

No. 844,990.

PATENTED FEB. 19, 1907.

W. L. ALLAN & W. T. PRICE.

DERRICK.

APPLICATION FILED MAR. 17, 1906.

2 SHEETS—SHEET 1.

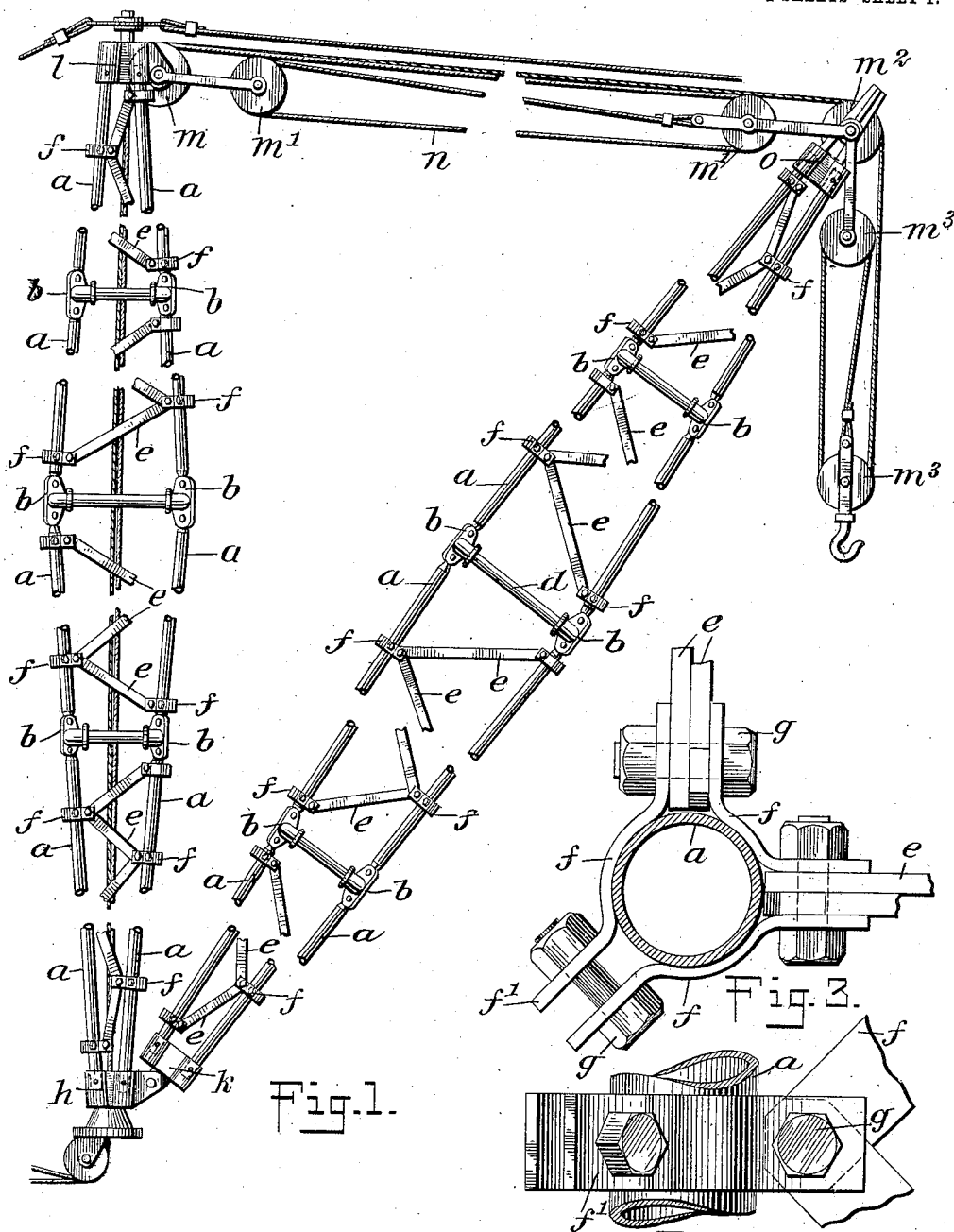


Fig. 1.

Fig. 3.

Fig. 2.

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 BY
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2 SHEETS—SHEET 2.

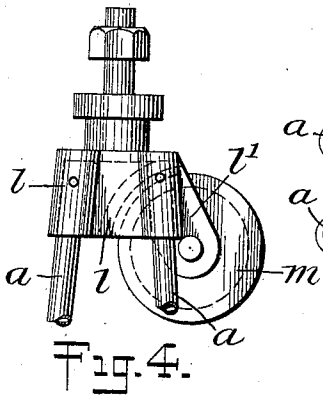


Fig. 4.

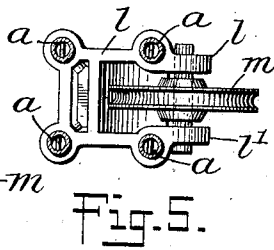


Fig. 5.

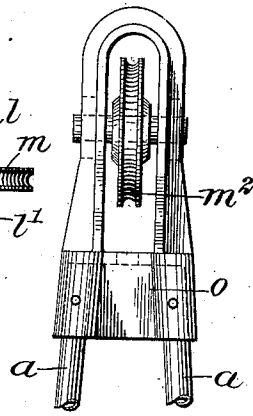


Fig. 8.

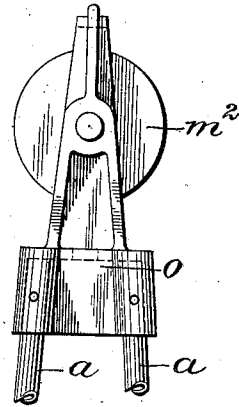


Fig. 9.

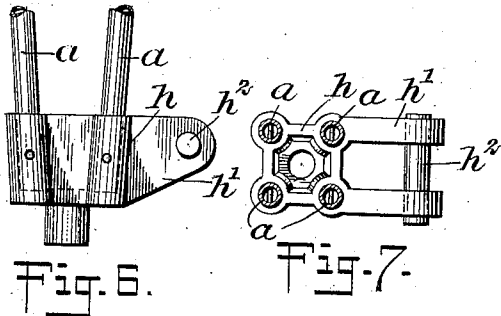


Fig. 6.

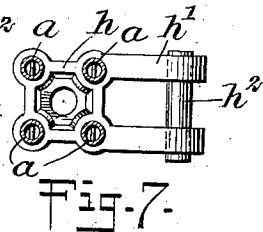


Fig. 7.

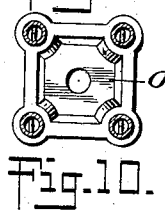


Fig. 10.

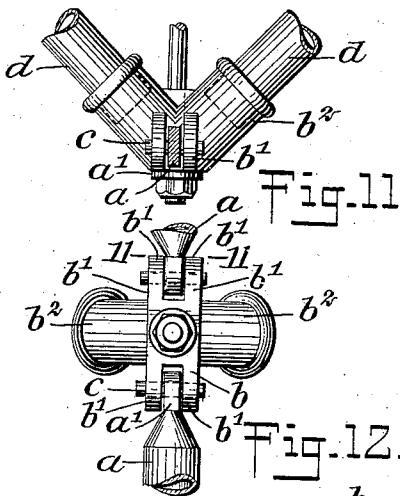


Fig. 11.

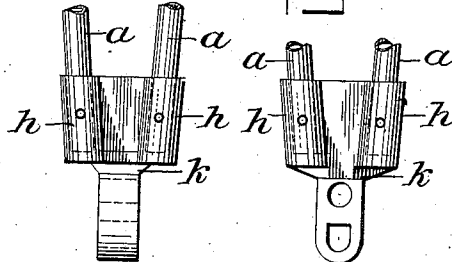


Fig. 14.

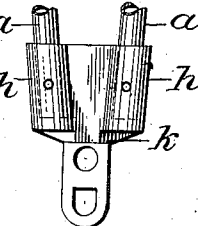


Fig. 15.

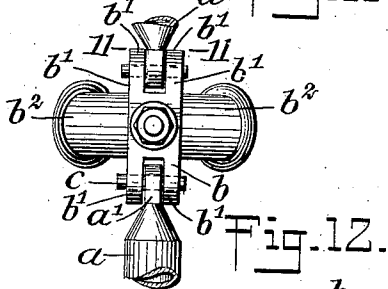


Fig. 12.

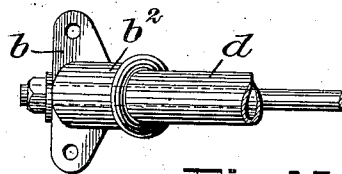
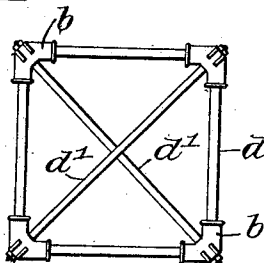


Fig. 13.

Fig. 16



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UNITED STATES PATENT OFFICE.

WILLIAM L. ALLAN, OF SAN FRANCISCO, CALIFORNIA, AND WILLIAM TUDOR PRICE, OF ITHACA, NEW YORK.

DERRICK.

No. 844,990.

Specification of Letters Patent.

Patented Feb. 19, 1907.

Application filed March 17, 1906. Serial No. 306,563.

To all whom it may concern:

Be it known that we, WILLIAM L. ALLAN, a citizen of the United States, and a resident of San Francisco, in the county of San Francisco and State of California, and WILLIAM TUDOR PRICE, a citizen of the United States, and a resident of Ithaca, in the county of Tompkins and State of New York, have invented a new and Improved Derrick, of which the following is a full, clear, and exact description.

Our invention relates to a derrick, the principal objects thereof being to construct a derrick in such a manner that it will be lighter, less expensive to construct and shift, easily taken apart, which may be erected without the use of a gin-pole, and which is so formed as to allow of the topmast-sheave being placed close to the top of the mast, thus doing away with certain stresses set up in the mast when the sheave is placed in the usual position and also allowing the mast to be made lighter than heretofore.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a broken side elevation of a derrick, showing certain features of our invention. Fig. 2 is a side view, on an enlarged scale, of a clamp forming a part of the construction. Fig. 3 is an end elevation of the same, showing a portion of the derrick-frame in section. Fig. 4 is a side elevation of the mast-top. Fig. 5 is an inverted sectional plan view of the same. Fig. 6 is a side elevation of a foot-block on the derrick. Fig. 7 is a sectional plan view of the same. Fig. 8 is a front elevation of the boom-point. Fig. 9 is a side elevation of the same. Fig. 10 is an inverted sectional plan view of the same. Fig. 11 is a sectional view on the line 11-11 of Fig. 12. Fig. 12 is an inverted plan view of the parts shown in Fig. 11. Fig. 13 is a side elevation of the same. Fig. 14 is an end elevation of the boom-seat. Fig. 15 is a side elevation of the same, and Fig. 16 is an elevation of spreaders employed.

As will be readily observed from an inspection of the drawings, the derrick is constructed chiefly of standard piping or tubing, the parts thereof being fixed together by certain elements in such a way as to provide for a

maximum of strength with a minimum of weight and expense. Both the mast and the boom are constructed in substantially the same manner, the piping *a* being connected at its ends by means of castings or forgings *b*. The ends of the pipes, as shown, are flattened to provide ears *a'*, fitting between lugs *b'* on the castings or forgings and secured thereto by pins *c* or the like. The pipes *a*, if found desirable in practice, may be provided with screw-threads fitting screw-threads in the castings or forgings *b*. The castings or forgings *b* are connected together in a square, triangular, or other form by means of spreaders *b*, formed of piping or the like and extending from the forgings or castings *b* in any desired direction. These spreaders are fitted at their ends into sockets formed in hubs *b²* on the castings or forgings *b* and are held in place by diagonally-disposed tie-rods *d'*, as shown in Fig. 16, whereby the main lines of pipes are held in the proper position with respect to each other. The main pipes are also connected together by lattice-work *e*, the various pieces of lattice-work being connected with each other and the pipes by means of clamps *f*. These clamps comprise several pieces of metal having flanges *f'*, through which bolts *g* may pass in order to secure the several parts of the clamps together and to the lattice-work. The tightening of these bolts also secures the clamps to the pipes *a*.

The main part of the structure having been described, we will now state the manner in which the pipes are connected up at their ends. Figs. 6 and 7 show a foot-block *h*, having sockets into which the pipes *a* extend for supporting the latter, said pipes being held in place by suitable pins. This foot-block is provided with a pair of projections *h'*, supporting a pin *h²*, on which a boom-seat *k* is pivoted. This boom-seat is provided with sockets for supporting the pipes *a* in the same manner as the foot-block. The mast is surmounted by a top *l*, having sockets for the pipes *a* and having projections *l'* for supporting a sheave or pulley *m*, as shown in Figs. 4 and 5. This pulley is connected by other pulleys *m'* and a flexible connection *n* with a pulley *m²*, mounted on a boom-point *o*. Additional pulleys *m³* are supported by another connection passing over the pulley *m²* in a way that will be readily understood by reference to Fig. 1.

It will be observed that the several advantages mentioned above are necessarily present in the derrick constructed in accordance with the principles which have been set forth and that a most simple, inexpensive, and easily assembled and disassembled apparatus is thereby produced.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A derrick composed of a mast and a boom, each composed of a plurality of sections made up of standard piping, the adjacent ends of the sections having a flexible connection, spreaders for keeping the piping in position, and lattice-work connections between the several members of the piping.

2. A derrick having a boom comprising a frame formed of sections of piping, pivotally connected with another section, a plurality of joining-pieces mounted between the sections for connecting them together, and a series of spreaders each consisting of a plurality of pipes connecting said joining-pieces across the framework of the boom.

3. A derrick having a boom comprising a frame formed of sections of piping, each section being flattened at the end and pivotally connected with another section, a plurality of joining-pieces mounted between the sections for connecting them together, a series of spreaders, each consisting of a plurality of pipes connecting said joining-pieces across the framework of the boom, lattice-work mounted between the several sections of piping, said lattice-work comprising a series of bars extending diagonally across the frame, and a series of clamps each embracing one of said pipes and secured to the ends of said bars.

4. A derrick comprising a frame made up of a series of sections of piping secured together at their ends, a series of clamps each comprising a plurality of pieces of metal, means for securing said clamps together and fixing them to the piping, and a series of diagonal bars secured between the pieces of metal

constituting said clamps and extending across the framework.

5. A derrick comprising a foot-block having sockets, pipe-sections fitting in said sockets, pipe-sections pivotally connected with the free ends of the first-named sections, a mast-top having sockets for receiving the free ends of said last-named sections, means for connecting the several pipe-sections together, and means on the foot-block for pivotally supporting a boom.

6. A derrick comprising a foot-block having sockets, a mast-top having sockets, a frame consisting of a plurality of pipes, the frame being divided at the center into sections, and the sections pivotally connected with each other, a pulley pivotally mounted on the mast-top, and a boom pivotally mounted on the foot-block.

7. A derrick comprising a foot-block having sockets, a mast-top having sockets, a frame constituted of pipes, said pipes being divided at their center into sections and the sections pivoted to each other, the free end of said pipes fitting in the sockets of the foot-block and the mast-top, a pulley pivotally mounted on the mast-top, a pulley pivotally mounted on the foot-block, and a boom-point mounted on the end of the boom and having sockets for receiving pipe-sections and provided with means for supporting a pulley, said pulley being connected with the pulley on the mast-top.

In testimony whereof we have each signed our names to this specification in the presence of two subscribing witnesses.

WILLIAM L. ALLAN.

WILLIAM TUDOR PRICE.

Witnesses as to the signature of William L. Allan:

E. OPPENHEIMER;
M. D. BROWN.

Witnesses as to the signature of William Tudor Price:

EDWARD BUCKBEE,
L. O. WILLIAMS.