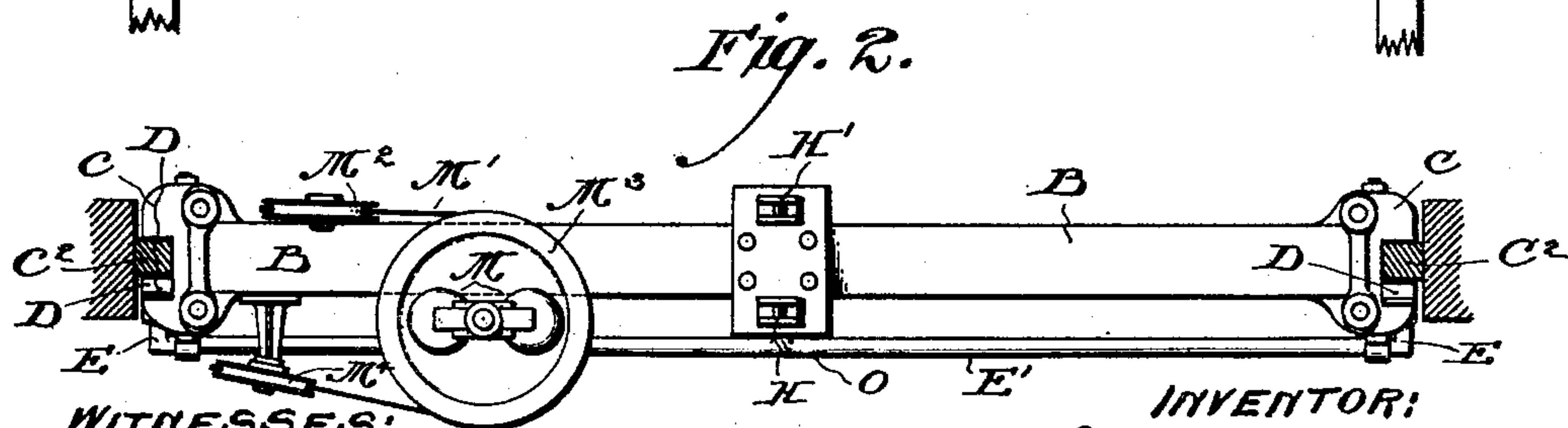
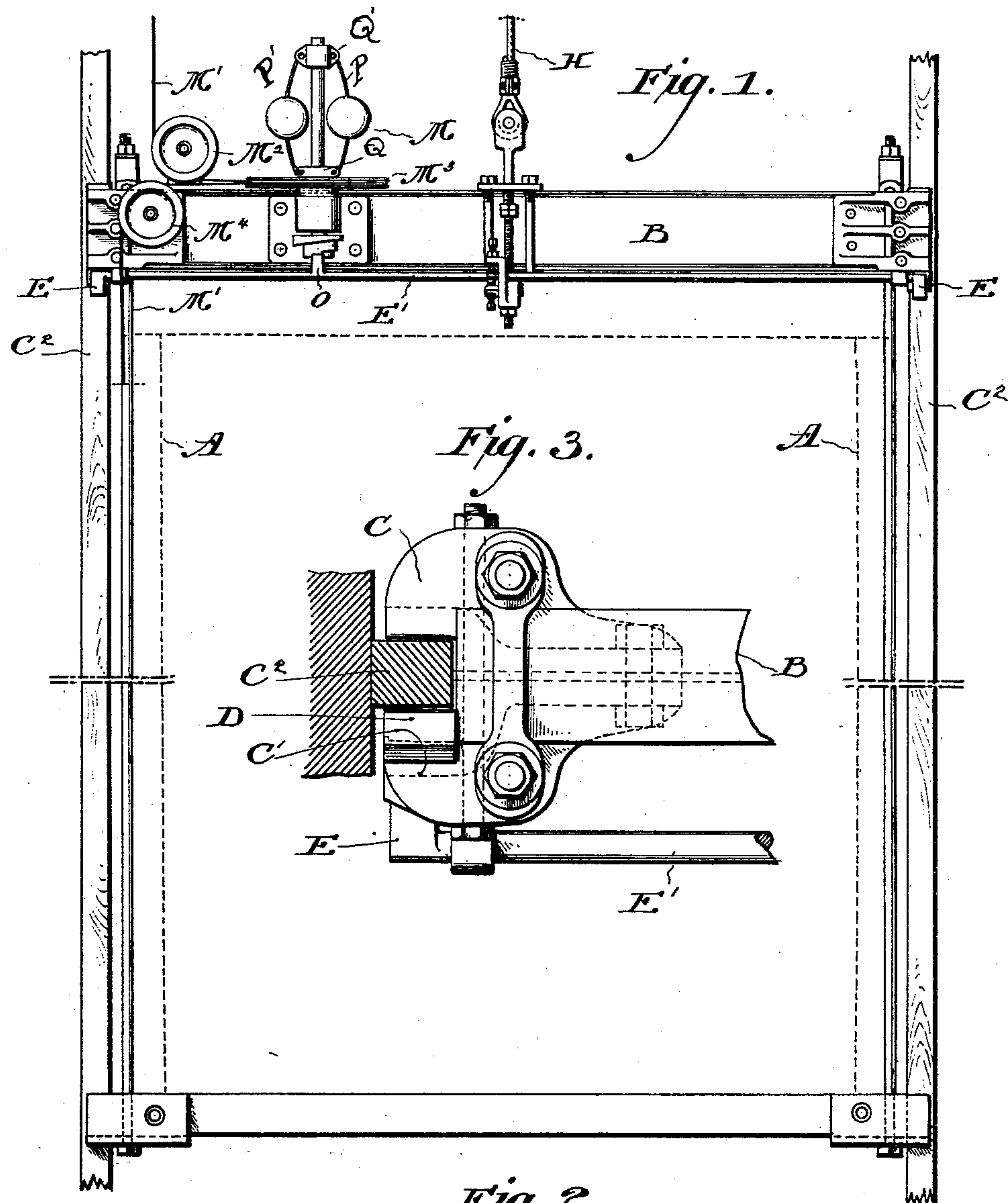


F. E. HERDMAN.  
ELEVATOR.

No. 480,848.

Patented Aug. 16, 1892.



WITNESSES:  
David S. Williams  
Frank S. Bussan

INVENTOR:  
Frank E. Herdman  
by his atty.  
J. H. Herdman

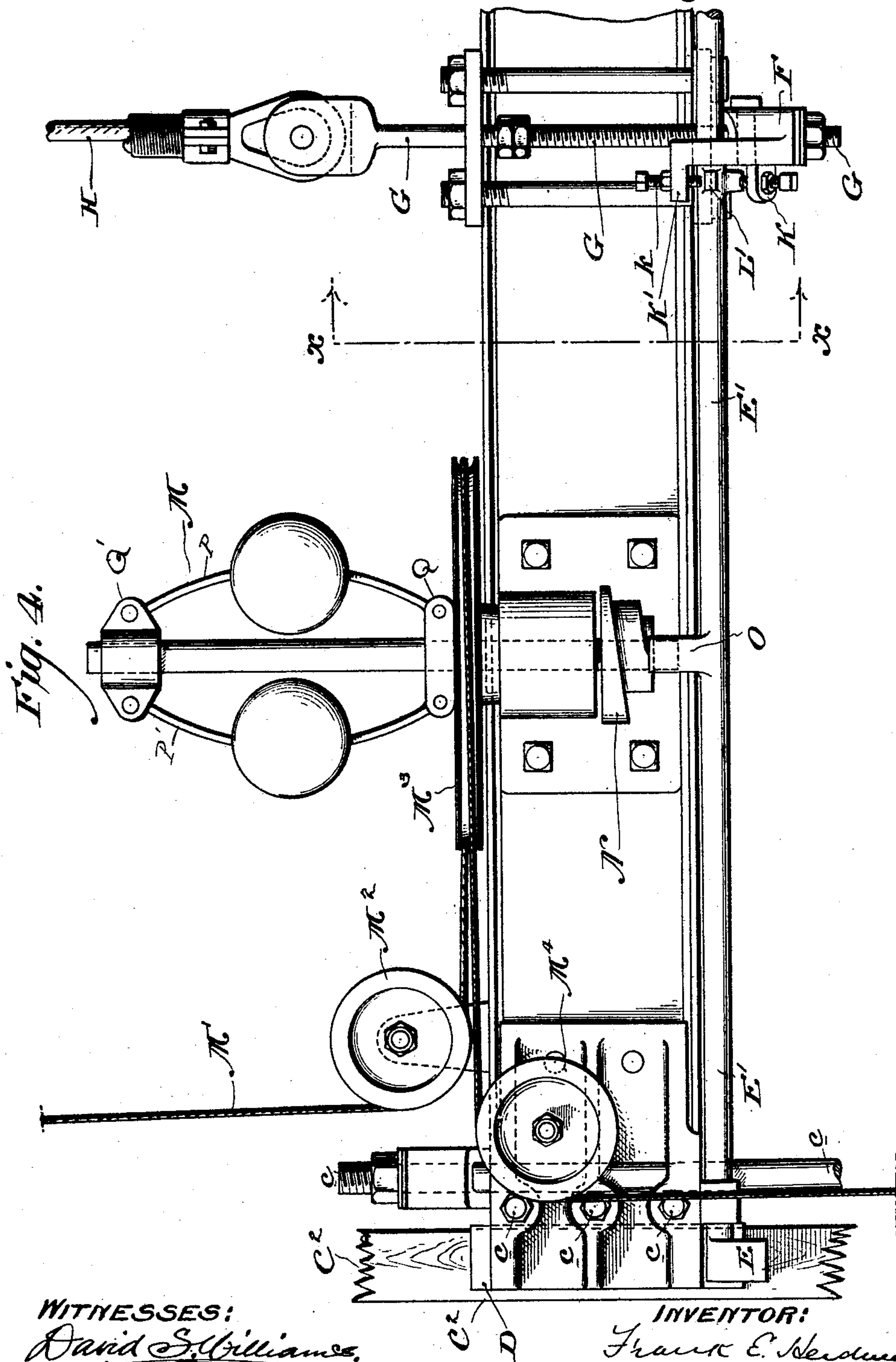
(No Model.)

3 Sheets—Sheet 2.

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**WITNESSES:**

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***INVENTOR:***

Frank E. Newman

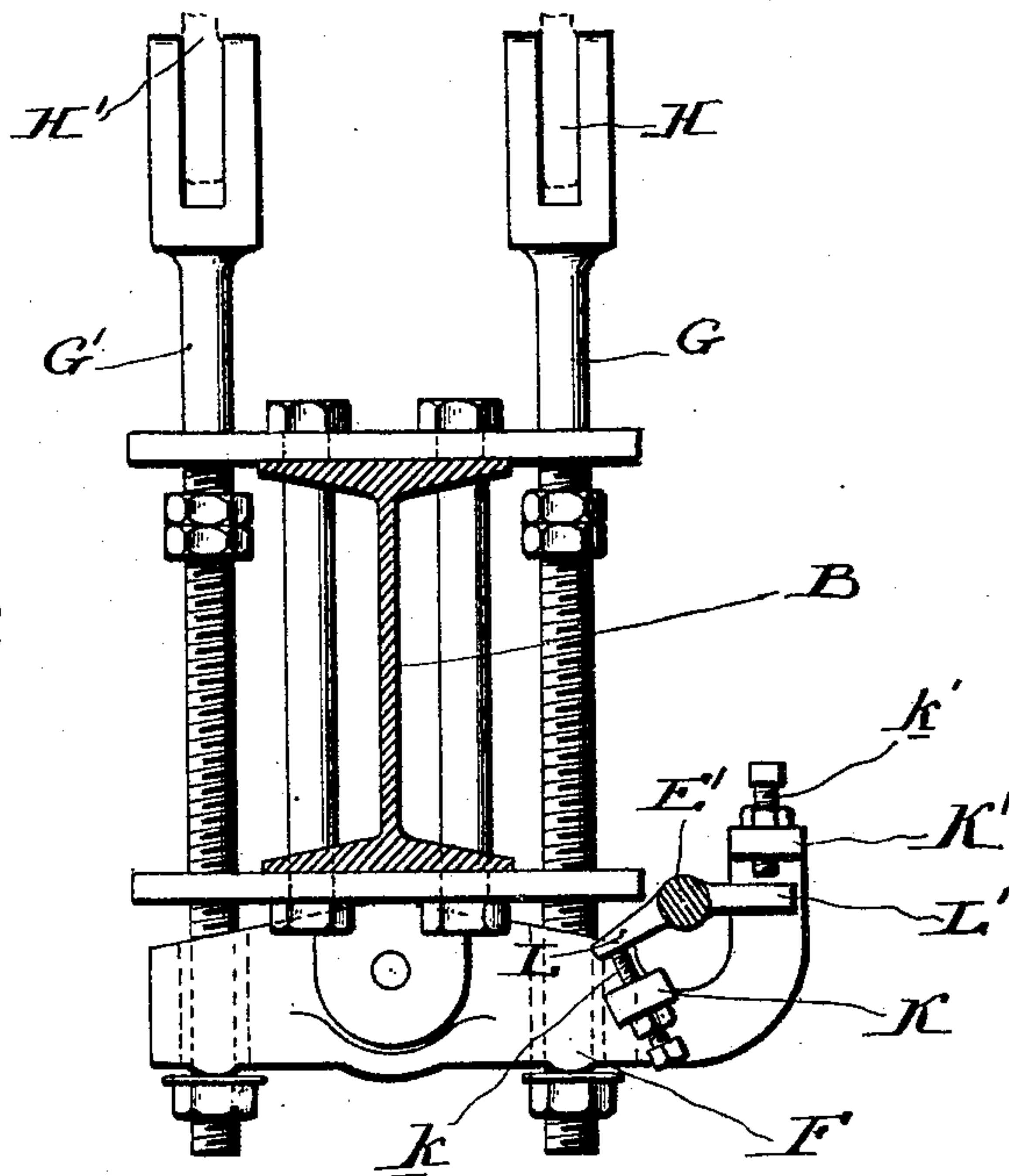
Very truly  
yours  
J. H. Lawrence

F. E. HERDMAN.  
ELEVATOR.

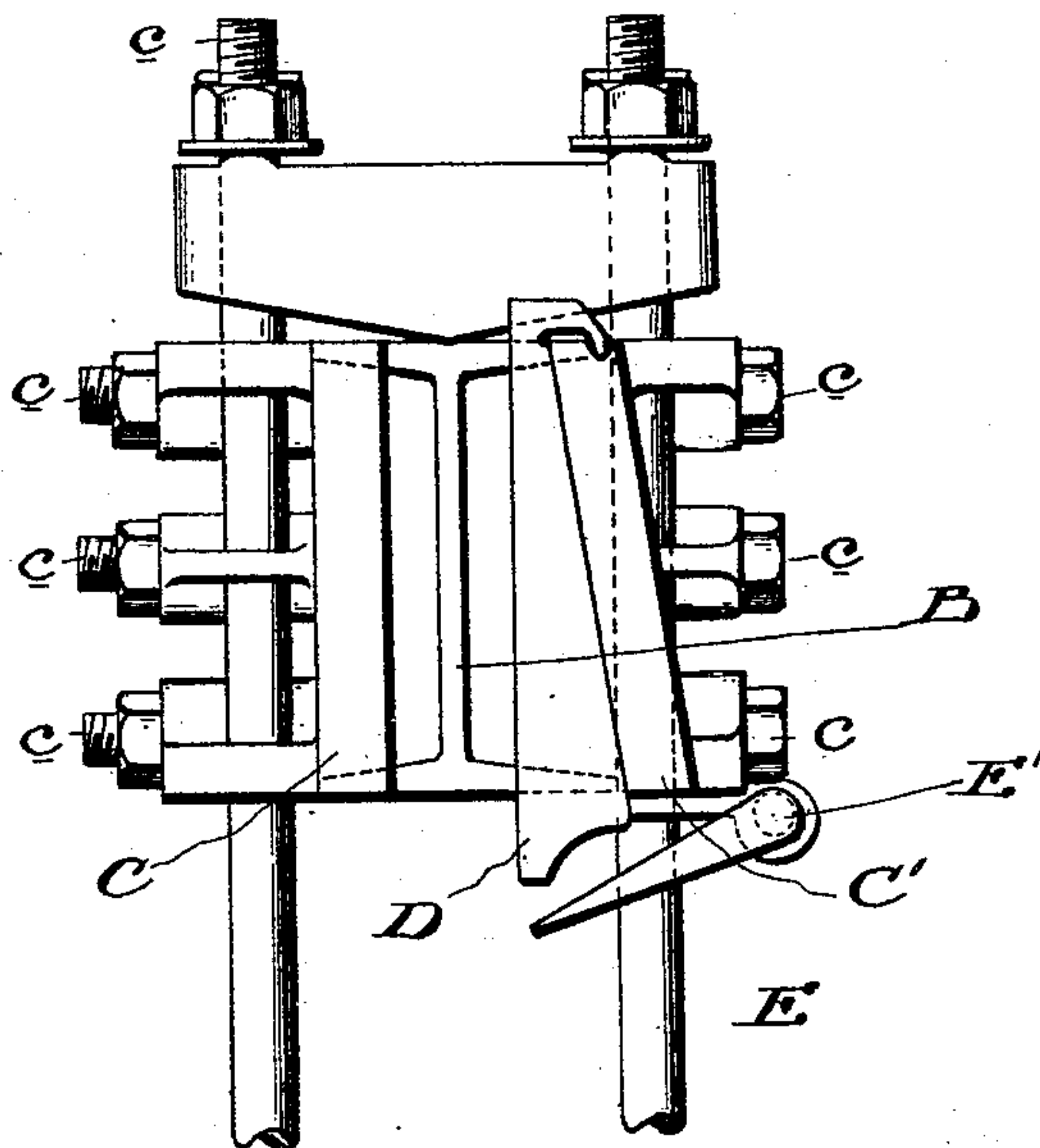
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*Fig. 5.*



*Fig. 6.*



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*J. H. Harding*



# UNITED STATES PATENT OFFICE.

FRANK E. HERDMAN, OF INDIANAPOLIS, INDIANA.

## ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 480,848, dated August 16, 1892.

Application filed March 8, 1892. Serial No. 424,141. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK E. HERDMAN, a citizen of the United States, residing at Indianapolis, county of Marion, and State of Indiana, have invented a new and useful Improvement in Elevators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention has specifically for its object certain improvements in safety mechanism attached to the elevator.

In the drawings, Figure 1 is a side elevation of elevator-car with safety device. Fig. 2 is a plan view of safety devices. Fig. 3 is an enlarged detached view of part of Fig. 2. Fig. 4 is an enlarged elevation of upper portion of elevator, showing safety devices. Fig. 5 is a section on the line *x x*, Fig. 4, in direction of arrow. Fig. 6 is an end view of safety devices.

To the top of the elevator-car A is attached the I-beam B. To each end of the I-beam, (only one half the I-beam is shown in the drawings, the other half being a duplicate of the one shown,) the cast-iron jaws C C' (the jaw C' being beveled) are bolted through and through by bolts *c*, and between each jaw and the wooden guide C<sup>2</sup> is the wedge D. This wedge when in its normal position is held down by its own weight and free from the guide. There is one of these wedges at each end of the I-beam B. Below each of these wedges is the finger E, attached to a shaft E', which extends the entire length of the beam B. At the center of the I-beam is placed the rocker F. Connected to this rocker are the forked rods G G'. The cables H H', which lift the elevator, are attached to these rods G G', respectively. If as in this case, two cables are used, then only one rocker F is used; but if four cables be used then a duplicate rocker is used. Secured to the end of the rocker F is a projection having on it the lugs K K', provided with set-screws *k k'*, projecting through said lugs. To the shaft E' are secured the fingers L L', the finger L projecting under the set-screw *k* and the finger L' over the set-screw *k'*. If for any cause one of the cables break—say cable H'—the rocker is tipped so that the set-screw *k* strikes

the finger L, turning the shaft E', which raises the finger E, forcing up the wedge D between the guide and the jaw C, thereby stopping the car. If the other cable breaks, the screw *k'* strikes the fingers L', raising the finger E, forcing the wedge D between the guide and the jaw C, as before. With each additional two cables and each additional rocker the same result is obtained, so that no matter how many cables are used if any one of them breaks the fingers E are raised and the wedge D forced between the guide and the jaw C.

Attached to the I-beam is an ordinary centrifugal governor M, the governor being given its motion by means of a rope M', fastened to the top and bottom of the shaft and passing around sheaves M<sup>2</sup> M<sup>3</sup> M<sup>4</sup>. The ball-arms P P' are connected to the plates Q Q', the plate Q being sleeved upon the governor-shaft, so that said shaft can have a vertical movement independent of the plate Q. The plate Q' is connected to said shaft so as to move vertically with said shaft. Attached to the shaft of the governor is the cam N.

O is a finger attached to the shaft E'. When the speed of the governor becomes excessive, the cam N is forced in contact with the finger O, rocking the shaft, raising the finger E, and forcing the wedge D between the guide and the jaw C, thereby stopping the car.

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

1. In an elevator, in combination, an elevator-car, guides upon which said car travels, a beam secured to the top of said car, jaws secured to said beam, wedges between said jaws and the guides, a shaft adapted to rock extending along said beam, fingers attached to said shaft in line of movement with said wedges, a rocker secured to said beam at or near its center, lifting-cables connected to said rocker, said rocker being provided with lugs, and fingers attached to said shaft in line of movement of the lugs.

2. In an elevator, in combination, an elevator-car, guides upon which said car travels, a beam secured to the top of said car, jaws secured to said beam, wedges between said jaws and the guides, a shaft adapted to rock extending along said beam, fingers attached to



said shaft in line of movement with said wedges, a rocker secured to said beam at or near its center, lifting-cables connected to said rocker, said rocker being provided with  
5 adjustable lugs, and fingers attached to said shaft in line of movement of the lugs.

3. In an elevator, in combination, an elevator-car, guides upon which said car travels, a beam secured to the top of said car, jaws se-  
10 cured to said beam, wedges between said jaws and the guides, a shaft adapted to rock extending along said beam, fingers attached to said shaft in line of movement with said wedges, a rocker secured to said beam at or  
15 near its center, lifting-cables connected to said rocker, said rocker being provided with lugs, set-screws passing through said lugs, and fingers attached to said shaft in line of movement of the lugs.

20 4. In an elevator, in combination, an ele-

vator-car, guides upon which said car travels, a beam secured to the top of said car, jaws secured to said beam, wedges between said jaws and the guides, a shaft adapted to rock extending along said beam, fingers attached to  
25 said shaft in line of movement with said wedges, a governor connected to said beam, a cam on the shaft of said governor, a finger attached to the same shaft to which the wedge-operating finger is attached, said finger being  
30 in line of movement of said cam, and means, substantially as described, to rotate said governor.

In testimony of which invention I have hereunto set my hand.

FRANK E. HERDMAN.

Witnesses:

G. P. SCHMITULAIN,

W. L. ROBINSON.