

H. H. BLAKE.
ELEVATOR.

No. 184,133.

Patented Nov. 7, 1876.

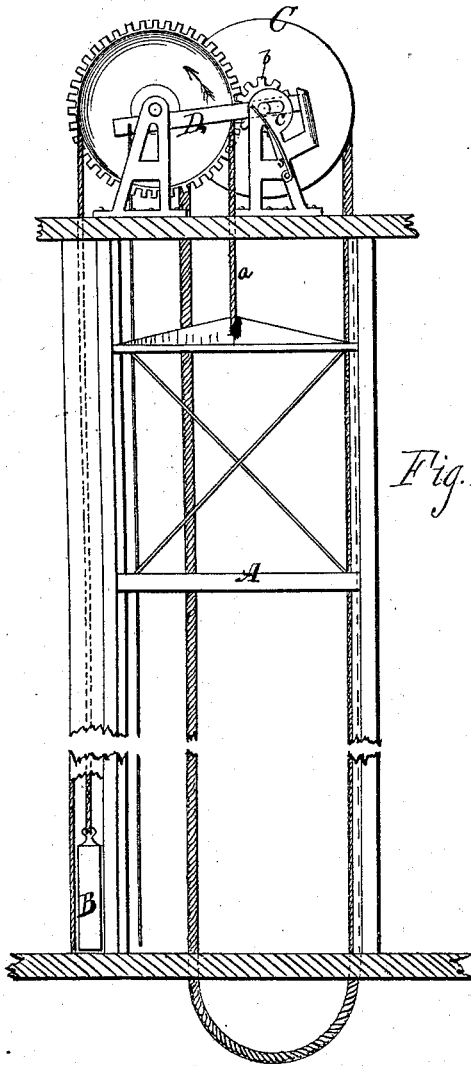


Fig. 1.

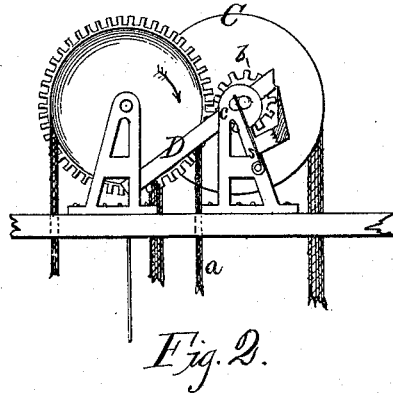


Fig. 2.

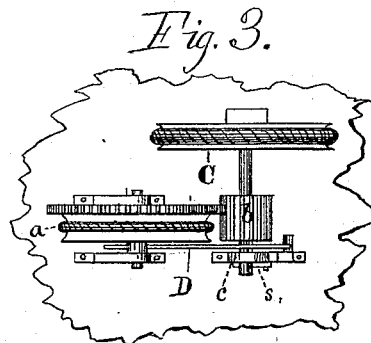


Fig. 3.

Witnesses

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HENRY H. BLAKE, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN ELEVATORS.

Specification forming part of Letters Patent No. **184,133**, dated November 7, 1876; application filed November 1, 1876.

To all whom it may concern:

Be it known that I, HENRY H. BLAKE, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Hoisting-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a side view. Figs. 2 and 3 are detail views.

This invention relates to hoisting-machines; and consists in providing means whereby the platform or winding mechanism, at any point in the ascent or descent, may be disengaged from the power, and the platform or cage allowed to ascend or descend rapidly by the force of gravitation, so as to save time while traveling empty.

Much time is lost, power wasted, and fuel consumed in transporting the empty cage or platform in power-elevators, which is done slowly. This is particularly patent in cases where much freighting is done from one level to another, as very much valuable time is lost in the return of the cage for a fresh load. There are, indeed, devices for shifting the gearing so as to vary the speed to go slowly with load, and rapidly without; but the power is wasted here also. Now, I propose to construct the apparatus so as to be capable of operation in such way that by pulling a rope, pushing a rod, or by any other means, the lifting-drum or winding mechanism can be instantly thrown out of engagement with the power, and then gravity comes in play, and the cage or platform ascends or descends at any desired speed independently of the power. Then, in like manner, the power and winding mechanism may be instantly geared or engaged together, for the raising or lowering of the loaded platform.

Of course to have gravity exert any influence on the platform, the latter must, in counterpoised elevator-cages, somewhat preponderate over the weight, or the operator riding

on it could constitute the extra weight; or if the opposite effect is intended, so as to raise the empty platform, the counterpoise should overbalance the latter.

In the drawings I illustrate a simple device for disengaging the wheels.

A is the platform, carried by rope *a*, which, passing over the drum, carries a weight, B. The drum is operated, when carrying a loaded platform, by means of a pinion, *b*, fixed on the shaft of a drive-wheel, C, and taking into the toothed wheel on the drum. The bearing *c* of this shaft is slotted laterally, as shown, and a lever, D, pivoted on it bears against a projection of the bearing *c*. The end of the shaft is thrown out, normally, by the spring *s*, and is forced in by the pivoted lever. To the latter a rod is attached, extending downwardly for the operator.

By pushing or pulling this rod, the lever D is raised or depressed, and through it the shaft of drive-wheel C is thrown, respectively, away from or toward the cogged drum, and, therefore, the two toothed wheels out of or into engagement.

Of course this result could be effected by many well-known devices, or others within the reach of a skilled mechanic.

The invention applies equally to all kinds of power hoisting-machines, and I do not confine myself to any one kind.

One great advantage in it is that, without the expense of any extra speeding-gear, I can cause my empty cage, or its equivalent, to either ascend or descend with any degree of rapidity I desire. Particularly is this the case in a warehouse, where a large quantity of material is to be carried up and stored in a short time, because, after a load reaches the floor it is designed for, the drum or pulley can be released, and the cage returned by gravity very rapidly to the lower floor. Equally great is the advantage obtained in hotels when bell-boys are summoned frequently to different floors. It might with facility be applied to cranes, windlasses, &c.

I claim—

1. In a power hoisting-machine, the combination of the winding element with the

power element, either of which is capable of engagement with, and total disengagement from, the other, substantially as and for the purpose specified.

2. The combination of lever D, shaft of wheel C, slotted bearing *c*, with projection, and spring *s*, substantially as shown.

In testimony that I claim the foregoing I have hereunto set my hand this 30th day of March, 1876.

HENRY H. BLAKE.

Witnesses:

THOS. J. MCTIGHE,
SAMUEL ANDERSON.