and left crawlers each including driven and idler tumblers, load and idler rollers and a tread belt upon said tumblers and rollers, right and left axles upon said car frame supported by said crawlers for adjustment of the crawlers toward and away from the car frame, and mechanism for propelling the tread belts of said right and left crawlers, respectively, including first right and left transversely extending drive shafts upon said car frame, second right and left transversely extending drive shafts upon said right and left crawlers, respectively, a first coupling member upon each of said first right and left transversely extending drive shafts, a second coupling member upon each of said second right and left transversely extending drive shafts for detachable engagement with said first coupling members, respectively, when said right and left crawlers are adjusted inwardly of said car frame, right and left clutch units for removable insertion between the first and second coupling members upon the first and second right and left transversely extending drive shafts, respectively, third and fourth coupling members upon each of said right and left clutch units for detachable engagement with the first and second coupling members upon the first and second right and left transversely extending drive shafts, respectively, when said right and left crawlers are adjusted outwardly of said car frame, a drive sprocket fixed upon each of said second right and left transversely extending drive shafts, a shaft rotatably supporting each of said driven tumblers, a driven sprocket fixed upon each of said rotatably supported shafts, and right and left chains riding said drive and driven sprockets, respectively.

5. In a crawler crane, a car frame, right and left crawlers each including an elongated frame, forward and rearward bearings, an intermediate bearing and a tread belt supported upon the elongated frame of each of said crawlers, front and rear right and left axles upon said car frame supported by the forward and rearward bearings upon the elongated frames of the right and left crawlers, respectively, for adjustment of said crawlers toward and away from the car frame, and mechanism for propelling the tread belts upon said right and left crawlers, respectively, including first right and left transversely extending drive shafts upon said car frame, second right and left transversely extending drive shafts rotatably mounted in the intermediate bearings of the elongated frames of said right and left crawlers, respectively, a first

coupling member upon each of said right and left transversely extending drive shafts, a second coupling member upon each of said second right and left transversely extending drive shafts for detachable engagement with said first coupling members, respectively, when the elongated frames of said right and left crawlers are adjusted inwardly of said car frame, right and left clutch units for removable insertion between the first and second coupling members upon the first and second right and left transversely extending drive shafts, respectively, and third and fourth coupling members upon each of said right and left clutch units for detachable engagement with the first and second coupling members upon the first and second right and left transversely extending drive shafts, respectively, when the elongated frames of said right and left crawlers are adjusted outwardly of said car frame.

6. The combination as specified in claim 5, and means for securing the elongated frames in fixed positions upon the axles at any position to which they may be adjusted.

7. The combination as specified in claim 5 wherein said first and second right and left transversely extending drive shafts and said right and left clutch units are situated in alinement between and in spaced relation to said front and rear right and left axles.

8. In a crawler crane, a car frame, right and left crawlers each including an elongated frame, forward and rearward and an intermediate bearing, driven and idler tumblers and load and idler rollers supported upon said elongated frame of each of said crawlers, a tread belt upon the tumblers and rollers of each crawler, front and rear right and left axles upon said car frame supported by the forward and rearward bearings upon the elongated frames of the right and left crawlers, respectively, for adjustment of said crawlers toward and away from the car frame, and mechanism for propelling the tread belts upon said right and left crawlers, respectively, including first right and left transversely extending drive shafts upon said car frame, second right and left transversely extending drive shafts rotatably mounted in the intermediate bearings of the elongated frames of said right and left crawlers, respectively, a first coupling member upon each of said first right and left transversely extending drive shafts, a second coupling member upon each of said second right and left transversely extending drive shafts for detachable engagement with said first coupling members, respectively, when the elongated frames of said right and left crawlers are adjusted inwardly of said car frame, right and left clutch units for removable insertion between the first and second coupling members upon the first and second right and left transversely extending drive shafts, respectively, third and fourth coupling members upon each of said right and left clutch units for detachable engagement with the first and second coupling members upon the first and second right and left transversely extending drive shafts, respectively, when the elongated frames of said right and left crawlers are adjusted outwardly of said car frame, a drive sprocket fixed upon each of said second right and left transversely extending drive shafts, a shaft rotatably supporting each of said driven tumblers, a driven sprocket fixed upon each of said rotatably supported shafts, and right and left chains riding said drive and driven shafts, respectively.

9. The combination as specified in claim 5, and means for securing the elongated frames in fixed positions upon said axles constituted as spacer rods each having a first end thereof secured to a corresponding one of said elongated frames and a second end portion thereof freely disposed in a bracket upon said car frame and first and second split collars upon the second end portion of each of said spaced rods and situated at opposite sides of and in engagement with the bracket through which the spacer rod passes.

10. The combination as specified in claim 1, and an

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axle extension removably assembled with each of said axles.

11. The combination as specified in claim 1, and an axle extension constituted as a cylindrical member including an interior end portion of reduced diameter and an exterior portion of enlarged diameter removably assembled with each of said axles. 5

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