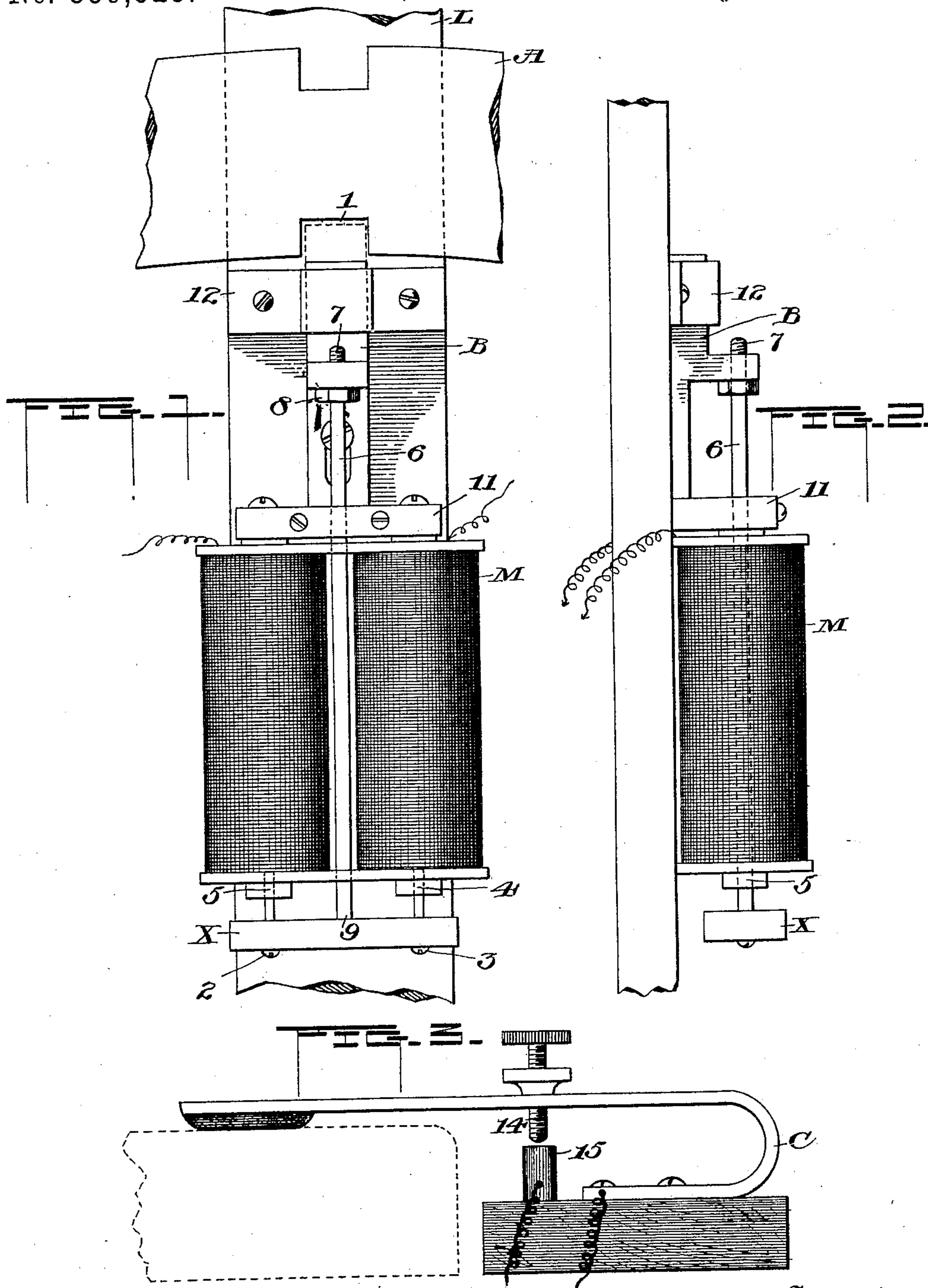


A. C. HUNT.

ELECTRICAL SAFETY LOCK FOR ELEVATORS.

No. 559,529.

Patented May 5, 1896.



Witnesses  
C. W. Smith  
C. P. Davis

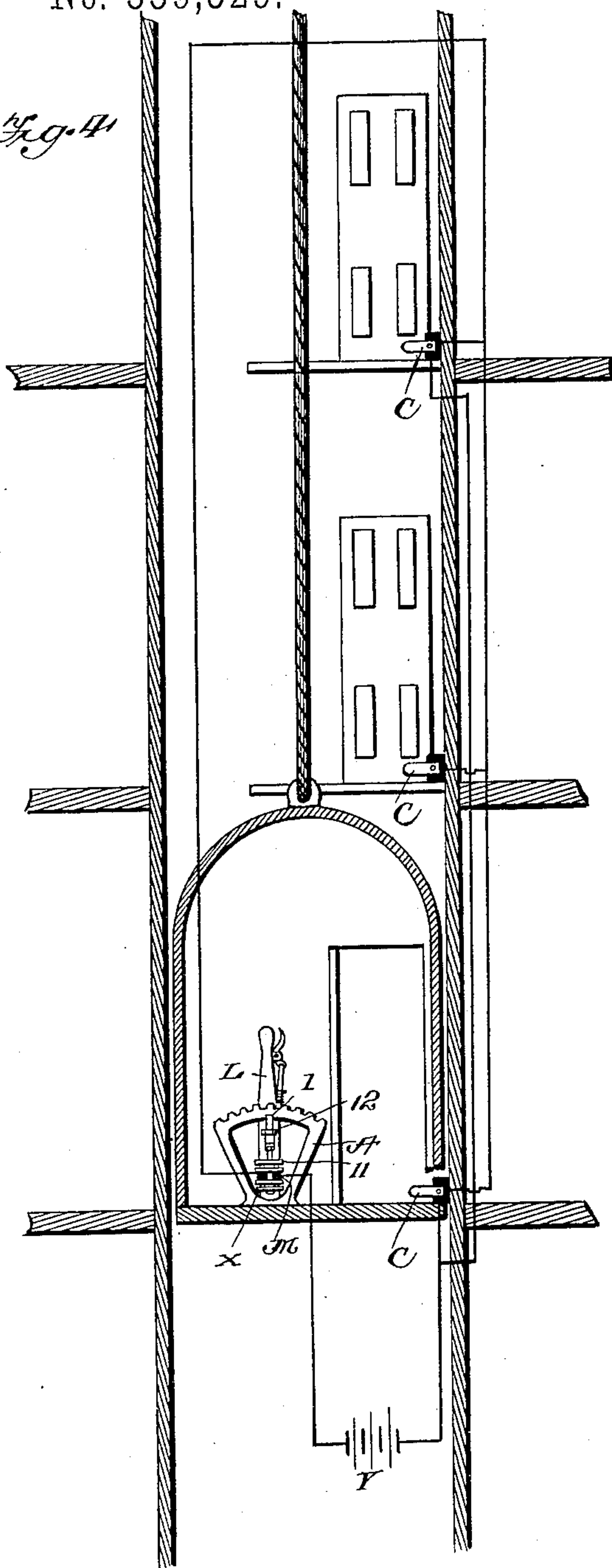
Inventor  
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His Attorney

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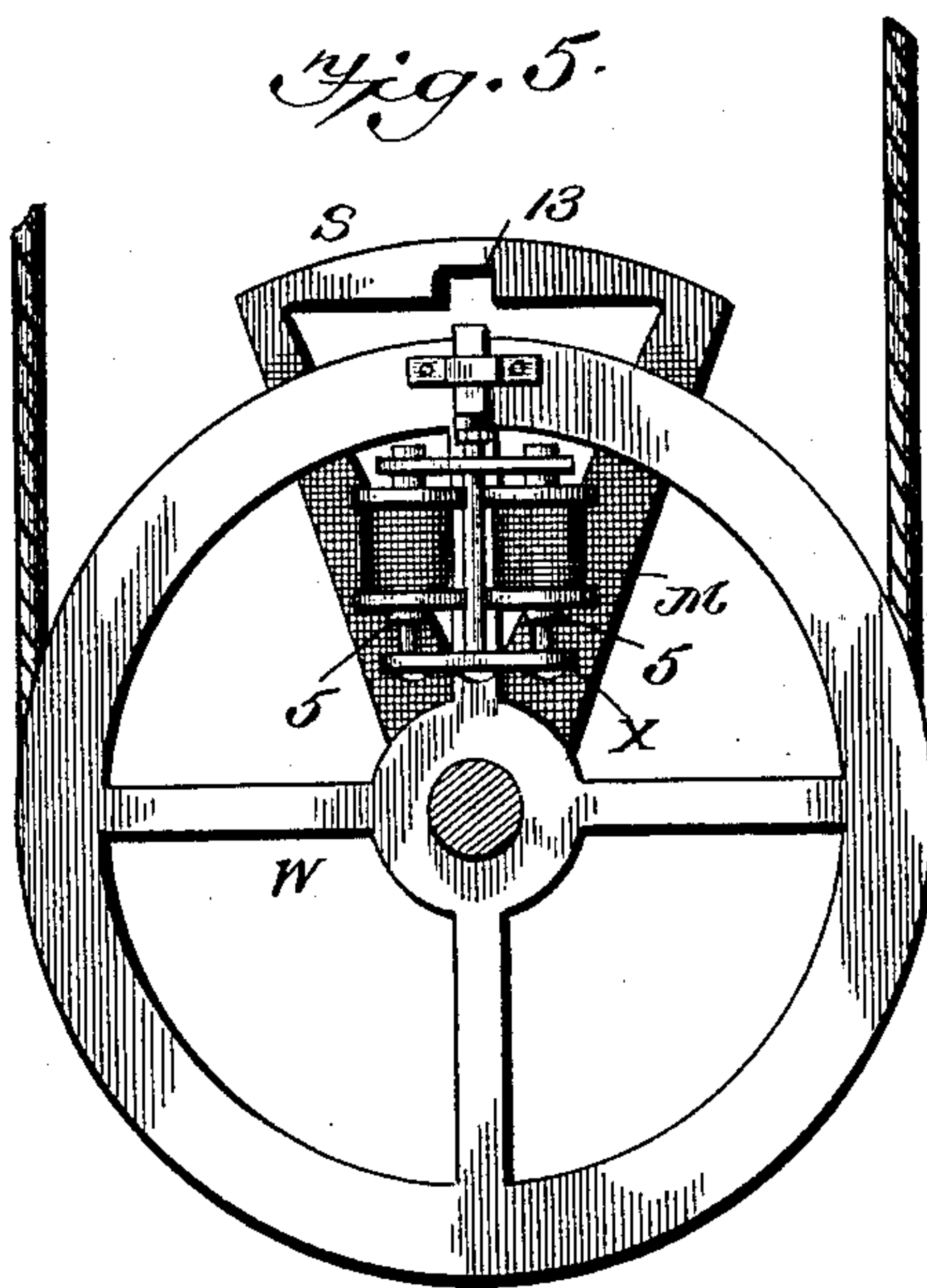
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*Fig. 4.*



*Fig. 5.*



Witnesses

*John D. Smith*  
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Inventor

*By A. C. Pafford*

Attorney



# UNITED STATES PATENT OFFICE.

ALBERT C. HUNT, OF DENVER, COLORADO.

## ELECTRICAL SAFETY-LOCK FOR ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 559,529, dated May 5, 1896.

Application filed January 17, 1896. Serial No. 575,901. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT C. HUNT, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Electrical Safety-Locks for Elevators, of which the following is a specification, reference being had therein to the accompanying drawings.

10 The object of my invention is to provide a safety-lock for elevators actuated by an electric current controlled by the opening of the doors upon the several landings of the elevator-shaft, and I attain this object by the  
15 mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a view of an electrically-controlled armature of an electromagnet affixed to the actuating-lever of the elevator machinery. Fig. 2 is a side view of the same. Fig. 3 is a side view of an electrical circuit-breaker. Fig. 4 is an outline view showing the method of connecting the electrical generator with the electromagnet controlling the  
25 locking-armature. Fig. 5 is a detail view showing the application of the device to those elevators where the machinery is controlled by a rope.

30 L is the lever actuating the machinery of the elevator. A is the arc upon which said lever works. It is provided with the recess 1 in the center of its under edge.

M is an electromagnet permanently affixed to the actuating-lever L immediately under the arc A. It is provided with an armature  
35 X, having the guide-pins 2 and 3, of non-inductive material, working in holes 4 and 5 in the center of each of the cores of the electromagnet M. Said armature is also provided  
40 with a locking-bolt B, connected thereto by the rod 6. The upper end of said rod is provided with the screw-thread 7 and the locking-nut 8 and is permanently attached to the center of the armature X at 9, being held in  
45 place and guided by a perforation in the backing-piece 11 of the said magnet. Said locking-bolt B is also guided by the stationary guide 12, which is rigidly attached to the actuating-lever L, and when said actuating-  
50 lever is in an exactly vertical position the upper end of the locking-bolt B is immediately under the recess 1 in the under edge of the

arc and is adapted to enter the same. The electromagnet M is in electrical connection with the battery Y. When it is energized, 55 the armature X is drawn upward, being guided by the guide-pins 2 and 3, the perforation in the locking-piece 11, inclosing the rod 6, and the stationary guide 12, and if at that time the actuating-lever L is in exactly  
60 a vertical position the bolt B enters the recess 1 and the lever L cannot be moved in either direction.

In Fig. 5 the electromagnet, with a similar armature and similarly-guided locking-bolt, 65 is shown upon the actuating-wheel W of an elevator where its machinery is controlled by a rope. In this case when the magnet is in an exact vertical position the locking-bolt is adapted to enter the recess 13 of the station-  
70 ary segment S.

At each of the landings of the elevator-shaft are placed circuit-breakers C in electrical connection and controlling the circuit from battery Y and permanently affixed to  
75 each of the landings in such a way as when any one of the doors of the elevator-shaft is open the points 14 and 15 are brought together, and a current from the battery is thereby sent through the electromagnet M. 80  
When the said doors are all closed, the points 14 and 15 are all thereby separated at all the landings and no current passes through the magnet.

From the foregoing description the operation of my improved device will be readily understood. It is important for the safety of passengers that so long as the door opening into the elevator-shaft is open the elevator itself cannot be moved, and it is apparent  
85 that if any one of the doors be opened when the elevator is at rest, as is the case when the actuating-lever is in an upright position, the armature of the magnet will be immediately drawn upward and its locking-bolt enter the  
90 recess in the arc or segment, as the case may be, adapted to receive it, and the elevator cannot be moved until by the closing of the door the circuit from the battery is broken and the locking device thereby released.

I am aware that electric circuits controlled by the opening and closing of elevator-doors have been heretofore used through the intervention of electromagnets for the purpose in-  
100

dedicated, and I do not, therefore, broadly claim a circuit so controlled and applied; but

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

5 The combination of the elevator-shaft door, the elevator-car, the motor-controlling mechanism, the electromagnet fixed on said motor-controlling mechanism, the armature for said  
10 said armature, guide-pins 2 and 3 for said locking-bolt, guides 11 and 12 for said bolt,

the stationary recessed segment and an electric circuit in which is included said electromagnet and which is made and broken by the opening and closing respectively of the elevator-shaft door, substantially as described. 15

In testimony whereof I affix my signature in presence of two witnesses.

ALBERT C. HUNT.

Witnesses:

OTTO MEARS,

JAMES MURDOCH.