

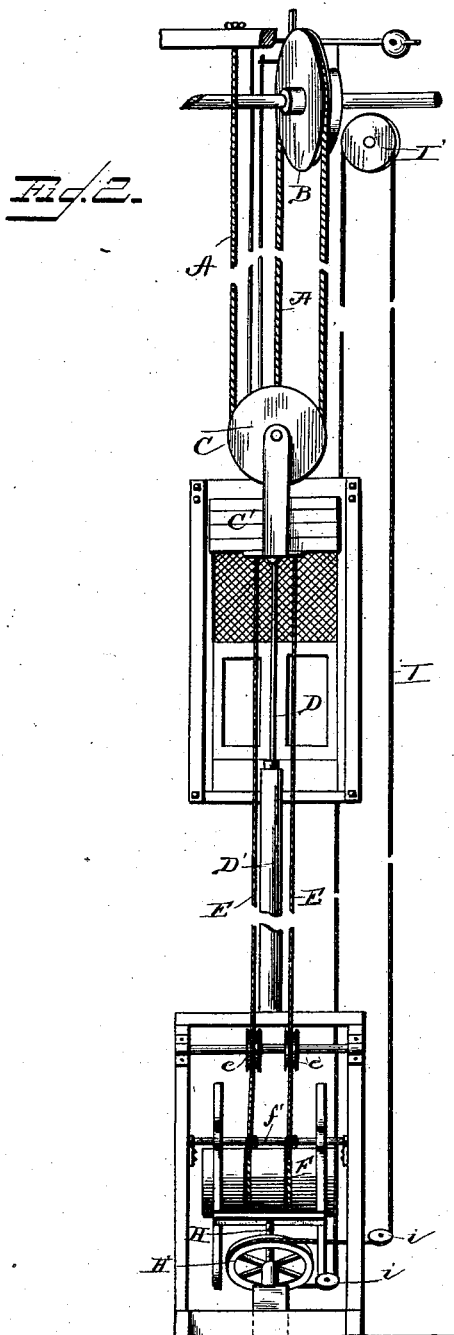
(No Model.)

3 Sheets—Sheet 1.

E. J. STELLWAGEN.  
ELEVATOR.

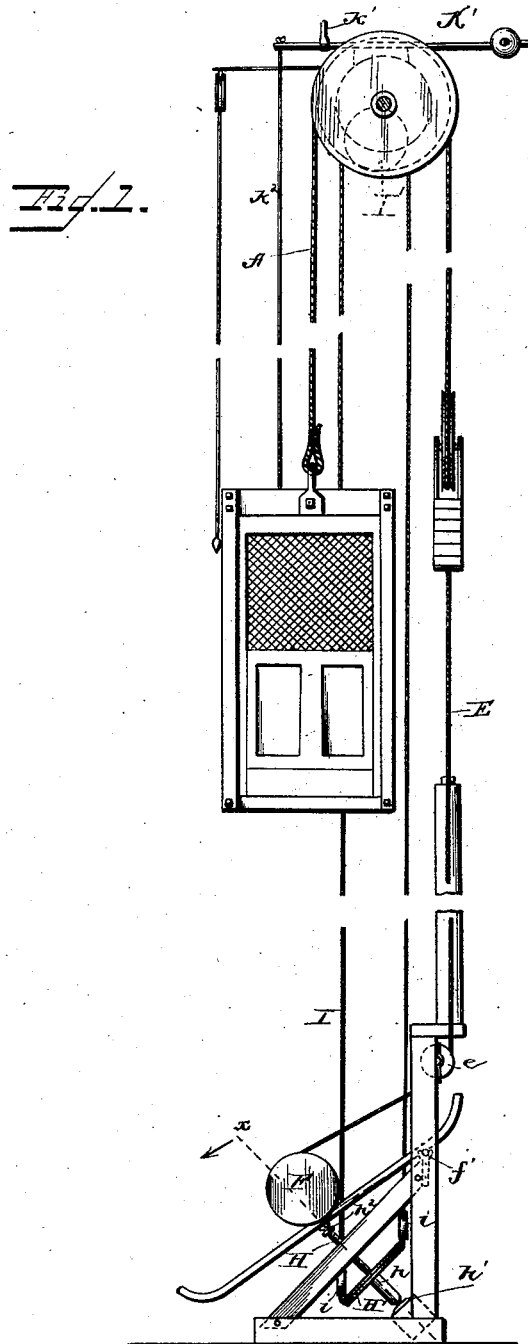
No. 382,841.

Patented May 15, 1888.



WITNESSES.

*F. L. Curand*  
*A. M. Cryle.*



INVENTOR.

*Edward Stellwagen*  
*by Baldwin & Davidson,*  
*his Attorneys.*

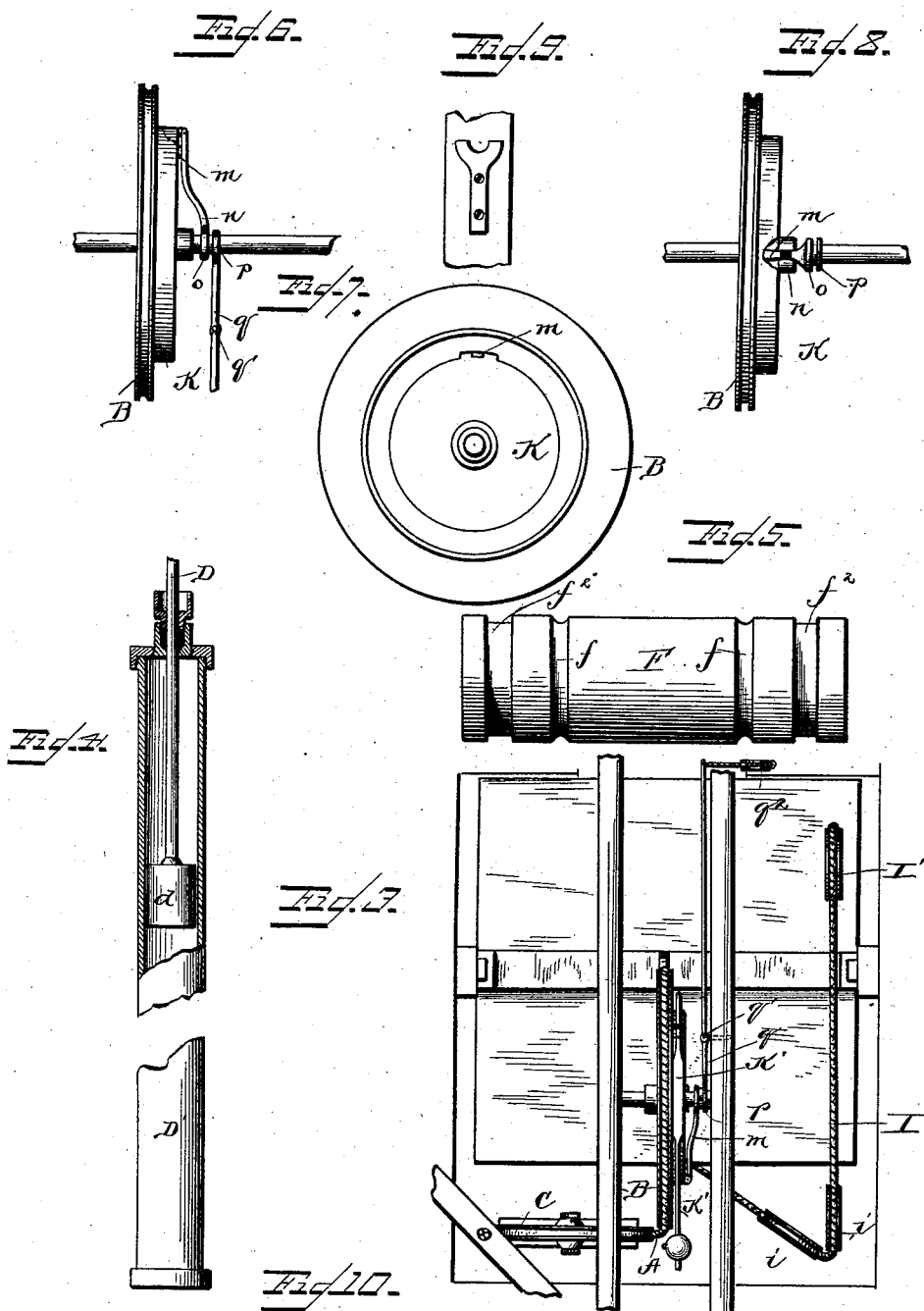
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WITNESSES,  
F. L. Oirand.  
A. McCoyle.



INVENTOR,  
Edward J. Stellwagen.  
by R. A. Davidson & Davidson,  
his Attorneys.

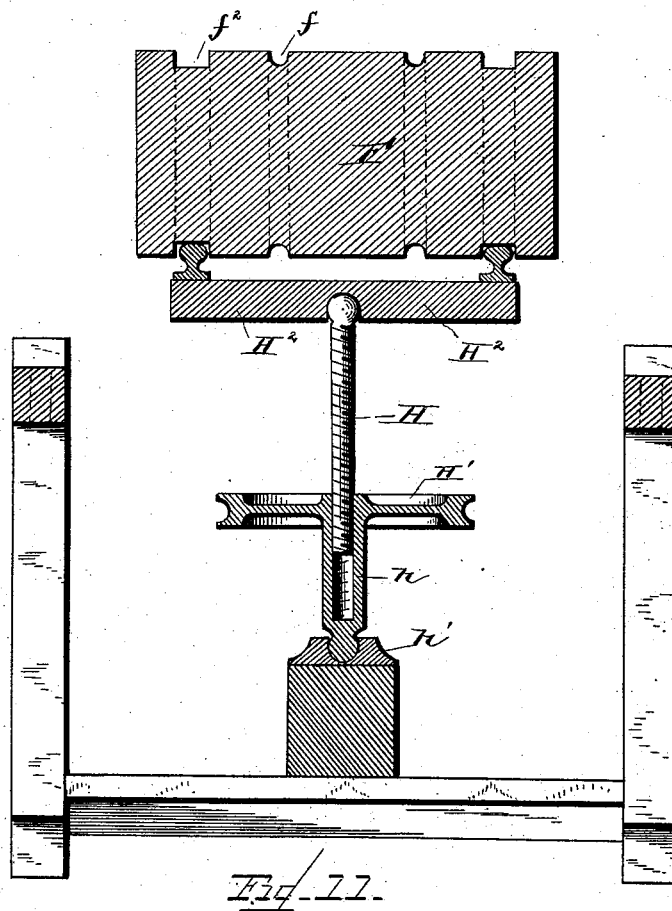
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E. J. STELLWAGEN.  
ELEVATOR.

3 Sheets—Sheet 3.

No. 382,841.

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WITNESSES,  
Edward C. Davidson.  
Lloyd B. Wright.

INVENTOR,  
Edward J. Stellwagen.  
by *Robertson & Davidson*,  
his Attorneys.

# UNITED STATES PATENT OFFICE.

EDWARD J. STELLWAGEN, OF WASHINGTON, DISTRICT OF COLUMBIA.

## ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 382,841, dated May 15, 1888.

Application filed January 4, 1888. Serial No. 259,771. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD J. STELLWAGEN, of Washington, in the District of Columbia, have invented certain new and useful Improvements in Elevators, of which the following is a specification.

The object of my invention is to produce an elevator cheap in construction and economical in operation, and specially designed for use in dwellings and other small buildings where convenience and not speed and facility of manipulation is the prime requisite, though I do not limit the invention and its new principles of operation to any particular class of elevators.

The general operation is as follows: A heavy counter-balance weight moving upon an adjustable inclined plane furnishes the power by which the elevator-car is raised and its descent permitted. A change of angle of the inclined plane causes the weight to exert a variable stress on the cable. Thus, if the plane be raised to a nearly horizontal position, the weight of the car would be sufficient to roll the weight upon the plane and the car would descend. If the plane is placed at a greater inclination, the weight would by its gravity roll down the plane and elevate the car.

With this general statement, I will now describe one construction embodying the ideas of my invention.

In the accompanying drawings, Figure 1 represents a general side view of the car and inclined plane; Fig. 2, a similar view from another side. Fig. 3 is a view showing the top of the car with the beams, sheaves, and brake apparatus as seen from above. Fig. 4 is a detail view of a device by means of which the motion of the car is retarded; Fig. 5, a detail view of the counter-weight which rolls on the inclined plane. Figs. 6, 7, and 8 are views of the main sheave and brake-wheel, showing their operation. Fig. 9 shows the Y, in which the shaft supporting the inclined plane rests. Fig. 10 is a view of part of a rail forming the inclined plane, showing the place where the pivot-shaft passes through; and Fig. 11, a detail sectional view on the line *xx* of Fig. 1, showing the apparatus for changing the angle of the inclined plane.

For clearness of illustration, the elevator-shaft and portions of the framing have been omitted.

The cable A, supporting the car, passes over a wheel, B, at the top of the shaft, down under a wheel, C, which carries the ordinary elevator counter-weight, C', and then up to the top of the shaft, where it is made fast to one of the beams. The counter-weight C', with this arrangement, moves half the distance traveled by the car. Some form of speed-governor may be employed—for instance, the following: A rod or plunger, D, depending from the bottom of the counter-weight, passes through a stuffing-box in the top of a cylinder, D', and carries at its end a piston, *d*, fitting loosely in the cylinder, Fig. 4. The cylinder is to be filled with water or oil, which retards the motion of the plunger and prevents a too accelerated motion of the car. From the bottom of the counter-weight C' two cables, E E, pass down to and under rollers *e e*, suitably mounted in the frame-work, and around the motor-weight F in the grooves *ff*, and are then fastened to the shaft *f'*, on which the inclined track G is pivoted. This weight may be of cast-iron, and is formed with the grooves *ff* and with other grooves, *f''f''*, which fit the rails.

The adjustable inclined track G is pivoted at or near its upper end on a shaft, *f'*, having suitable bearings in the framing. The track may be made of railroad-iron bent at each end, as shown. Its change of inclination may be effected by means of a screw-shaft, H, working in a wheel, H', having a socketed hub, *h*, provided with a universal bearing, *h'*, which allows rotary motion and change of angle of the hub. The screw-shaft H is pivotally connected at *h''* with the cross-bar H'' of the track to permit the necessary change of angle, as the inclination of the track is varied. A rope, I, passing around the screw-wheel H' and around small pulleys *i i*, passes outside of the car up to and over a pulley, L', and down through the car. The inclination of the track may therefore be varied by the manipulation of the rope within the car.

A brake-wheel, K, coupled to and revolving with the cable-pulley B, is provided with a well-known form of weighted friction-brake, K', pivoted at *k'* and provided with a rope, *k''*, running to the car.

In Figs. 6, 7, and 8 I have shown details of an indicating device which may be employed. The cable-roller B, as well as the brake-wheel

K, turns loosely upon the shaft. The roller is allowed a slight motion independent of the brake-wheel, with which it is coupled by a pin, *m*, on the roller moving in a slot in the brake-wheel. The pin *m* projects and its end moves  
 5 a lever, *n*, pivoted on the outer edge of the brake-wheel and provided with a collar, *o*, embracing the shaft and working against another movable collar, *p*, on the end of a lever, *q*, piv-  
 10 oted at *q'* and projecting to the front. A cord connected with lever *q* runs over a small pulley, *q''*, and carries a weight or bob. The brake-wheel being held firmly by the friction-brake strap, the cable-roller B will carry the  
 15 pin *m* to one side or the other of the slot in the brake-wheel, according as the weight of the car is greater or less than the counter-weight, and obviously the cord will be held to one side or the other. A person entering the car can  
 20 therefore tell at a glance from the lateral position of the cord whether the car has a tendency to move up or down, and by adjusting the track G accordingly by means of the rope I and releasing the brake by means of the rope *k''*, which  
 25 enters the car, the car can be caused to ascend or descend.

Having presented my invention embodied in

one practical form, and without limiting myself to the particular organization or embodiment of the invention, I claim—

1. The combination of an elevator-car, its hoisting mechanism, an adjustable track or inclined plane, and a car-elevating weight connected with the hoisting mechanism and traveling on the adjustable track, as set forth, 30 whereby the car may be elevated or permitted to descend.

2. The combination of an elevator-car, its hoisting mechanism, a pivoted adjustable track or inclined plane, a car-elevating weight connected with the hoisting mechanism and traveling upon said track, and a track-inclination adjusting-rope passing through the car, whereby by manipulation of the rope in the car the inclination of the track may be varied and the car 45 elevated by the draft of the weight or permitted to descend, as set forth.

In testimony whereof I have hereunto subscribed my name.

EDWARD J. STELLWAGEN.

Witnesses:

ANSON S. TAYLOR,  
 JOHN J. MALONE.