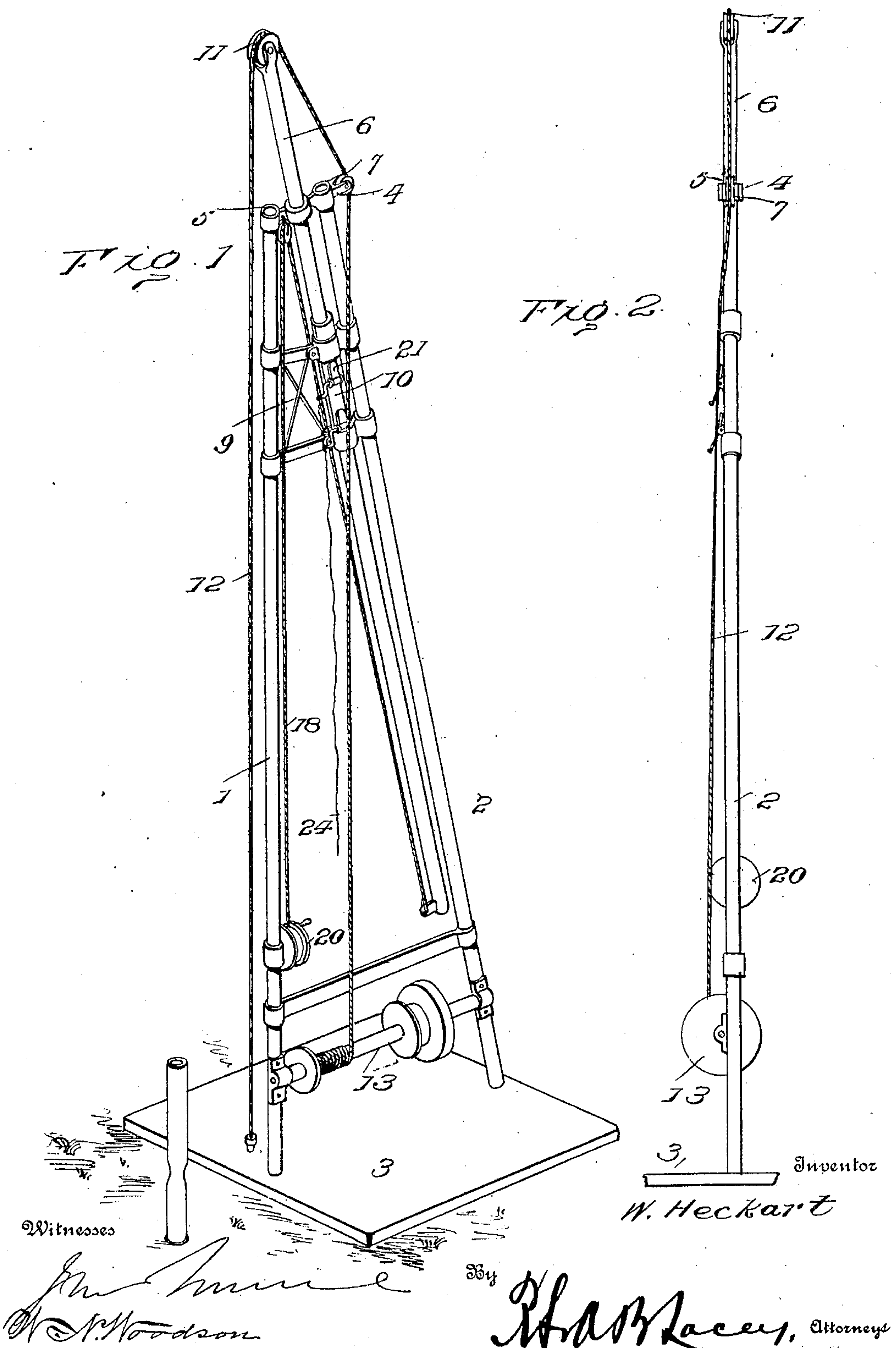


No. 837,402.

PATENTED DEC. 4, 1906.

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OIL WELL DERRICK.  
APPLICATION FILED MAR. 22, 1906.

2 SHEETS--SHEET 1.



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2 SHEETS—SHEET 2.



# UNITED STATES PATENT OFFICE.

WILLIAM HECKART, OF BRADNER, OHIO.

## OIL-WELL DERRICK.

No. 837,402.

Specification of Letters Patent.

Patented Dec. 4, 1906.

Application filed March 22, 1906. Serial No. 307,543.

*To all whom it may concern:*

Be it known that I, WILLIAM HECKART, a citizen of the United States, residing at Bradner, in the county of Wood and State of Ohio, have invented certain new and useful Improvements in Oil-Well Derricks, of which the following is a specification.

This invention has relation most especially to derricks for use in connection with deep wells, the purpose being to facilitate the adjustment of the derrick to the well when adapting the same to the work.

In derricks designed for oil-wells, it has been necessary heretofore to adjust the same to the well by backing, and it frequently happens that considerable time is lost in placing the derrick in proper position and adjusting the tackle so as to have the pulley about in vertical line with the well.

In accordance with this invention it is proposed to devise a derrick which may be moved to a position near the well, so as to stand edgewise thereof, said derrick having an adjustable section which may be projected so as to bring the pulley about in vertical line with the well, the construction being such that when the work is finished the section may be lowered and the derrick moved off parallel with the load passing said well.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings.

While the invention may be adapted to different forms and conditions by changes in the structure and minor details without departing from the spirit or essential features thereof, still the preferred embodiment is shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a derrick embodying the invention. Fig. 2 is an edge view thereof as seen from the outer side. Fig. 3 is a view of the derrick as it appears when placed in position with its inner edge facing the well and prior to projection of the adjustable section. Fig. 4 is a view similar to Fig. 3, illustrating the adjustable section projected to bring the working portion of the operating rod or cable in vertical line with the well. Fig. 5 is a detail view in perspective of the guide through which the adjustable section operates, showing more clearly the stops for holding said section at an ad-

justed position. Fig. 6 is a detail view of the lower portion of the guide and the lower end of the adjustable section, showing the same supported by means of a stop.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The derrick comprises a relatively fixed section and an adjustable section. The fixed section comprises an upright 1, a stay 2, and a base 3, the upright and stay being firmly attached at their lower ends to opposite end portions of the base 3. The upright 1 occupies an approximately vertical position, whereas the stay 2 is inclined and is spaced a short distance at its upper end from the upright 1. A cross-piece 4 connects the upper ends of the parts 1 and 2 and is widened at a point between said parts 1 and 2 and has an opening 5 in the widened part, through which the adjustable section 6 is adapted to pass. The cross-piece is projected a short distance from the stay 1 and is provided with a pulley 7. Cross-spaces 8 and incline stays 9 brace the upper portion of the fixed section of the derrick. A guide 10 is connected to the upper portion of the fixed section of the derrick and inclines about at the same angle as the stay 2 and is preferably secured to said stay. The guide 10 may be of any construction so long as it provides a substantial support for the lower end of the adjustable section when the same is projected. The adjustable section 6 is in the form of a post and is moved in the opening 5 and guide 10 and is adapted to be secured in the adjusted position and to be operated by any suitable means. A pulley 11 is located at the upper end of the adjustable section and the operating rope or cable 12 passes thereover. The parts 1, 2, and 6 may be tubular or of any construction and may be of metal or other material, as found most advantageous.

The operating rope or cable 12 passes over the pulley 11 and is provided at one end with a suitable hitch or other device, according to the special work in hand, and its opposite end is attached to and adapted to be wound upon a windlass 13, mounted in bearings provided near the lower ends of the parts 1 and 2. The windlass 13 may be of any type and adapted to be operated in any accustomed manner.

In practice the derrick when in position adjacent to a well to be operated is arranged



with its edge facing said well and with the upright 1 adjacent thereto. The base 3 or foot of the derrick is usually located some distance from the well, and in order that the end 5 portion of the operating rope or cable pendent from the pulley 11 may be in vertical line with the well the section 6 is projected through the guide 10 and opening 5 until the pulley reaches a point to admit of the rope or 10 cable hanging therefrom being about in perpendicular alinement with the well, as indicated most clearly in Fig. 4. With the derrick thus adjusted it will be understood that the strain on the part of the rope or cable between the well and pulley 11 is in a vertical 15 direction, thereby enabling the pulley to be applied direct without producing any binding. Moreover, the derrick may be conveniently and quickly placed in position and as 20 easily moved from one place to another, as may be required.

The adjustable section 6 may be extended or lowered by any means, and for convenience the cord or rope 18 is provided, the 25 same passing around a sheave-pulley 19 at the upper end of the fixed section 1 and having one end attached to the lower portion of the adjustable section 6 and its opposite end fixed to and adapted to be wound upon a 30 windlass or drum 20 near the lower end of the fixed section of the derrick. The section 6 when projected or moved upward is adapted to be held in the located position by means of one or more stops 21, which are pivotally 35 mounted and have crank-arms 22 connected therewith. The stops 21 are located at different elevations and are arranged in openings 23, formed at one side of the guide 10. The crank-arms 22 are connected by means 40 of an operating-cord 24, which extends within convenient reach of the ground to be pulled upon to withdraw the stops from the path of the section 6 when it is required to lower the same when projected.

45 Having thus described the invention, what is claimed as new is—

1. An oil-well derrick comprising an upper adjustable section and a lower relatively fixed section, the latter comprising an upright, an inclined stay, a base-piece connecting the lower ends of the upright and stay, 50 and a cross-piece connecting the upper ends of said upright and stay and having an end

portion projected from the stay and provided with a pulley, an inclined guide secured 55 to the upper portion of the fixed section and adapted to have the adjustable section movable therein and through an opening of said cross-piece, an operating rope or cable adapted to pass over the pulley at the extended 60 end of the cross-piece and over a pulley at the upper end of the adjustable section, and a windlass near the lower end of the fixed section for operating said rope or cable.

2. The herein-described oil-well derrick 65 comprising an upper adjustable section provided at its upper end with a pulley and a lower relatively fixed section comprising an upright, an inclined stay, a base and a cross-piece, the latter connecting the upper ends of 70 the upright and stay and extended at one end in the rear of the latter and provided with a pulley and having the part between the upright and stay widened and formed with an opening, braces connecting the upper por- 75 tions of the upright and stay, an inclined guide attached to the upper portion of the stay and adapted to have the adjustable section passed therethrough and through the opening of the cross-piece, an operating rope 80 or cable, and a windlass therefor mounted in bearings applied to the lower ends of said upright and stay.

3. In a derrick comprising relatively adjustable sections and guide for the movable 85 section, of a series of pivoted stops arranged to hold the adjustable section in the located position, and means for simultaneously operating said stops to withdraw them from the 90 path of the adjustable section to admit of its withdrawal or contraction.

4. In a derrick, the combination of relatively adjustable sections, a guide therefor provided at intervals in its length with openings, pivoted stops for supporting the adjustable 95 section when projected to the required position, and an operating-cord connected with the series of pivoted stops for withdrawing them from the path of the adjustable section. 100

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM HECKART. [L. s.]

Witnesses:

J. H. LAPP,

W. B. GREGG.