Feb. 27, 1940. C. L. DECKARD 2,191,643

TUBING HANDLING BOARD FOR DERRICKS

Filed June 21, 1938 2 Sheets-Sheet 1

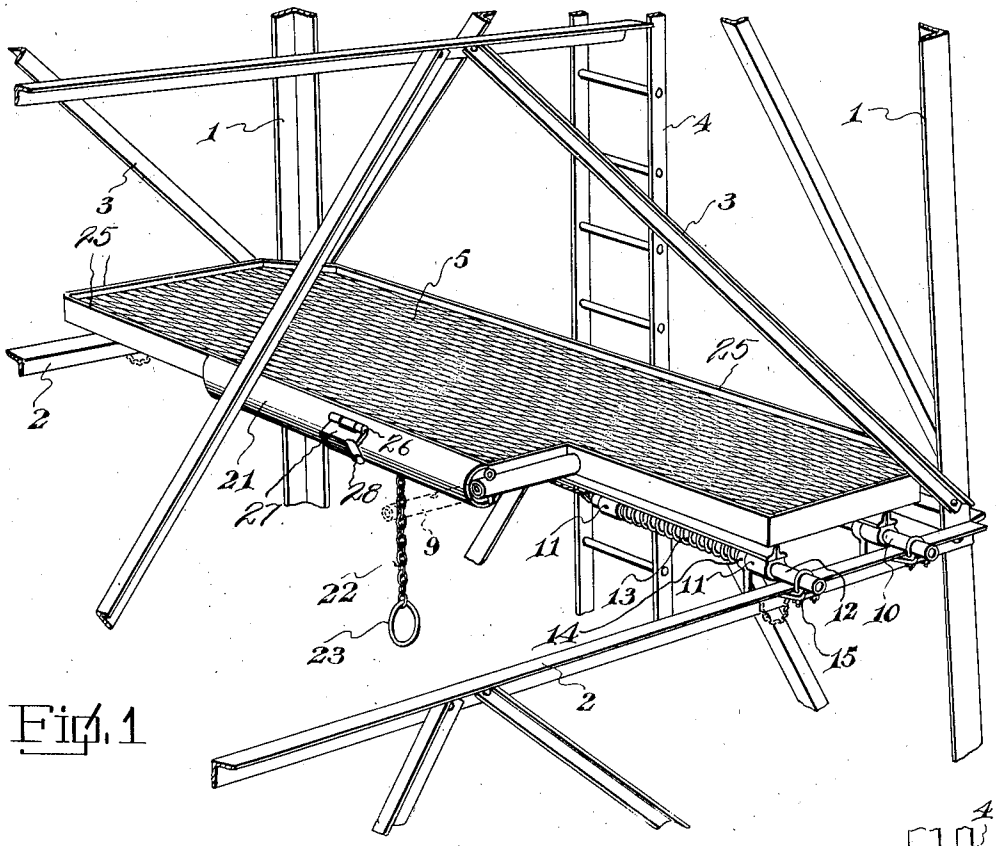



Fig. 1

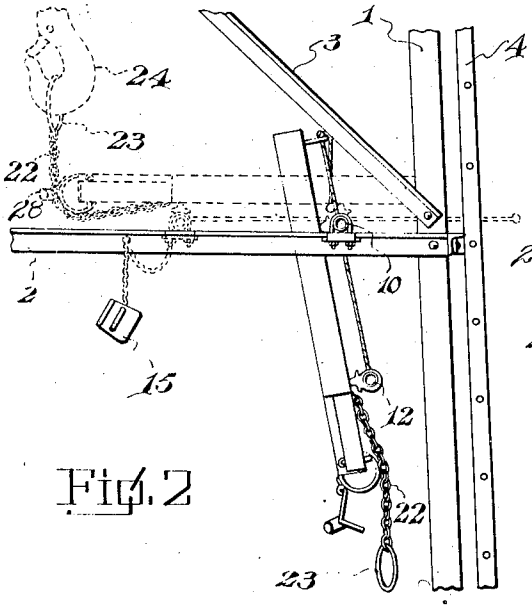



Fig. 2

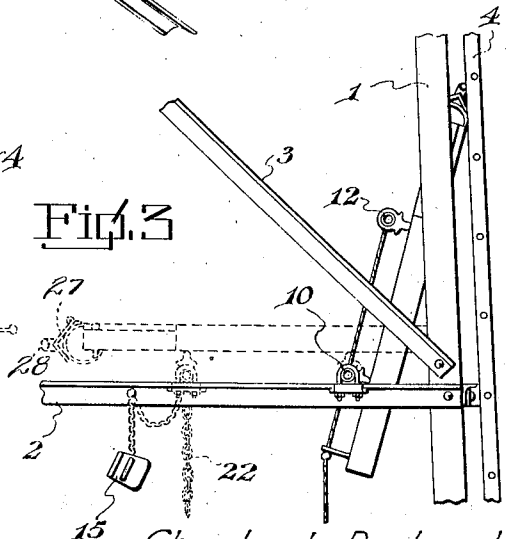



Fig. 3

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TUBING HANDLING BOARD FOR DERRICKS

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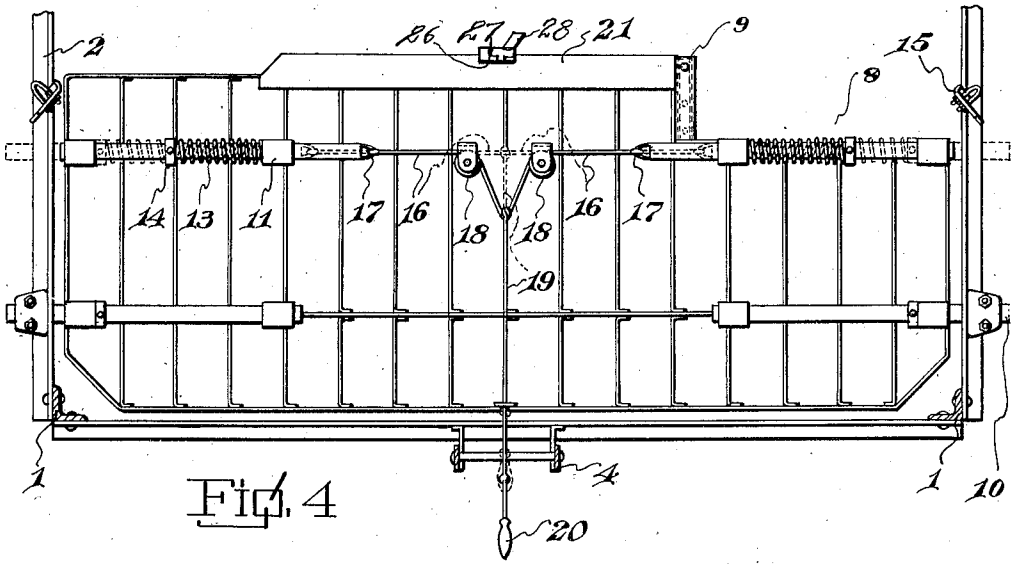



Fig. 4

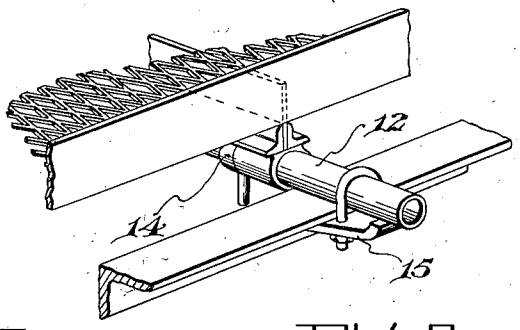



Fig. 5

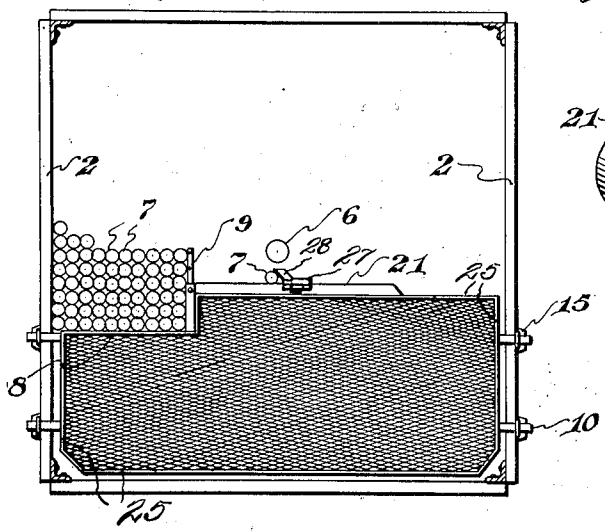



Fig. 6

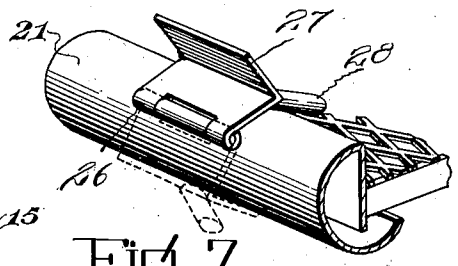



Fig. 7

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# UNITED STATES PATENT OFFICE

2,191,643

## TUBING HANDLING BOARD FOR DERRICKS

Charles L. Deckard, Tulsa, Okla.

Application June 21, 1938, Serial No. 215,066

4 Claims. (Cl. 304—14)

The invention relates to platforms in the upper structure of oil well derricks, and has for its object to provide a platform within the derrick structure and on which a workman may stand for facilitating the handling of drill string or casing sections as they are connected or disconnected, and means whereby the platform may be easily moved to one side of the center of the derrick so it will not interfere with other operations.

A further object is to hingedly mount the platform adjacent one side of the derrick structure and to provide means whereby it may be supported in a horizontal plane for use or swung to a position adjacent the side of the derrick structure when not in use.

A further object is to provide the free end of the platform with inwardly and outwardly movable latching members adapted to engage the horizontal girders of the derrick structure for supporting the platform in a horizontal position. Also to provide means in connection with the latching members whereby the operator can take a position on the side of the derrick structure and control the latching members.

A further object is to recess the free end of the board for the reception of the upper ends of the drill string sections or casing sections for holding the same to one side of the center of the derrick out of the way of the other operating mechanism, and for use as desired.

A further object is to provide an extension arm at the inner end of the platform recess for enlarging the capacity of the recess when desired.

A further object is to provide the free edge of the platform with a stabbing board having a projection adjacent the center of the derrick and against which the tubing rests during the disconnecting operation.

With the above and other objects in view the invention resides in the combination and arrangement of parts as hereinafter set forth, shown in the drawings, described and claimed, it being understood that changes in the precise embodiment of the invention may be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings:

Figure 1 is a perspective view of a portion of a conventional form of derrick, showing the platform in operative position therein.

Figure 2 is a side elevation of a portion of the derrick, showing in full lines the platform swung downwardly to inoperative position.

Figure 3 is a view similar to Figure 2, showing the platform swung upwardly and outwardly to inoperative position.

Figure 4 is a bottom plan view of the platform and partial horizontal section through the derrick, showing the latching bolts in retracted position for allowing the platform to be swung to inoperative position.

Figure 5 is a detail perspective view of one of the latching bolts in latched position.

Figure 6 is a horizontal sectional view through the upper structure of the derrick, showing the platform in operative position for supporting a plurality of tubes.

Figure 7 is a perspective view of a portion of the free edge of the platform, showing the stabbing board in inoperative position.

Referring to the drawings, the numeral 1 designates the legs of the derrick, 2 the horizontal girders connecting the legs, and 3 the angularly disposed sway braces. Secured to the side of the derrick in any suitable manner is a conventional form of ladder 4, adapted to be used by workmen in reaching the upper structure of the derrick.

In pulling oil well casings, tubing, sucker rods and drill pipes, it is necessary that a man be stationed far up in the derrick to swing the disconnected section or joint into the corner of the derrick, and to disconnect the elevating device from the top of the joint so it can be lowered again to the derrick floor for next pulling and disconnecting operation. The elevator or elevating mechanism is fastened to the tubing string and pulled upwardly until it reaches the worker in the derrick structure. To facilitate this operation, a hinged platform 5 is provided on which the workman stands in handling the upper ends of the tube sections as they are disconnected. It is to be understood that the usual tube disconnecting operations take place on the derrick floor as is the present practice. This usually involves the placing of slips in the usual spider to hold the complete string, which extends into the well. After this is done, the joint that extends up into the derrick is unscrewed and the man on the derrick floor carries the lower end of the joint over into the corner of the derrick. The present practice is for the workman in the upper structure of the derrick to take hold of the elevator or elevating mechanism, and as the lines are slowly slackened, he brings the top end of the joint over to the side of the derrick, which is a laborious and dangerous operation.

To overcome this difficulty the platform 5 is provided, and which platform extends to a point adjacent the axis of the well 6. As the sections

are disconnected at their lower ends at the derrick floor, and the lower ends swung to one side, the workman on the platform 5 grasps the upper end of the section and the elevating mechanism, and as the elevating mechanism is slackened, he swings the upper end of the tubing section 7 into the platform recess 8 at one side thereof, as clearly shown in Figure 6, then disconnects the elevating mechanism and it is lowered to the derrick floor for pulling the tubing string for the disconnection of the next tubing section. This operation continues until the tubing is pulled or until the tubing sections have been removed from the recess 8 during a rerunning operation. The inner side of the platform recess 8 is provided with a telescopic extension arm 9 for enlarging the capacity of the recess 8 if desired, and being telescopic, it is out of the way of the operator during the preliminary stages of the disconnecting operation, and until the recess 8 is filled.

It is desirable to get the platform 5 out of the way, as it may not be used again for several days, and it is in the way during other operations. To accomplish this result, the platform 5, at its outer end and adjacent the side of the derrick, is hingedly mounted at 10 on the upper sides of opposite girders 2, as clearly shown in Figures 1 and 4, and the platform may be swung upwardly to inoperative position as shown in Figure 3, or downwardly to a similar position as shown in Figure 2, after a releasing of the free end of the platform. Slidably mounted in bearing sleeves 11, carried by the under side of the platform are latching bolts 12, which are normally forced outwardly beyond the sides of the platform by expansion springs 13 interposed between the inner sleeves 11 and the collars 14 on the bolts.

Referring to Figures 1 and 4, it will be noted that the latching bolts 12, when extended above the girders 2, rest on the girders and support the platform 5 in a horizontal position, and are preferably held against retraction by means of captive clamps 15 carried by the girders 2, which clamps may be set up by the workman to prevent accidental release of the platform. It will also be noted that when the latching bolts 12 are drawn inwardly, the free end of the platform may be allowed to swing downwardly or may be raised until it passes through the vertical center of the hinging point 10, and at which time it will swing outwardly against the side of the derrick or ladder 4 and be supported in inoperative position. To hold the bolts 12 in inoperative position during the movement of the platform, flexible cables 16 are connected at 17 to the inner ends of the bolts, and which cables extend towards each other and over pulleys 18 carried by the under side of the platform and connected to a single flexible member 19, which extends towards the hinging point of the platform and terminates in a hand grip member 20, adjacent the ladder 4, and on which the operator may stand for holding the bolts 12 retracted so they will clear the girders and sway braces as the platform swings upwardly or downwardly to inoperative position. It will also be seen that the operator is in a safe position during this operation.

The free edge of the platform is provided with a rounded portion 21 which prevents the various hooks from catching thereon during the tubing handling operation. Secured to the under side of the platform is a chain 22, which terminates in a ring 23 adapted to be engaged by a hook 24 of a hoisting mechanism and by means of which the platform can be raised or controlled in its downward movement.

The marginal edge of the hinged platform 5 is provided with an upwardly extending toe board 25, which allows the operator to feel his way with his foot to the edge of the board without looking down. When the operator's toe hits the toe board he knows he is at the edge. This is a desirable feature, as the operator is looking upwardly or outwardly while working on the platform, hence it is a decided safety feature.

Hingedly connected at 26 to the rounded portion 21 of the platform is an angularly shaped stabbing board 27, which when placed in the position shown in Figure 1, positions the angular stabbing arm 28 so it inclines outwardly at an acute angle to the edge of the board as clearly shown in Figure 1. As the sections are disconnected they rest against the stabbing board arm, and the arm holds the sections in vertical position so the stabbing or unscrewing operation on the derrick floor can be easily accomplished and the pipe sections moved to their position in the collecting recess to the side of the platform. By hingedly mounting the stabbing board at 26, the stabbing board, when not in use, can be hinged upwardly to a position above the platform as shown in Figure 7, so it will be out of the way when not in use and if the tube pulling mechanism hooks should catch on the stabbing board, it will simply be pulled upwardly to inoperative position.

It will also be seen that during the hinging operation the latching means is controlled by the workman on the ladder where he is safe from injury, and by providing the recess the upper ends of the tubing section are positively held against displacement and the recess may be enlarged as the tubes are accumulated therein.

From the above it will be seen that a platform is provided for oil well derricks whereby a workman may work in comparative safety while handling the upper ends of tubing sections for moving the same from the center of the derrick structure and said platform may be easily and quickly placed in inoperative position when not in use, and at the same time be readily accessible when desired.

The invention having been set forth what is claimed as new and useful is:

1. In combination with a derrick platform disposed within a derrick spaced from the upper and lower ends thereof and extending inwardly towards the axis of the derrick, of a rounded inner end portion carried by said platform.

2. The combination with a derrick platform disposed within a derrick spaced from the upper and lower ends thereof and extending towards the axis of the derrick, said platform having its outer end hingedly mounted to the derrick, of a rounded convexed inner end carried by said platform.

3. The combination with a derrick platform disposed within a derrick and extending inwardly towards the axis of the derrick, of a convexed guard carried by the inner end of the platform.

4. A device as set forth in claim 2 including a hinged stabbing arm carried by the rounded convexed inner end of the platform and adapted to hinge upwardly.

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