May 13, 1930. A. E. MOORE 1,758,580

TRAVELING CRANE

Filed May 29, 1928

Fig. 1.

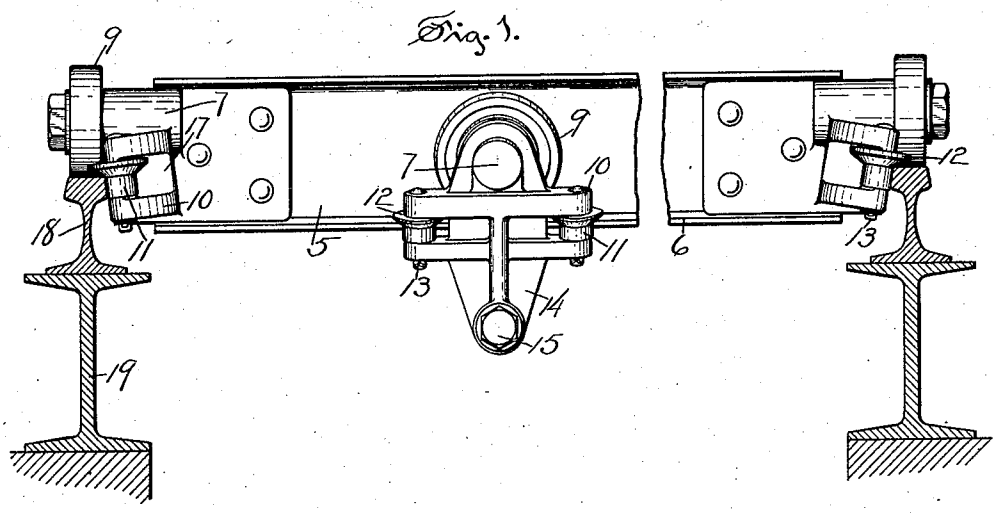


Fig. 2.

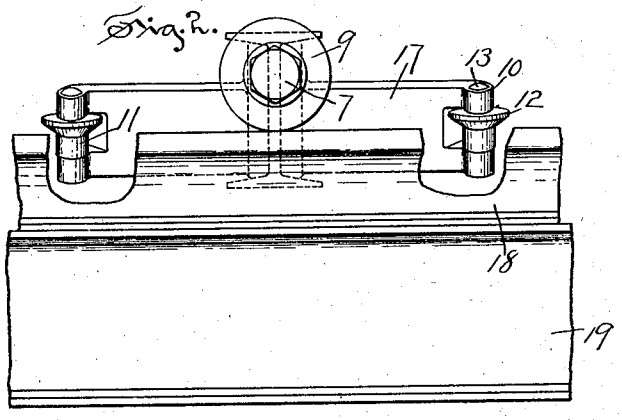


Fig. 4.

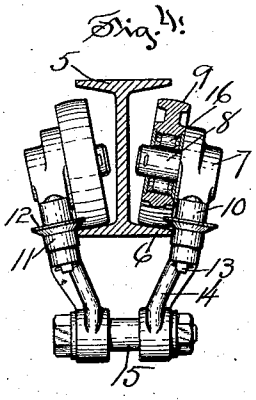
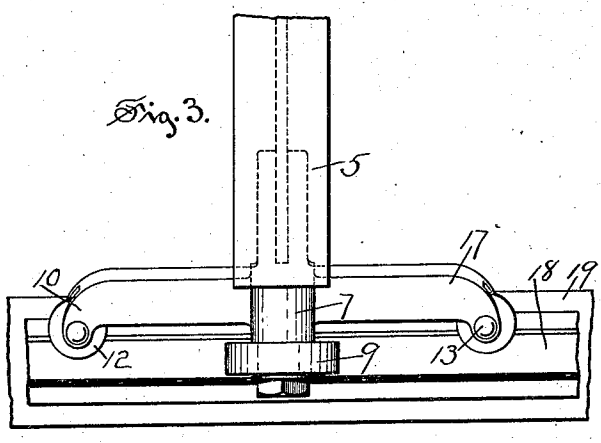


Fig. 3.



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UNITED STATES PATENT OFFICE

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TRAVELING CRANE

Application filed May 29, 1928. Serial No. 281,520.

My invention relates to the class of devices that are employed for conveying loads from one point to another, more particularly in a suspended condition, and an object of my invention, among others, is the production of a device of this sort that shall be simple in construction, strong and durable, and particularly efficient in operation.

One form of crane embodying my invention and in the construction and use of which the objects herein set out, as well as others, may be attained, is illustrated in the accompanying drawings, in which—

Figure 1 is a view illustrating a traveling crane embodying my invention.

Figure 2 is a view of one of the supporting sides of the crane with parts broken away to illustrate my improved device.

Figure 3 is a top view of the same.

Figure 4 is a detail view illustrating a load carrier containing my improvement.

My invention is adapted for use in different types of apparatus, and particularly in cranes, the device being illustrated herein as applied to a traveling part of a crane and also for the purpose of receiving a hoist, but it will be understood that the invention is not confined to the application shown, but may be used in different ways.

In the accompanying drawings the numeral 5 indicates a supporting rail or beam of common and ordinary form on which traveling hoists are commonly supported, this beam having a traction flange 6 forming a track along which the structure travels.

The structure is in fact a carrier, and it comprises a frame composed of two sides of similar construction. Each of these sides includes a hub 7 having a stud 8 projecting laterally therefrom to support a traction roller or wheel 9 that is rotatably mounted on said stud. The hub 7 is located at the upper part of the structure and substantially on a line passing vertically centrally between the ends, and on each side of this center line are extensions each comprising a pair of ears 10, each pair of ears supporting between them a guide roller 11. The axes of the traction wheels 9 and of the rollers 11 are arranged transverse one to another. Each roller 11 has a supporting flange 12 and the bodies of the rollers travel in position to contact with the edges of the flanges 6, when occasion requires, while the flanges 12 of the rollers are adapted to contact with the upper surface of said flanges under certain conditions. The traction wheels or rollers 9 travel along the upper surfaces of said flange 6 and ordinarily comprise the sole support for the carrier, but when abnormal conditions arise whereby there is a tendency for tipping action the bodies of the rollers or the flanges thereof will act as a support to prevent such tipping, while at the same time permitting easy running movement of the load carrier along its support. The rollers 11 are each supported upon pins 13 extending through the ears 10 and are removably held therein in any suitable manner, cotter pins being shown herein for this purpose.

Each frame also comprises a load support 14 in the form of a downward extension substantially in vertical alignment with the hub 7, so that each side is of cruciform shape.

A bolt 15 extends through the lower ends of the supports 14, thus uniting the two sides comprising each frame, and this bolt may also comprise the support for a device to which a hoisting mechanism may be attached in a manner common to structures of this class.

The wheels 9 may be supplied with any suitable form of antifriction device, as roller bearings 16. The structure is one of extreme simplicity comprising merely a pair of supporting wheels 9 located substantially in the vertical center of the supporting frame and generally supporting the entire load, but with a pair of guide rollers mounted in each side of the frame, not to support any material part of the weight but simply to act as guides to prevent vertical tipping action of the frame or sidewise cramping action thereof.

As one other adaptation of my improved device I have shown it applied to the ends of the supporting rail 5 which is subject to lateral forces causing tipping or cramping actions. In this arrangement the frame is substantially the same as hereinbefore de-

scribed with the exception that the ears 10 are located at the ends of arms 17 which are made of a length to withstand the greater forces existing by reason of the length of the rail 5. The rollers 9 are adapted to travel along the top of rails 18 that are supported upon beams 19. In this form of the structure only one of the sides of the frame are employed at each end of the rail 5. As a matter of fact, however, the entire frame is used with the sides reversed from the structure comprised in the load carrier, and the bolt hereinbefore referred to is in the form of the rail 5 which joins the two sides of the frame.

In accordance with the provisions of the patent statutes I have described the principles of operation of my invention, together with the device which I now consider to represent the best embodiment thereof; but I desire to have it understood that the device shown is only illustrative and that the invention may be carried out by other means and applied to uses other than those above set out.

I claim—

1. A crane structure including a carrier composed of an elongated load supporting member, a right angularly arranged frame connected to an end of the load supporting member to project longitudinally therebeyond, a traction wheel connected to the frame beyond the end of the load supporting member and with its axis of rotation above the longitudinal axis of said member, and means carried by the frame on the opposite sides of said wheel and below the longitudinal axis of the said member for permitting only slight pivotal movement of the member about the axis of rotation of the traction wheel.

2. A crane structure including a carrier composed of an elongated load supporting member, a frame connected to an end of said member, a wheel supporting stud connected to said frame directly above the longitudinal axis of said member, a wheel on said stud to travel on a supporting rail and means carried by the structure on opposite sides of a plane passing vertically and longitudinally through the member and the stud to engage a supporting rail only after slight pivotal movement of the member about the axis of the stud for preventing further such pivotal movement

3. A crane structure including a carrier composed of an elongated load supporting member, a frame connected to an end of said member, a wheel supporting stud connected to said frame directly above the longitudinnal axis of said member, a wheel on said stud to travel on a supporting rail, and flanged rollers journaled on the frame on opposite sides. of a plane passing vertically and longitudinally through the member and the stud to engage the rail only after slight pivotal movement of the member about the axis of the stud.

4. A crane structure including a movable supporting member, means at each end of said supporting member for movably mounting it upon supporting rails, each of said means including a frame secured to and projecting from an end of said member, a traction wheel journaled on the frame and having an axis of rotation positioned above the longitudinal axis of said supporting member, and means on opposite sides of the traction wheel for permitting only slight pivotal movement of said member about the axis of rotation of the traction wheel; and a carrier mounted upon said supporting member.

5. A load carrier including a frame having lateral extensions, a supporting roller mounted on a stud in the vertical center line of said frame to travel on a supporting member, and a guide roller at the outer end of each lateral extension to permit but limited pivotal movement of the frame with respect to said member.

ALFRED E. MOORE.