D. F. SKINNER & JOSEPH ARNOLD.

Improvement in Elevators.

No. 120,676. Patented Nov. 7, 1871.

Fig. 1

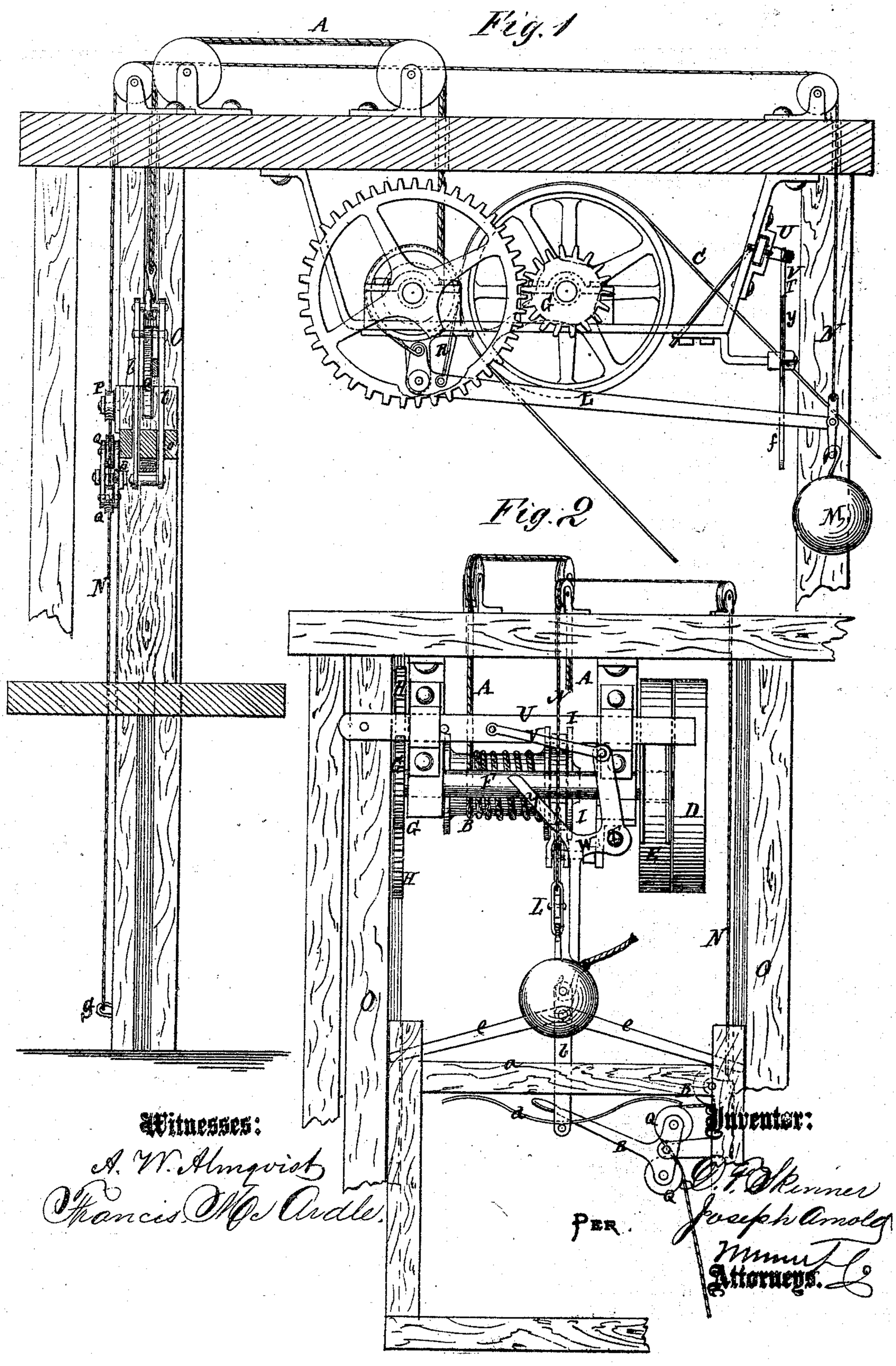

Fig. 2

Witnesses:

A. W. Almqvist

Francis Hoe Ardle.

Inventor:

D. F. Skinner

Joseph Arnold

Per Munn & Co

Attorneys.

UNITED STATES PATENT OFFICE.

DAVID F. SKINNER AND JOSEPH ARNOLD, OF ALBANY, NEW YORK.

IMPROVEMENT IN ELEVATORS.

Specification forming part of Letters Patent No. 120,676, dated November 7, 1871.

To all whom it may concern:

Be it known that we, DAVID F. SKINNER and JOSEPH ARNOLD, of Albany, in the county of Albany and State of New York, have invented a new and Improved Elevator; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

Our invention relates to improvements in elevators; and it consists in a novel arrangement of means whereby a weighted lever of a friction-brake, employed to regulate the descent of the platform, may be used to actuate the belt-shifter and throw the belt on the fast pulley for raising the platform simultaneously with the releasing of the friction or not, as preferred. Also, to throw off the belt to stop the platform simultaneously with the application of the friction-brake to hold the platform at any point, the arrangement being such that the friction-brake may be released sufficiently to let the platform down without throwing the belt on the fast pulley.

Figure 1 is a sectional elevation of our improved elevator, and Fig. 2 is a side elevation of the same.

A is the hoisting-rope; B, the drum for winding it up; C, the driving-belt; D, the fast pulley; E, the loose one; F, the main driving-shaft; and G and H, the gearing transmitting the motion from said shaft to the drum. This drum B is provided with a friction-wheel, I, on which is a friction-brake strap, K, of metal, which is actuated by the lever L, having a weight, M, which is capable of applying sufficient friction to hold the platform, together with its load, at any point. N is a cord attached to the weighted lever and extending over suitable guide-pulleys, and down along one of the guides O over pulley P on the platform; also, pulley Q on the tightening lever R, to a point, S, at the bottom, where it is fastened, said cord being to actuate the brake-lever; also the belt-shifter, the latter being done through the medium of a cord by means of the brake-lever acting on the cranked lever T, connected to the belt-shifter U by one arm and the rod *v*, and having the other arm, *w*, which is divided into two branches, *x y*, so arranged in relation to the lever that when said lever is raised so as to come in contact with the arm *y* the belt-shifter U will be moved to the right and the belt thrown onto the fast pulley D; but the said arm is so adjusted that it will not be moved until the brake-strap has been released from the wheel I sufficiently to admit of the descent of the platform, so that, in case it is required to descend it may do so; but if it is required to ascend, the lever L is lifted a little more than when it is to descend. The falling movement of the lever L brings it against the arm X in time to shift the belt back onto the loose pulley just previous to the tightening of the friction-strap on the wheel I. The cord N is pulled for lifting the brake-lever by the lever R and pulley Q on the platform, which are arranged as shown in Fig. 2 for the purpose; but it may be taken directly in the hand, as others are. The twisting-rope is connected to the top beam *a* of the platform by the short bars *b* passing down through it to a spring, *d*, below, and this bar *b* has a pair of bars, *e*, pivoted at one end to its upper end, while their other ends lie on the top beam *a*, pointing toward the side of the guides and extending within a short distance of said sides, when the spring is contracted by the weight of the platform. The said bars *e* are of such length that, in case the hoisting-rope breaks, and the spring, being freed from the weight of the platform, expands so as to draw the ends of said bars *e* that are pivoted to the bars *b* downward to a level with the outer ends, the latter will be forced out against the guides and bind thereon, so as to securely lock the platform and prevent it from falling until the said bars *e* are released again by the raising of the bar *b*.

Having thus described our invention, we claim as new, and desire to secure by Letters Patent—

The combination of the weighted brake-lever L, the belt-shifter U, and a lever, W, in such manner that the belt-shifter will be actuated by the brake-lever simultaneously with the movements of the brake, or the latter will be actuated for arresting the platform or allowing it to descend without affecting the belt-shifter, at the will of the operator, substantially as specified.

DAVID F. SKINNER.
JOSEPH ARNOLD.

Witnesses:
A. V. DEWITT,
I. W. RUSSELL.

(79)