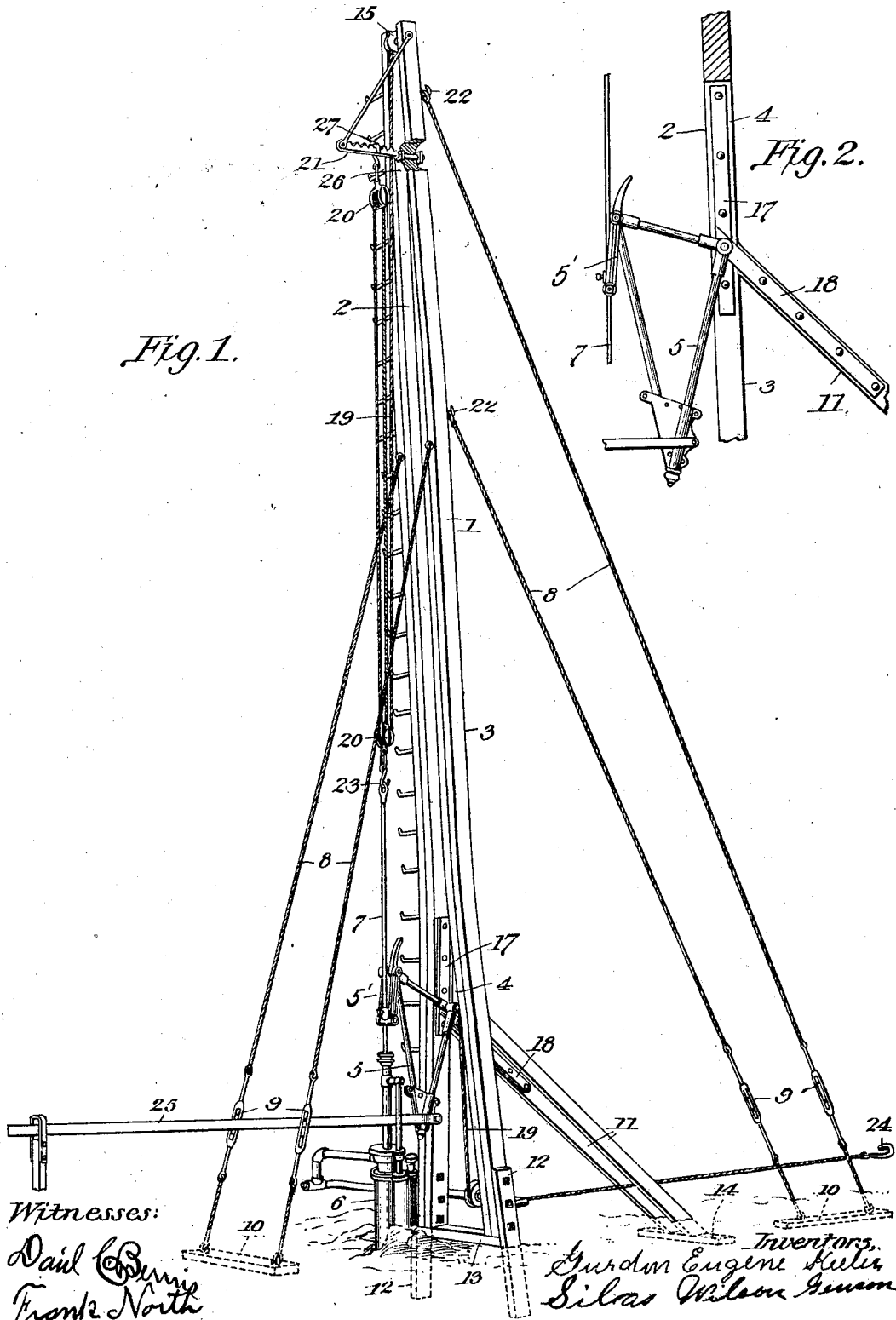


No. 828,122.

PATENTED AUG. 7, 1906.

G. E. KEELER & S. W. GENSON.
DERRICK FOR PUMPING OIL WELLS.

APPLICATION FILED AUG. 28, 1905.



UNITED STATES PATENT OFFICE.

GURDON EUGENE KEELER AND SILAS WILLSON GENSON, OF HASKINS,
OHIO.

DERRICK FOR PUMPING OIL-WELLS.

No. 828,122.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, GURDON EUGENE KEELER and SILAS WILLSON GENSON, citizens of the United States, residing at Haskins, in the county of Wood and State of Ohio, have invented certain new and useful Improvements in Combination-Derricks for Oil-Wells, of which the following is a specification.

This invention has relation to a combination-derrick for oil-wells, Artesian wells, and other deep wells, and has for its object the provision of novel means for handling the sections of well-tubing while they are being inserted in or withdrawn from the well and while such sections are being coupled or uncoupled.

This invention has for its further object the provision of novel means for holding the pumping-jack in position while the pumping operation is being proceeded with.

Our invention consists in the novel construction, arrangement, and combination of parts hereinafter set forth.

Referring to the accompanying drawings, illustrating our improvement, in the figures of which like numerals designate corresponding parts, Figure 1 is a perspective view of a derrick and its appurtenant parts constructed according to our invention; and Fig. 2 is a fragmentary view, partly in section, and on an enlarged scale, of the lower portion of the derrick.

The main body of the derrick is composed of two uprights, (designated, respectively, 1 and 2,) such uprights being of wood or of steel, as may be desired. The uprights 1 and 2 are so disposed as to form a frame which tapers outward slightly from the top to the bottom thereof. The uprights 1 and 2 have plates 12 12 bolted to their outer sides at their lower ends, these plates penetrating the earth and serving to maintain the lower end of the frame in fixed position. The frame is held rigid at its lower end by a cross-beam 13, which is secured in any suitable manner to the uprights 1 2.

In placing the frame in position for operation it is inclined slightly to one side, so that the upper end will be inclined toward the point where the well is to be driven, and the frame is sustained in the required position by guy ropes or cables 8 8, attached to the frame at 22 and which are provided with turn-

buckles 9 9 and which are secured at their lower ends to anchors 10 10, located below the surface of the earth adjacent to the derrick. Stay-braces 11 are attached to the uprights 1 2 at a proper distance from the bottom of such upright, and these stay-braces are secured to an anchor 14, located below the surface of the earth.

A sheave 15 is journaled between the upper ends of the uprights 1 2, and a cable 19 passes over this sheave and through two pulley-blocks 20 20, this cable 19 passing around a sheave located near the bottom of the frame and then extending rearwardly and carrying on its end a hook 24, by means of which it may be attached to a traction-cable in the usual manner.

An arm 21, which is indented on its upper edge, projects horizontally from the upright 2 near the upper end thereof, the inner end of said arm extending through said upright 2 and being held in position by nuts, as shown in Fig. 1. A brace-rod extends from the outer end of the arm 21 to the upper end of the upright 1, and the upper pulley-block 20 is suspended from the arm 21 by means of a hook 27. The lower pulley-block 20 carries a hook 23, which hooks into an eye on the upper end of a pump-rod 7, which pump-rod is connected to the pump-jack 5 by means of a link 5', which is pivotally attached to the pump-rod 7 and pivotally attached to the pump-jack 5, as clearly illustrated in Fig. 2. The pump-jack 5 is journaled in angle-plates 17 18, bolted, respectively, to the inner sides of the uprights 1 2 and the braces 11, and said pump-jack is of substantially triangular form and has projecting upwardly from one corner a segment-piece the outer surface of which corresponds to an arc described from the pivotal point of the jack. The lower corner of the jack carries triangular plates which are bolted together, so as to embrace the side members of the jack and form a triangular frame, to which frame is pivotally attached a shackle-rod 25.

A pump 6 is shown in Fig. 1 of the drawings, and in the condition of parts shown in this figure the apparatus is adapted for pumping, which is effected by imparting a reciprocating movement to the shackle-rod 25. This reciprocating movement is imparted to the shackle-rod 25 by a pitman, which is shown at the left-hand end of the shackle-

rod in Fig. 1 of the drawings, this pitman receiving movement from the crank-shaft of an engine. (Not shown.) During the pumping operation the cable 19 is allowed sufficient slack to permit of the rise and fall of the pump-rod 7; but if for any reason it is desired to draw the pump-rod out of the well the pump-rod is uncoupled from the pump-jack 5, and by exerting traction on the cable 19, which may be done by attaching the hook 24, carried by the cable 19, to a rope which is wound around a drum operated by an engine or in any other suitable and well-known manner, the pump-rod will be drawn upwardly and out of the pump. The cable 19 and the pulleys 20 20 are not only utilized for drawing the pump-rod out of the pump, but, as will be readily understood, may be utilized for raising, lowering, and otherwise handling the well-tubing and sustaining the sections of the same as they are being coupled and uncoupled when placing them in the well or taking out the same.

We claim—

25 1. The combination with an upright frame, a notched arm projecting horizontally from said frame near its upper end, a hook engaging said notched arm, of a pulley-block suspended from said hook, a second pulley-block disposed below the first-named pulley-block, a sheave located at the upper end of the frame, a sheave located at the lower end of the frame and a cable passing over said sheaves and through said pulley-blocks.

2. The combination with a frame composed of uprights attached together at their upper and lower ends, of an arm projecting from said frame near its upper end, a pulley-block carried by said arm and adjustable thereon, a second pulley-block disposed below the first-named pulley-block and a cable passing through said pulley-blocks, of a pump having a pump-rod connected to said second pulley-block and means for vertically moving the pump-rod independently of the movement of said pulley-block, substantially as described.

3. The combination in a derrick for wells, of uprights connected at their upper and lower ends, and constituting a frame, a horizontally-extending notched arm carried by said frame near its upper end, a hook carried by said arm and adjustable thereon, a pulley-block carried by said hook, a second pulley-block disposed below the first-named pulley-block, a hook carried by said second pulley-block, a pump-rod engaged by said hook, sheaves carried by said frame, a cable passing over said sheaves and through said pulley-blocks, pumping apparatus connected to said pump-rod and means for operating the pumping apparatus, substantially as described.

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Witnesses:

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