

No. 796,682.

PATENTED AUG. 8, 1905.

O. F. STEINMAN.
DERRICK.

APPLICATION FILED MAR. 14, 1904.

2 SHEETS—SHEET 1.

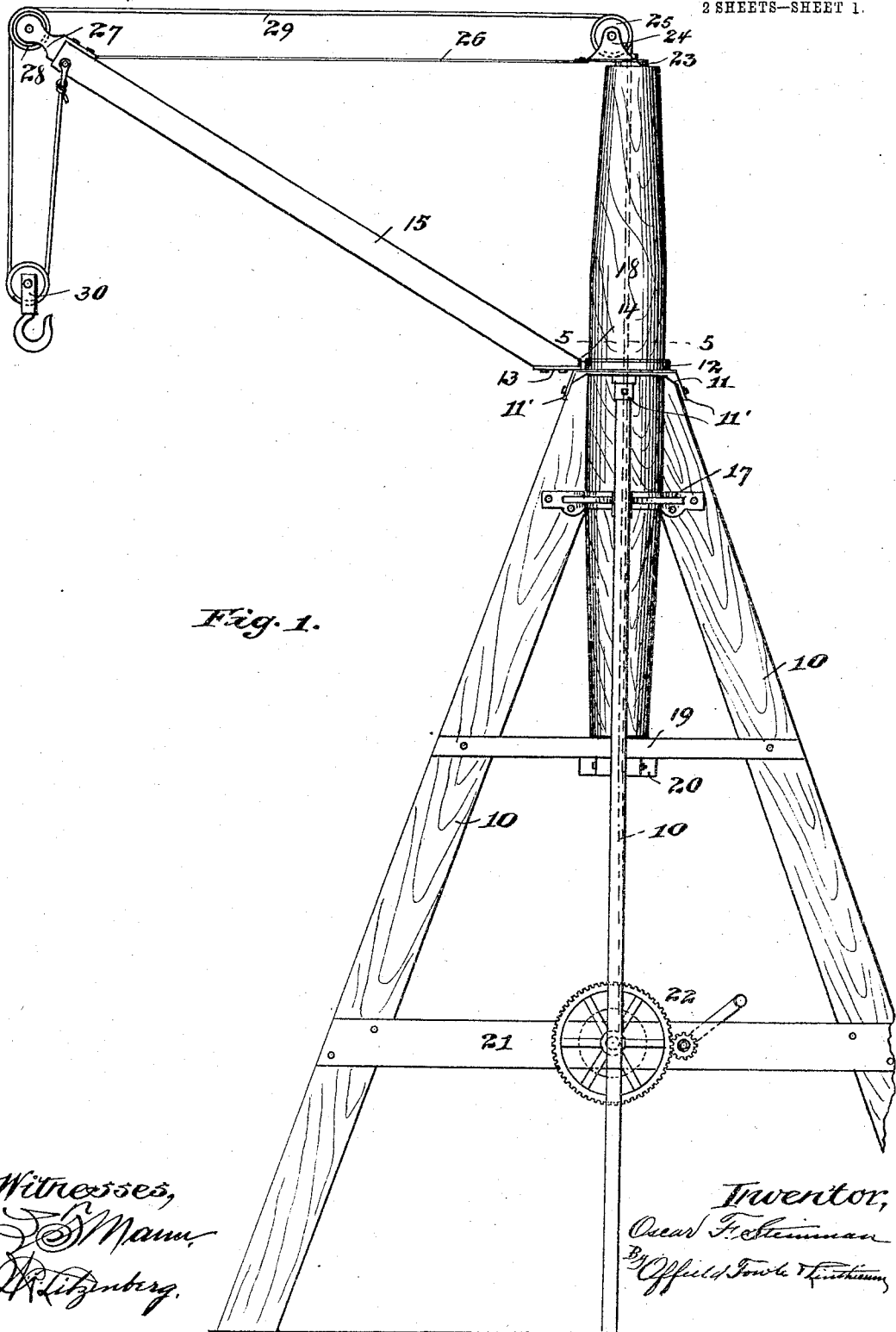


Fig. 1.

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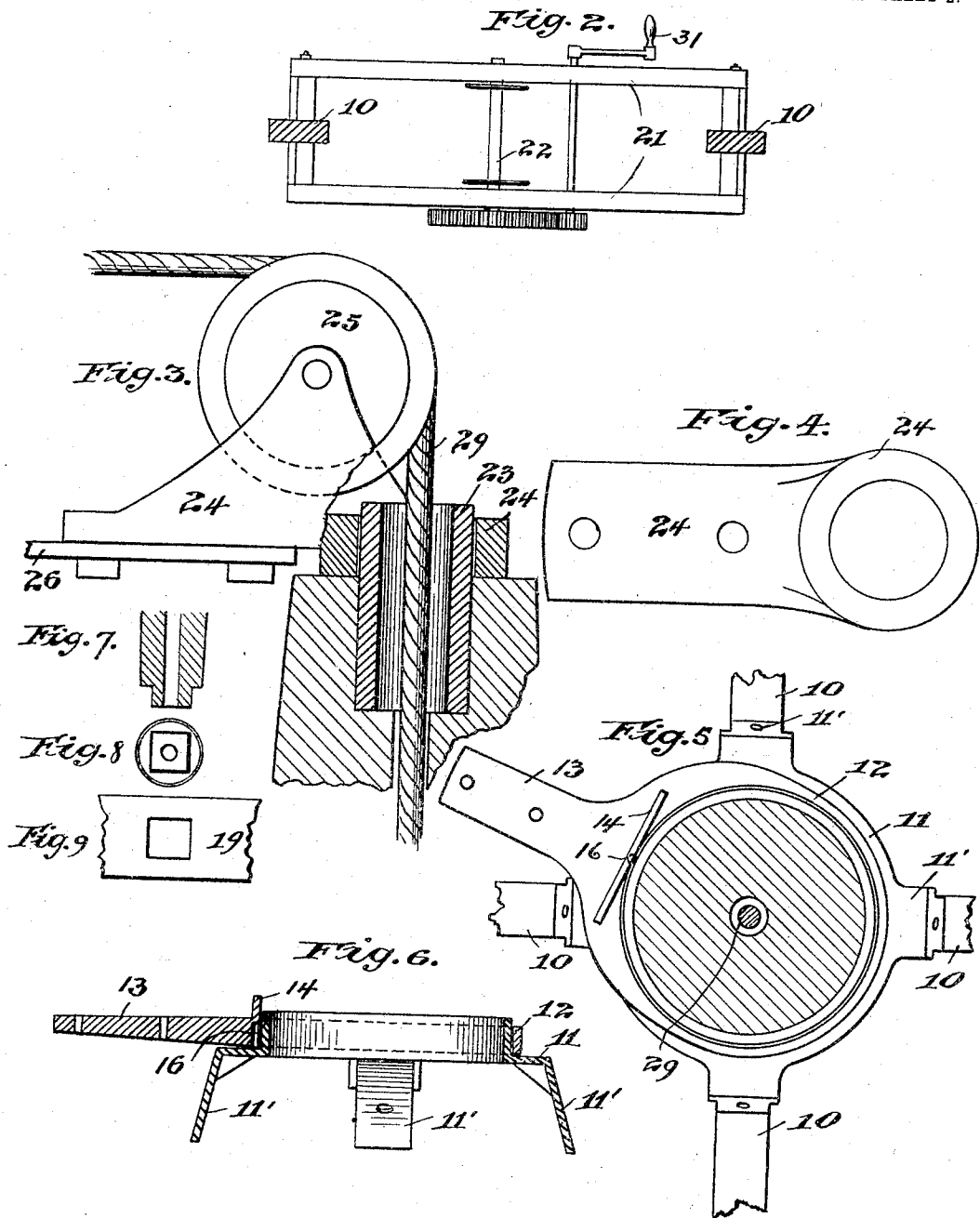
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

OSCAR F. STEINMAN, OF MARCUS, IOWA.

DERRICK.

No. 796,682.

Specification of Letters Patent.

Patented Aug. 8, 1905.

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To all whom it may concern:

Be it known that I, OSCAR F. STEINMAN, a citizen of the United States, residing at Marcus, in the county of Cherokee and State of Iowa, have invented certain new and useful Improvements in Derricks, of which the following is a specification.

This invention relates to derricks, and particularly to a derrick adapted to be used upon a farm in lifting heavy weights and transferring them from one position to another, as in loading or unloading them into or from a wagon or truck, and in removing or putting into place wagon-boxes, hay-racks, or the like.

Among the salient objects of the invention are to provide in a derrick of the character referred to a construction which is simple and well braced to prevent twisting or racking under the strain of a heavy load, to provide a derrick in which the crane moves entirely around a stationary mast in either direction and in which the windlass mechanism remains bodily stationary, and to provide such improvements in the details of construction and arrangement as will produce a simple, effective, and durable derrick which can be economically manufactured.

The invention will be readily understood from the following description, reference being had to the accompanying drawings, in which—

Figure 1 is an elevation of the derrick with a part broken away to reduce the size of the figure. Fig. 2 is a plan view of the windlass removed from the derrick, the derrick-legs being shown in section. Fig. 3 is an elevation, partly in section, of the upper end of the mast with swiveling pulley mounted thereon. Fig. 4 is a bottom plan view of the pulley-casting. Fig. 5 is an enlarged sectional view taken on line 5 5, Fig. 1, with the crane-arm omitted and the legs of the derrick broken away to reduce the size of the figure. Fig. 6 is a sectional view of the top cap for the derrick-frame with the crane swiveling casting mounted thereon. Figs. 7 and 8 are sectional and end views, respectively, of the lower end of the mast; and Fig. 9 is a fragmentary view showing socket in cross-brace to receive the lower end of mast.

Referring to the drawings, 10 designates the legs of a four-legged derrick, converging at their upper ends and provided with a cap-casting 11, comprising a collar of angular

form and having downwardly-projecting lugs 11', which are secured to the legs.

12 designates a ring-like bracket revolubly mounted upon the cap-casting 11 and, together with said cap-casting, constitutes a turntable for a crane-arm hereinafter referred to. Said ring bracket is provided with a lug 13 and an upturned flange 14, upon and against which is mounted a crane-arm 15. In order to facilitate the turning of said bracket ring or collar and crane upon said cap-casting and to prevent binding of the same under a load, one or more bearing-sockets are provided in the front of said bracket-ring, into which are placed roller-bearings 16, which bear against the vertical portion of the angular collar 11. (See Figs. 5 and 6.)

17 designates a brace-casting, one of which is placed between each two legs and bolted or otherwise secured thereto so that the inner edges thereof hug a mast 18, passing through the cap-casting 12 and seated in a cross-brace 19, secured to the legs 10, the lower end of said mast being preferably square and fitting into a square hole in said brace or braces, two braces being shown in the present construction and arranged across each other.

21 designates a rectangular brace-frame and support for a windlass mechanism 22 and is secured to oppositely-disposed legs. (Shown in section in Fig. 2.)

The mast 18 is provided with a longitudinal bore through its center and at its upper end with a short tubular member 23, firmly secured therein and projecting therefrom to form a bearing for a pulley-casting 24, revolubly mounted thereon and carrying a pulley 25. (See Figs. 3 and 4.)

26 designates a brace, preferably of strap metal, secured at one end to said pulley-casting and at its other end to the upper end of the crane-arm 15. Mounted upon the upper end of said crane-arm is a pulley-bracket 27, carrying a pulley 28.

29 designates a rope or cable secured at one end to the crane-arm 15 and carrying thereon a tackle 30 and, passing up over the pulley 28, the pulley 25, and down through the center of the mast 18, is attached to the windlass mechanism 22, said windlass being operated by a hand-crank 31.

From the above description, therefore, it will be seen that the crane-arm 15 and the brace 26, together with the lifting-tackle 30,

can be swung entirely around the supporting-frame and mast of the derrick in either direction, while the windlass mechanism in the construction shown remains in one position with relation to the derrick.

It is obvious that changes in the details of construction and arrangement can be made without departing from the spirit of the invention, and I do not, therefore, limit the invention to the details shown, except in so far as they are made the subject-matter of specific claims.

I claim—

1. A farm-derrick, comprising in combination a supporting-frame, a hollow mast mounted rigidly in said frame and extending upwardly therefrom, a crane-arm obliquely disposed and mounted to swivel around said mast upon the upper end of said frame, a brace member having swivel connection with the upper end of said mast and supporting the outer end of said crane-arm, a windlass mechanism mounted upon said supporting-frame, and a hoisting-cable extending from said windlass mechanism through said hollow mast, over the outer end of said crane-arm and carrying a moving pulley, substantially as and for the purpose described.

2. A derrick, comprising in combination a plurality of stationary legs converging at their upper ends, a hollow mast rigidly mounted therein and to which said legs converge, a turn-table casting mounted upon the upper ends of said legs around said mast, brace members connecting said legs intermediate their ends in which the lower end of said mast is

seated, a windlass mechanism mounted in the lower part of said frame in alinement with said mast, a crane-arm mounted to swivel around said turn-table casting, pulleys upon said mast and said crane-arm, and a hoisting-cable extending from said windlass through said stationary mast and having operative connection with said crane-arm, substantially as and for the purpose described.

3. A derrick, comprising in combination a plurality of legs converging at their upper ends, a hollow mast rigidly mounted therein and to which said legs converge, a cap-casting mounted upon the converging ends of said legs and through which said mast passes, brace-castings mounted between said legs and embracing said mast at their inner edges, cross-braces secured to said legs and into which said mast is rigidly seated, a windlass mechanism mounted upon said legs, a pulley mounted to swivel upon the upper end of said mast, a bracket-collar revolubly mounted upon said cap-casting, roller-bearings between said bracket-collar and said cap-casting, a crane-arm mounted upon said bracket-collar to swivel around said mast, a pulley mounted upon said crane-arm, a supporting-brace attached at one end to said crane-arm and at the other end mounted to swivel around the upper end of said mast, and a cable from said windlass up through said mast and over said pulleys, substantially as described.

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