May 13, 1924. 1,494,324

A. L. OWEN

FINGER BOARD FOR OIL WELL DERRICKS

Filed Jan. 3, 1923

Fig. 1.

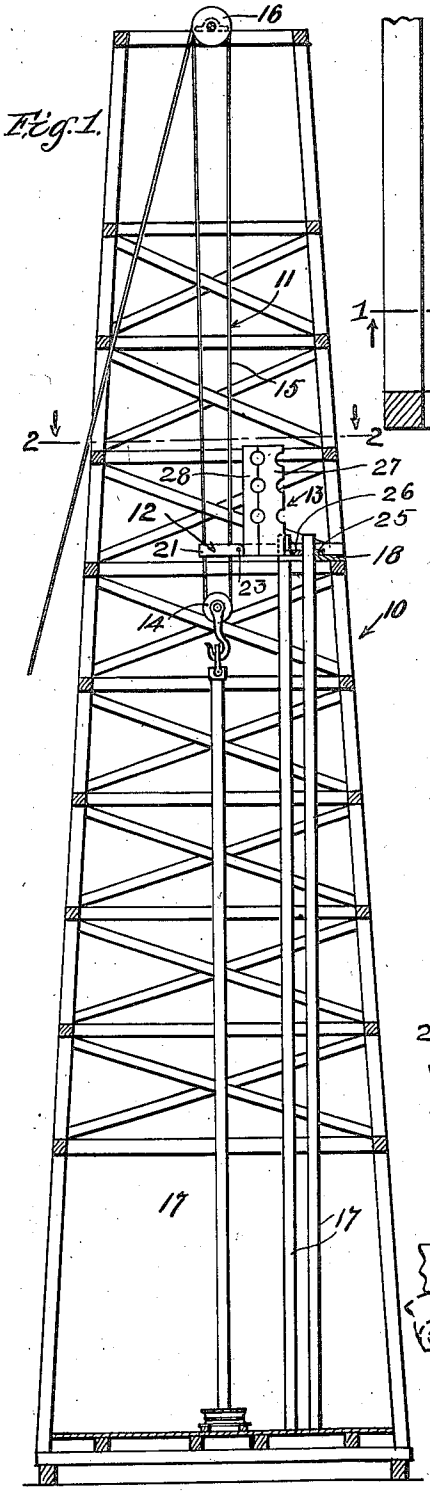


Fig. 2.

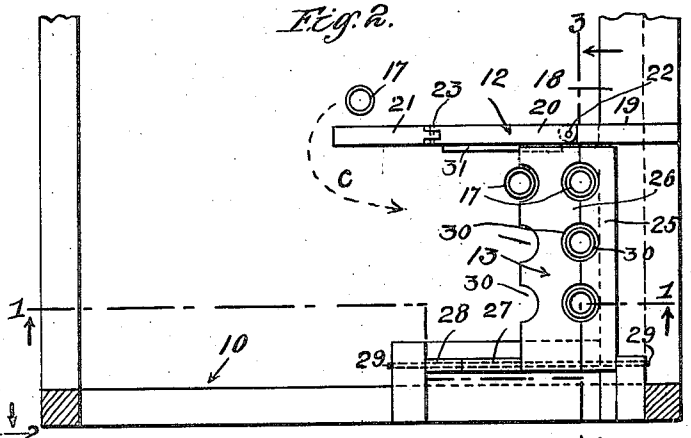


Fig. 6.

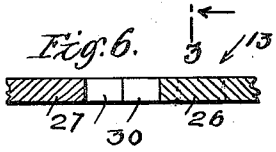


Fig. 3.

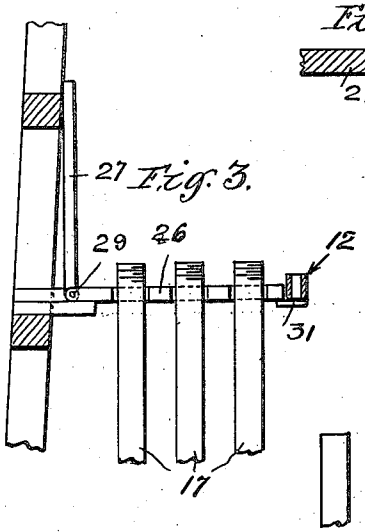


Fig. 4

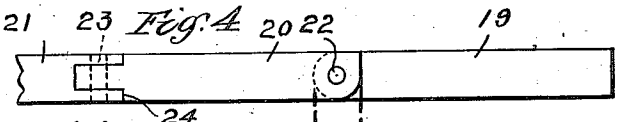
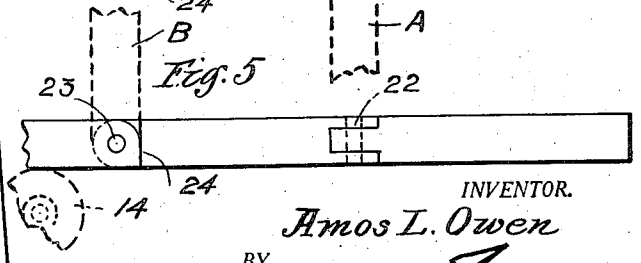


Fig. 5



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Patented May 13, 1924. 1,494,324

UNITED STATES PATENT OFFICE.

AMOS L. OWEN, OF LONG BEACH, CALIFORNIA, ASSIGNOR, BY MESNE ASSIGNMENTS, OF ONE-HALF TO J. M. OWEN, OF LONG BEACH, CALIFORNIA.

FINGER BOARD FOR OIL-WELL DERRICKS.

Application filed January 3, 1923. Serial No. 610,448.

To all whom it may concern:

Be it known that I, AMOS L. OWEN, a citizen of the United States, residing at Long Beach, in the county of Los Angeles and State of California, have invented new and useful Improvements in Finger Boards for Oil-Well Derricks, of which the following is a specification.

My invention relates to finger boards for oil well derricks adapted for the holding of sections of well casing, drill pipe, tools, etc., in one corner of the derrick when out of use and to prevent them from obstructing the pursuance of other operations on the well.

In the use of finger boards of this character, the free end thereof projects to one side of and adjacent the center of the derrick and out of the vertical path of the pipes when being withdrawn from or lowered into the well. When it is desired to withdraw sections of pipe from the well, a tackle is coupled to the end of a section and the same is lifted out in the usual manner. During this operation, the tackle block on the end of the pipe very frequently strikes against the free end of the finger board with such violence as to break it, and thus permit the pipe sections which have already been deposited behind the finger board to fall, and cause damage to the derrick, as well as to delay the operation on the well.

It is the main object of my invention to overcome the above recited disadvantages, by providing a finger board which will yield upwardly when struck by the pipe end or the tackle, thereby eliminating the danger of its becoming broken.

A further object of my invention is to provide a construction of finger board which may be readily folded and projected out of the way, when not in use.

Another object of my invention is to provide a specially designed foldable rack for the reception of the pipe sections which may be used in combination with the finger board to more efficiently secure the pipe sections in place.

The above and other objects of my invention will be more fully disclosed in the following specification, reference being had to the accompanying drawings, in which:

Fig. 1 represents a vertical section through a derrick, taken on the irregular line 1—1 of Fig. 2, showing my invention applied thereto.

Fig. 2 is an enlarged fragmental transverse section through the derrick, viewed in the direction indicated by the arrows 2—2 of Fig. 1.

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 2.

Fig. 4 is an enlarged plan view of my improved finger board.

Fig. 5 is a side view of the same.

Fig. 6 is an enlarged fragmental section through the foldable rack.

In carrying out my invention, 10 represents a derrick, 11 the hoisting tackle, 12 the finger board, and 13 the casing or pipe rack thereof. The hoisting tackle comprises the usual block 14, the cable 15, and the sheaves 16 mounted at the top of the derrick, and is operated from below in the usual manner to withdraw or lower the section of well casing or drill pipe represented by the numeral 17, and for many other purposes apparent to an experienced well driller.

Secured to the frame of the derrick and located a suitable distance above the floor platform thereof, is a plank 18, adapted to support the finger board 12, said finger board being formed of sections 19, 20, and 21, the section 19 being secured to the plank 18 and having hinged thereto at 22 the section 20 which in turn has hinged to it at 23 the section 21.

The hinge 22 is so constructed as to permit the sections 20 and 21 to swing horizontally in one direction at right angles to the section 19, as shown in dotted lines at A, Fig. 4, and the hinge 23 is so constructed as to permit the section 21 to swing upwardly at right angles to section 20, as shown in dotted lines at B, in Fig. 5, and to be locked against downward movement by means of the shoulders 24 formed at the hinge joint.

In operation the casing or pipe sections 17 are drawn upwardly from the well until their lower ends clear the bottom platform of the derrick. The upper ends of these pipes at this time extend above the finger board 12. The pipe section is then swung around the end of the finger board in the direction indicated in dotted lines C of Fig. 2, and deposited behind the finger board. During the operation of withdrawing the

pipe section from the well, should the upper end thereof, or the tackle block, strike the finger board section 21, it will be obvious that this section will yield upwardly and consequently the finger board will not be damaged.

In order that the upper ends of the pipes may be conveniently held against shifting when deposited behind the finger board, the rack 13 is provided, and comprises a plurality of slats 25, 26, 27, and 28, arranged side by side and hinged at 29 to the derrick frame. Opposed edges of the slats are provided with registering semi-circular notches 30 for the reception of the pipe or casing ends. When the slats are in horizontal position to receive the pipes, the free ends thereof rest upon a ledge 31 formed on the section 20 of the finger board and are supported thereby. In utilizing the rack the pipe sections are directed into the notches 30 of slat 25, the other slats being at this time in the vertical position. When all of the notches of slats 25 are filled the slat 26 is lowered to the horizontal position and thus the pipes are locked. This process is followed until all of the slats have been utilized.

By the above recited construction it will be obvious that I have provided an efficient and non-breakable finger board and also a rack for preventing the shifting of the pipes when stored behind the finger board, and moreover it will be apparent that the finger board and rack may be folded out of the way when not being utilized.

What I claim is:

1. A finger board, comprising a bar having an extension movably secured to its free end.

2. A finger board, comprising a bar having an extension hinged to its free end adapted for upward movement with respect to said bar.

3. A finger board, comprising a bar formed of a plurality of sections hinged together.

4. A finger board, comprising a bar, an extension hinged to the free end of said bar for movement thereon, and means for limiting the movement of said extension to one direction.

5. A finger board, comprising a bar formed in sections hinged together, said sections being adapted for movement in various directions.

6. The combination with a finger board, of a foldable pipe rack mounted adjacent said finger board and adapted for support on said finger board.

In witness that I claim the foregoing I have hereunto subscribed my name this 7th day of December, 1922.

AMOS L. OWEN.