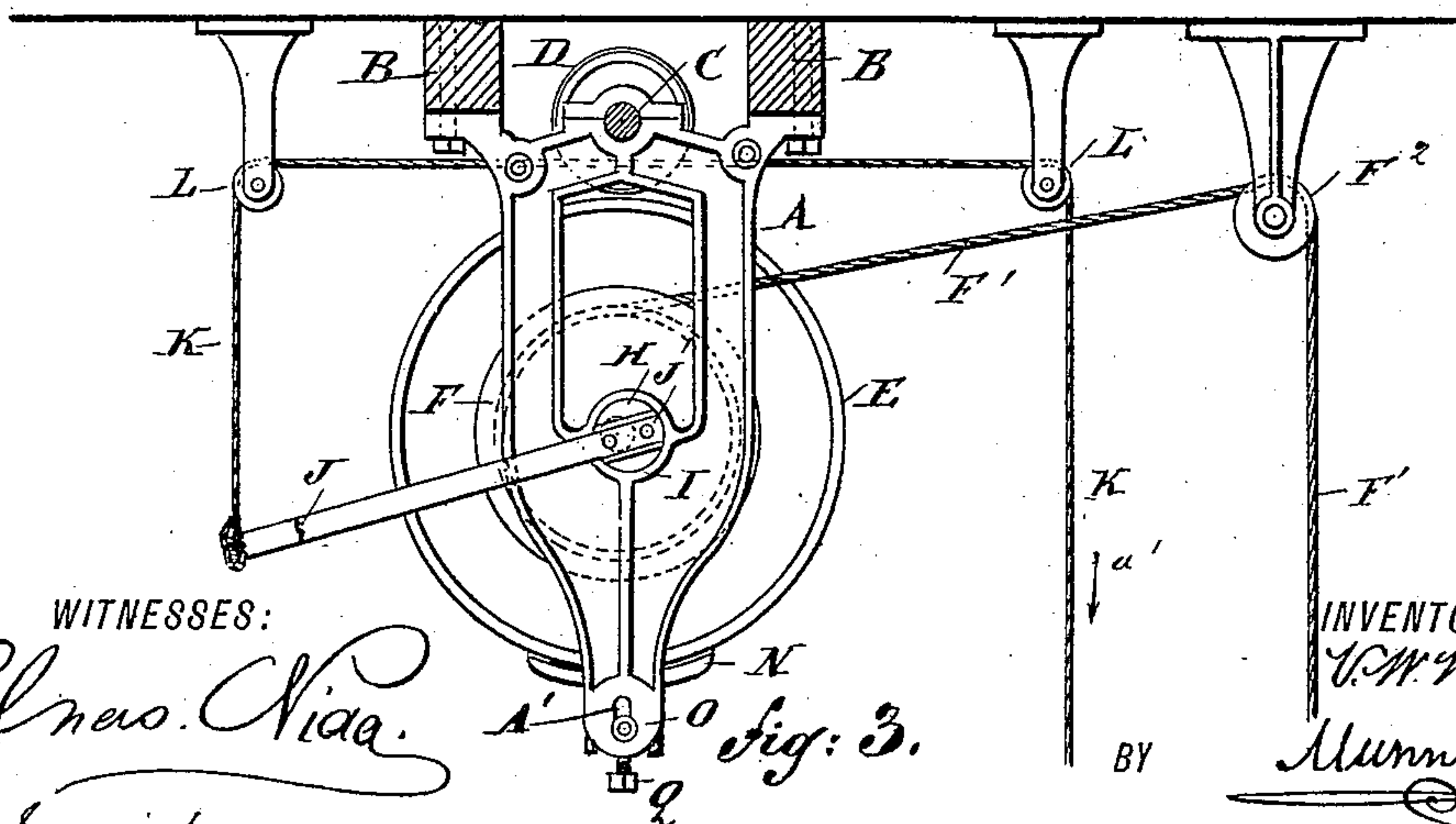
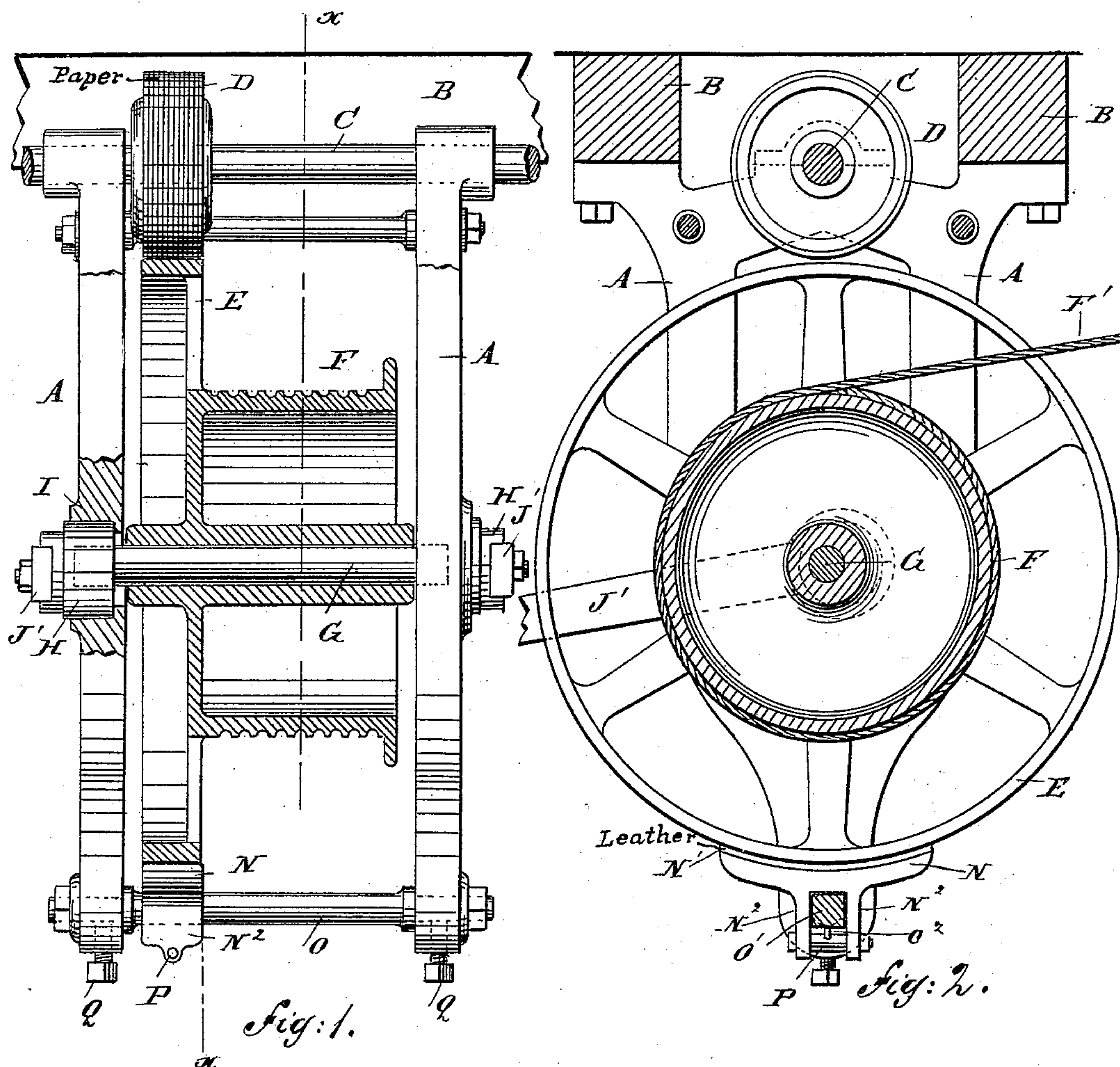


V. W. MASON.
HOISTING MACHINE.

No. 397,243.

Patented Feb. 5, 1889.



WITNESSES:

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VOLNEY W. MASON, OF PROVIDENCE, RHODE ISLAND.

HOISTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 397,243, dated February 5, 1889.

Application filed March 31, 1888. Serial No. 269,118. (No model.)

To all whom it may concern:

Be it known that I, VOLNEY W. MASON, of Providence, in the county of Providence and State of Rhode Island, have invented a new and Improved Hoisting-Machine, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved hoisting-machine which is very simple and durable in construction and effective in operation.

The invention consists of eccentrics on which the hoisting-drum is mounted, and of a lever for operating the said eccentrics so as to throw the drum alternately in and out of contact with the driving-pulley and the brake-shoe.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

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

Figure 1 is an end elevation, partly in section, of the improvement. Fig. 2 is a sectional side elevation of the same on the line $x x$ of 1; and Fig. 3 is a reduced side elevation of the improvement.

The hoisting-machine is provided with suitable hangers or standards, A A, adapted to be fastened to cross-beams B, held in the ceiling of the room in which the machine is located. Instead of standards, a suitable frame may be constructed to carry the apparatus. On the upper parts of the standards A A is mounted in suitable bearings the main driving-shaft C, carrying the driving-pulley D, of any approved construction, preferably provided, however, with a rim made of paper or other suitable material.

The driving-pulley D is adapted to engage the wheel E, secured or formed on the hoisting-drum F, on which the hoisting-rope F' is wound. The hoisting-drum F is mounted on a shaft, G, having its bearings in the eccentrics H H, mounted to rotate in bearings I, formed on the standards A A. To the outer faces of the eccentrics H H are secured the ends J' of the forked lever J, connected at its outer end with a rope, K, extending upward and passing over the pulleys L L and

then downward at any suitable distance from the hoisting-machine. The hoisting-rope F' also passes over a pulley, F², and then extends downward either inside or outside of the building, as may be desired.

The lower part of the wheel E is adapted to engage the brake-shoe N, provided with a lining, N', of leather or other suitable material, and the said brake-shoe is provided with downwardly-extending lugs N², which straddle the square part O' of a rod, O, passing through vertical slots A', formed in the lower ends of the standards A A. Set-screws Q screw into the lower ends of the said standards and against the bottom of the rod O, so as to adjust the latter vertically in the said standards A A. From the square part O' of the rod O projects downward a pin, O², which fits into a corresponding slot formed in the bolt P, secured to the lugs N² of the brake-shoe N.

The operation is as follows: When the machine is in the position shown in Fig. 3, the wheel E of the hoisting-drum F rests on the brake-shoe N and is disconnected from the driving-pulley D, so that the hoisting-drum F is at a standstill. Now, when the operator desires to wind up or unwind the hoisting-rope F', carrying the load, he pulls downward on the rope K in the direction of the arrow a' , so that the lever J swings upward, and thereby turns the eccentric H in its bearings I on the standards A A. This turning of the eccentrics H causes an upward movement of the shaft G, supporting the hoisting-drum F, whereby the wheel E of the said hoisting-drum is disconnected from the brake-shoe N and is thrown into frictional contact with the driving-pulley D. The rotary movement of the driving-pulley D is then imparted to the wheel E, with which it is in frictional contact, so that the hoisting-drum F is rotated and the rope F' is wound on the hoisting-drum. When the operator desires to lower the load carried by rope F', he simply slacks the rope K just far enough to allow bar J to fall and cause the wheel E to drop by gravity out of contact with pulley D, whereupon, the drum F being free, the load on the rope F' will descend by gravity. When the operator desires to stop winding or unwinding the rope F', he releases his hold on the rope K, so that

the lever J swings downward by its own weight, whereby the eccentrics H are turned in an opposite direction, and the shaft G is moved downward, whereby the wheel E is thrown in
5 contact with the brake-shoe N. As the latter is stationary, a further rotary movement of the wheel E is prevented.

The wear on the brake-shoe N is compensated for by adjusting the set-screws Q, so as
10 to raise the rod O, supporting the brake-shoe N. The latter is securely held in place on the square part O' of the rod O, and is prevented from moving sidewise by the bolt P engaging the projection O² of the said rod O. Thus it
15 will be seen that the machine is very simple and durable in construction, and can easily be stopped or started by the operator pulling or releasing the rope K.

By the arrangement or disposition of the
20 driving-wheel D directly over the wheel E of the hoisting-drum and the arrangement or disposition of the brake directly under the wheel E of the hoisting-drum, I secure the following important advantage, which I believe
25 to be a new feature in hoisting-machines, namely: The weight or gravity of the operating-bar J becomes added to the weight or gravity of the hoisting-drum and its wheel E, so that when the bar J is allowed to fall the
30 combined weight of all these parts acts by gravity to carry down the wheel E into con-

tact with the brake-shoe N. Thus the load can be arrested and held at any desired position simply by slacking the rope K, and thus allowing the bar J to fall.

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

1. In a hoisting-machine, the combination, with the eccentrically-mounted hoisting-
40 drum, its wheel, and operating-bar, of the driving-wheel arranged directly above the drum-wheel and the brake arranged directly below the drum-wheel, as herein shown and described, whereby the weight of the drum, its
45 wheel, and lever will all coact by gravity to hold the load when the lever descends, as set forth.

2. In a hoisting-machine, the combination, with a hoisting-drum provided with a driving-
50 pulley, of the slotted standards A, in which the said drum is mounted, a rod, O, passing through the slots in the said standards, set-screws screwing in the said standards and against the under side of the said rod, and a
55 brake-shoe on the said rod, substantially as shown and described.

VOLNEY W. MASON.

Witnesses:

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