March 19, 1929. D. D. WERTZBERGER 1,705,598

TOP CONSTRUCTION FOR WELL DERRICKS

Filed Sept. 20, 1924

Fig-1

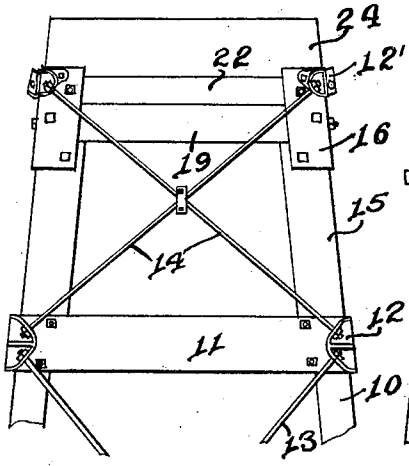


Fig-4

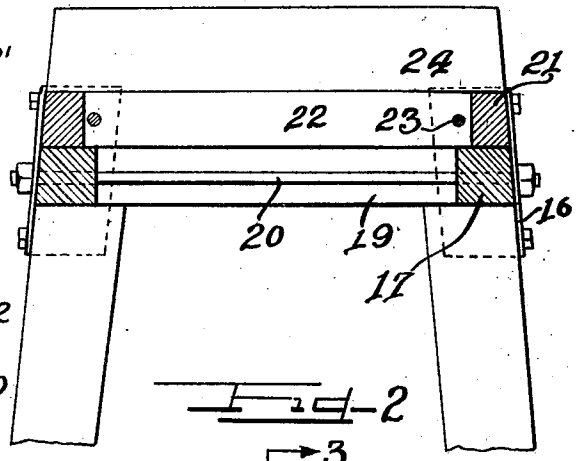


Fig-2

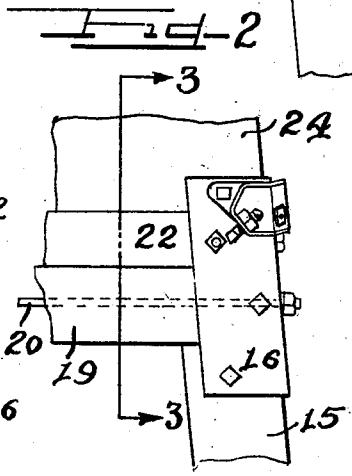


Fig-3

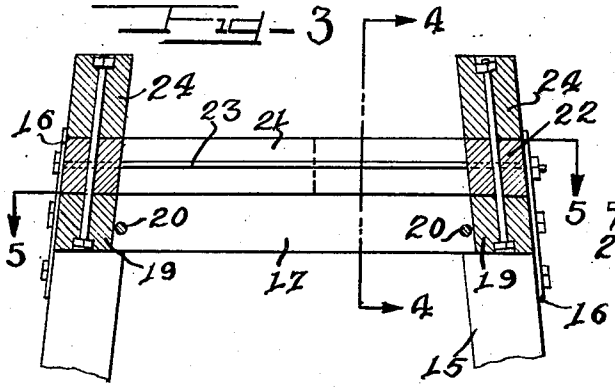
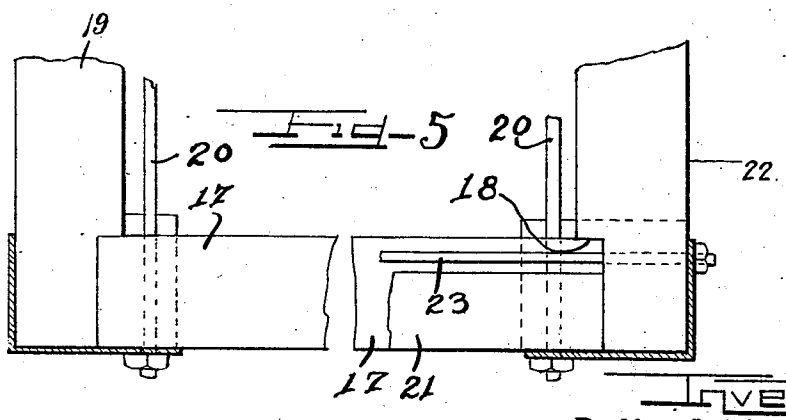


Fig-5



Inventor

Dallas D. Wertzberger

by Charles W. Hill & Co.

Attys.

Patented Mar. 19, 1929. 1,705,598

UNITED STATES PATENT OFFICE.

DALLAS D. WERTZBERGER, OF TULSA, OKLAHOMA.

TOP CONSTRUCTION FOR WELL DERRICKS.

Application filed September 20, 1924. Serial No. 738,735.

This invention relates to well drilling derricks and particularly to the structure of the derrick top or deadwood. This invention is a continuation in part of my application for well drilling derrick, filed July 19, 1924. Serial No. 727,033.

It is an object of this invention to provide an improved derrick top or deadwood capable of sustaining the heavy loads imposed on the cable sheave mounted thereon.

It is also an object of this invention to provide such a deadwood that can be easily and securely assembled in the field and that will be rigid under load.

It is also an object of this invention to provide an interlocking built up frame for the derrick top whereby the assembled strength thereof is greatly increased and each individual piece of timber entering into the assembly is of a size and weight capable of easy handling in the awkward position on top the derrick structure.

Other and further important objects of this invention will be apparent from the disclosures in the specification and the accompanying drawings.

This invention (in a preferred form) is illustrated in the drawings and hereinafter more fully described.

On the drawings:

Figure 1 is a fragmentary elevation of the top portion of a derrick embodying features of this invention.

Figure 2 is an enlarged fragmentary elevation of one corner of the derrick top.

Figure 3 is a section on the line 3—3 of Figure 2.

Figure 4 is a section on the line 4—4 of Figure 3.

Figure 5 is a section on the line 5—5 of Figure 3.

As shown on the drawings:

The derrick structure proper is indicated by the tops of the corner posts or legs 10 which terminate approximately half way of the width of a cross member 11 which is the uppermost of a series of such members dividing the derrick structure into panels. Corner brackets 12 and 12′ are bolted over the cross member 11 and receive the ends of the diagonal rods 13 and 14, the latter bracing the top panels supporting the deadwood. Enlarged extensions 15 of the derrick legs 10 abut thereon and form a foundation for the deadwood structure, angle plates 16 being bolted thereto and extending above the tops of the extension legs which are cut off to form a plane surface.

The frame work forming the derrick top comprises a pair of parallel timbers 17 resting on the ends of the leg extensions 15 within the angle plates 16. These timbers 17 are recessed to provide shoulders 18 and a pair of timbers 19 at right angles to the first pair fit the recesses and are clamped therein by bolts 20 passing through the angle plates on opposite sides of the structure. A similar famework comprising a pair of timbers 21 and 22 and bolts 23 at right angles to the first pair of bolts serves to build up a rigid framework without obstructing the opening. Bearing blocks 24 are bolted on top of the timbers 19 and 22, the blocks supporting the sheave bearings or pillow blocks that take the full load of the drilling cable and string of tools.

The tapered construction of the superimposed framework insures the direct transmission of the heavy loads encountered in service onto the derrick legs in line therewith. These legs are essentially slender columns and any eccentric loading would greatly reduce the strength of such columns possibly resulting in buckling of the derrick structure.

I am aware that many changes may be made, and numerous details of construction may be varied through a wide range without departing from the principles of this invention, and I therefore do not purpose limiting the patent granted hereon, otherwise than necessitated by the prior art.

I claim as my invention:

1. In a well-drilling derrick, a plurality of legs, enlarged extension members forming continuations of said legs, angle irons secured to the said extension members and projecting thereabove, a pair of beams resting on the upper ends of said extension members and having rabbeted ends, a cross beam between each pair of rabbeted ends, the said four beams comprising a polygonal frame resting on the upper ends of the extension members and confined within the angle irons, the upper ends of the enlarged extension members being flush with the lower contacting surfaces of the said frame, tie rods extending through the angle irons and the rabbeted members to secure the frame to the angle irons and retain abutting members of the frame in compression, a second polygonal frame of construction similar to that of the first-named frame having its rabbeted mem-

bers at right angles to the first-named rabbeted members, the second frame resting on the first and confined within the angle irons, and tie rods extending through the angle irons and the rabbeted members of the second frame to secure the frame to the angle irons and retain abutting members of the frame in compression.

2. In a well drilling derrick, a plurality of legs, enlarged extension members forming continuations of the said legs, angle irons secured to the said extension members and projecting thereabove, a polygonal frame comprising a pair of members having rabbeted ends and a pair of cross beams engaging the rabbeted members at their ends, tie rods extending through the angle irons and the rabbeted members, the said frame resting upon the upper ends of the said extension members and confined within the angle irons, a second polygonal frame resting upon the first frame of construction similar to that of the first frame and having its rabbeted members at right angles to the rabbeted members of the first frame, tie rods extending through the angle irons and the rabbeted members of the second frame and at right angles to the tie rods in the first frame, pillow blocks upon the second frame and confined within the angle irons, and fastening means extending through the pillow blocks and the said frames.

In testimony whereof I have hereunto subscribed my name.

DALLAS D. WERTZBERGER.