Sept. 28, 1937. E. S. MOORE 2,094,300

PLATFORM FOR DERRICKS

Filed Feb. 1, 1937 3 Sheets-Sheet 1

Fig. 1.

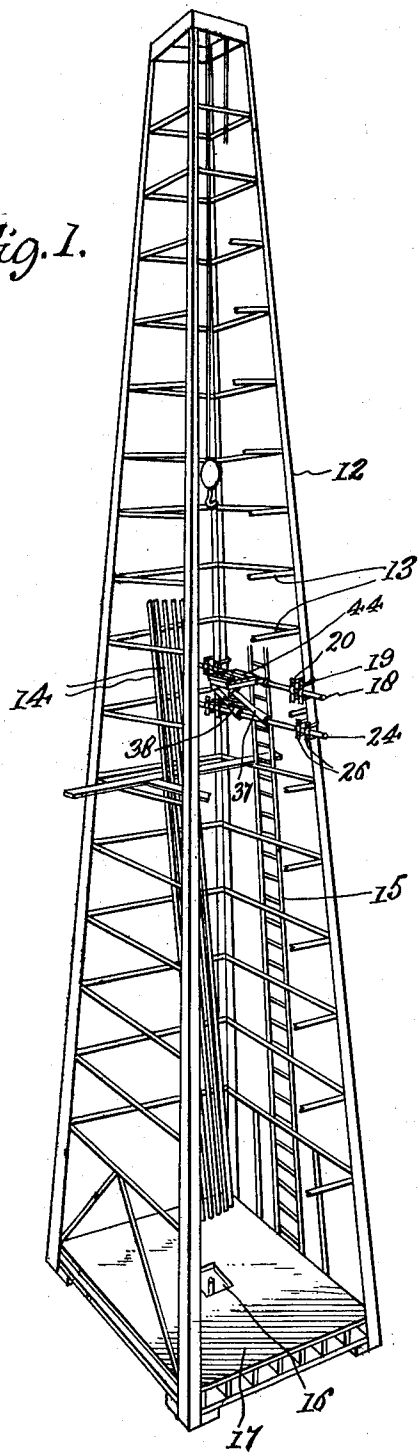


Fig. 8.

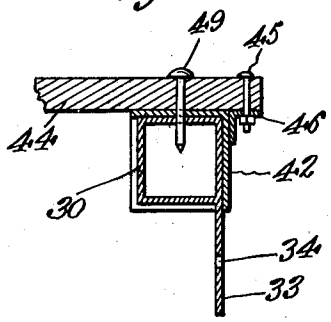


Fig. 9.

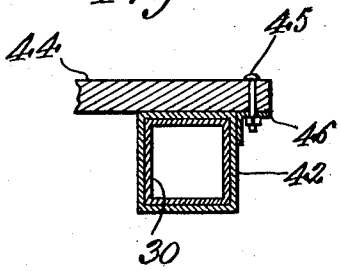
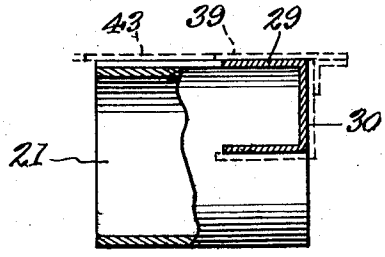


Fig. 10.



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PLATFORM FOR DERRICKS

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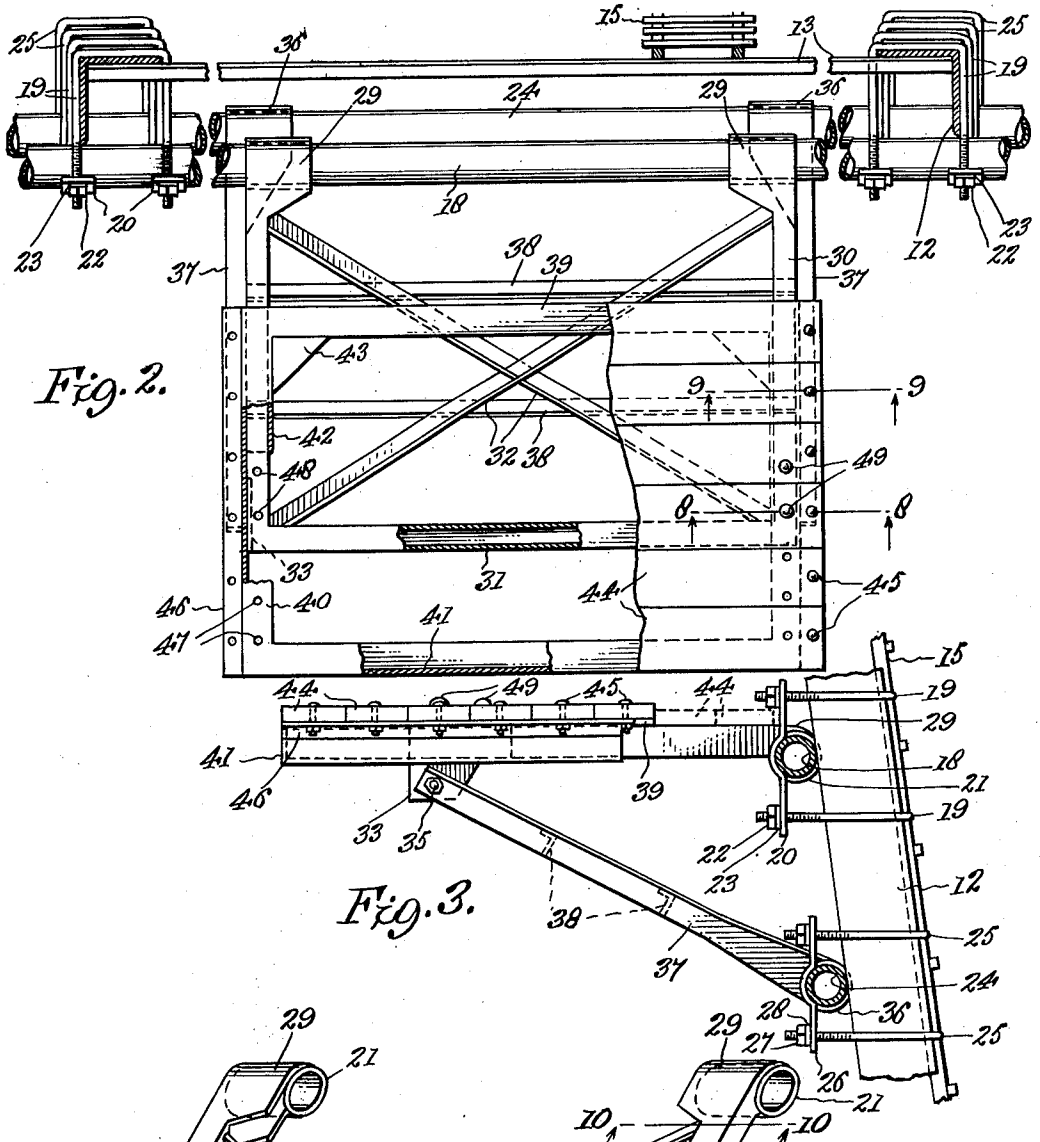


Fig. 2.

Fig. 3.

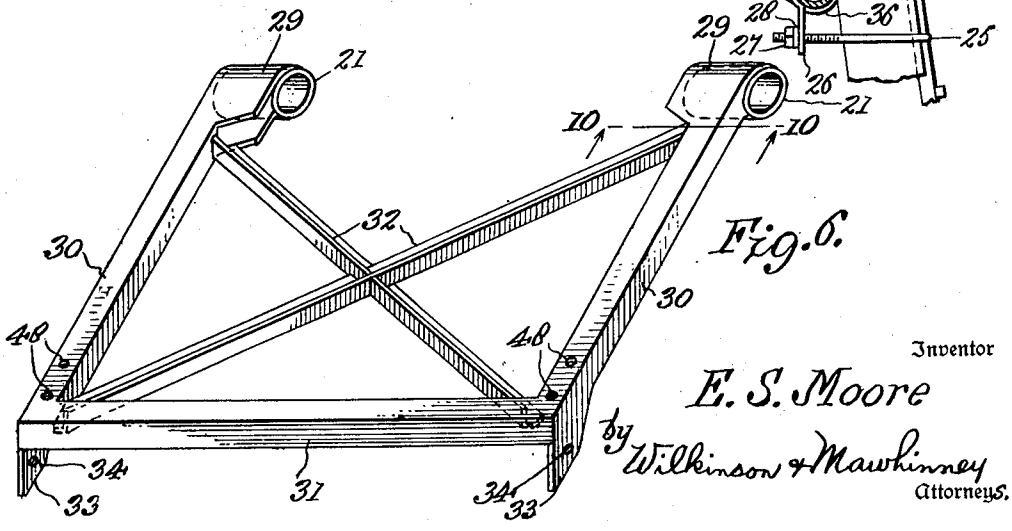


Fig. 6.

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PLATFORM FOR DERRICKS

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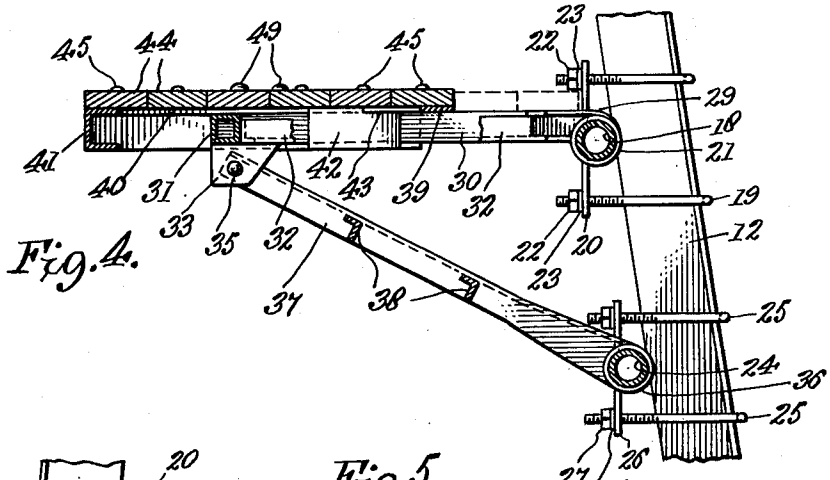


Fig. 4.

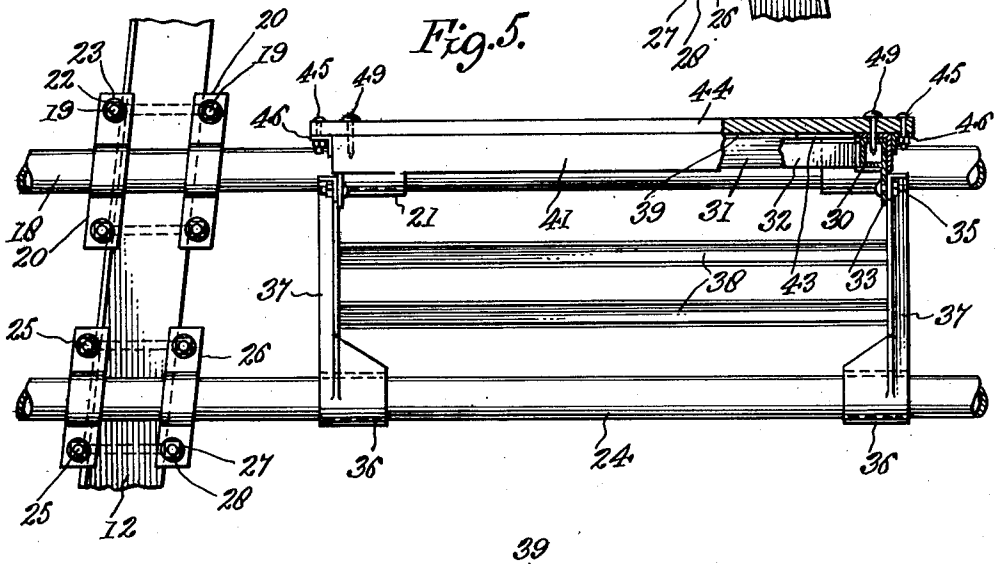


Fig. 5.

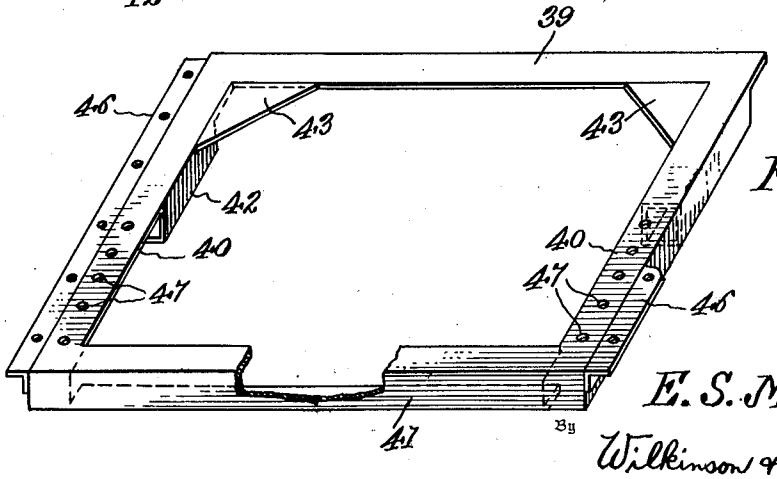


Fig. 7.

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UNITED STATES PATENT OFFICE

2,094,300

PLATFORM FOR DERRICKS

Ether S. Moore, Abbeville, La.

Application February 1, 1937, Serial No. 123,495

7 Claims. (Cl. 304—14)

The present invention relates to improvements in platforms for derricks. Such platforms are usually called "monkey boards" in the art and they are secured to the derrick at a suitabe elevation to accommodate a man to handle the pipe and tubing when inserting and removing the same from the well.

In carrying on drilling and pumping operations it is necessary at times that the pipe or tubing being used be broken up into joints or sections and these sections must be stacked in a vertical position in the derrick. In performing this work a workman must stand in the derrick, some distance above the ground, and it is an object of the invention to provide a platform for such workman in which to form a safe place for the workman to operate.

Other objects of the invention are generally to make the handling of the drill pipe or tubing easier and more convenient; to permit the use of a greater amount of drill pipe or tubing; and to make drilling more economical for the operator.

With the foregoing and other objects in view the invention will be more fully described hereinafter, and will be more particularly pointed out in the claims appended hereto.

In the drawings, like symbols refer to like or corresponding parts throughout the several views.

Figure 1 is a perspective view of a derrick, with parts broken away, showing the improved platform construction.

Figure 2 is a top plan view, taken on an enlarged scale, with parts broken away and parts shown in section, illustrating the improved platform in which the tread thereof is extended.

Figure 3 is a vertical section through a portion of the derrick and its supports, with parts broken away, showing the improved platform with the tread frame in the collapsed position.

Figure 4 is a similar view showing the open or extended position of the tread frame.

Figure 5 is a front elevation of the device, with parts broken away and parts shown in section.

Figure 6 is a perspective view of the platform frame.

Figure 7 is a similar view of the tread frame.

Figure 8 is a fragmentary cross-section taken on the line 8—8 in Figures 2 and 3.

Figure 9 is a similar view taken on the line 9—9 in Figure 2, and

Figure 10 is a section taken on the line 10—10 in Figure 6.

Referring more particularly to the drawings, 12 designates generally the legs of a derrick and 13 the struts thereof; while 14 represents a stack of drill pipe or tubing shown stacked up in the derrick in a conventional manner. A ladder 15 is usually employed for scaling the derrick, the same being ordinarily connected to the struts 13. The drill hole is below the opening 16 in the floor 17.

The ladder 15 may be used to ascend to the improved platform. This platform is carried upon a support 18 which may be in the form of a tube or pipe of sufficient length to span the distance between adjacent derrick legs and to lie across such legs so as to receive appropriate clamps or other securing devices whereby the support is removably or otherwise connected to said derrick legs 12. The support 18 will extend in a substantially horizontal direction. In other words the length or axis of the support 18 will lie substantially horizontally to permit the platform to be slid back and forth along the support 18 in a manner which will be hereinafter described.

One form of fastening by which the support 18 may be secured to the derrick leg is illustrated more particularly in Figures 2, 3 and 4 and consists of U-bolts 19 adapted to embrace the legs 12 of the derrick and to engage through openings in plates 20. Such plates are formed with intermediate concave portions to fit about the pipe or support 18. Nuts 22 and lock washers 23 are threaded upon the threaded ends of the U-bolts 19 which project forwardly beyond the clamp plates 20. By this means the plates 20 are moved towards the derrick legs forcing the end portions of the support 18 into tight binding relation with such legs.

The platform is preferably braced and for this purpose a second support 24 is secured to the derrick legs below the first support 18 in a manner similar to that already described in which U-bolts cooperate with clamp plates 26, the same being put together and secured by nuts 27 and lock washers 28. The axis of the second support 24 will be in parallelism with that of the upper support 18 in order to permit both platform and brace to move horizontally back and forth along their respective supports.

The platform frame is illustrated more particularly in Figure 6 and is carried upon the upper support 18 by means of sleeves 29. These sleeves fit over the support 18 rather snugly but are freely slidable thereon in order to permit horizontal bodily movement of the platform as a whole from one side of the derrick to the other.

The sleeves 29 support the side members 30 of the platform frame. The front member of the

frame is indicated at 31. Diagonal bracing 32 of angle iron or other cross section connects with the four corners of the frame. The front member 31 of the frame is preferably hollow, as shown in Figure 4, and is of rectangular general configuration. The side members 30, as shown in Figures 8 and 9, may be similarly formed. As shown more particularly in Figures 4 and 6 the side members 30 carry depending webs 33 having holes 34 therein for the passage of bolts or other fastening means 35 to secure the upper forward portion of the brace frame to the lower forward portion of the platform frame.

The brace frame is shown more particularly in Figures 3, 4 and 5 and includes the sleeves 36 slidable on the support 24, the arms 37 of angle iron or other suitable construction, the upper forward ends of which are secured by the bots 35 to the webs 33, and cross connecting bars 38 which are welded or otherwise secured to the side members 37.

On the platform frame there is movably or slidably mounted a tread frame, such tread frame being shown more particularly in Figure 7. As here shown the tread frame is a rectangular open frame composed generally of the rear bar 39, the side members 40 and the front member 41. The side members 40 carry sleeves 42 depending therefrom, which sleeves may be of a generally rectangular construction, as illustrated more particularly in Figures 8 and 9, such sleeves being large enough to envelop and slide upon the side bars 30 of the platform frame. Of course the sleeves 42 will have limited longitudinal extension as they must slide freely back and forth on the side members 30 of the platform frame without encountering the braces 32 except at the inner and outer limits of their movement. It is sufficient that the inner wall of the sleeves 42 be removed toward the ends thereof in order to escape the braces, and such inner wall is shown as removed in Figure 8.

Reinforcing webs 43 are shown in Figure 7 as being welded or otherwise secured between the rear bar 39 and the side members 40 of the tread frame in order to assist in supporting the bar 39 which is only a flat horizontal bar as shown in Figure 4 sliding along the top portions of the platform frame as the tread frame moves in and out. Figures 2 and 4 show the extended position of the tread frame. Figure 3 shows the retired or collapsed position of the same. In Figure 4 it will be noted that the front member 41 of the tread frame is of channel form, in which the open side of the channel is presented inwardly in order to envelop the front member 31 of the platform frame when the tread frame is moved inwardly.

Boards or flooring 44 of any suitable description may be laid upon the tread frame and secured thereto as by the fastenings 45 passing through such flooring and through angle iron extensions 46 welded or otherwise secured to the sides of the members 40.

As shown in Figure 7 the side members 40 of the tread frame are formed with a number of perforations 47 adapted to aline with perforations 48 of the platform frame to receive therethrough dowel pins shown in Figure 8. Preferably four perforations 48 receive four dowel pins 49 which pass through four of the perforations 47 of the tread frame which happen to aline therewith in the particular adjusted position of the tread frame with respect to the platform frame. In this way the tread frame may occupy a number of partially projected positions in addition to the fully extended position; all of which positions may be secured by the dowel pins 49.

In the use of the device, the improved "monkey board" may be hoisted up in the derrick and mounted therein at a suitable elevation above the derrick floor. The position of the platform will depend upon the length of the drill pipe or tubing 14, as it is necessary that such drill pipe or tubing be handled by a workman near the top of the length of pipe. These lengths of pipe vary in accordance with the character of the hole that is being drilled, or the size of the pipe used, and an advantage of the invention is that the device may be easily adjusted to the required height in the derrick and quickly secured and removed from such derrick in order to occupy a different elevation when the occasion demands.

The board or platform will slide back and forth along the supports 18 and 24, and the arrangement is such that the platform may be moved from one side of the derrick to the other in a quick and easy manner by the workman himself by simply stepping to the back of the board, catching it with one hand, or placing the foot across it and pushing the board to the desired place.

Once the desired place is reached, then the tread frame may be moved further toward the center of the derrick if desired. In this way the derrick man may place himself a suitable distance from the pipe and tubing as it is being latched or unlatched from or into the elevators. Each single joint of pipe must be handled by the workman as it is placed in or taken out of the hole, and the adjustability of this improved device is such that the workman may place the board at the point which will best enable him to reach the pipe, whether at one side of the derrick, in the center, or whether close to the other side.

An important consideration of the present invention lies in the fact that the improved board or platform takes up very little room in the derrick. It often occurs that in bringing in a well, or for other reasons, the operator may desire to have two strings of pipe placed in the derrick at the same time. In such case with the invention here described, the regular drill pipe may be placed in a vertical position on one side of the derrick, and the other pipe placed in a similar position on the other side of the derrick. With the present "monkey board" being placed in the center against the derrick and easily moved or slid from one position to the other, there is ample room for the second string of pipe or tubing, and at the same time the workman is enabled to handle both sets of pipe from both sides with ease and safety.

It will require only a few minutes to assemble or install the board and a like amount of time to remove it. It is strong and durable, and because of the fact that the floor space or area of the board for the workman to stand upon reaches back to the wall of the derrick, and is larger than is ordinarily the case, an unusual degree of safety to the workman is provided. The board is compact at the same time and takes up a minimum space in the derrick, there being no open space between the workman and the derrick.

It is obvious that various changes and modifications may be made in the details of construction and design of the above specifically described embodiment of this invention without departing from the spirit thereof, such changes and modi-

fications being restricted only by the scope of the following claims:

What is claimed is:

1. In a derrick, supporting means, a platform slidable substantially horizontally on said supporting means from one side of the derrick to the other, and an extensible tread slidably carried by said platform and freely movable at substantially right angles to the slidable movement of the platform on said supporting means, said tread being movable toward and from the center of the derrick.

2. In a derrick having legs, a substantially horizontal support extending across one side of the derrick frame and being secured to adjacent legs, a platform frame slidable horizontally on said support from one side of the derrick to the other, a tread frame freely slidable on said platform at substantially right angles with respect to the movement of the platform frame on said support whereby to move toward and away from the center of the derrick, and means for bracing the outer portion of the platform frame from the derrick.

3. In a derrick, a support, means for securing said support to adjacent legs of the derrick, a platform frame slidable on said support, a second support secured to the derrick legs below and substantially parallel with the first mentioned support, and a brace frame slidably mounted on the second support and having a rigid connection at its upper portion with the lowermost front part of said platform frame.

4. In a derrick, a support, a platform frame having sleeves slidable on said support, side members carried by said sleeves, a cross member secured to said side members, intermediate bracing between said members, said side members having webs extending downwardly therefrom near their forward portions, and a brace connected with the derrick and with said webs.

5. In a derrick having legs, supports independent of said legs and adapted to be hoisted up into the derrick at various elevations, means for securing the end portions of said supports to the derrick legs with one support disposed above the other in substantially horizontal and spaced relation, a platform frame having parts slidable horizontally on the upper support from one side of the derrick to the other, the inner end of said platform frame terminating short of the center of the derrick, a tread frame slidably mounted on said platform frame in a direction toward and from the center of the derrick, and means engaging with the underside of the platform frame at its outer part and slidably mounted on the lower of said supports.

6. In a derrick having legs, a pair of rod supports adapted to be hoisted in said derrick to a suitable elevation, clamp means for securing said rod supports removably and adjustably to said derrick legs with the rod supports extending one above the other in spaced and substantially horizontal relation, said rod supports extending from one side of the derrick to the other, a platform frame appreciably narrower than the derrick having sleeves slidably mounted on the upper rod support and adapted to be freely movable by the feet of the operator from one side of the derrick to the other, a tread frame slidably mounted on said platform frame and freely movable under the feet of the operator toward and from the center position of the derrick, and braces coupled at their upper ends to the underside of the platform frame at the portion thereof remote from the upper rod support, said braces having sleeves slidably mounted on the lower rod support whereby to move with the platform frame.

7. In a derrick having legs, a support adapted to be hoisted up in said derrick at a suitable elevation and of sufficient length to span the distance between adjacent side legs of the derrick, means for attaching the end portions of said support removably and adjustably to said legs with the support in a substantially horizontal position extending from one side of the derrick space to the other, a platform frame having a part slidable on said support from one side of the derrick to the other, said platform frame being comparatively narrow when compared with the horizontal cross section of the derrick, the inner end portion of said platform frame being spaced from the center of the derrick, and a tread frame slidable on said platform frame toward and from the center of the derrick, said tread frame when extended reaching to the center of the derrick.

ETHER S. MOORE.