

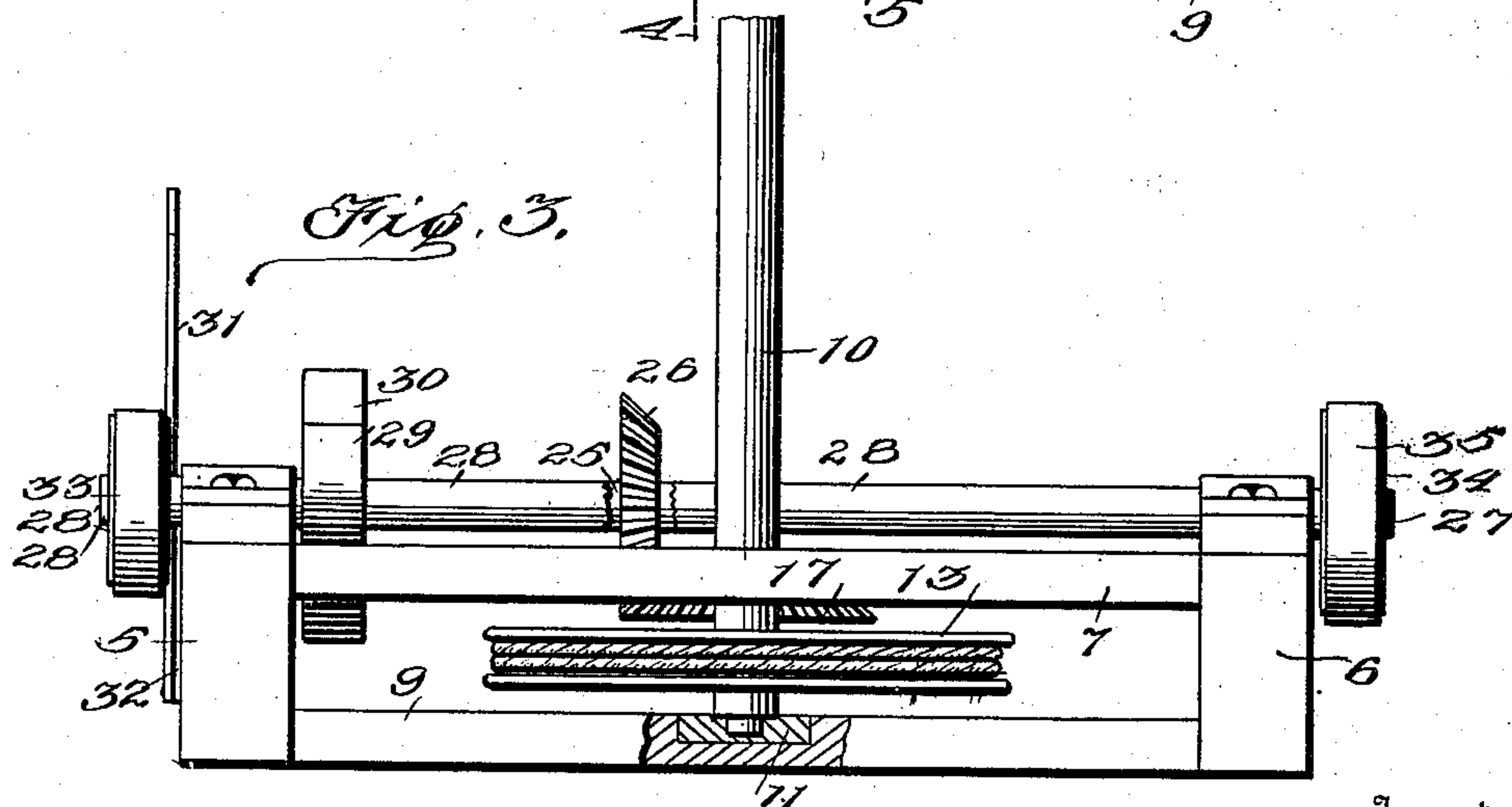
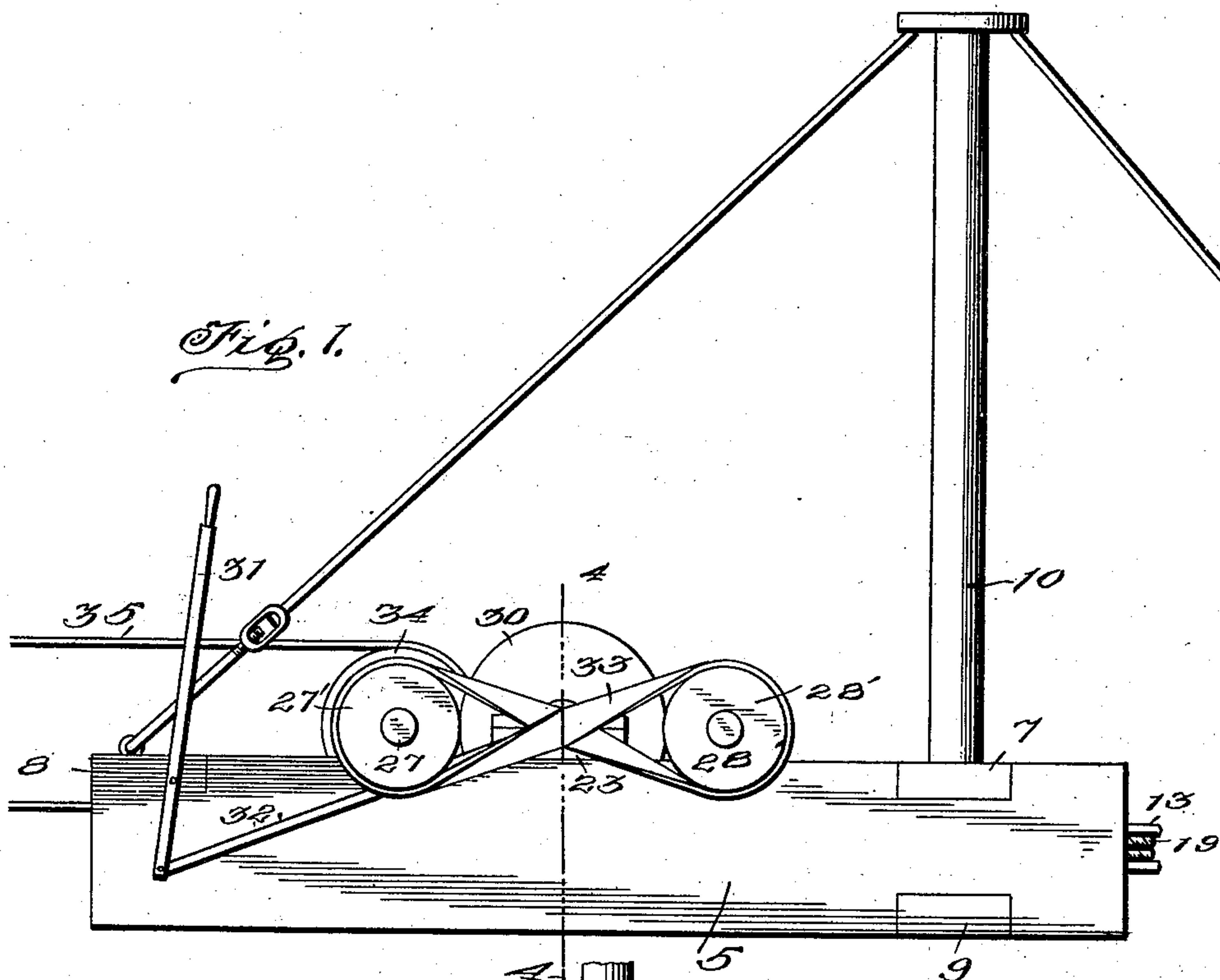
No. 889,826.

PATENTED JUNE 2, 1908

A. TAYLOR, JR.
DERRICK.

APPLICATION FILED NOV. 30, 1907.

2 SHEETS—SHEET 1.



Inventor

Alexander Taylor, Jr.

Witnesses

Geo. L. Horn
E. L. Chandler

By

Woodward & Chandler

Attorneys

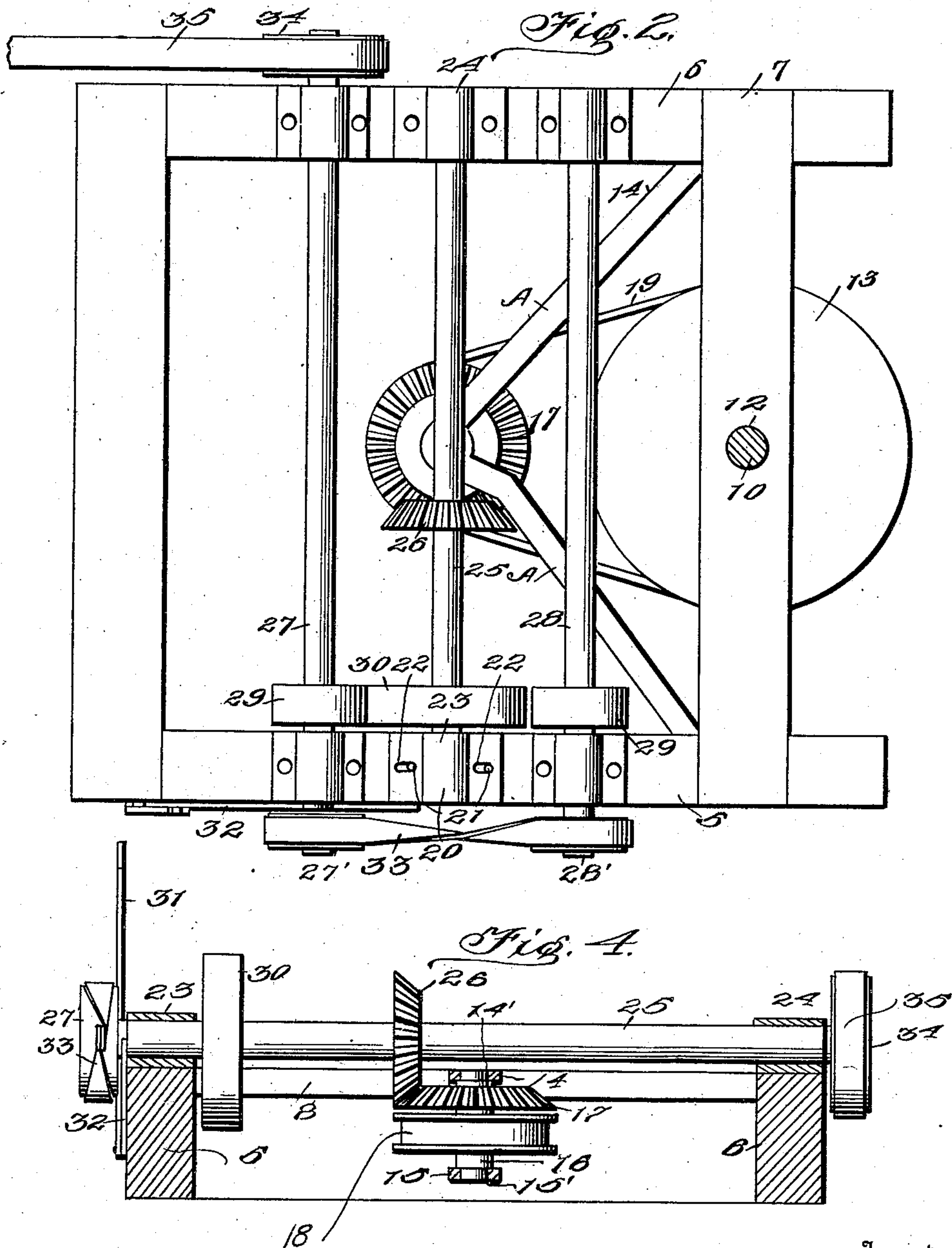
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UNITED STATES PATENT OFFICE.

ALEXANDER TAYLOR, JR., OF MINNEAPOLIS, MINNESOTA, ASSIGNOR OF TWO-NINTHS TO ALFRED W. TURNER, TWO-NINTHS TO OSCAR JOHNSON, AND TWO-NINTHS TO CHARLES G. EDMUND, ALL OF MINNEAPOLIS, MINNESOTA.

DERRICK.

No. 889,826.

Specification of Letters Patent.

Patented June 2, 1908.

Application filed November 30, 1907. Serial No. 404,607.

To all whom it may concern:

Be it known that I, ALEXANDER TAYLOR, Jr., a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Derricks, of which the following is a specification.

This invention relates to derricks, and has for its object to provide a derrick of novel structural arrangement and which will include a simple though efficient means for transmitting power to the mast for rotation thereof, this power transmitting means including reversing mechanism.

Other objects and advantages will be apparent from the following description, and it will be understood that changes in the specific structure shown and described may be made within the scope of the claims without departing from the spirit of the invention.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views,—Figure 1, is an elevational view of a derrick embodying the present invention, Fig. 2 is a plan of the frame and mechanism, the mast being broken away, Fig. 3 is an end view, and Fig. 4 is a section taken longitudinally of the central shaft on line 4—4 of Fig. 1.

Referring now to the drawings there is shown a frame including parallel side sills 5 and 6 to which are secured connecting end members 7 and 8. A transverse foot beam 9 is secured to the sills beneath and in spaced relation to the member 7, and a vertical mast 10 has its lower end revolubly engaged in a socket 11 formed in the foot beam 9, this mast passing upwardly through an opening 12 in the member 7. A horizontal drum 13 is carried by the mast between the member 7 and the foot beam 9. Upper and lower brackets 14 and 15 respectively are provided and include divergent arms A which are secured at their outer ends to the inner surfaces of the sills 5 and 6, these brackets having vertically alining bearings 14' and 15' respectively at the meeting ends of their arms.

In the just mentioned bearings, there is journaled a vertical shaft 16, upon which is mounted at the upper portion thereof, a bevel gear 17 which rests upon and which is secured to a horizontal drum 18 also secured to

the shaft. A drive cable 19 is engaged around the two drums 13 and 18 for simultaneous rotation thereof.

Mounted upon the sill 5 there is a block 20 having upwardly extending pins 21 which are engaged in longitudinal slots 22 formed in a journal box 23 which rests upon the block 20 and which is thus slidable longitudinally of the sill 5. A block 24 is mounted upon the sill 6 opposite to the journal box 23, this block being arranged for slight pivotal movement upon the sill and journaled in the block 24 and in the journal box 23, there is a central transverse shaft 25, having fixed thereon a bevel gear 26 which meshes with the gear 17, the fit of the teeth of these two gears being such that the shaft 25 may be moved slightly in a horizontal plane, upon the pivot of the block 24.

Shafts 27 and 28 respectively are journaled at their ends upon the sills 5 and 6 at opposite sides of and in parallel relation to the shaft 25, and these shafts carry adjacent to the sill 5, friction gear disks 29 in alinement with each other longitudinally of the frame. A similar friction disk 30 is carried by the shaft 25 in alinement with the disks 29, and is of such a size that the movement of the shaft 25 referred to above is sufficient to shift the disk 30 into alternate engagement with the disks 29. An upwardly extending hand lever 31 is pivoted to the frame and is connected by means of a link 32 with the box 23, for movement of the latter to shift the shaft.

Outwardly of the sill 5, shafts 27 and 28 carry band wheels 27' and 28' respectively with which there is engaged a crossed belt 33 for rotation of these two shafts in opposite directions. Outwardly of the sill 6, the shaft 27 carries a band wheel 34 which receives the power band 35.

It will thus be apparent that when power is transmitted to the shaft 27, the lever 31 may be moved to bring the disk 30 into engagement with one of the disks 29, when the mast 10 will be revolved in one direction, and that engagement of the disk 30 with the other disk 29 will cause rotation of the mast in the other direction. The hand lever may also be moved to bring the disk 30 out of engagement with both of the disks 29, when the mast will of course remain stationary. It

will of course be understood that the connected parts are of such proportion as to give the desired speed to the mast.

What is claimed is:

5 1. In a derrick, the combination with a frame, of a mast revolubly mounted in the frame, spaced shafts journaled upon the frame, connections between the shafts for rotation thereof in opposite directions, gears
10 carried by the shafts, a shaft journaled upon the frame and arranged for movement bodily with respect thereto, a gear carried by said movable shaft for movement therewith into alternate engagement with the first named
15 gears, said movable shaft being arranged to lie at times with its gear out of engagement with both of the first named gears, brackets mounted in the frame, a vertical shaft journaled in the brackets, intermeshing bevel
20 gears carried by the vertical and movable shafts, drums carried by the vertical shaft and the mast respectively, and a cable engaged with the drums.

2. A driving and reversing mechanism for derrick masts comprising spaced shafts, supports for said shafts, a shaft journaled between the first named shafts and arranged for pivotal movement toward and away from said shafts, gears carried by the first named shafts, a gear carried by the central shaft for movement therewith into alternate engagement with the first named gears, connections between the first named shafts for rotation thereof in opposite directions, a shaft journaled at right angles to the central shaft, gear connections between said shaft and the central shaft, said third named shaft being arranged for operative connection with a derrick mast.

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

ALEXANDER TAYLOR, JR.

Witnesses:

IRA C. PETERSON,
A. D. EVANS,
JOHN CROSBY.