(No Model.) 3 Sheets—Sheet 1.

E. F. ATHERTON.

WINDING ATTACHMENT FOR DERRICKS.

No. 490,259. Patented Jan. 24, 1893.

FIG. 1.

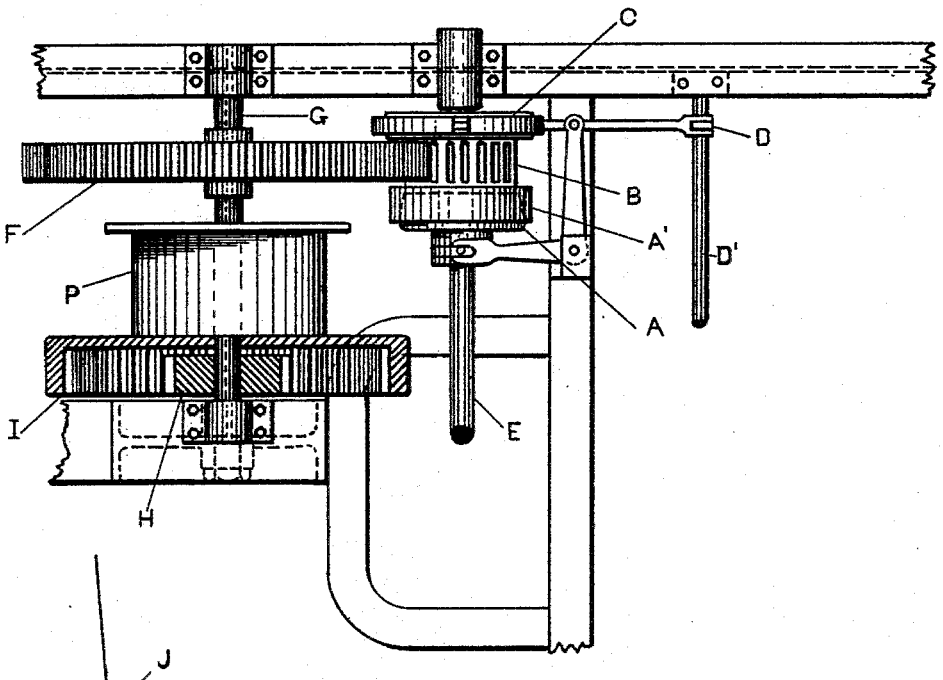
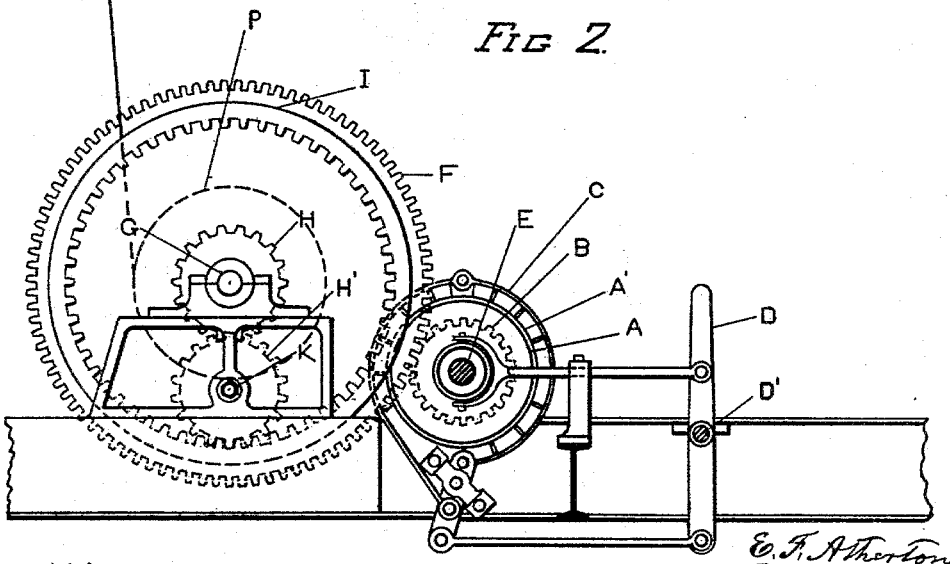


FIG 2.



WITNESSES.
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(No Model.) 3 Sheets—Sheet 2.

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FIG. 3.

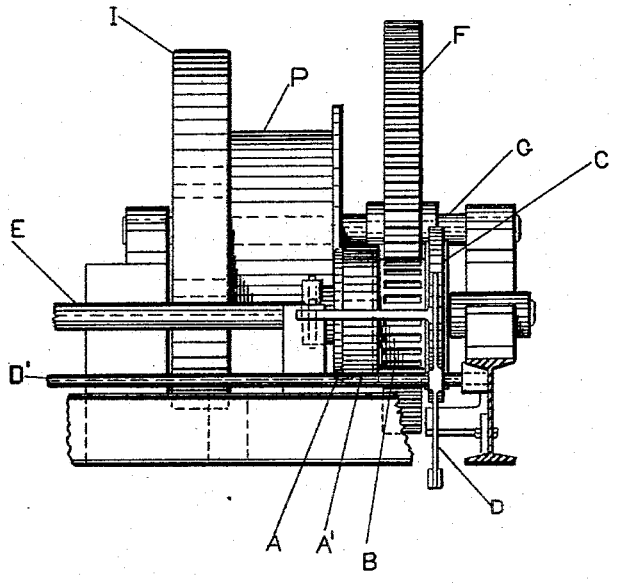

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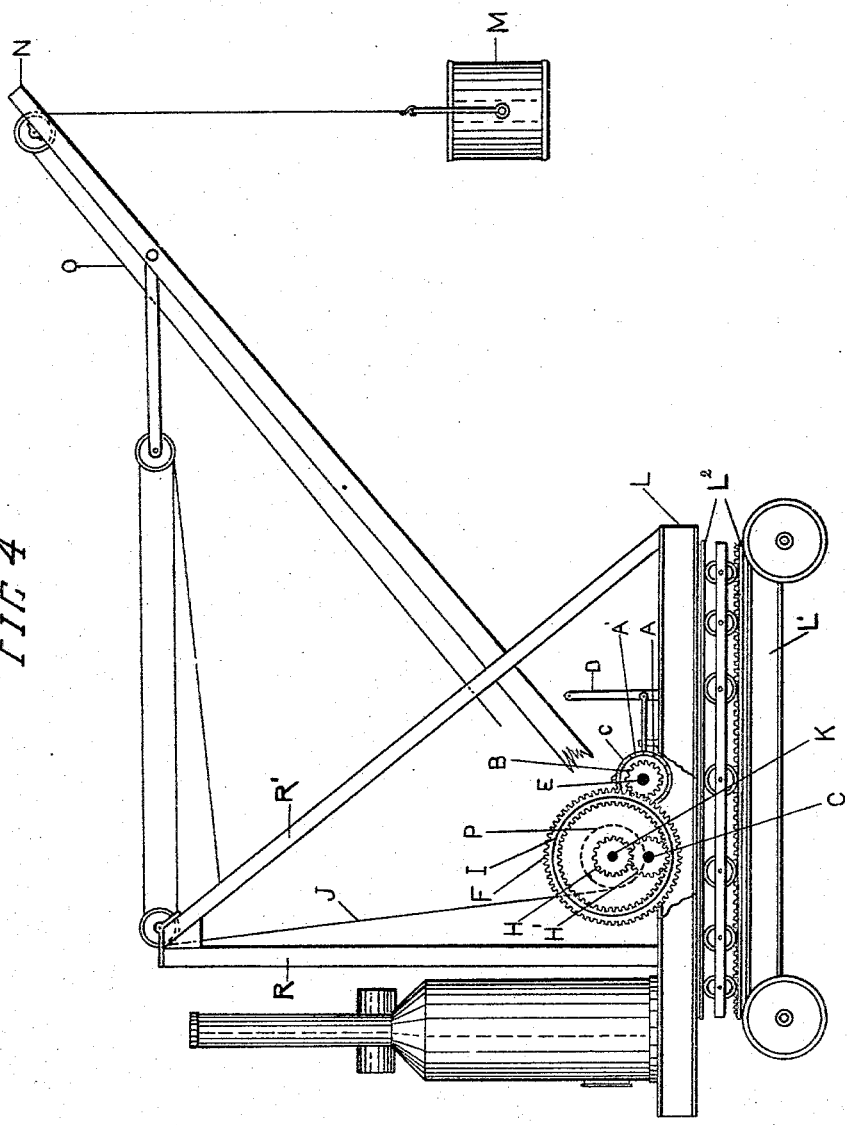
FIG 4



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UNITED STATES PATENT OFFICE.

EDMOND F. ATHERTON, OF CLEVELAND, OHIO.

WINDING ATTACHMENT FOR DERRICKS.

SPECIFICATION forming part of Letters Patent No. 490,259, dated January 24, 1893.

Application filed September 5, 1892. Serial No. 445,029. (No model.)

To all whom it may concern:

Be it known that I, EDMOND F. ATHERTON, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Revolving Derricks, of which the following is a full, clear, and exact description.

My invention relates to an improved attachment for revolving derricks by means of which the boom may be safely and quickly raised or lowered and held securely in position.

That my invention may be fully understood by others reference will be had to the following specification and annexed drawings, forming part thereof, in which—

Figure 1, Plate 1 is a top view of my improvement; Fig. 2, Plate 1, a side view; Fig. 3, Plate 2, an end view and Fig. 4, Plate 3, a side view of a revolving derrick with my improvement attached thereto.

Similar letters of reference designate like parts in the drawings and specification.

The male part A, of a cup friction is attached to the shaft E by a feather key, or its equivalent, and the female part A′, forming an integral part of the pinion B, runs loosely on said shaft. The brake C, also forms an integral part of the pinion B and is controlled by the lever D. The lever D turns on the shaft D′ and controls both the cup-friction and the brake C. The shaft E is driven by a steam engine, or other motive power, of the ordinary construction which it is not deemed necessary to describe here, said engine being connected with the derrick. Back of the shaft E is the shaft G to which is keyed the gear F, meshing with the pinion B. The pinion H is also keyed to the shaft G. Below the shaft G, is the independent shaft K, with the pinion H′, Figs. 2 and 4, running loosely thereon, or turning therewith, and meshing with the pinion H and the internal gear I. The internal gear I has the drum P attached thereto and both run loosely on the shaft G.

It will now be readily seen that, if the shaft E is caused to revolve, by releasing the brake C and engaging the parts A and A′ of the cup-friction, motive power from the pinion B will be transmitted, through the gear F and shaft G, to the pinion H and from the pinion H, through the pinion H′ to the internal gear I and drum P.

In Fig. 4 the derrick L is shown resting on the trucks L′. The derrick L may be made to describe a complete circle upon the circular tracks L^2. The boom N, broken away at the base, has the bucket M suspended from the end thereof by the rope O, which passes over suitable sheaves to the hoisting drum of the derrick. The rope J passes from the drum P, over suitable sheaves at the top of the mast R, around sheaves connected to the forward end of the boom and is attached to the batters R′. When the drum P is revolved, as before described, the rope J is taken up by said drum and the boom N is elevated. By releasing the friction and allowing the drum P, under the control of the brake C, to pay off the rope J, the boom is permitted to descend and it may be secured at any point desired, by holding the pinion B stationary, with brake C. The lever D may be constructed so as to govern both the friction and brake, as in this case, or there may be two levers for that purpose as desired.

What I claim as my invention and desire to secure by Letters Patent is—

In combination, a pinion loose on the driving-shaft and a friction device and brake, the gear F and pinion H fast on the shaft G, the pinion H′ on the independent shaft K, the internal gear I and the winding-drum attached thereto, arranged in the manner substantially as and for the purpose set forth.

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

EDMOND F. ATHERTON.

Witnesses:
W. H. BURRIDGE,
F. A. CUTTER.