

(No Model.)

C. HAAS.

ELEVATOR AND FIRE ESCAPE.

No. 373,587.

Patented Nov. 22, 1887.

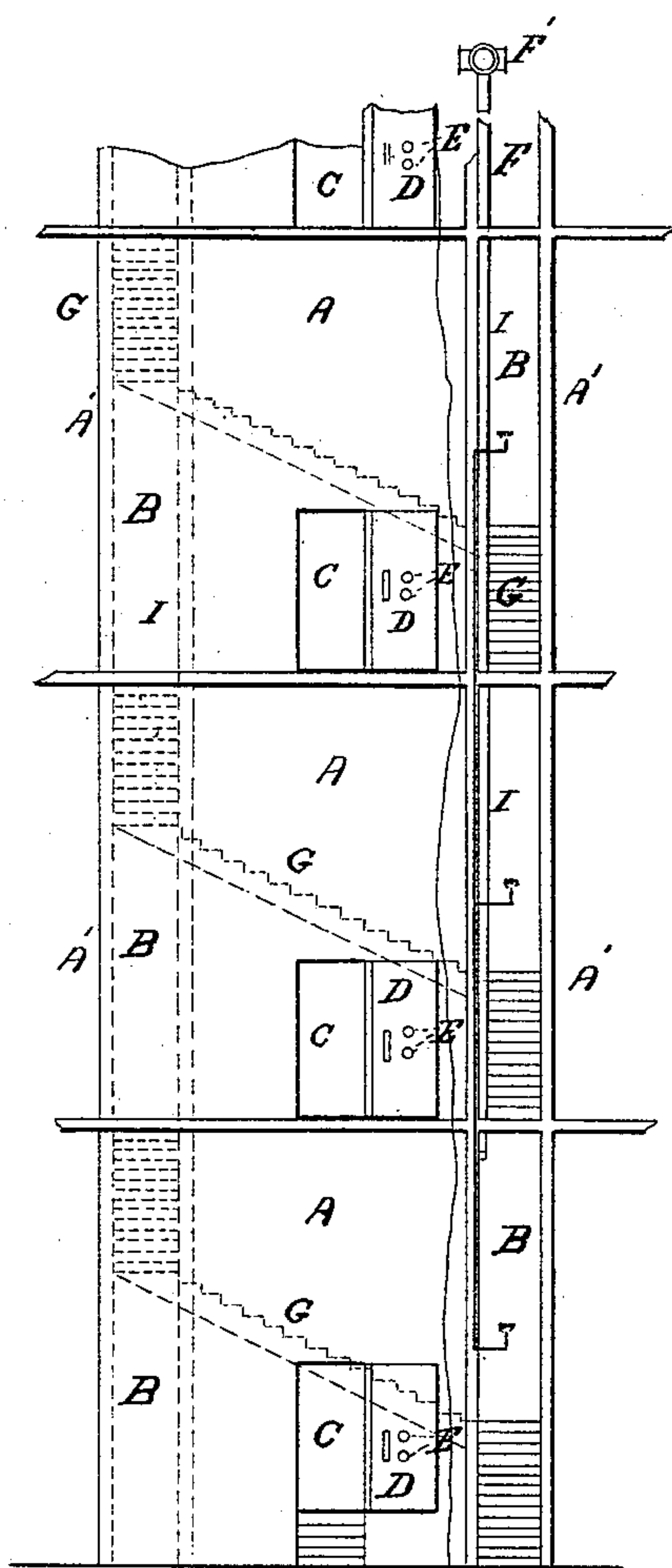


FIG. 1

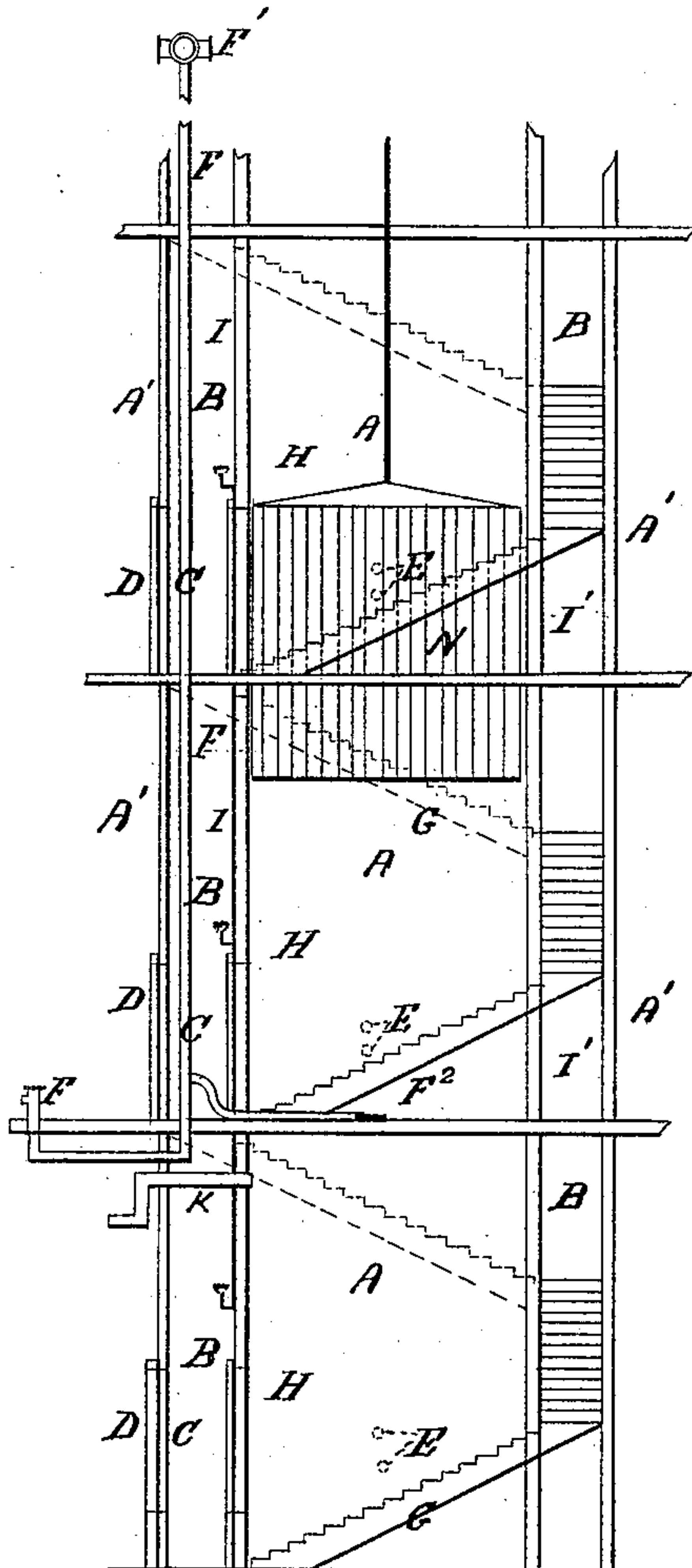


FIG. 2.

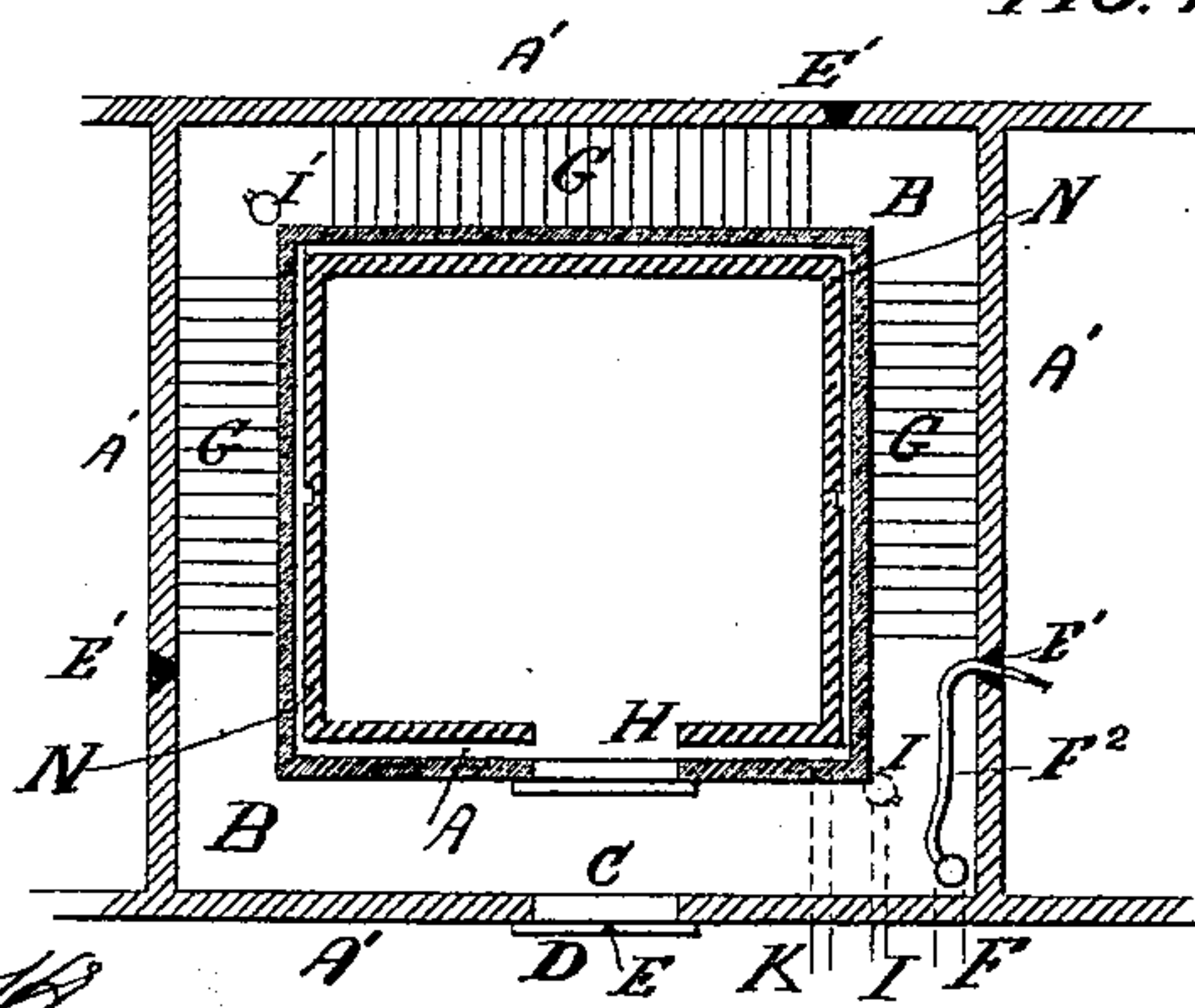


FIG. 3.

Witnesses:

H. Haupt Jr
Ernest W. Cook

Inventor:

Christian Hoady

by
Haupt Brothers

ATTORNEY.

UNITED STATES PATENT OFFICE.

CHRISTIAN HAAS, OF CHICAGO, ILLINOIS.

ELEVATOR AND FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 373,587, dated November 22, 1887.

Application filed August 27, 1887. Serial No. 248,013. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN HAAS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Elevators and Fire-Escapes, of which the following is a specification.

My invention relates to elevators and fire-escapes in which an elevator-carriage is inclosed within a closed shaft of iron extending from the cellar to the roof of a building. About the outside of the elevator-shaft I make a stairway, and this is inclosed within the walls of the fire-escape and is shut off from the building by iron doors.

The object of my invention is to provide a safe elevator and at the same time secure the advantages of a fire escape within the walls of the building, combining the two in the same shaft. I attain this object through the device shown in the accompanying drawings, in which—

Figure 1 is a vertical elevation of the elevator and fire-escape. Fig. 2 is a sectional view of the elevator-shaft, stairway, and fire-escape. Fig. 3 is a horizontal section of elevator-shaft and fire-escape.

Similar letters refer to similar parts throughout the several views.

Within the walls of a building I erect four walls of proper masonry, A', extending from the basement of the building to the roof, thus forming a continuous shaft throughout the building. Within this shaft A' A' A' A', I make a series of winding stairs, G, running in three flights about the three sides of the shaft A' A' A' A', leaving the fourth side free from steps. These steps reach from one story to another.

Within the shaft A' A' A' A' and at convenient points I make an inner door, D, which slides upon rollers, and may be so adjusted as to completely close an opening, C, in the wall of the shaft A' on the side which is free from steps. The door D is provided with openings E, one above the other, and are intended, the lower one, to pass a hose through in case of fire, and the other to look through. I make similar holes in the walls A' A' A' at convenient places for the same purpose, as shown at E'.

Within the shaft A' A' A' and in contact

with the steps G, I make of iron a second or elevator shaft, A, consisting of four (4) walls. One of these walls, that which is opposite to the wall of the shaft A' A' A' A' which has the door D in it, is perforated by a sliding door, H, and when this door H is closed the shaft A is almost air-tight. Within this shaft A is fitted an elevator-carriage, N, which just fits the sides of the shaft A, and is elevated by proper mechanism. The bottom of the shaft A is closed up entirely, so as to form a cushion; but to prevent the too sudden compression of the air when the descending elevator reaches the basement story, the air flue or conduit K, bent at right angles to offer slight resistance to the air-column, conducts a current of air out of the elevator-shaft A, and allows of the influx of air into the shaft A when the elevator is raised, the door D in the basement being kept constantly closed.

Between the elevator-shaft A and the shaft A' A' A' A' is a passage-way, B, occupied on three sides by the stairs G, and on the fourth side is a hall, which communicates with the rooms and stories of the building through the door D.

At a convenient point within the passage B, I erect a stand-pipe for water, F, which is connected with a plug in the street, and by means of this pipe F, which is carried up to the top of the building and onto the roof, where it is terminated in a four-way plug, F', at each story of the building, I make an attachment for a hose, F², to be used in case of fire, the water being forced into the pipe F from the street by an engine, the hose passing through the holes E' or E.

At the two opposite corners of the passage B, I erect gas-lights, supplied by the pipe I and I'; or, if more convenient, I make an electric light at the same place.

Having thus described the parts of my invention, I now proceed to explain the method of operating the same. When the elevator is raised or lowered, the air in the shaft A passes in and out through the air-flue K and prevents the too slow motion of the elevator in rising or falling. At the same time, in case of an accident and the rope breaking, the sudden drop of the carriage is prevented by the air confined in the space below the opening of the air-flue K, beneath the floor of the first story

and bottom of the shaft. This air acting as a cushion stops the fall and prevents jar or danger to the passengers. The iron frame-work of the shaft A protects the elevator-carriage, and if one floor happens to be on fire the elevator may rise and fall and passengers experience no danger. In case of a fire arising in any story of the building, the steam fire-engine is run out, attachment made to the water-pipe F, and a column of water forced up to the top of the building, where it may be distributed over the roof; or, if the fire occurs in any of the stories, attachment is made by means of the hose F² and the water thrown through the holes E' and E upon the fire. In case the holes E are used, the door D is closed and this completely shuts off the shaft A' A' A' A', making a perfectly safe fire escape by means of the winding stairway G. The doors H to the elevator-shaft A being shut, there is no draft of air into the shaft A, and as the passage B is closed above and below there is no current of air in it, so that escape from the upper floors of the burning building is readily and safely accomplished. The gas-lights being at the corners of the shaft A, the passage B is lighted at every angle.

I am aware that prior to my invention elevator-shafts have been made with winding stairs about the elevator-shaft, and I do not therefore lay claim to the winding stairway, in the broad sense; but

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

1. The combination of an elevator and fire-escape, composed of a shaft, A' A' A' A', with the doors D, said shaft having a winding stairway within the walls A' A' A' A', a passage, B, the central elevator-shaft, A, with the doorways H, the elevator N, closely fitting the shaft A, the water-pipe F and hose F², the holes E and E', and the gas-pipe I and I', with the air-flue K, all arranged and constructed as set forth and described.

2. In an elevator and fire-escape, the combination of a shaft, A' A' A' A', built within the four walls of a building, with the winding stairway G and passage B, combined with a central shaft, A, having an air-flue, K, below the floor of the first story, communicating with the shaft A, and the elevator-carriage N, closely fitting the shaft A, all arranged and operating substantially as set forth and described.

3. In an elevator and fire-escape, the combination of a shaft, A' A' A' A', having doorways C and iron doors D, perforated with holes E, and with holes E' in the sides of the walls of the shaft A' A' A' A', with the water-pipe F, hose F², four-way plug F', combined with a winding stairway, G, passage B, and elevator-shaft A, all arranged and operating substantially as set forth.

CHRISTIAN HAAS.

In presence of—

H. HAUPT, Jr.,
ERNEST WM. COOKE.