

R. M. WILSON.
 APPARATUS FOR SWINGING BOOMS.
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1,062,376.

Patented May 20, 1913.

Fig. 3.

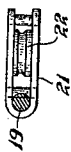


Fig. 2.

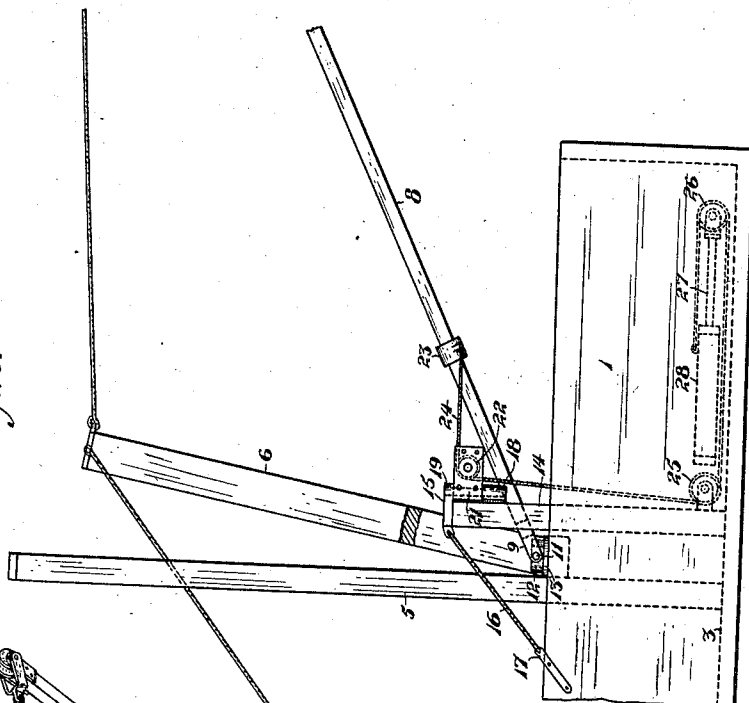
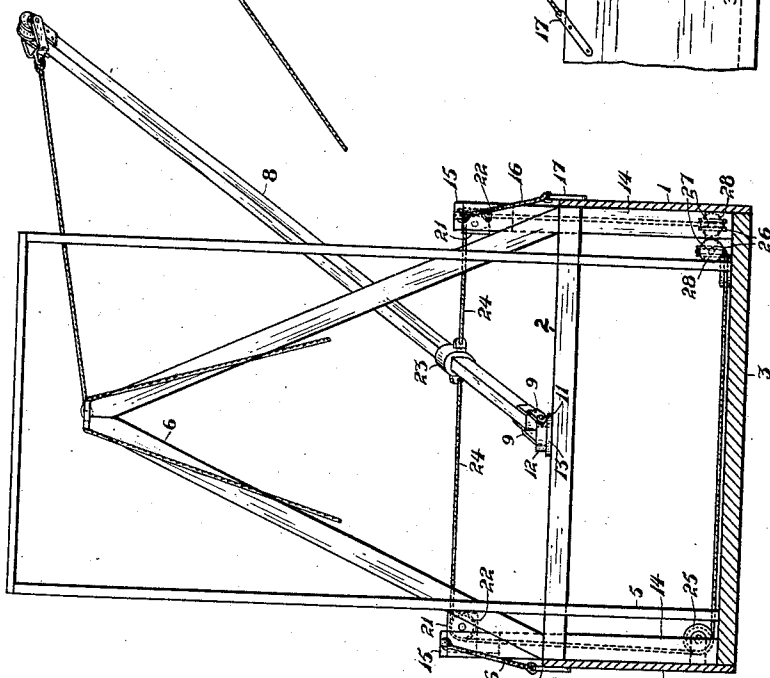


Fig. 1.



WITNESSES

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APPARATUS FOR SWINGING BOOMS.

1,062,376.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ROBERT M. WILSON, a citizen of the United States, residing at Victoria Island, in the county of San Joaquin and State of California, have invented new and useful Improvements in Apparatus for Swinging Booms, of which the following is a specification.

The present invention relates to improvements in apparatus for swinging booms, such as are used in dredgers and other hoisting apparatus, the object of the invention being to provide an apparatus of this character which, as compared with those at present in use, can be more accurately stopped, at the end of its swing, at the exact position desired; in which there will be less wear upon the cable; which will be easy to lubricate; and in which sheaves of large diameter can be used, thus greatly reducing the loss of power.

In the accompanying drawing, Figure 1 is a sectional view of a dredge equipped with my improved apparatus; Fig. 2 is a broken side view thereof; Fig. 3 is an enlarged plan view of a detail of construction.

Referring to the drawing, 1 indicates the sides, 2 the deck, and 3 the bottom of a dredging machine, 5 indicates the spud frames for raising and lowering the spuds, and 6 indicates the A-frame, the top of which is stayed in the usual manner by cables.

8 indicates the boom, the lower end of which is secured to straps 9, the rear ends of which are apertured and pivoted upon trunnions 11, extending diametrically opposite to each other from a turret ring 12, centrally apertured, and which revolves upon a boom step 13, having a circular raised portion to pass through said aperture, and which step is firmly secured to the frame of the dredger.

14 indicates standards, which are here shown in the form of posts built into the frame of the dredger, but which may be frames formed of separate pieces bolted together. They extend above the deck of the dredger to a suitable height. To the top and sides of each standard is secured an upper box 15, the rear portion of which is

attached to a stay rod 16 which is secured at the rear end to a frame piece 17 secured to the side of the hull, and 18 indicates a lower box secured to the standard 14. In said boxes rotates a vertical shaft 19.

21 indicates a housing for a sheave 22, which housing is here shown as fixedly secured to the shaft. However the shaft may be fixedly secured by intermediate pieces to the standard, and the housing rotate on the shaft.

At a suitable point on the boom is secured a collar or other device 23, to which are attached ends of swinging cables 24, which pass around the sheaves 22 then around sheaves 25 at the bottoms of said standards 14 and then around sheaves 26 upon the end of rams 27 reciprocating in cylinders 28, said cables being secured at their ends to said cylinders, which are preferably arranged close to one another side by side, in the bottom of the hull of the dredger at any convenient part thereof.

It has heretofore been the practice in dredger construction to use, for swinging the boom, either a turn-table, which adds a great deal of weight to the machine and takes up much room, or a counterbalancing sheave rotating on an inclined shaft, which is objectionable on account of its weight and liability to get out of order, not unfrequently turning upside down, or a pair of sheaves revolving in close proximity to each other and inclined at an angle, so that the cable can shift from one sheave to the other, the objection to which is the liability of the cutting of the cable where it makes the shift from one sheave to the other. The above described invention provides a means for swinging the boom which is open to none of the above objections, since the sheave follows the direction of the cable very easily, and, in fact, the weight of the sheave helps it to swing with the cable. The construction enables the rams to be placed in any desired location, and so that ample room is afforded for the operation of the dredger.

I claim:—

In combination with a boom, and a support upon which the boom is rotatably mounted, standards secured to said support

at a distance from the boom, one on each
side thereof, upper and lower bearings on
said standards, shafts rotating in said bear-
ings, housings secured to said shafts, sheaves
5 rotatable in said housings, cables around said
sheaves and secured to the boom, and means
for drawing said cables around said sheaves.

In testimony whereof I have hereunto set
my hand in the presence of two subscribing
witnesses.

ROBERT M. WILSON.

Witnesses:

N. B. KEATING,

FRANCIS M. WRIGHT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
