A. WHITTEMORE.

Elevator.

No. 206,283. Patented July 23, 1878.

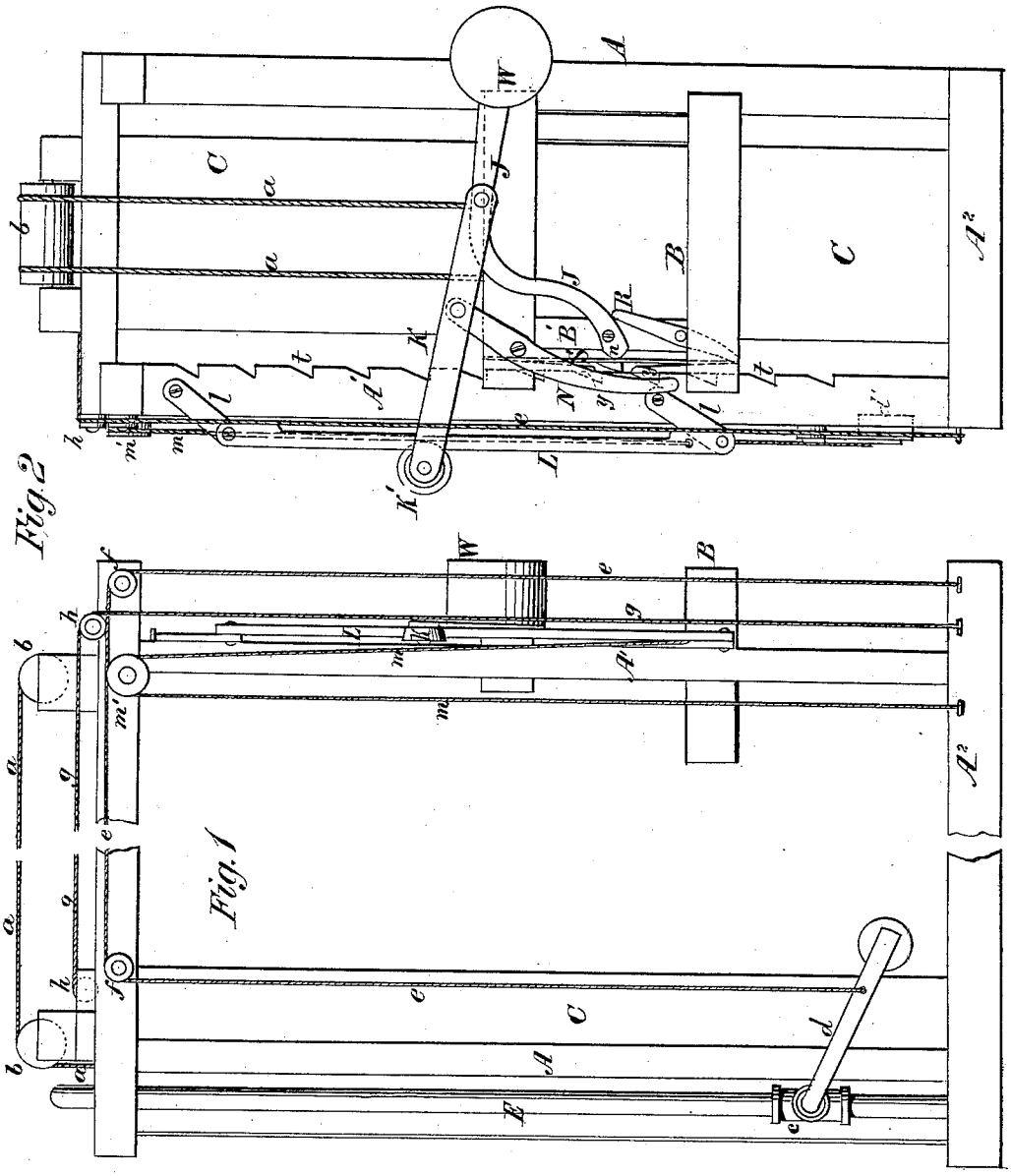

Fig. 2

Fig. 1

Witnesses
Julia Campbell
R. T. Campbell

Inventor
Amos Whittemore
By Atty. R. T. Campbell.

2 Sheets—Sheet 2.

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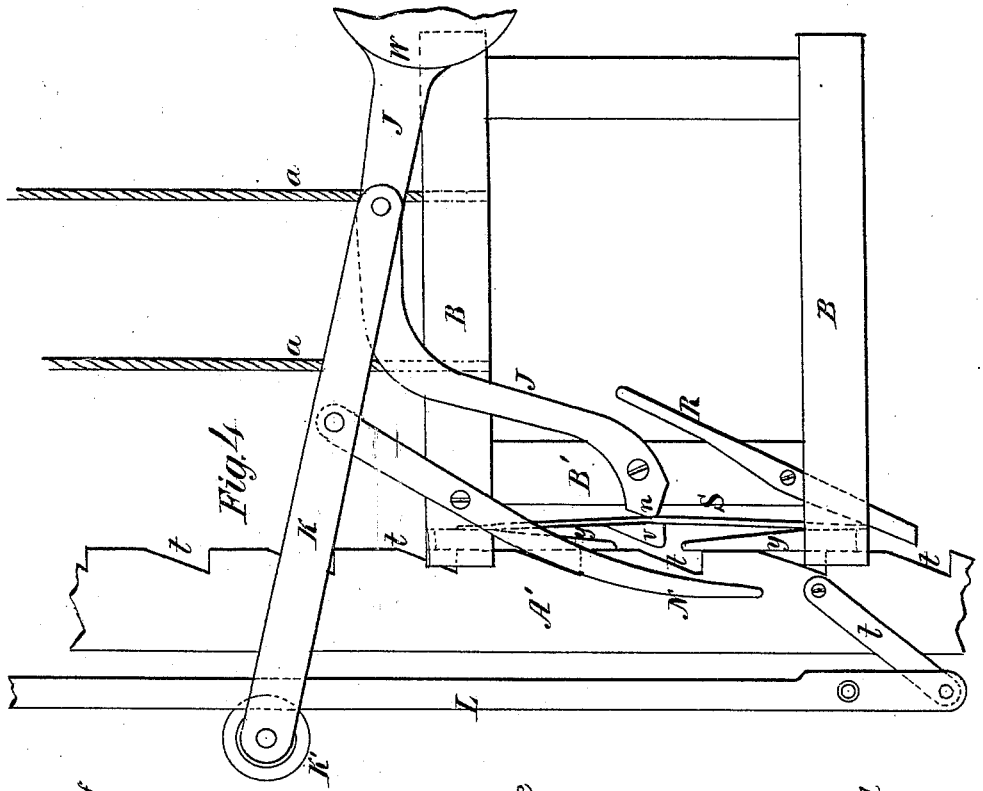

Fig. 4.

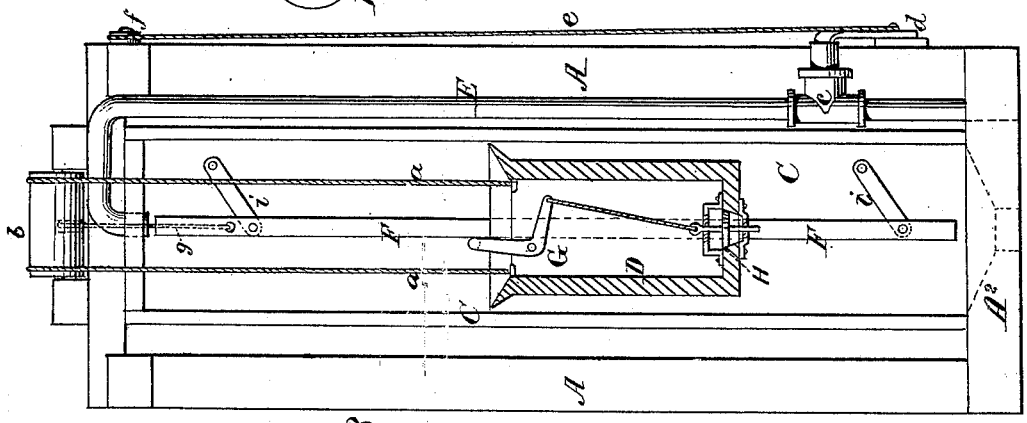

Fig. 3.

Witnesses.

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UNITED STATES PATENT OFFICE.

AMOS WHITTEMORE, OF CAMBRIDGEPORT, MASSACHUSETTS.

IMPROVEMENT IN ELEVATORS.

Specification forming part of Letters Patent No. **206,283**, dated July 23, 1878; application filed June 24, 1878.

To all whom it may concern:

Be it known that I, AMOS WHITTEMORE, of Cambridgeport, in the county of Middlesex and State of Massachusetts, have invented new and valuable Improvements in Elevators; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making part of this specification, and to the letters and figures of reference marked thereon.

Figure 1, Sheet 1, is a side elevation of my improved elevator. Fig. 2, Sheet 1, is a view of one end of the elevator carrying the cab. Fig. 3, Sheet 2, is a view of the vertically-movable water-tank, its attachments, and the water-discharge pipe. Fig. 4, Sheet 2, is an enlarged detail, showing the cab and the levers which are used to stop and start it and to regulate its speed.

Similar letters of reference indicate corresponding parts.

This invention relates to improvements on elevators which are designed for hotels and other places where it is desired to raise and lower persons and objects from one story of a building to another, and to use water for elevating and lowering the cabs or platforms. My main object is to use the least amount of water possible; and to this end I so contrive the apparatus that the cab and weight on it is raised by the weight of the water instead of the pressure thereof—no more water being used than is necessary to lift a given weight, as will be hereinafter explained.

Another object of my invention is to suspend the cab or platform by means of chains or ropes attached to a vertically-movable water-tank, which is provided with a valve, and to combine with the said cab or platform and the main guiding and supporting frame or frames certain levers and friction-holders, all of which are so arranged and applied that an attendant on the cab or platform can cause the same to rise or descend at any desired speed, whether it be heavily loaded or not loaded, using only a weight of water proportionate to the load to be raised or lowered, as will be hereinafter explained.

Another object is to enable a person on the cab or platform, or stationed at any one of the stories of a building, to discharge more or less water from the service-pipe into the movable water-tank, or to discharge water from this tank at whatever elevation it may be, and also to stop or start and to regulate the speed of ascent or descent of the cab or platform, as will be hereinafter explained.

A A^1 designate the upright parts of a frame, which rises from a base, A^2, and which may be constructed of any desired size and in any suitable manner. That part of this frame which guides the cab or platform B may be constructed inside of a building, and the part which guides the water-tank D may be outside of the building or in any convenient place. The cab or platform B, which is guided between two of the uprights A A^1, may be constructed in any suitable manner, and it is suspended by ropes or chains *a a* that pass over grooved rollers *b b*, and are attached to the water-tank D. This tank D is vertically movable inside of a trunk, C, which is constructed in the main frame and which has an outlet for water at its lower end and an inlet for water at its upper end from a supply-pipe, E, leading from a street-main or other source. The pipe E is provided with a cock, *c*, the plug-lever *d* of which has a rope, *e*, attached to it, and also a weight, *d'*. Rope *e* is carried up to the top of the elevator-frame, passed over pulleys *f f*, and securely attached to the base A^2 alongside of the upright A^1, and convenient to a person on the platform B. It is by means of the pipe E and its cock and rope *e* that water can be discharged into the tank D by a person on the platform B, or stationed at any one of the stories of the building. If desired, an extensible or telescopic tube may connect the upper end of pipe E with the tank D, although this I do not consider necessary. I do, however, prefer to make the upper end of the tank flaring, to prevent waste of the falling water.

The water-tank D should be of less weight than the weight of the platform B, and through the bottom of this tank is a hole, provided with a valve, H. (Shown in Fig. 3.) This valve H is connected to an angular lever, G, which is pivoted inside of the tank, and whose upper

end is held constantly in contact with a long rod, F. This rod F is connected to the trunk C, inside thereof, by means of pivoted arms *i i*, and its upper end is connected to a rope or chain, *g*, which passes over pulleys *h h*, and is fastened to the base A^2.

When a person on the platform B, or located at any of the stories or landings, pulls on the rope *g*, the rod F is lifted and at the same time moved laterally, which movement causes it to act on angular lever G and lift valve H, thus allowing water to flow out of tank D. By these means an attendant can load or lighten the tank at pleasure, according to the weight he desires to raise on the platform B. This varying weight of the tank can be regulated speedily and to a nicety.

K designates a lever, which is pivoted to a bent lever, J, and also to a hand-lever, N. The lever J is pivoted to the upright B′ of the platform B, and carries on one end a weight, W, and on the other end is formed a tooth, *n*, that bears against a bowed spring, S. The outer end of the lever K has a beveled wheel, K′, applied to it, the periphery of which is held by weight W against a vertical rod, L, that is connected, by short pivoted arms *l l*, to the upright A^1 of the main frame.

The ends of the spring S act on two pressure-brakes, *y y*, and allow the weight on lever J to press these brakes in close contact with the notched edge of the upright A^1, and hold the platform in place when it is not loaded heavily. The pressure on the two brakes *y y* can be increased or diminished by a person on the platform B acting with his hand on the lower end of lever N. Should such person find it necessary to lock the platform to the post A^1—as, for instance, one of the chains *a* breaks—he can do so by engaging pawl-lever R with one of the notches *t*, or he may force lever N outward with such force that a tooth, *v*, on spring S will engage with one of the said notches *t*.

A rope, *m*, is attached to the rod L, carried over a pulley, *m′*, and fastened to the base A^2. By drawing down on the fixed portion of the rope *m* the pressure of loaded lever J on the brakes *y y* can be regulated by a person located on any one of the landings above or below the platform B.

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

1. In combination with the platform B of an elevator and suspension ropes or chains *a a*, the water-holder D, the mechanism for actuating the valve H, and the supply-pipe E, with its cock *c*, and mechanism for actuating this cock, substantially as described.

2. The lever G, applied to water-holder D, and its valve H, in combination with rod F, having a vertical and a lateral movement, and also with a rope, *g*, and an elevator-platform, substantially as described.

3. In combination with an elevator-platform, the loaded lever J, pressing, by its nose *n*, against the friction-brakes *y y*, through the medium of a spring, S, substantially as described.

4. The tooth *v*, in combination with the brake-spring S, loaded lever J, and notched upright A^1, substantially as described.

5. Levers N, K, and J, in combination with the friction-brakes *y y*, bow-spring S, wheel K′, and the vertically and laterally movable rod L, substantially as described.

AMOS WHITTEMORE.

Witnesses:
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