

(No Model.)

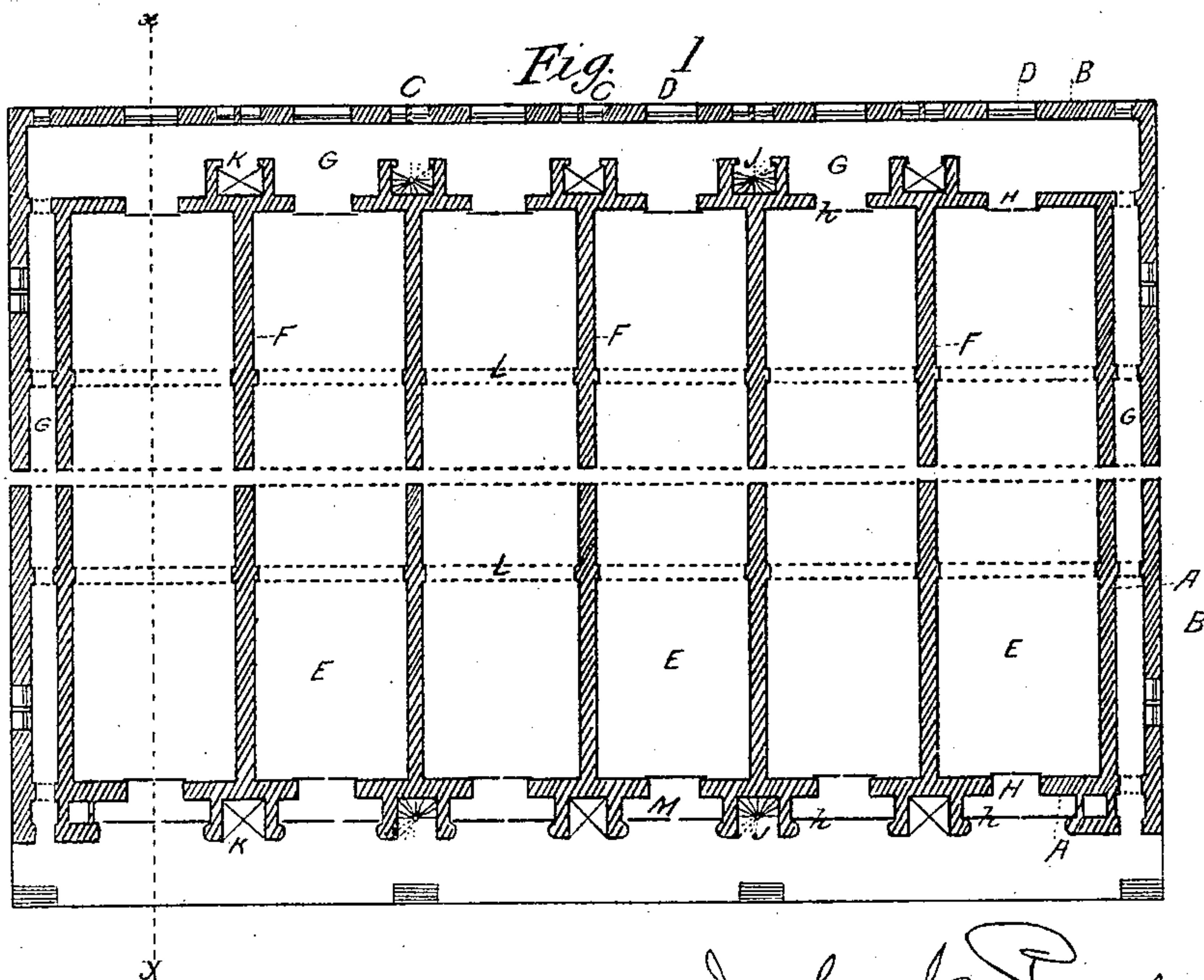
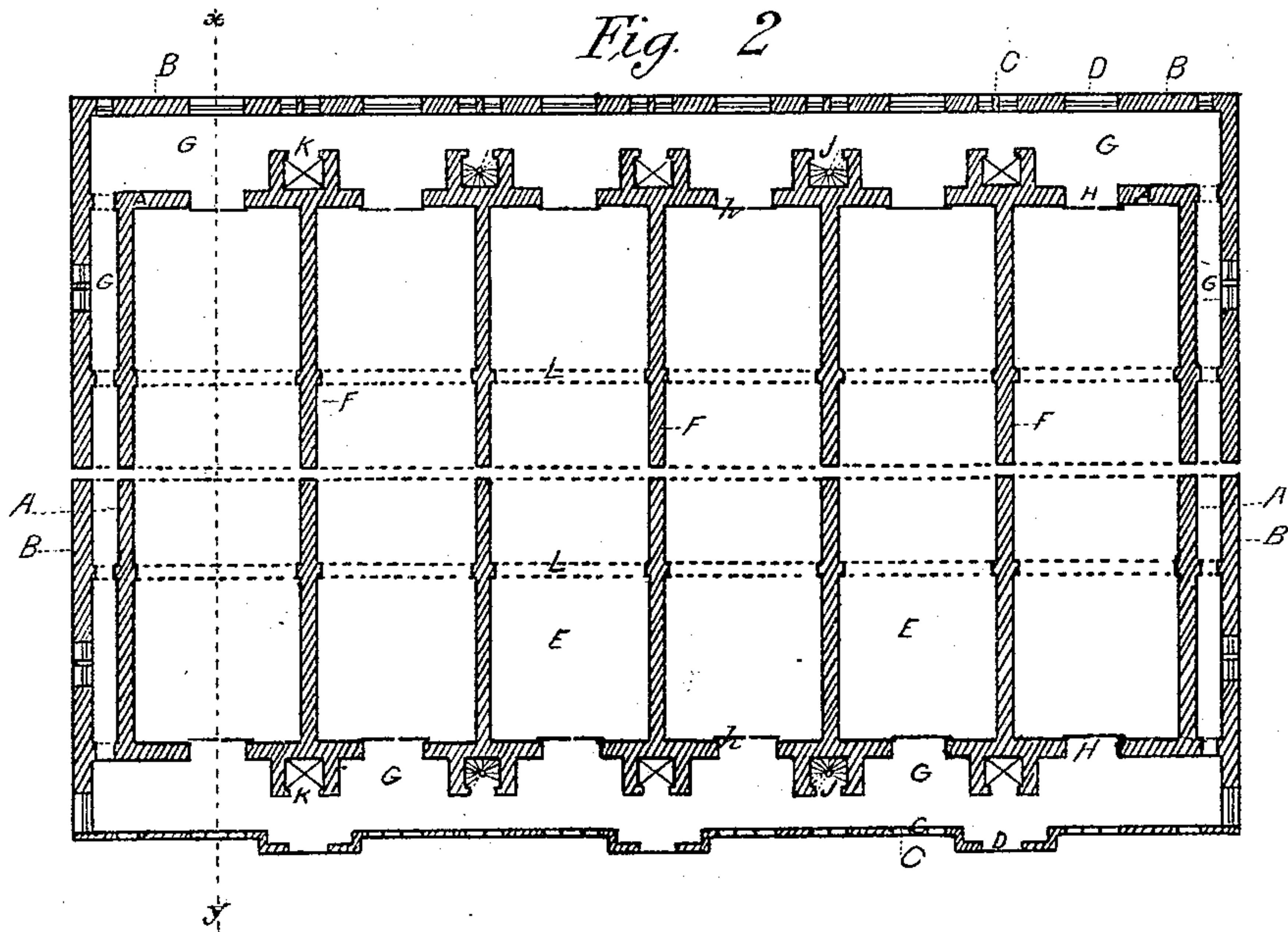
2 Sheets—Sheet 1.

J. C. PAULSEN.

CONSTRUCTION OF BUILDINGS TO REDUCE FIRE RISKS.

No. 538,696.

Patented May 7, 1895.



Witnesses  
Charles W. Helms  
E. A. Maerum

John C. Paulsen,  
Inventor.  
per Edward Russell  
Attorney.

(No Model.)

2 Sheets—Sheet 2.

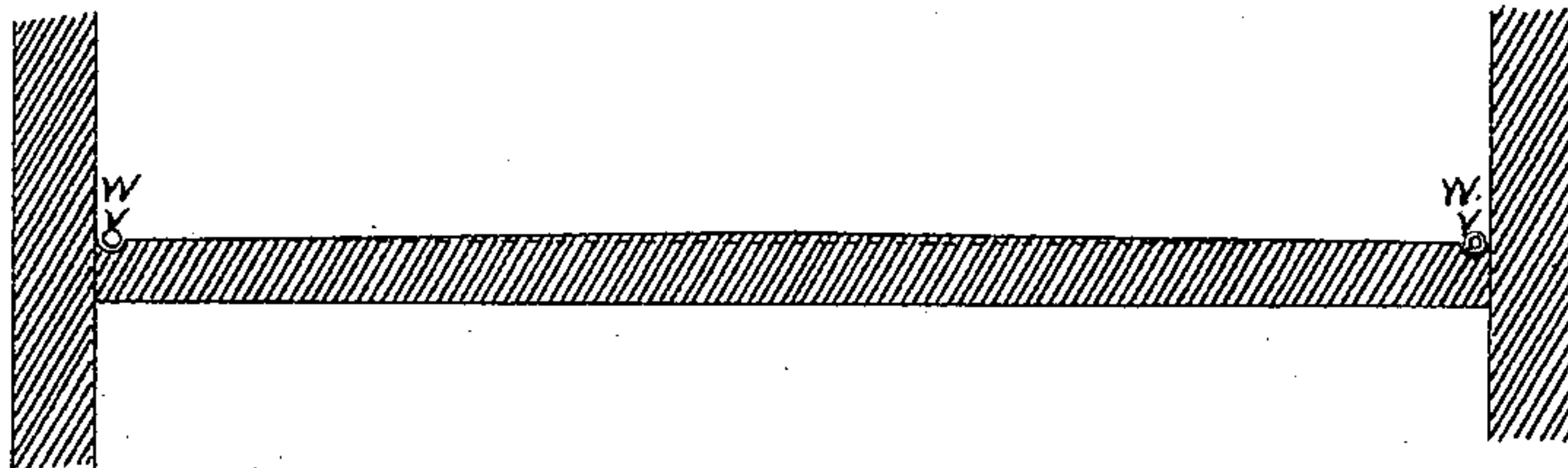
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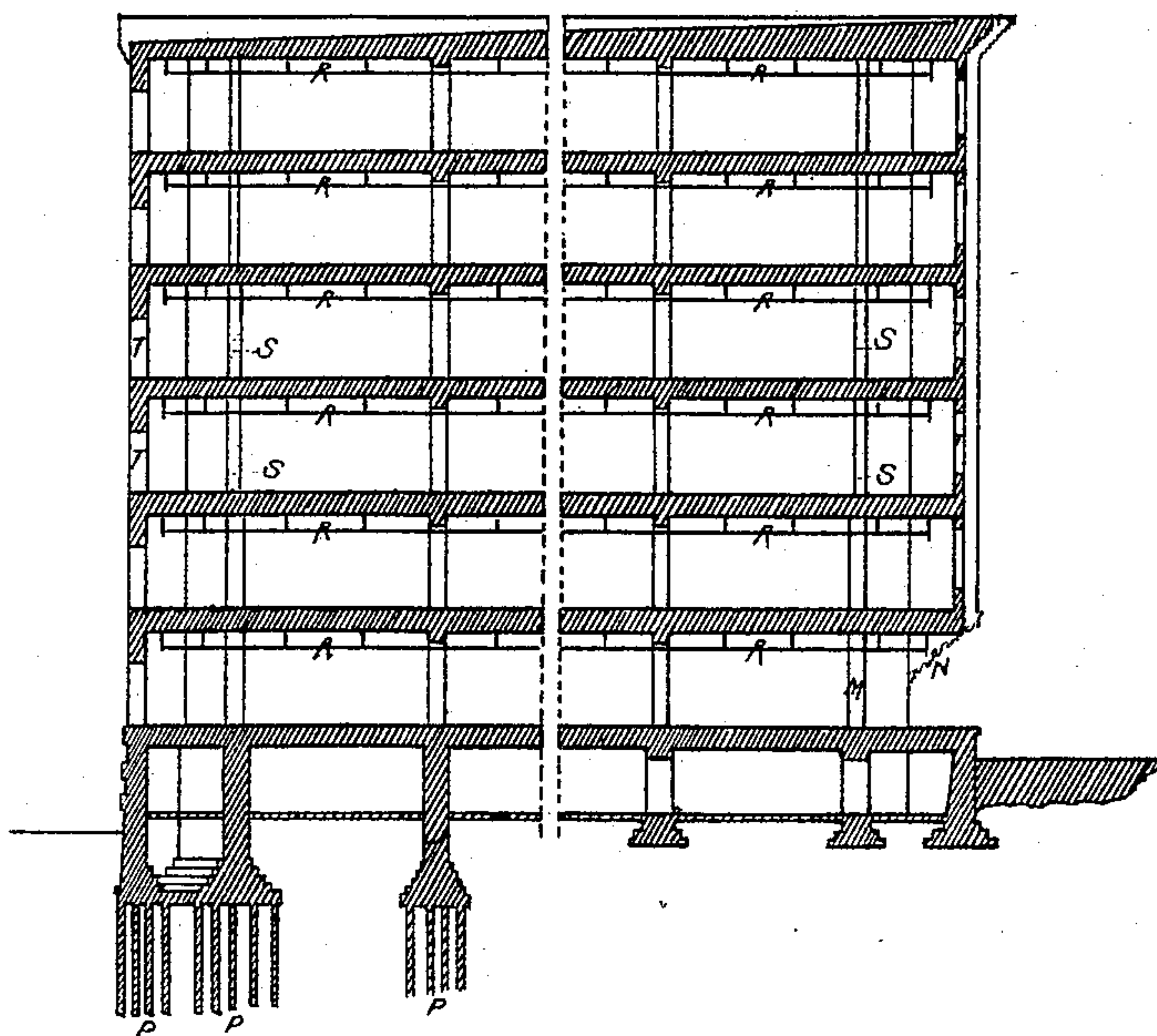
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*Fig. 4.*



*Fig. 3.*



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# UNITED STATES PATENT OFFICE.

JOHN C. PAULSEN, OF HELENA, MONTANA.

## CONSTRUCTION OF BUILDINGS TO REDUCE FIRE RISKS.

SPECIFICATION forming part of Letters Patent No. 538,696, dated May 7, 1895.

Application filed February 17, 1894. Serial No. 500,510. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN C. PAULSEN, a citizen of the United States, and a resident of the city of Helena, county of Lewis and Clarke, State of Montana, have invented new and useful Improvements in the Construction of Buildings to Reduce Fire Risks, of which the following is a specification.

In the construction of buildings and especially of warehouses and manufactories, it is desirable that they may be fire-proof, as far as possible, consistent with their usefulness.

My invention is intended to provide a building, and method of constructing the same, which shall reduce the risks from fire to the minimum and yet be useful and convenient for warehouses or manufacturing purposes.

It consists in a building having double walls on all sides, the space between the inner and outer walls, constituting the hallways of the building, the rooms being all within the inner walls, having no direct communication one with another, and having openings only into these corridors.

Figure 1 shows plan of ground floor. Fig. 2 shows plan of upper floor. Fig. 3 shows a vertical section on line *x y*. Fig. 4 shows a vertical section of a floor.

Similar letters refer to similar parts in all the drawings.

The inner wall A, is the main wall of the building. Outside of this is the fire-wall B. In this outer wall are the windows C and the doors D. The rooms E are separated by the solid interior walls F, and have no direct communication with one another. They open into the corridors G, by the doorways H, in which are the doors *h*. The stairways J, and elevators K are built outside the inner walls, in fire-proof compartments. They have no communication with the rooms E, but open into the corridors G. The arches L, may be used for greater strength and safety when necessary.

In the drawings, Figs. 1 and 3, the outer wall is not built in front of the front side M, of the ground floor, but begins at the second story, supported by the corbels N.

Fig. 3 shows the rear of the building upon the water edge, supported on the piles P.

The floors of the room are raised in the centers and have gutters V on the sides, with suitable outlets W, to the outside of the building, to carry off any water thrown upon a fire. This prevents the heavy damage to the goods and building so frequently occasioned by water, necessarily (and often unnecessarily) thrown into a building in time of fire.

The number of stories, rooms, elevators, stairways, &c., will, of course, vary with circumstances.

The material of the walls is preferably brick or soap-stone. The doors *h*, are preferably of metal, or wood, covered with metal, and those in the inner walls, are made to slide within the walls.

A trolley system R, will greatly facilitate the handling of goods. The advantages of such a system are many and obvious.

The outer wall is a great protection from fire outside, while the continuous corridor between the outer and inner walls affords free space within the building to fight the fire without.

The isolation of each room, with its only openings into the corridors, readily closed by fire-proof doors, affords further protection from fire without, and gives the greatest advantage in confining and controlling a fire within.

The separation of the stairways and elevators from the rooms and goods, cuts off one of the most potent causes of disastrous fires.

Where permissible, the inner wall S (see Fig. 3), either on the front or back or both, may be placed on the building line, and the outer wall T, may begin with the second story and may project out over the sidewalk K or water, as the case may be, thus saving the storage room in the building.

The Guastavino fire-proof system, in building ceilings and roof, and automatic sprinklers placed in the rooms and halls, may be used to supplement this special construction.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a building, the combination of the inner main wall, inclosing all the rooms, with the outer fire wall.

2. In a building, an outside fire-wall and inner main wall inclosing between them, all the stairways and elevators and corridors of the building, in combination with rooms, inclosed within the inner walls, having no direct communication one with another and opening only into said corridors.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two witnesses.

JOHN C. PAULSEN.

Witnesses:

EDWARD S. RUSSEL,  
CHARLES W. HELMICK.