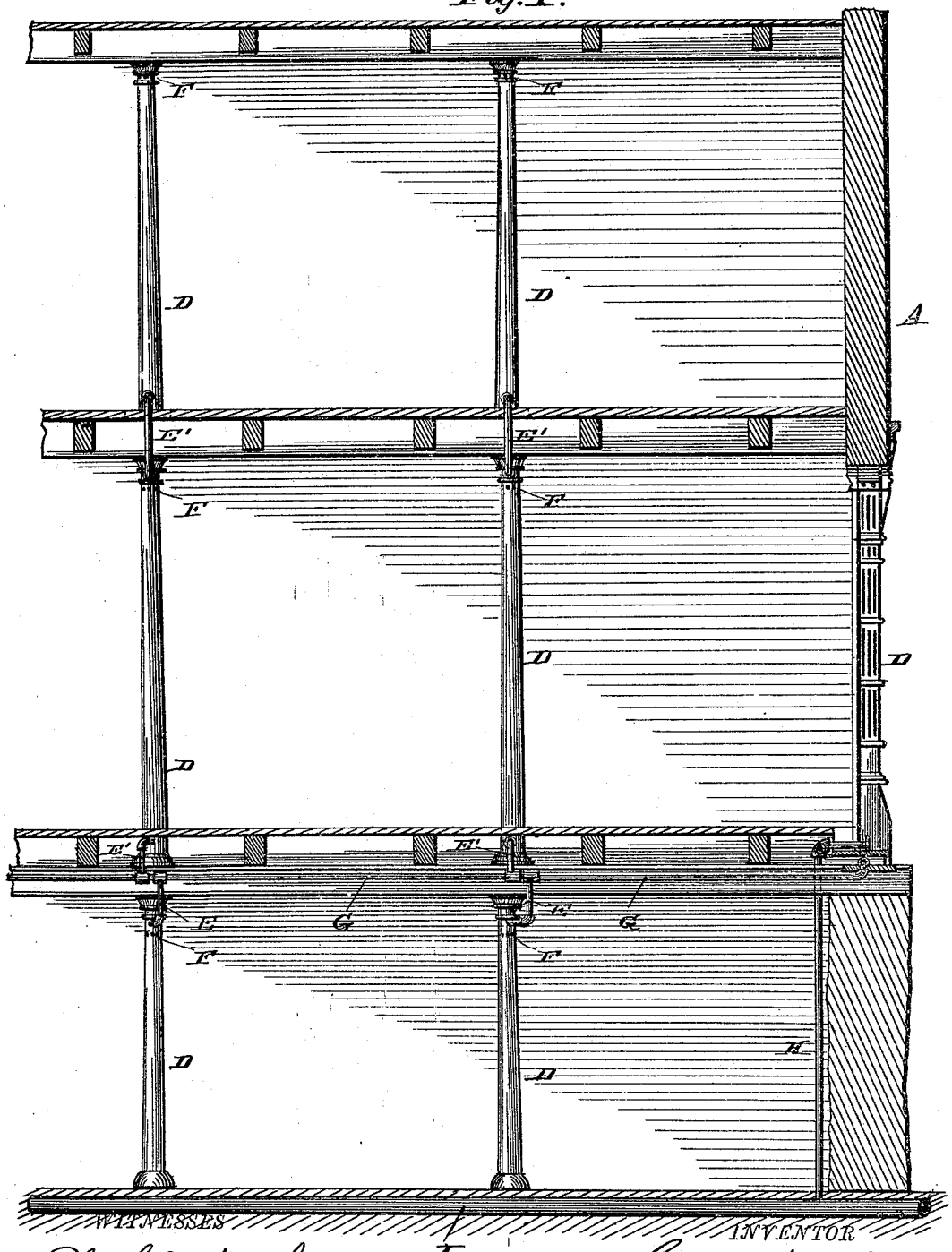
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G. F. WRIGHT.

MEANS FOR RENDERING BUILDINGS FIRE PROOF.

No. 307,249. Patented Oct. 28, 1884.

Fig. 1.



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Fig. 2.

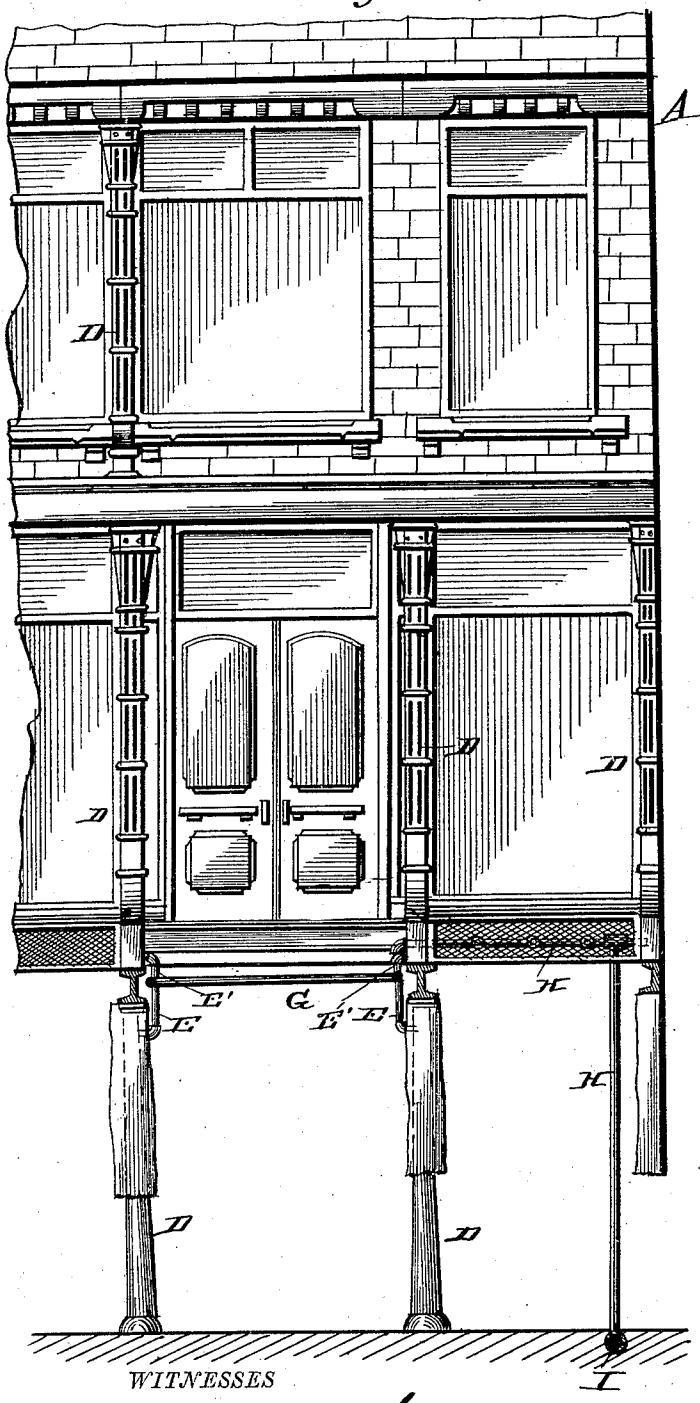
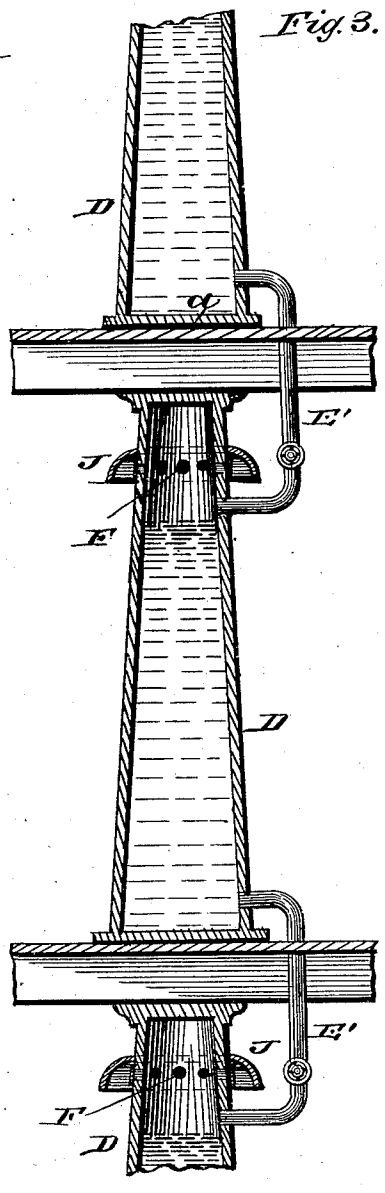


Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE F. WRIGHT, OF PALMER, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND WM. C. DEWEY, OF SAME PLACE.

MEANS FOR RENDERING BUILDINGS FIRE-PROOF.

SPECIFICATION forming part of Letters Patent No. 307,249, dated October 28, 1884.

Application filed February 23, 1884. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. WRIGHT, of Palmer, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Means for Rendering Buildings Fire-Proof; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a vertical section through the basement and two upper stories of a building, mainly sustained by cast-metal columns, having my improvements applied to it. Fig. 2 is a front elevation of a building, parts of which are broken away, also showing my improvements applied. Fig. 3 is a sectional detail.

When buildings having hollow cast-iron columns are subjected to intense heat, the columns yield and allow the superstructure to fall. This has been fully demonstrated in such instances as the great fire in Chicago and in other cities. Cost-iron columns, when subjected to a heat which would not at once materially injure hard wood, will suddenly give way by reason of sudden expansion and from other causes.

I am fully aware that tubes of wrought-iron and cast metal have been used in buildings externally and internally as water-conductors, and that such tubes have been provided with fusible alloys, and other means which it was essayed would automatically cause a flow of water from a street main or other "head" into or upon a building in the event of a fire taking place therein.

The object of my invention is to utilize, in a manner hereinafter explained, the supporting-columns of a building as reservoirs for water, and also to so construct said supporting-columns that they will retain water under ordinary temperatures, but eject the same over their external surfaces when exposed to an injurious degree of heat.

For the purpose of explaining a practical mode of carrying my invention into effect, I refer to the annexed figures of the drawings.

A designates the front wall of the second story of a building, which story and floor, together with the basement-floor, are sustained in part by hollow iron columns D. The lower ends of these columns are water-sealed at *a*, and these columns are perforated at or near their upper ends, as indicated at F. The columns in the basement are or may be supplied at their upper ends with water from a proper head—say a street main or service-pipe, I—through branch pipes H, G, and E, and from the branch pipes G short branch pipes E′ lead into the columns of the first story at or near their lower ends. The upper ends of the columns D of the first story communicate with the columns of the second story by means of short pipes E′, which pass through the flooring. I have represented numerous apertures, F, near the upper ends of the columns, and in Fig. 3 I show a column having a thin hood, J, located just above the said apertures F, the object of which is to direct downward streams of water in the event of the columns becoming unduly heated, and to keep their external surfaces wet.

It is obvious from what I have stated that a cast-iron supporting-column in a building is made a reservoir for water, and that so long as such column contains water it will be practically uninjured by heat. The columns are thus rendered fire-proof. The apertures F should be sealed to prevent evaporation of the water in the columns, such sealing being so fragile that it would give way by steam-pressure or external heat and allow water and steam to escape and wet the outside of the columns. A cock could be, if desired, applied to the street main for the purpose of filling the columns with water.

Having described my invention, I claim—

1. A hollow cast-iron water-holding column closed at its bottom and perforated at or near its upper end, substantially in the manner and for the purposes described.

2. A hollow supporting-column closed at its lower end and provided with perforations at or near its upper end, in combination with a deflecting-hood applied to the column over said perforations, substantially as described.

3. The combination of a hollow supporting-column closed at its lower end and perforated at or near its upper end with a system of pipes connecting said column or columns with a water-supply, all substantially as and for the purpose set forth.

4. A hollow supporting-column or a series of such columns, constructed substantially as set forth, having its or their perforations sealed with a fragile or fusible substance which will yield or melt when subjected to heat, all substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

GEORGE F. WRIGHT.

Witnesses:
E. N. LACEY,
CHAS. B. FISK.