July 15, 1924. 1,501,034

R. E. ALEXANDER

JACK FRAME FOR OIL WELLS

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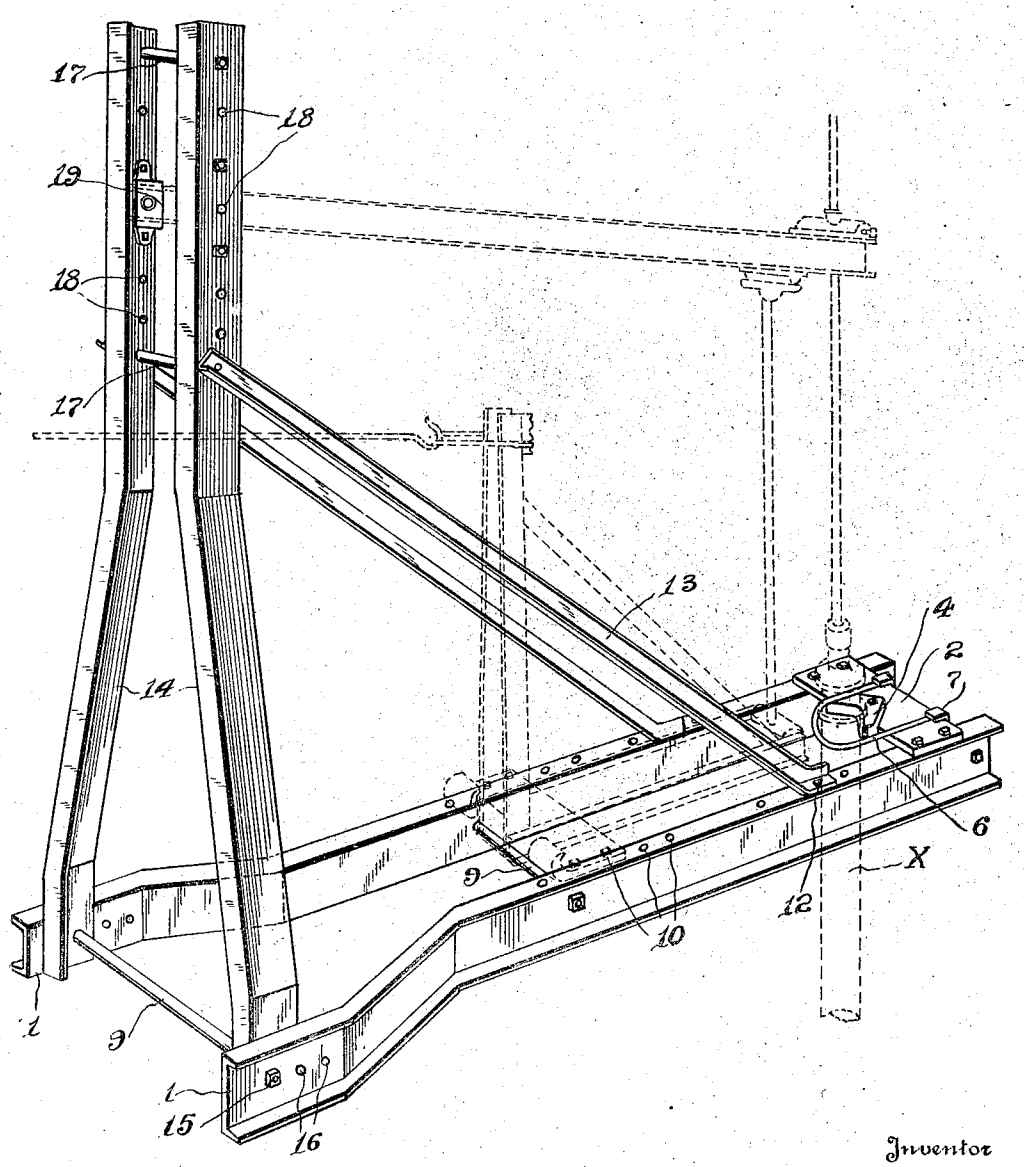
Fig. 1.



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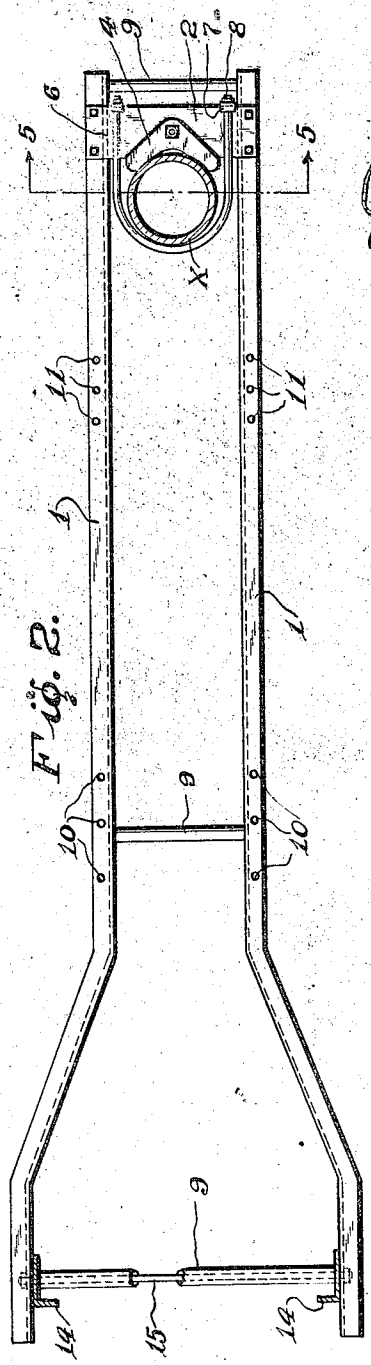

Fig. 2.

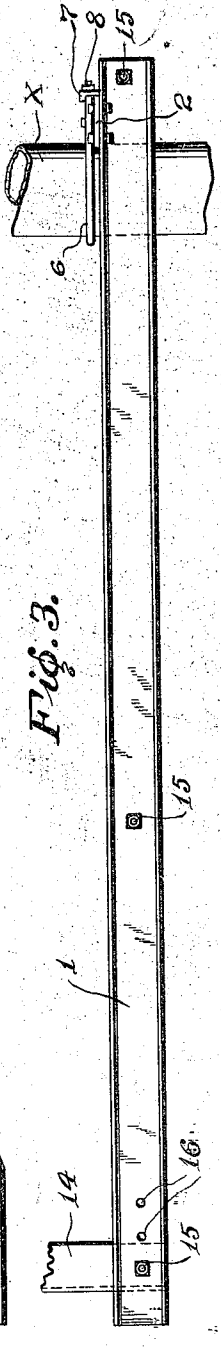

Fig. 3.

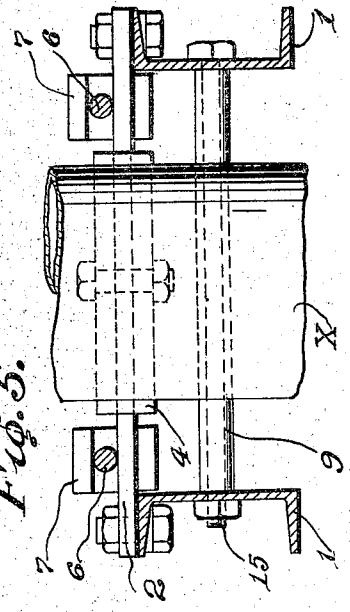

Fig. 5.

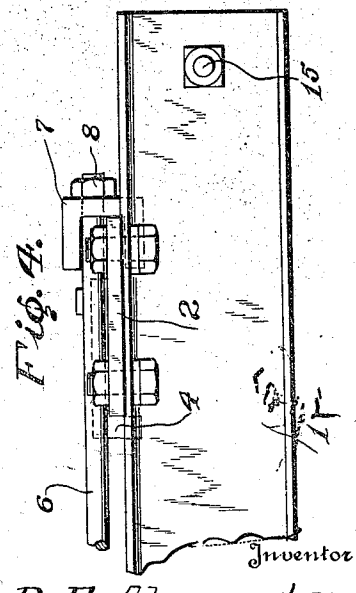

Fig. 4.

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Fig. 6.

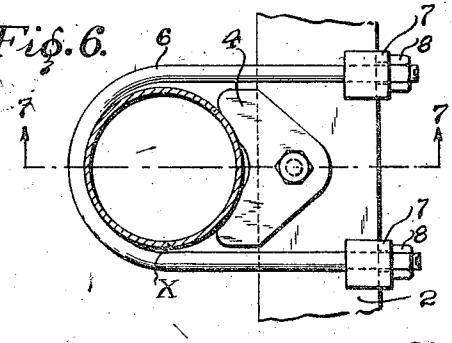


Fig. 7.

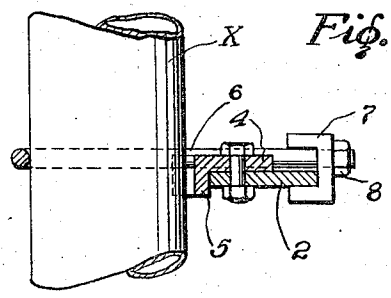


Fig. 8.

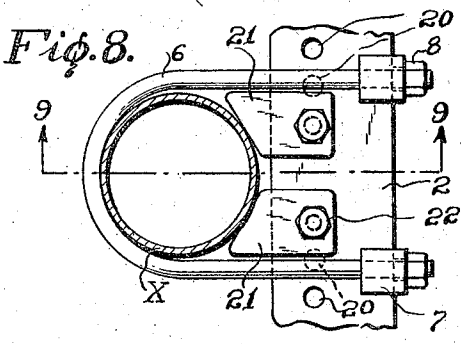


Fig. 9.

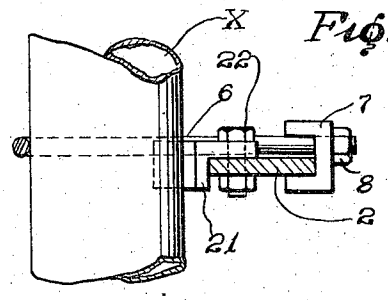


Fig. 10.

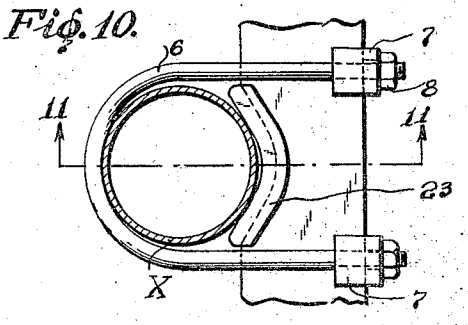


Fig. 11.

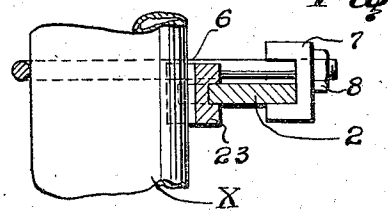


Fig. 12.

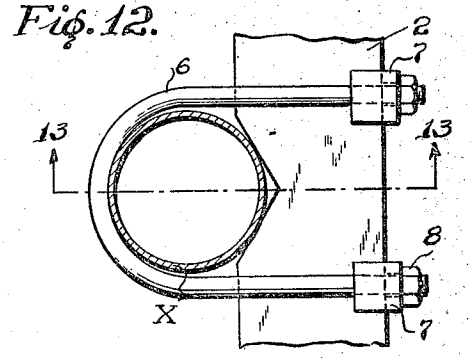
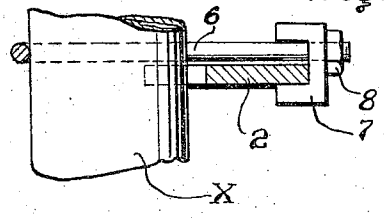


Fig. 13.



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Patented July 15, 1924. 1,501,034

UNITED STATES PATENT OFFICE.

ROBERT E. ALEXANDER, OF TULSA, OKLAHOMA.

JACK FRAME FOR OIL WELLS.

Application filed October 17, 1923. Serial No. 669,004.

To all whom it may concern:

Be it known that I, ROBERT E. ALEXANDER, a citizen of the United States, residing at Tulsa, in the county of Tulsa and State of Oklahoma, have invented certain new and useful Improvements in Jack Frames for Oil Wells; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to new and useful improvements in jack frames for oil wells and has for its object to provide a frame of this type which is durable, easily assembled and taken apart and which is adjustable to fit any size well casing.

With the above and other objects in view which will appear as the description proceeds, my invention consists in the novel features herein set forth, illustrated in the accompanying drawings and more particularly pointed out in the appended claims.

Referring to the drawings:—

Fig. 1 is a perspective view of my improved jack frame showing, in dotted lines, the jack, pumping beam and sucker rod.

Fig. 2 is a plan view in section of the frame itself showing my preferred form of improved clamping means.

Fig. 3 is a side view of Fig. 2.

Fig. 4 is an enlarged view of a portion of Fig. 3, showing in detail the clamping means.

Fig. 5 is a detail view in section taken on line A—A of Fig. 2.

Figs. 6 and 7 are a plan and sectional view respectively, of my preferred form of casing clamp.

Figs. 8 to 13 inclusive are modified forms of my casing clamp.

In the drawings 1 designates the base portion of my frame consisting of two channel irons preferably of steel, which extend longitudinally and parallel for a portion of their length and are then bent outwardly in opposite directions at one end and again straightened as clearly shown in Fig. 2, said channel irons being secured together and spaced apart by spacers 9.

At the other end of said channel irons I provide an improved clamping means for a well casing, including a plate 2 preferably of steel or cast iron which is secured by means of bolts to the upper flanges of the base channels 1. Removably secured to said plate by means of a bolt and nut 3 is a notched jaw 4 provided with a shoulder 5 which bears against the edge of the plate 2. In order to hold the casing X in engagement with the notched jaw 4, I provide a U-bolt 6 threaded at both ends, which grips the well casing and is held in said engaging position by means of substantially U-shaped lugs or clips 7, which hook over and engage the other edge of the plate 2. In order that the U-bolt may be tightened or drawn toward the jaw member 4, I provide nuts 8 on the threaded ends of the U-bolt 6 which abut the lugs 7 and when tightened secure the casing between the jaw and U-bolt.

In the upper flanges of the channel iron 1, near the central portion thereof, I provide a plurality of apertures 10, which are adapted to receive the bolts of a pumping jack bearing plate, shown in dotted lines in Fig. 1. The arrangement of said apertures is such that the plate may be adjusted to the proper place by simply removing the bolts.

Toward the casing engaging end of the channels, I provide a plurality of similar apertures 11, which receive the bolts 12 of the angle brace 13. These apertures are likewise arranged to permit the adjustment of the angle braces forward or backward.

At the end of the base 1 opposite the casing clamp, I provide a pair of uprights 14, preferably formed of steel angle irons, pivotally secured to said base by means of the bolt and nut construction 15, which passes through the spacer 9 and the holes 16 in the end of the channels 1, there being a plurality of such holes to allow for the adjustment of the uprights. By pivotally mounting said uprights 14, the assembly of the device is simplified, as their pivoting or swinging action permits adjustment of distance between the bearing boxes 19 and the grip of the polish rod at the end of the pumping beam, by merely moving the lower ends of the braces 13 backward or forward.

Similar to my former Patent No. 1,466,573, the uprights are bent inwardly on an angle for a portion of their length and then extend parallel with each other to their upper extremities, being spaced apart by spacers 17, through which bolts are passed.

The upright angle irons are held rigid when properly adjusted, by the braces 13, and are provided with a plurality of holes

18 to receive the bolts which secure bearing boxes 19 in the proper position as in my aforementioned patent.

Referring to the modifications shown in Figs. 8 to 13 inclusive, Figs. 8 and 9 show the use of a plate 2 provided with a plurality of holes 20, and instead of the single notched jaw 4, before described, I employ two jaws 21 which are adjustably secured by bolts 22, to the plate 2. These jaws are moved inwardly or outwardly according to the size of the casing used. The U-bolt and lug construction is similar to that shown in Figs. 6 and 7.

In Figs. 10 and 11, I show a notched plate 2 and removable gripping lug 23, which is interposed between the casing and the plate 2, fitting a recess in the latter and being held in place by contact with the casing. Figs. 12 and 13 show the most simple form of gripping means, employing simply a notched plate and U-bolt.

From the foregoing it is believed that my invention may be clearly understood without further description, and in closing, it may be stated that numerous changes may be made in the details of construction without departing from the spirit of the invention as disclosed in the appended claims.

What I claim and desire to secure by Letters Patent is:—

1. In combination with a jack frame for oil wells, a casing clamp including a plate secured to the base of said frame, a jaw member removably secured to said plate, a U-bolt for gripping the well casing, means providing on said U-bolt coacting with said plate, for drawing the U-bolt toward said jaw member.

2. In combination with a jack frame for oil wells, a casing clamp as claimed in claim 1, wherein said jaw member is provided with a shoulder which abuts the edge of said plate, and wherein the means for drawing the U-bolt toward the jaw member, includes apertured lugs which fit the ends of said U-bolt and engage the edge and underside of said plate, the ends of said U-bolt being threaded and provided with nuts which when tightened draw the U-bolt toward the jaw member and secure the well casing in place.

3. In combination with a jack frame for oil wells, a longitudinally adjustable casing clamp including a plate secured to the base of said frame, a notched jaw member removably secured to said plate, a U-bolt threaded at both ends adapted to fit around the well casing, substantially U-shaped lugs provided with apertures through which the threaded ends of said U-bolt are adapted to pass, said lugs being arranged to engage the edge and underside of said plate, and nuts provided on said threaded ends of the U-bolt for drawing the same toward the jaw member.

4. A portable jack frame for oil wells, comprising a pair of beams forming a base portion, an adjustable casing clamp, uprights, a rod extending through apertures in the beams and uprights for pivotally securing said uprights to said beams, and a tubular spacer mounted on said rod whereby said beams and the uprights secured thereto are spaced apart, and fastening means on said rod.

In testimony whereof I affix my signature.

ROBERT E. ALEXANDER.