2 Sheets—Sheet 1.

W. FELLOWS.

Elevator.

No. 219,704. Patented Sept. 16, 1879.

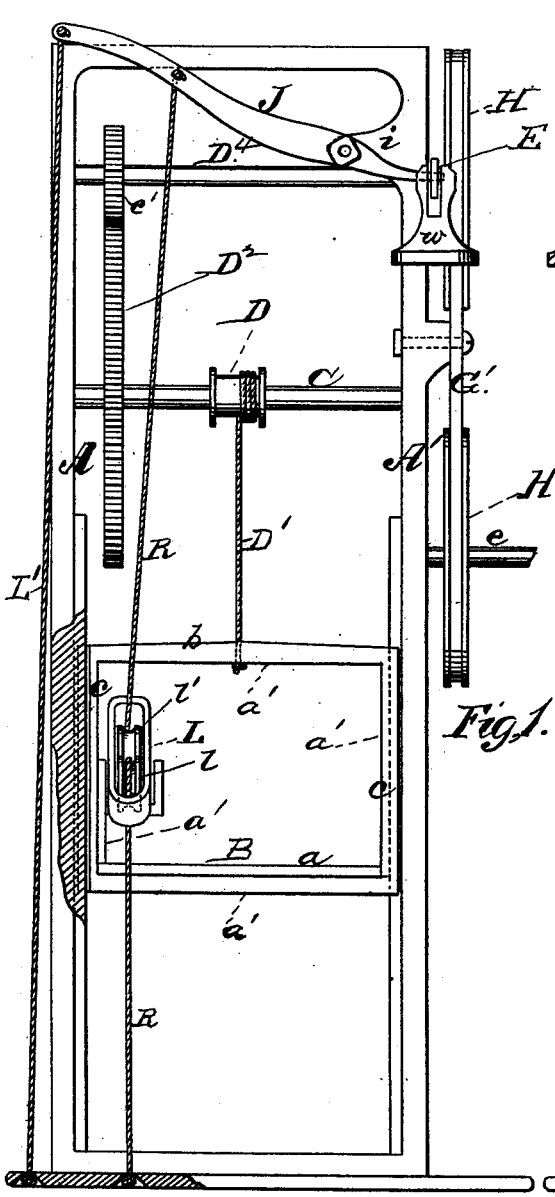

Fig. 1.

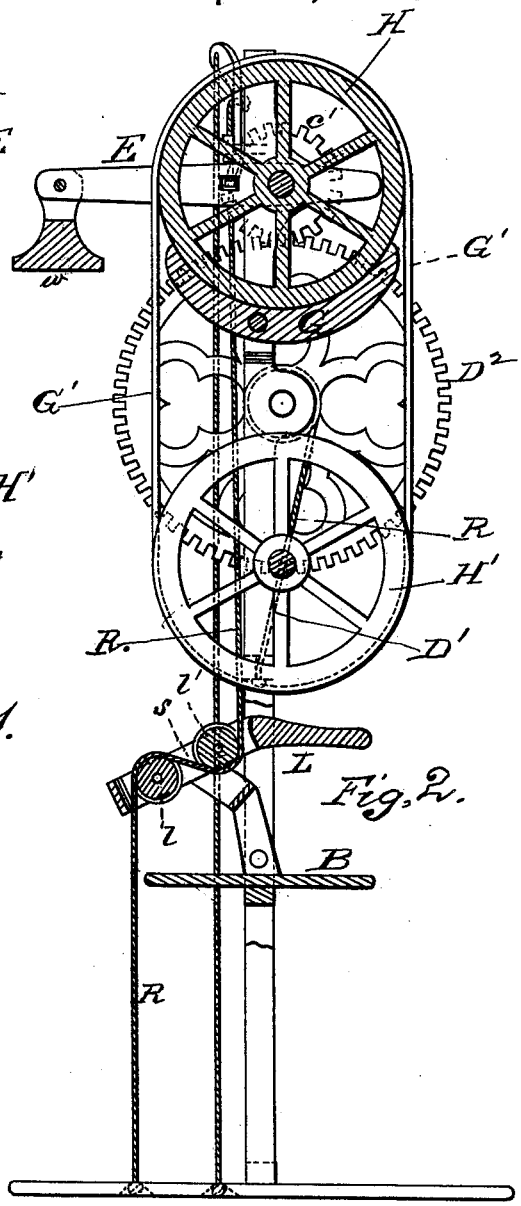

Fig. 2.

WITNESSES

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Warren Fellows INVENTOR

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his ATTORNEY

2 Sheets—Sheet 2.

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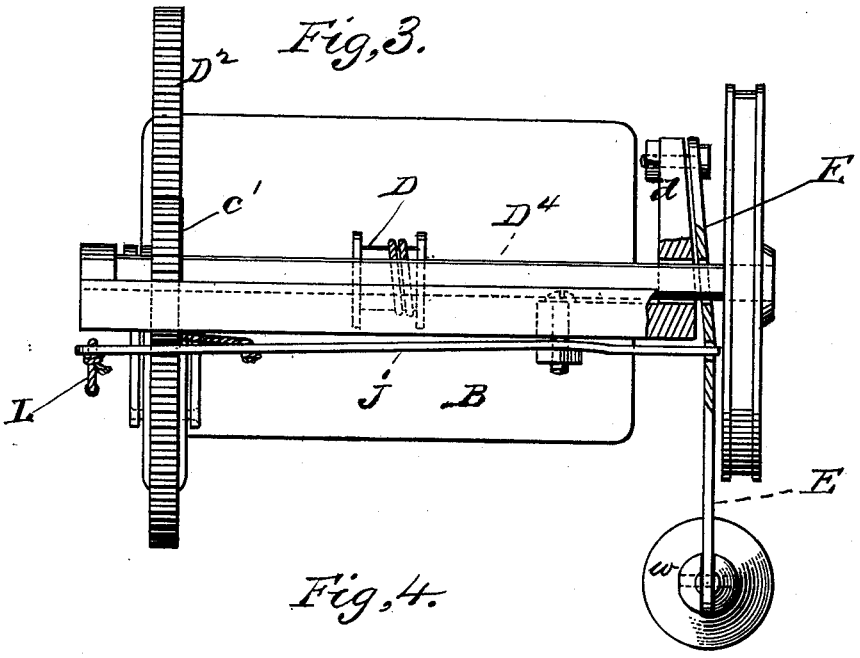
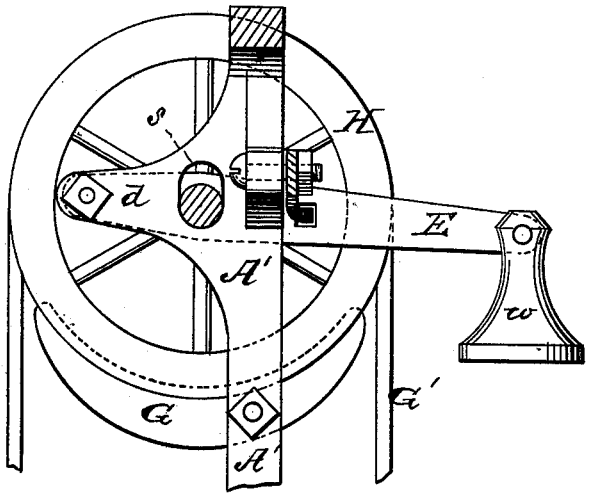
Fig, 3.



Fig, 4.



WITNESSES

Villette Anderson

Frank. J. Masi

INVENTOR

Warren Fellows

by E. W. Anderson

his ATTORNEY

UNITED STATES PATENT OFFICE.

WARREN FELLOWS, OF SING SING, NEW YORK, ASSIGNOR OF ONE-HALF HIS RIGHT TO DAVID SHIELDS, OF SAME PLACE.

IMPROVEMENT IN ELEVATORS.

Specification forming part of Letters Patent No. **219,704**, dated September 16, 1879; application filed July 26, 1879.

To all whom it may concern:

Be it known that I, WARREN FELLOWS, of Sing Sing, in the county of Westchester and State of New York, have invented a new and valuable Improvement 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 a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side view of my invention. Fig. 2 is a vertical section thereof. Fig. 3 is a top view of the same; and Fig. 4 is a detail section.

This invention has relation to improvements in elevators designed more especially for use in warehouses, stores, and manufactories, but capable of being used to advantage in residences and hotels.

The object of the invention is, mainly, to devise an elevator operated by continuously-working power, wherein the latter will be out of the control of the attendant, whose whole attention may then be given to throwing the operative parts of the machine out of gear by loosening the belt and lowering the upper or driven pulley more or less forcibly upon a shoe fixed to the frame, by which means the elevator may be stopped at any desired point, and lowered at pleasure and at any desired speed without the employment of reversing mechanisms, all as will be hereinafter fully shown and described.

In the annexed drawings, the letters A A′ designate two parallel, preferably metallic, beams, extending from the lower floor of a building through the various hatchways thereof above the upper floor a sufficient distance, in which is arranged, after the manner of a sash, the platform B. This is usually composed of a horizontal table, *a*, and a rectangular metallic frame, *a′*, upon which the table rests and is secured. The side bars, *c*, of this frame are vertically grooved to receive corresponding ribs or tongues upon the contiguous faces of the guide-beams A A′.

At a point above the highest point of elevation of the platform-support *a′* is a shaft, C, having its bearings in the guides A A′, and provided midway between said guides with a drum, D, to which is secured the hoisting rope or chain, D′, whereof the other end is attached to the upper horizontal bar, *b*, of the platform-support or bail *a′*. This shaft C is also provided with a large gear-wheel, D^2, that meshes with a pinion, *c′*, upon a shaft, D^4, above shaft C. This shaft D^4 has its bearings at one end in the guide-beam A, and is carried through a slot, *s*, of an offset, *d*, of beam A′ at the other in a vertically-vibrating lever, E, at right angles to the plane of guide-beams A A′. This lever has its fulcrum in the end of the said offset, and carries at its free end a weight, *w*. Outside of guide-beam A′, upon the end of shaft D^4, is a grooved pulley-wheel, H, which the weight *w* holds, under certain circumstances, in forcible contact with a crescent-shaped shoe, G, rigidly secured to the beam A′. Below pulley H, at a suitable point for the application of power, is a second pulley, H′, having its bearings on a spindle, *e*, projecting from the guide A′.

The pulley H, under ordinary circumstances, is held down forcibly by the weighted lever upon the shoe G, and the endless belt G′, passing around pulleys H and H′, depends from the former, and is not in contact with the latter, so that continuous motion may be imparted to the master-wheel H′ without actuating the platform; but if the lever E be raised so as to tighten the belt around the said pulleys, the shaft D^4 will be actuated, and, through the medium of pinion *c′* and gear-wheel D^2, motion imparted to the winding-drum shaft C with the effect of raising the platform.

The raising of lever E is effected easily by a lever, J, in the same plane with the guides A A′, and having its fulcrum in an offset, *i*, at right angles to the offset *d* aforesaid. The weight end of lever J is engaged with the power end of lever E, and its power end provided with a rope or chain, L′, reaching to the ground-floor of the building. By drawing down upon this rope the pulley H is raised off of the shoe, the belt tightened, and the drum actuated; consequently the platform is raised. By this means the platform is managed from the ground-floor by the attendant. But if it be desired that he ascend with the platform, I use the following

device: The lever is provided with another rope, R, and the platform with a lever, L, fulcrumed thereon, or on an offset projecting therefrom, or on the side bar of the bail or support. This lever has a longitudinal slot, *s*, in which, at each side of the fulcrum thereof, is a pulley-wheel, the one lettered *l* and the other *l'*. The rope R is passed under pulley *l'* on the power-arm side of the lever; thence over pulley *l;* thence downward to the floor, to which it is then rigidly secured. The rope R is sufficiently slack to run freely when the platform is operated from the ground, and opposes very slight resistance, if any, to its movements; but by forcing the power-arm of lever L down rope R is tightened, and operates precisely as above set forth to raise pulley H, tighten belt G', and raise the platform. The friction of pulley H upon the brake-shoe G is sufficient at any time to lock the platform at any desired point of elevation, so that by merely letting go the operating-cords this result is attained; but if it be desired to lower the platform, a more or less forcible steady pull upon the said cords, according to the weight on the platform, will, by raising pulley H off its shoe more or less, decrease in a corresponding degree the friction of the former upon the latter, and allow the platform to descend by its own weight. This, it will be observed, is accomplished without additional belting or other reversing appliances.

What I claim as new, and desire to secure by Letters Patent, is—

The combination, with the guides A A', platform B, shaft C, having drum D, rope D^1, and gear-wheel D^2, of the shaft D^4, pinion C', weighted bearing-lever E, driven pulley H on said shaft, shoe G, lever J, and rope L', substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WARREN FELLOWS.

Witnesses:
C. B. PALMER,
PIERCE REYNOLDS.