(No Model.)

H. J. REEDY.

HOISTING MACHINE.

No. 263,218. Patented Aug. 22, 1882.

Fig. 1.

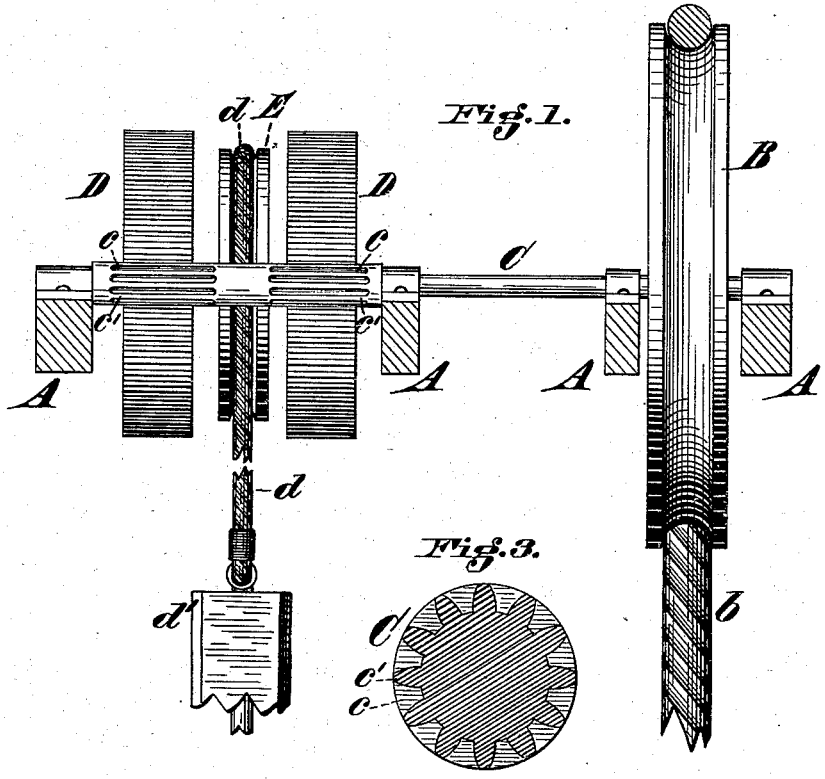
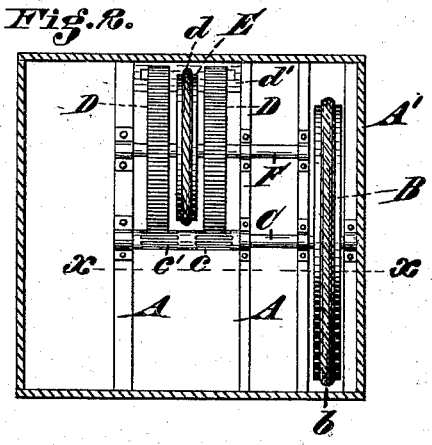


Fig. 3.

Fig. 2.



Attest.
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UNITED STATES PATENT OFFICE.

HENRY J. REEDY, OF CINCINNATI, OHIO.

HOISTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 263,218, dated August 22, 1882.

Application filed May 25, 1882. (No model.)

To all whom it may concern:

Be it known that I, HENRY J. REEDY, a citizen of the United States, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Hoisting-Machines, of which the following is a specification.

My invention relates to improvements in the driving mechanism of hoisting-machines or elevators; and it consists in combining with the driving-wheel a driving-shaft on which said wheel is mounted, having constructed thereon a set or sets of teeth which mesh with gear wheel or wheels mounted on the rope-sheave shaft from which the elevator car or load is suspended.

Heretofore the driving mechanism of elevators has been so arranged and constructed that in order to employ driving-pinions of the requisite strength and power they would necessarily be so large and arranged to mesh with the driven gear-wheels as to materially affect the construction and arrangement of the driving and suspension sheaves, such sheaves being so large that they obstructed ingress and egress to and from the elevator-car, and the ropes passing over them operated out of the proper line—that is, in a very inconvenient position for manipulation by the operator when in the case of a hand-elevator.

To overcome these difficulties and to produce strong compact driving mechanism are the objects of my invention.

In the accompanying drawings, Figure 1 is a longitudinal sectional elevation on line *x x*, Fig. 2, of the driving mechanism of a hoisting-machine embodying my invention. Fig. 2 is a plan view of the same. Fig. 3 is a transverse section of the driving-shaft, showing the manner of constructing the teeth forming a pinion thereon.

A represents the mounting-frame; A′, the hatchway.

B is the driving-sheave over which the driving-rope *b* passes.

C is the driving-shaft, suitably journaled on the frame A, and on one end of which sheave B is mounted. The diameter of shaft C is preferably enlarged a portion of its length, in which enlarged part grooves *c* are constructed, forming intermediate teeth, *c′*, on the face of said shaft, which teeth mesh with gears D to raise and lower the elevator-car suspended by rope *d* passing over sheave E.

d′ is the counterbalancing-weight.

F represents a secondary shaft, also mounted on frame A in the rear of shaft C. On shaft F are mounted gear-wheels D and sheave E. Teeth *c′* are preferably constructed, as shown, of greater length than the width of the faces of wheels D, which construction permits the employment of gears having comparatively narrower or wider faces than shown, and is an important feature of my invention.

It will be seen that driving-pinions constructed integral with the driving-shaft, as herein specified, may be of very small diameters and yet possess the requisite strength, while if they were made independent of and keyed to the said shaft, as customary, their diameters could not be reduced to a minimum, owing to their bodies being weakened by the bore or opening made in them to fit the shaft.

The arrangement and construction of elevator driving apparatus as herein shown permits the mounting and operation of all such apparatus and the ropes within the limits of the hatchway convenient for use and repair.

I claim—

1. In driving mechanism for elevators, the combination of the driving-shaft C, formed integral with the transmitting-pinion and provided with the sheave B for the hoisting-rope, with the secondary shaft F, provided with sheave E for receiving the elevator-rope, and a gear-wheel meshing with the pinion of the driving-shaft.

2. In driving mechanism for elevators, the combination of the driving-shaft formed integral with a transmitting-pinion, a secondary shaft from which the elevator-car is suspended and provided with a gear-wheel engaging the said pinion, and a sheave on the driving-shaft receiving the hoisting-rope, substantially as described.

3. In a hoisting-machine, the combination of sheave B, shaft C *c c′*, gear or gears D, sheave E, shaft F, and the ropes *b d*, all mounted, arranged, and operating within the hatchway A′, substantially as herein set forth.

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

HENRY J. REEDY. [L. S.]

Witnesses:
E. G. WOOD,
JNO. E. JONES.