April 18, 1933. R. G. HAMAKER 1,904,307

JACK POST

Filed Jan. 10, 1929

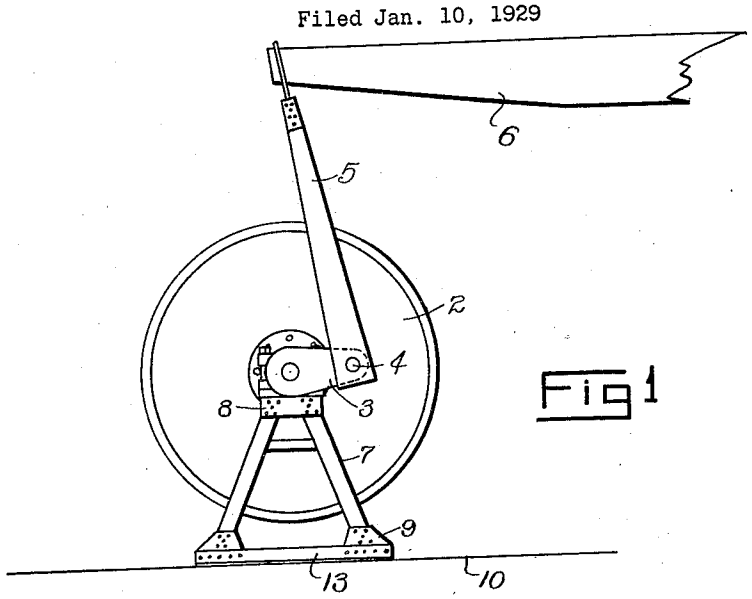


Fig 1

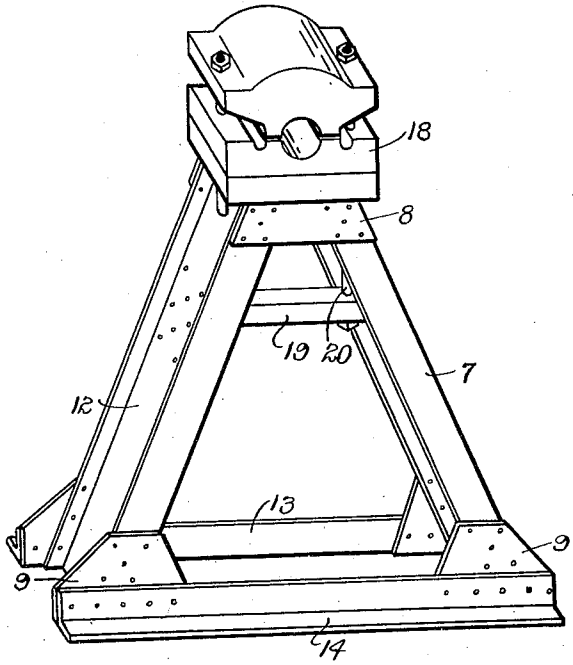


Fig 2

Rex G. Hamaker Inventor

By Jesse R. Stone

Attorney

Patented Apr. 18, 1933 1,904,307

UNITED STATES PATENT OFFICE

REX G. HAMAKER, OF HOUSTON, TEXAS, ASSIGNOR OF ONE-HALF TO A. M. BOWMAN, OF HOUSTON, TEXAS

JACK POST

Application filed January 10, 1929. Serial No. 331,625.

My invention relates to posts adapted for supporting the crank shaft employed in actuating the pumping mechanism in the pumping of wells.

In well pumping by the use of standard rig pumping equipment a walking beam is rocked upon its support, one end of which is attached to the pump rod, the other end of which is connected by a pitman to the crank shaft. The crank shaft is in turn supported upon a pair of jack posts and difficulty is commonly experienced in so constructing and reenforcing the jack post that it will be able to withstand the upward strain upon the shaft when the pump rod takes its downward stroke. It is to be understood that the downward movement of the pump rod and its load of fluid exerts a jerk upon the walking beam and the pitman which tends to raise the shaft, and, with it, the jack post so that the jack post may become loosened from the foundation.

It is an object of my invention to construct a jack post in such manner that it is particularly adapted to withstand the upward strain exerted thereon during the downward drop of the pump rod.

I aim to provide in connection with the supporting legs of the jack post a thrust member which tends to absorb the horizontal component of the vertical stresses to which the jack post is subjected.

In the drawing I have shown a preferred embodiment of the invention constructed of structural steel. In Fig. 1, I have shown a side elevation of a jack post embodying the invention. Fig. 2 is a perspective view of the jack post with the sides connected with the thrust members.

It is to be understood that my improved jack post is adapted for use with any ordinary construction of crank shaft, crank arm, and pitman connected therewith, or the means whereby rotation is communicated to the crank shaft. These parts are, therefore, shown somewhat diagrammatically in Fig. 1. In this view the crank shaft is shown as equipped with a band wheel 2, through which connection may be made with a source of power, said band wheel being mounted rigidly upon the shaft. The shaft has a crank arm 3 thereon at one end with a wrist pin 4 connected to the lower end of a pitman 5 by means of which a rocking motion is communicated to a walking beam 6.

The crank shaft is supported by a jack post at each end. This jack post is made up of two legs 7, inclined toward each other from the lower end and secured together with a gusset plate 8 at the upper end. The lower ends of the legs are provided with plates 9 which may be formed for engagement with the thrust members 13. The legs 7 may be made up of channel iron, as shown at 12. When thus constructed the connecting web between the two side portions may be presented inwardly.

The thrust bars are preferably made of suitable angle bars having a lower flange 14 which is adapted to seat against the base upon which the jack post is fastened, and takes the place of an outstanding base plate. The angles are riveted or otherwise fastened to the plates 9 or directly to the channels 7 and serve to complete a rigid triangular frame.

Upon the post thus provided may be placed the usual bearings or irons 18 for the crank shaft 1 and as these bearings are common in this form of equipment the details thereof are not described in detail. This iron, however, is affixed to the jack post by means of a cross bar 19 and rods 20, as best seen in Fig. 2.

In the use of this construction it is obvious that the post is adapted to sustain the ordinary weight of any crank shaft of this character, as the thrust bars are adapted to absorb either tension or compression. The usual weakness of posts of this kind results from an upward pull upon the crank shaft, due to the upward movement of the arm of the walking beam adjacent thereto, but I have provided that such stresses be resisted by my thrust bars. It will be seen that the upward pull on the crank shaft will tend to draw the two legs 7 together at their lower ends. This tendency is resisted through the thrust bars which I have provided. A jack post thus constructed will be adapted to resist the ordinary strains and also will be adapted to resist the upward pull exerted by the downward drop of the pump rod. The

advantages of this construction will be apparent to those skilled in the art.

What I claim as new and desire to protect by Letters Patent is:

A jack post adapted to be subjected to either upward or downward stresses, comprising a pair of leg members, means to space the lower ends of said legs and adapted to absorb the horizontal component of either of said stresses, said means comprising a pair of spaced angle bars, a bearing on said post, a transverse brace on said legs, and anchor rods on said bearings tying said bearings to said post.

In testimony whereof I hereunto affix my signature this 3rd day of January, A. D. 1929.

REX G. HAMAKER.