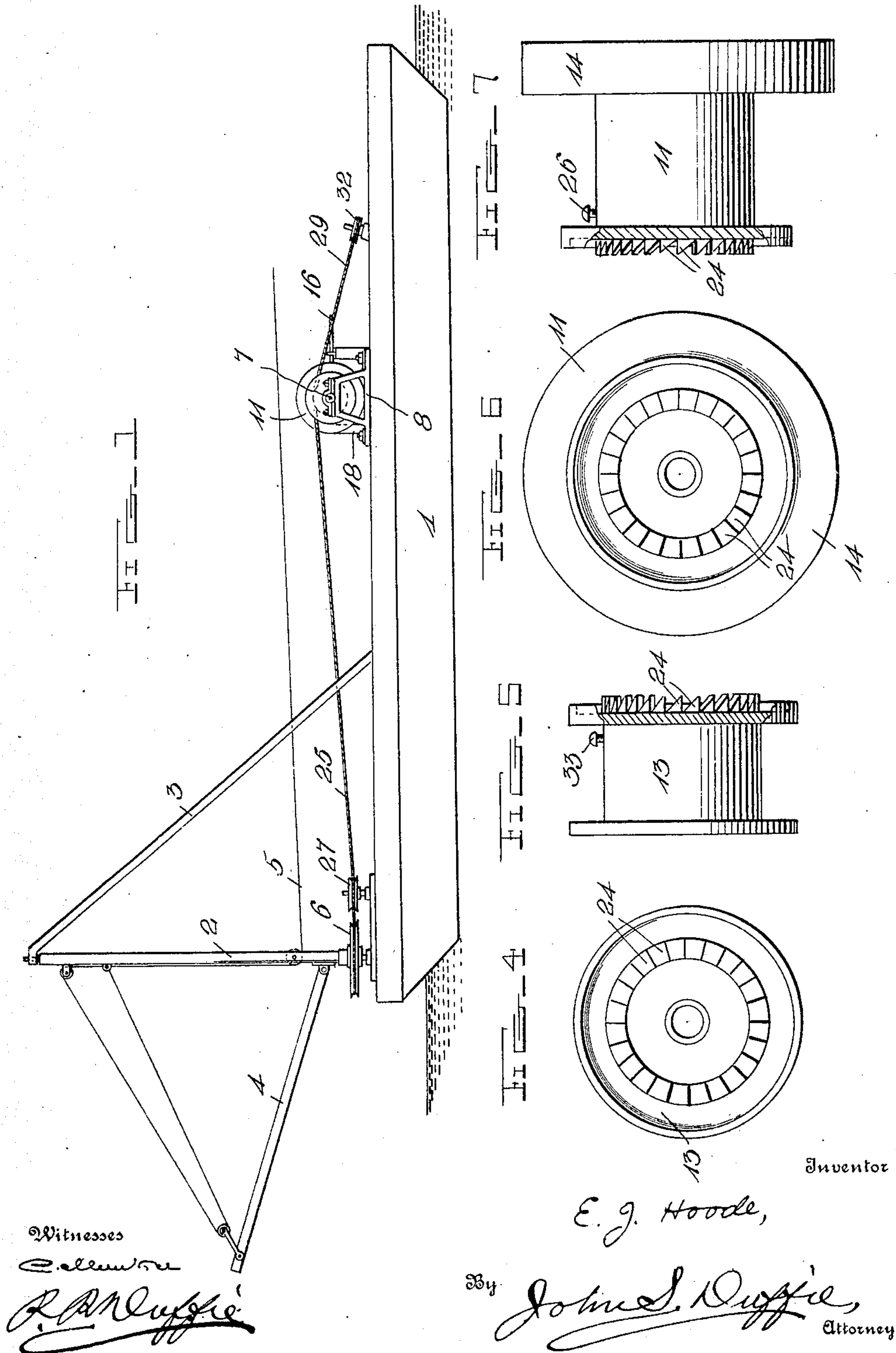


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3 SHEETS—SHEET 1.

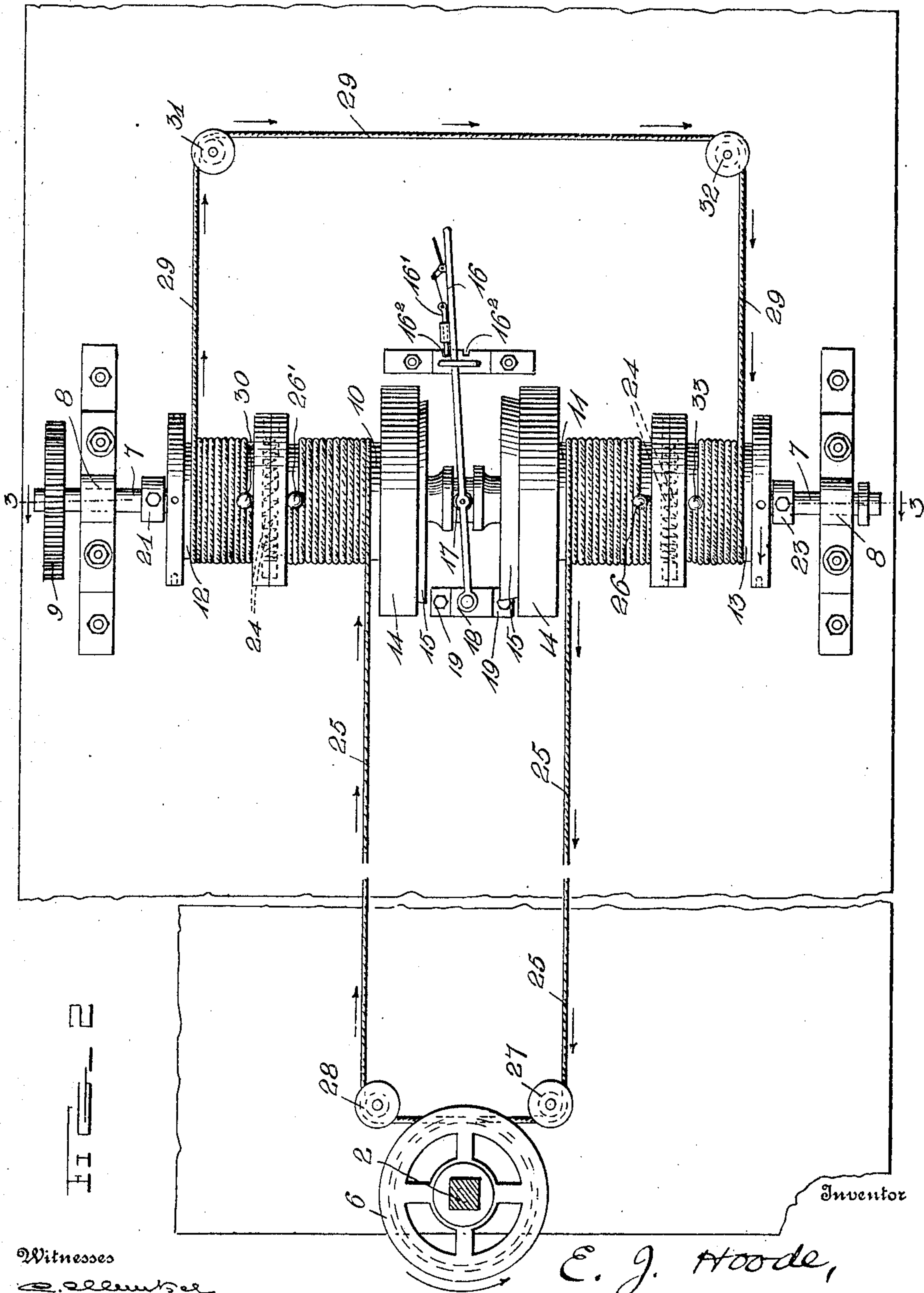


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3 SHEETS—SHEET 2.



Witnesses

*R. M. Huggie*

E. J. Hoode,

By *John S. Huggie*

Attorney

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3 SHEETS—SHEET 3.

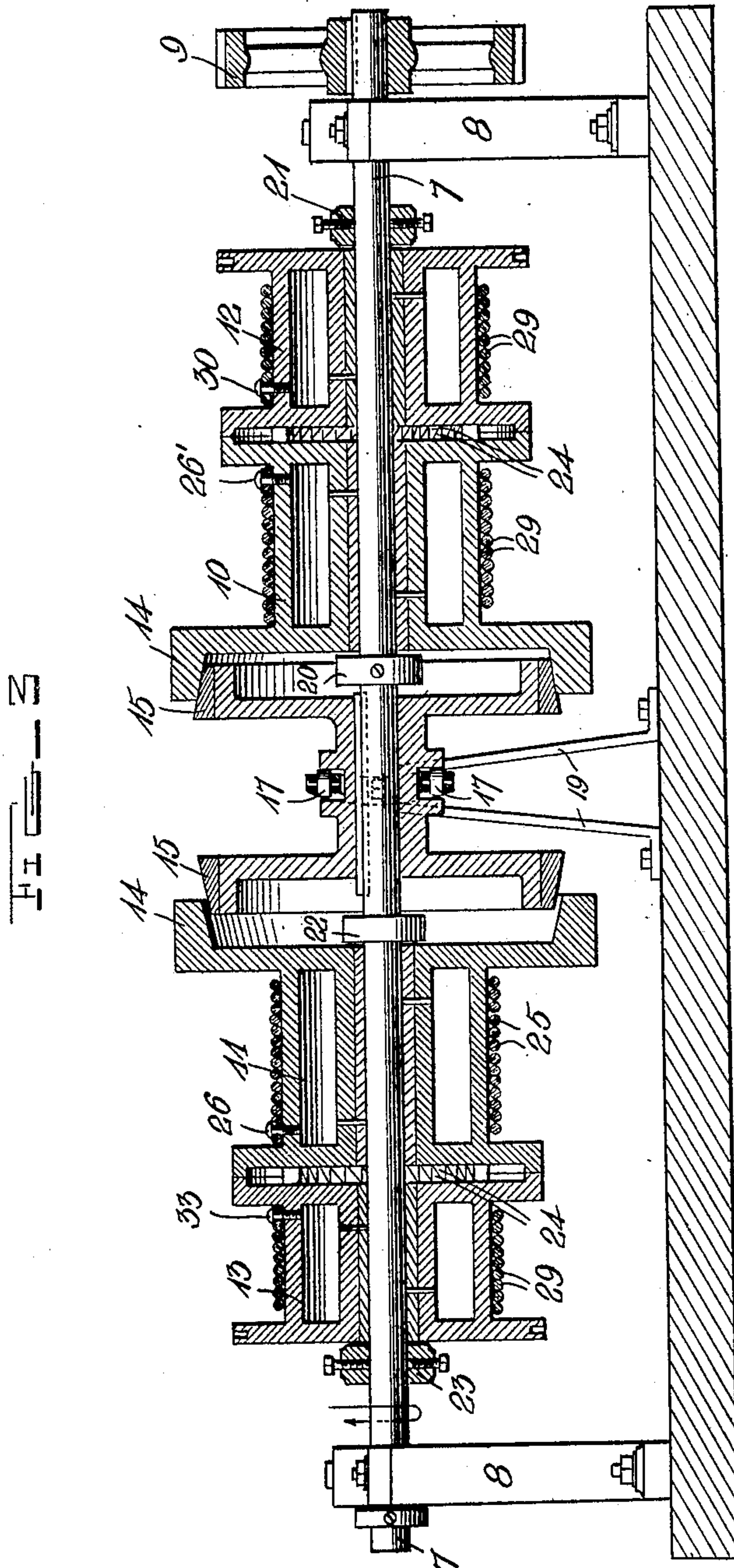


FIG. 3

Inventor

E. J. Hoode,

Witnesses

R. M. Luffie

*R. M. Luffie*

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*John S. Ruffie*

Attorney



# UNITED STATES PATENT OFFICE.

EDWARD J. HOODE, OF BENSON, MINNESOTA.

## CABLE-TENSION HOLDER.

No. 916,317.

Specification of Letters Patent.

Patented March 23, 1909.

Application filed May 12, 1908. Serial No. 432,353.

*To all whom it may concern:*

Be it known that I, EDWARD J. HOODE, a citizen of the United States, residing at the city of Benson, in the county of Swift and State of Minnesota, have invented certain new and useful Improvements in Cable-Tension Holders, of which the following is a specification.

My invention relates to new and useful improvements in the manner and means of regulating the boom of a dredging vessel, or, in fact, any boom may be regulated by the application of my device.

The object of my invention is to keep the boom-cable taut at all times, thus giving the operator full control over the regulation of said boom. It is pointed out that in order to turn the boom at any desired position, it is necessary to have considerable tension on said boom-cable, and the object of my invention as briefly stated heretofore is to place any desired tension on the boom-cable, and means to hold said cable at such desired tension.

If, through constant use, the boom-cable should become stretched or should snap, said cable could be repaired or a greater tension placed thereon, by the use of my invention, which will be described more fully.

With these and other objects in view my invention consists of the novel construction and arrangement of parts as are hereinafter described, and specifically pointed out in the claims hereunto appended.

Reference being had to the drawings, which are for illustrative purposes only, and are therefore not drawn to scale:—

Figure 1, is a side elevation of my device illustrated in connection with a dredging boat. Fig. 2, is a top plan view, on an enlarged scale, partly in section, showing the relative arrangement of the drums and shives. Fig. 3, is a central, vertical, sectional view taken on line 3—3 of Fig. 2. Fig. 4, is a face view of one of the small drums. Fig. 5, is a side elevation thereof, partly in section. Fig. 6, is a face view of one of the large drums, and Fig. 7, is a side elevation thereof, partly in section.

Referring more particularly to the drawings, the boat or barge 1, has the pivoted upright 2, mounted at the bow thereof, said upright being held firmly in place by means of brace 3. Pivotally connected to said up-

right near its lower end is the boom 4, which is operated in a vertical plane, by means of the cable 5. The grooved wheel 6, is securely mounted to said upright near the lower pivotal point. This wheel together with said boom-cable is the means by which said boom is operated in a horizontal plane.

The shaft 7, which is pivotally mounted on the supports 8, has keyed to one of its ends outside of said supports, a gear wheel 9, said wheel being the means by which power is transmitted to said shaft, the means of furnishing power not being shown. The large drums 10 and 11, and the small drums 12 and 13, are loosely mounted on said shaft. The large drums have on their inner ends enlarged flanges 14, adapted and for the purpose of engagement with the friction-block 15, said friction-block being thrown in and out of engagement with said flanges 14, by means of the lever 16, which is pivotally secured to the friction-block at 17, and which is fulcrumed to the cross piece 18, secured to the upright braces 19, said lever held in position by spring actuated bolt 16<sup>1</sup>, working in notches 16<sup>2</sup>. Said drums 10 and 12, are held against sidewise movement by means of collars 20 and 21, respectively. Said drums 11 and 13, are likewise held against sidewise movements by means of collars 22 and 23, said collars being adapted to be adjusted on said spindle by means of set screws. Each pair of drums consisting of one large and one small drum are held in engagement with each other by means of intermeshing teeth 24.

The boom-cable 25, which is entwined around large drum 11, its end held firmly in place by binding post 26, passes first, around the shive 27, then around said grooved wheel 6, then around the shive 28, then around said drum 10, its other end being held firmly by means of binding post 26. The tension-cable 29, having one end secured to binding post 30, passes around shive 31, then around shive 32, and lastly is entwined around small drum 13, having its other end secured to binding post 33.

The operation of my invention is described as follows:—When it is desired to cause the boom to assume a different position in a horizontal plane, friction-block 15, is thrown into engagement with one of the flanges 14. For instance should it be de-



sired to turn the wheel 6, in the direction of the arrow then friction-block will be thrown into engagement with the flange of large drum 10. When the boom-cable is traveling in the direction of the arrows, said large drum 10, being in engagement with small drum 12, causes that drum to rotate in conjunction with the large one. As the cable is caused to unwind from large drum 11, small drum 13, is caused to rotate in conjunction therewith, thus causing said tension-cable to entwine around said drum 13, and at the same time unwind from said drum 12. Thus it will be seen that whatever tension is exerted on the boom-cable will be exerted on the tension-cable, and vice-versa. If drum 11, were not held in check sufficient pressure would not be brought to bear against the periphery of the wheel 6, to operate said pivoted upright. Should it be desired to tighten said boom-cable or lessen the tension thereon, it may be accomplished in either of the following ways:—First, drum 11, may be held against rotation by means of friction-block 15. Drum 13, is then disengaged from drum 11, after first loosening collar 23, on the shaft. Said drum 13, is then turned in the direction of the arrow shown on the flange thereof, thus tightening the tension-cable causing drum 12, to rotate, which in turn causes drum 10, to rotate, finally tightening the boom-cable. Said drum 13, is rotated by any substantial means, but a spanner-wrench is preferably used, the lug thereof being inserted into one of the holes in the outer flange of the drum 13. This explanation also applies to said drum 12. The other method for tightening the boom-cable is to hold either of said drums 12 and 13, against rotation by means of a spanner-bar preferably, and causing the rotation of that particular large drum, which will be necessary to tighten said cables. When the desired tension is gained the teeth of said drums are allowed to again intermesh with one another.

Though I have specifically described my invention, I may claim the right to make such modifications and alterations in the minor details of construction and arrangement thereof, as will not depart from the spirit of my invention, and as will fall within the scope of my claims, and which will be obviously necessary in its manufacture.

Having described my invention what I claim as new, and desire to secure by Letters Patent is:—

1. In a device of the character described, the combination of a boom pivotally secured to a vertical upright, said upright provided with a cable wheel to actuate the same, a shaft, mounted on supports, having on one end thereof means provided to transmit power to the same, a boom-cable and a tension-cable, two large and two small drums,

loosely mounted on said shaft, the said boom-cable working around the two inner or large drums, the tension-cable working around the two outer or small drums, the contacting ends of each pair of drums having teeth which normally intermesh with one another, and which cause a desired tension to be maintained on said cables, means to transmit power from said shaft to either of said large drums, substantially as shown and described.

2. In a device of the character described, the combination of a boom pivotally secured to a vertical upright, said upright provided with a cable wheel as means to actuate the same, a shaft mounted on supports, having a gear wheel on either end thereof as means to transmit power to the same, a boom-cable and a tension-cable, two large and two small drums, loosely mounted on a shaft, the said boom-cable working around the two inner or large drums, the tension-cable working around the two outer or small drums, the contacting ends of each pair of drums having teeth which normally intermesh with one another, said teeth held in intermeshed relation by means of collars slidably secured to said shaft, said teeth causing a desired tension to be maintained on said cables, means to transmit power from said shaft to either of said large drums, substantially as shown and described.

3. In a device of the character described, the combination of a boom pivotally secured to a vertical upright, said upright provided with means to allow it to be actuated by means of a cable, a shaft mounted on suitable supports, having means on either end thereof to transmit power to the same, a boom-cable and a tension-cable, two large and two small drums, loosely mounted on said shaft, the said boom-cable working around the two inner or large drums, the tension-cable working around the two outer or small drums, the contacting ends of each pair of drums having teeth which normally intermesh with one another, said teeth held in intermeshed relation by means of collars slidably secured to said shaft, said teeth causing a desired tension to be maintained on said cables, means to transmit power from said shaft to said large drums, said means consisting of a pair of friction blocks, operated by means of a lever pivoted thereto, said lever being fulcrumed to a cross piece supported by upright braces, substantially as shown and described.

4. In a cable tension holding apparatus the combination of a shaft having two sets of drums loosely mounted thereon, each set consisting of a large and a small drum having corresponding teeth on their contacting ends normally intermeshed with one another, said teeth of each set held in temporary intermeshed relation with one another by



means of collars bearing against the far ends of the drums of each set, said teeth of said drums adapted to be removed from engagement, while the tension of said cables is being increased or lessened or while said cables are being repaired, said small drums provided with means whereby either of the same may be held against rotation while its corresponding large drum is revolved to change the

tension on said cables, substantially as shown and described.

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

EDWARD J. HOODE.

Witnesses:

JOHN I. DAVIS,  
F. V. WALSH.