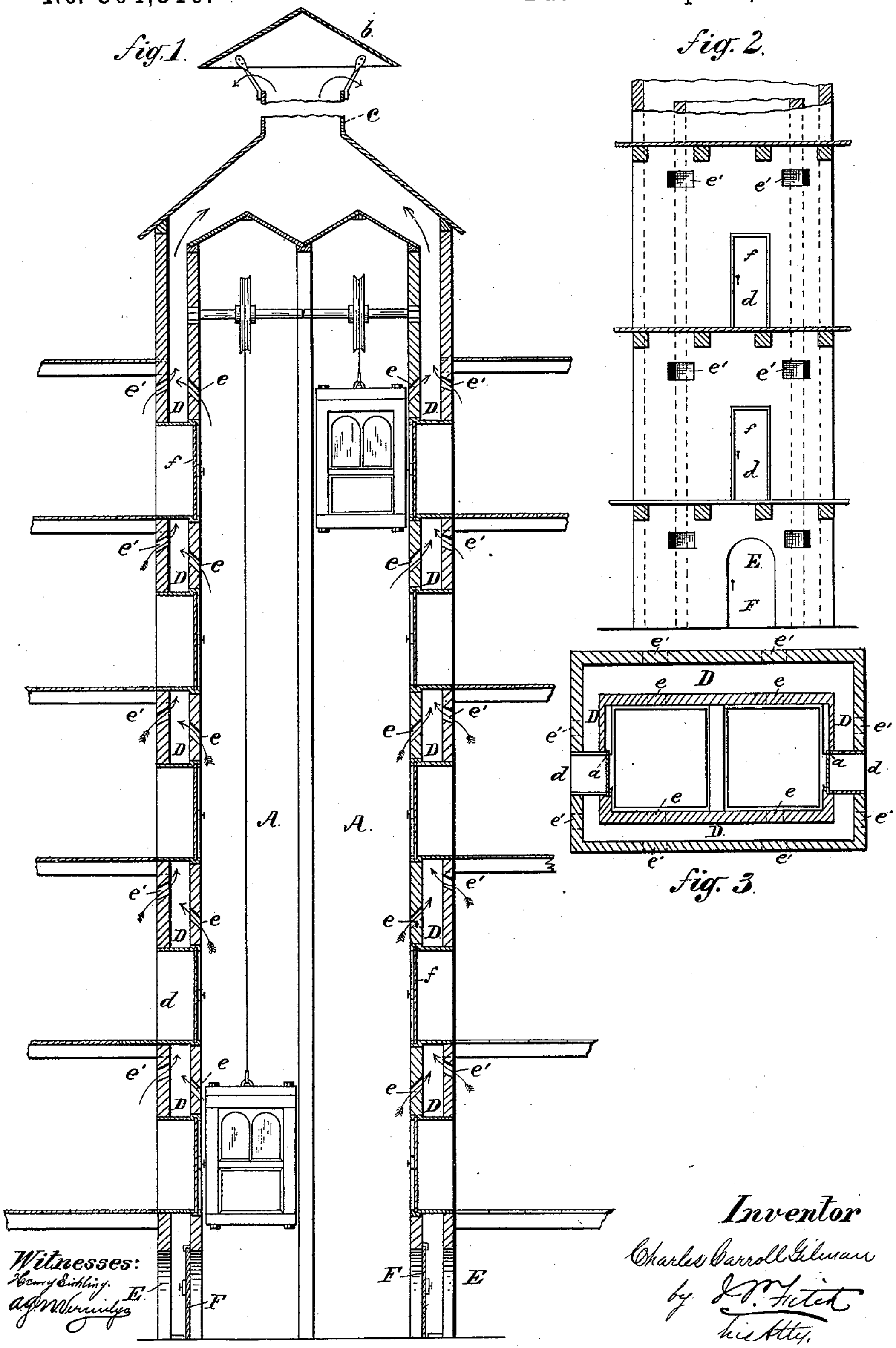
(No Model.)

C. C. GILMAN.

COMBINED FIRE PROOF ELEVATOR AND VENTILATING SHAFT.

No. 304,310. Patented Sept. 2, 1884.



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UNITED STATES PATENT OFFICE.

CHARLES CARROLL GILMAN, OF ELDORA, IOWA.

COMBINED FIRE-PROOF ELEVATOR AND VENTILATING-SHAFT.

SPECIFICATION forming part of Letters Patent No. 304,310, dated September 2, 1884.

Application filed April 16, 1884. (No model.)

To all whom it may concern:

Be it known that I, CHARLES CARROLL GILMAN, of Eldora, in the county of Hardin and State of Iowa, have invented a new and useful Combined Fire-Proof Elevator and Ventilating-Shaft, of which the following is a specification.

It is well known that the shafts or spaces in which elevators, as now usually arranged and used in buildings, are inclosed constitute a highly dangerous medium for the spread of the flames and smoke through the building in cases of fire.

It is the object of my invention to obviate the danger resulting from this source, and by combining with the elevator-shaft a safety air-flue, to provide ventilation, whereby the flames, heat, and smoke shall be diverted from the elevator-shaft and from the halls and rooms adjacent thereto and conducted into the open air above the building.

The accompanying drawings represent my combined elevator-shaft and safety-flue, Figure 1 being a vertical section of the same, extending up through several stories of a building. Fig. 2 is a front elevation of the lower portion, and Fig. 3 is a cross-section of the same.

A is the elevator-shaft, extending up through the building from the lower to the upper stories. It is represented as divided into two compartments, with a lift or elevator, B, in each. It is closed at the top with a skylight, C, of thick glass. The walls of this shaft are of brick or other fire-proof material, completely inclosing the shaft or space in which the elevator or elevators run, and made solid, except the openings *a* for doors, and the openings *e* into the air-flue.

D is the air-flue which surrounds or is contiguous to the elevator-shaft. The walls of this are also fire-proof, preferably of brick. This flue may entirely surround the elevator-shaft, or it may occupy one or more of the sides thereof. It is made to extend up through the roof of the building, and is preferably carried some distance to insure an active draft of air through it. The upper end is constructed as shown at *c*, where it passes through the roof, and is preferably provided with a hood, *b*, to exclude rain. At the bottom are arches or openings E, which serve at once to admit air for ventilation and to afford access to the lower end of the elevator-shaft through doors F. The outer walls of the flue D are pierced on each story, as shown at *d*, to afford access to the doors *f* of the elevator-shaft, which should be solid and made of iron or some fire-proof material. Instead of glass windows or open work in the doors to permit an outlook from the elevator, the windows should be provided with isinglass not liable to be cracked or broken by heat. The entrances to the doors of the elevator-shaft through the walls of the flue D are entirely inclosed at the top and bottom and on the sides by a floor, ceiling, and walls, made of some fire-proof material, so as to be protected from flames, smoke, or heat in the air-flue. Both the inner and outer walls of the air-flue are pierced with moderately-sized openings, as shown at *e e'*, on each floor, the openings in the outer walls being preferably near the ceilings of the contiguous rooms, and those in the inner walls a little below those in the outer walls, in order that the flames and smoke that may enter the flue D from contiguous external rooms through the openings *e'* may not be liable to find their way into the elevator-shaft through the openings *e*. Through the shaft D thus constructed there will be a constant upward draft of air, its intensity being dependent upon the height of the flue above the roof. It will thus act as a draft-flue to draw into itself and conduct out into the open air above the buildings flames, smoke, and heat, both from the elevator-shaft, in case fire should originate in or get access to the same, and the interior of the building adjacent to the flue, thereby rendering it possible to continue the running of the elevator during a fire, and relieving in some measure the heat and smoke of a fire, which are so formidable an obstacle to firemen in their efforts to subdue fires in their early stages. The described air-flue also acts as an efficient means for the perpetual ventilation of the building in which it is employed.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, in a building, of an elevator shaft having fire-proof walls and closed at the top, and a surrounding or contiguous fire-proof air-flue opening at the top through the roof of the building into the open air, the wall or walls between the said shaft and flue

being provided with an opening, *e*, all as and for the purpose described.

2. The combination, in a building, of a fire-proof elevator-shaft, A, closed at the top, and a surrounding or contiguous fire-proof ventilating-flue, B, opening at the top through the roof of the building into the open air, with entrance-passages through their walls for communicating between the elevator-shaft and the exterior of the ventilating-flue, which entrances are inclosed with fire-proof material at the top and bottom and at the sides, whereby all communication between the said passages and the air-flue is cut off, as and for the purpose described.

3. The combination, in a building, of the fire-proof elevator-shaft A, closed at the top, and a surrounding or contiguous fire-proof ventilating-flue, B, opening at the top through the roof of the building into the open air, the outer walls of the said flue being provided with opening *e'*, as and for the purpose described.

CHARLES CARROLL GILMAN.

Witnesses:
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HENRY EICHLING.