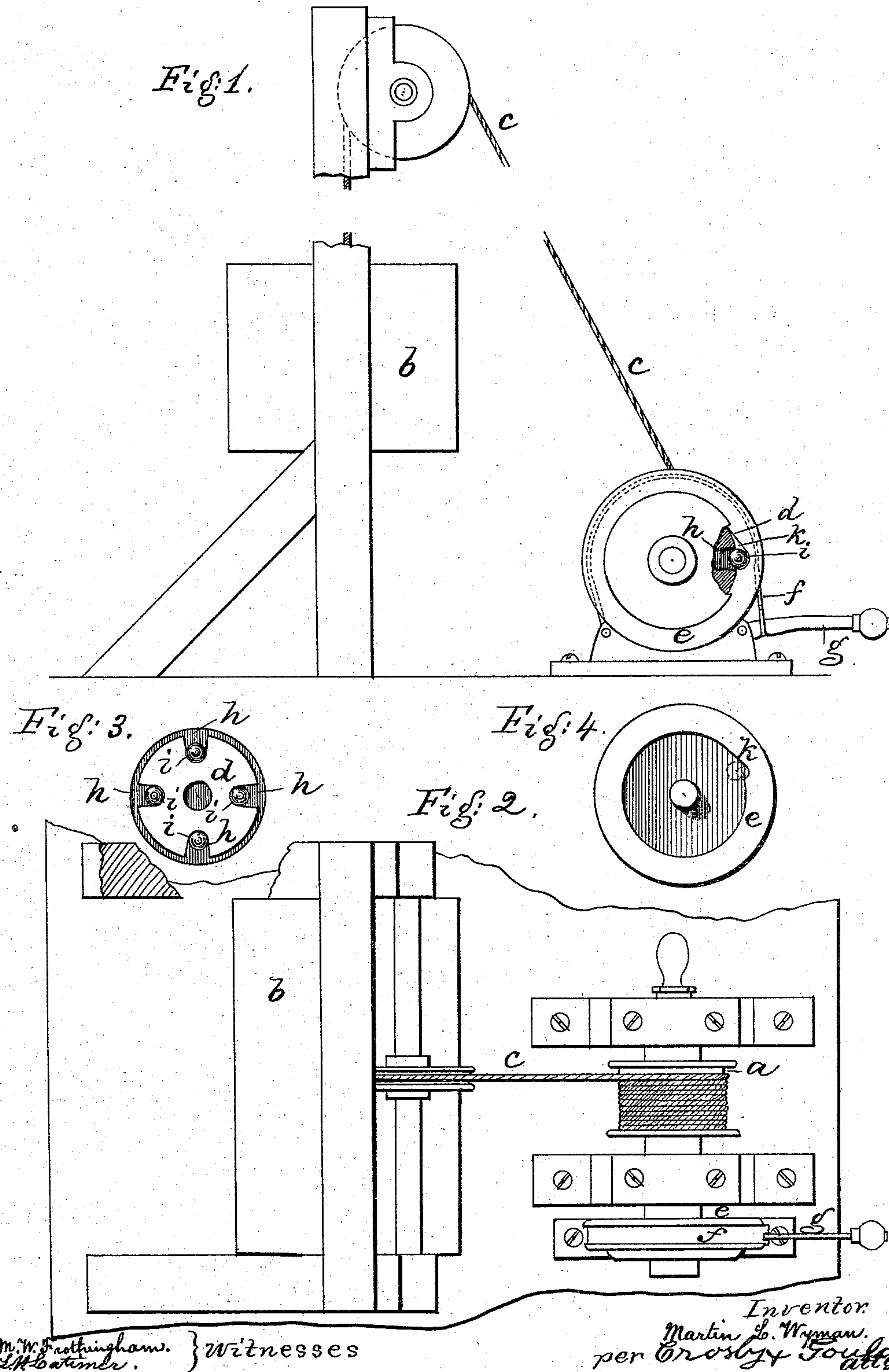


M. L. WYMAN.  
Elevators.

No. 156,835.

Patented Nov. 10, 1874.



# UNITED STATES PATENT OFFICE.

MARTIN L. WYMAN, OF BOSTON, MASSACHUSETTS.

## IMPROVEMENT IN ELEVATORS.

Specification forming part of Letters Patent No. 156,835, dated November 10, 1874; application filed July 16, 1874.

*To all whom it may concern:*

Be it known that I, MARTIN L. WYMAN, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Elevators; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

The invention relates to means for automatically controlling the descent of the car. In my invention I fix upon the winding-drum shaft, or any intermediate shaft, a wheel having peripheral recesses or pockets containing balls, said wheel being encompassed by a loose solid ring having a brake-band applied to it, the inner surface of this ring having recesses into which some one of the balls will be thrown by centrifugal force if the car in descending attains so rapid motion as to rotate the winding-drum with sufficient velocity to project the balls outward. The recess in the brake-ring is made so shallow as to only partially contain the ball thrown into it, and the ball, being thus lodged between the two wheels, causes the brake-ring to be moved with the wheel, and the motion of the drum and the car are thereby impeded to whatever extent friction is applied to the brake-ring.

My invention consists in the construction thus generally described.

The drawing represents a construction embodying my invention.

Figure 1 shows the parts in elevation. Fig. 2 is a plan of the same. Fig. 3 shows the ball-carrying wheel in elevation. Fig. 4 is a similar view of the brake-ring.

*a* denotes the winding-drum; *b*, the car; *c*, the hoisting-rope. The winding-drum shaft rotates in suitable bearings, and has fixed upon its outer end the wheel *d*. This wheel *d* is encompassed peripherally by the annular wheel or ring *e*, which turns loosely upon the wheel *d*, and has extending around it, or partially around it, a brake-band, *f*, which may be held automatically against the wheel *e* (and with sufficient force to control the descent of the car) by a weighted lever, *g*. The fast wheel *d* has in its periphery recesses or pockets *h*, each containing a ball, *i*, and in the inner surface of the brake-ring or wheel a shallow recess, *k*, is formed.

As the drum-shaft rotates at unsafe speed the balls will be thrown centrifugally against the inner surface of the ring, and when either reaches the ring-recess it will enter the same, and thereby lock the wheel and ring together so that they will rotate as one, the wheel being thus subjected to the same frictional or brake pressure exerted on the ring by the brake-band. This pressure causes the car to diminish its speed until the rotation of the drum is arrested.

I claim—

The combination of the annular brake-ring *e*, with the wheel *d*, upon the main winding-drum shaft or intermediate shaft, the wheel *d* containing one or more pockets, *h*, and balls *i*, and the ring-blank having one or more recesses, *k*, all substantially as shown and described.

MARTIN L. WYMAN.

Witnesses:

M. W. FROTHINGHAM,  
S. B. KIDDER.