

F. Ludlow.

Sheet 1 of 2 Sheets.

Horticultural Building.

Nº 90,760

Patented Jan. 1, 1869.

Fig. 1.

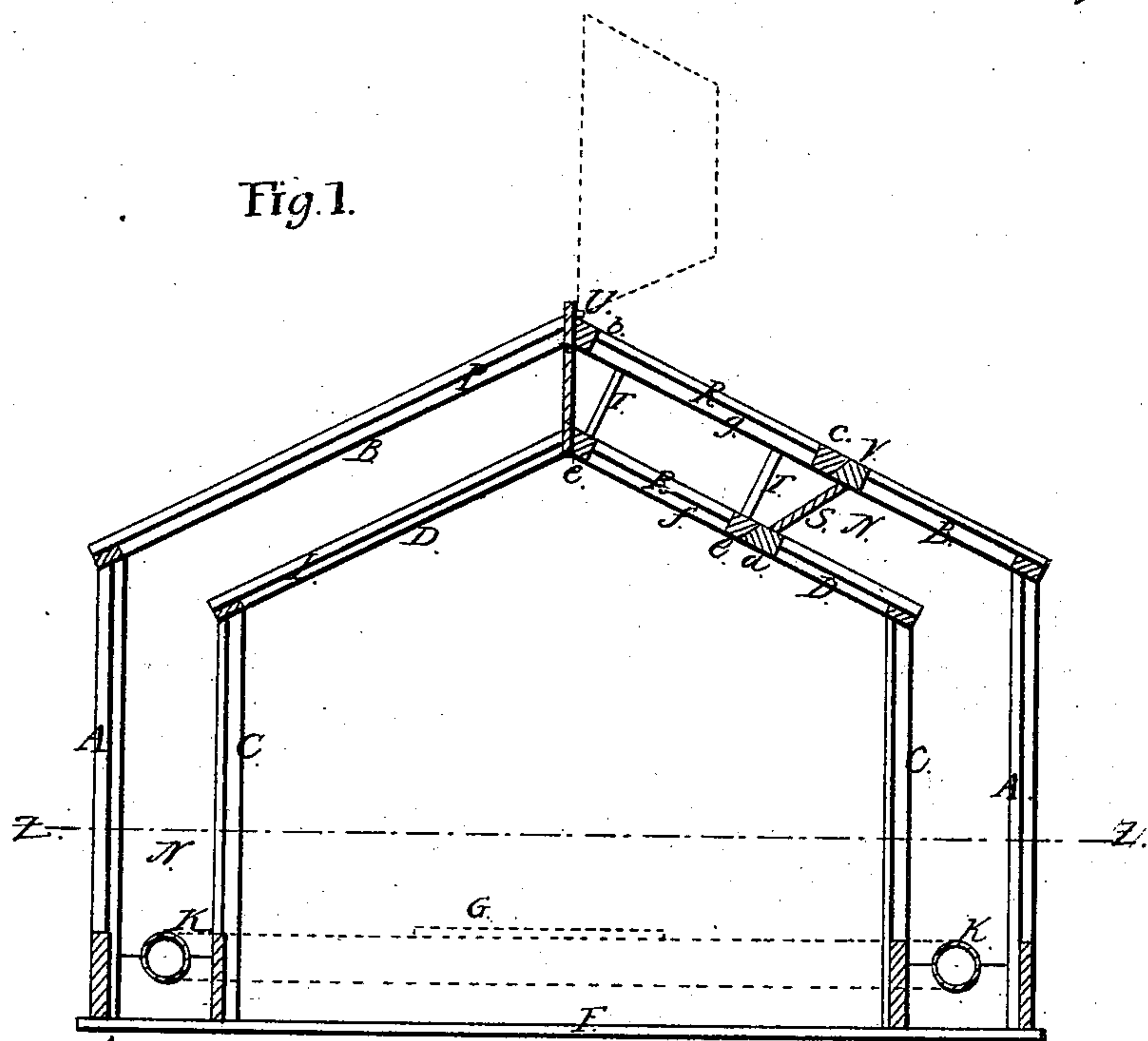
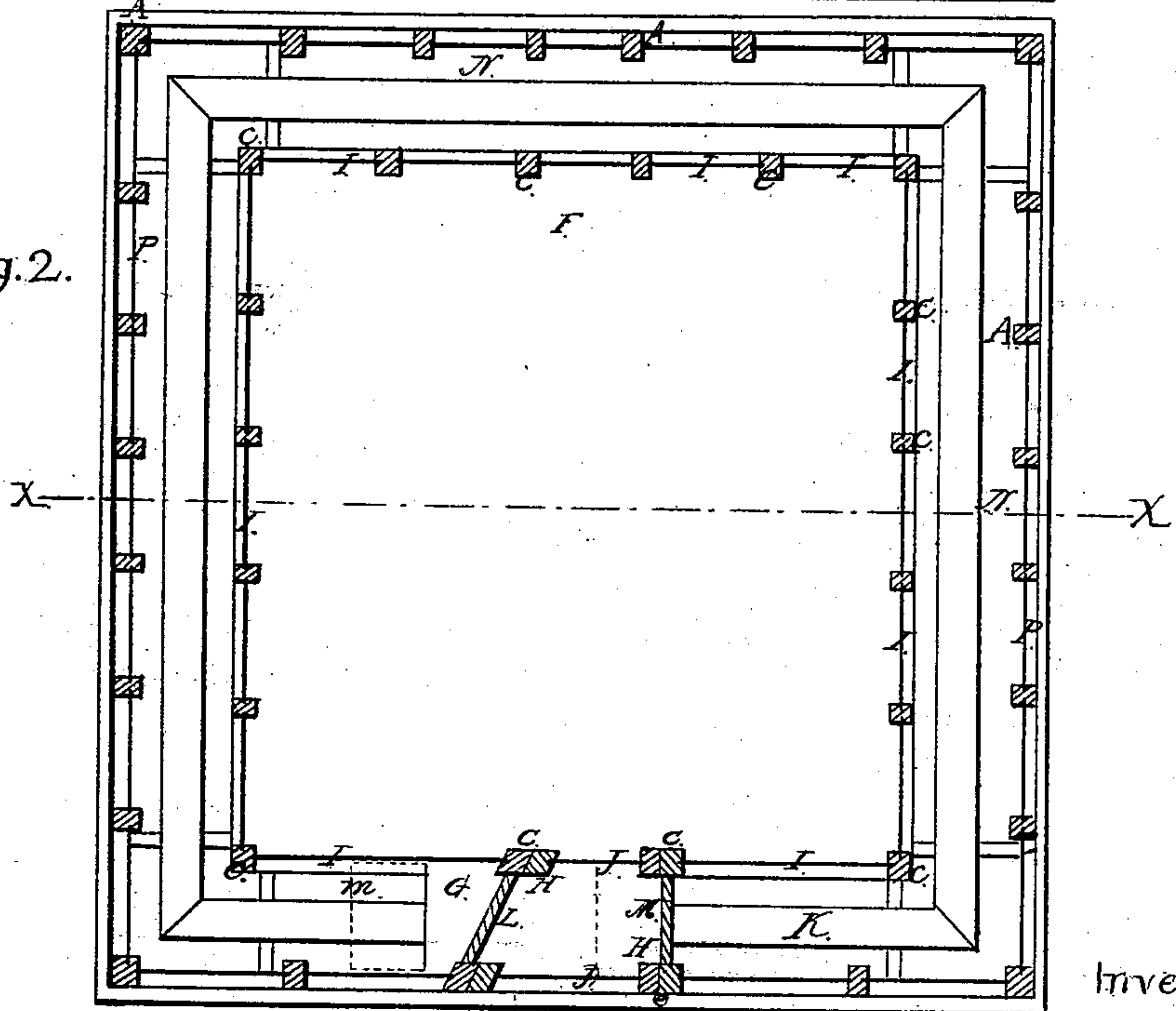


Fig. 2.



Witnesses:

S. B. Todd
A. Hayward

Inventor:

Francis Ludlow
By his attorney
C. & Chapman

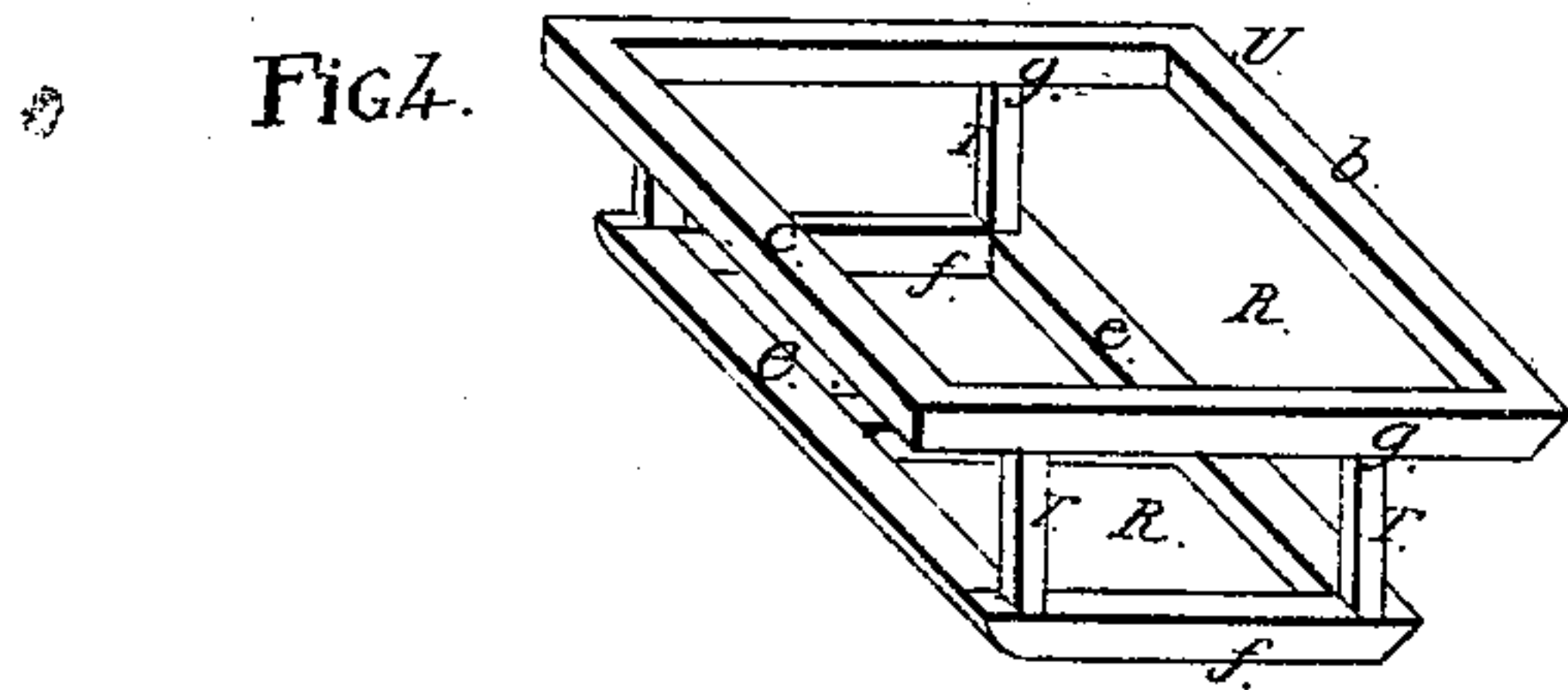
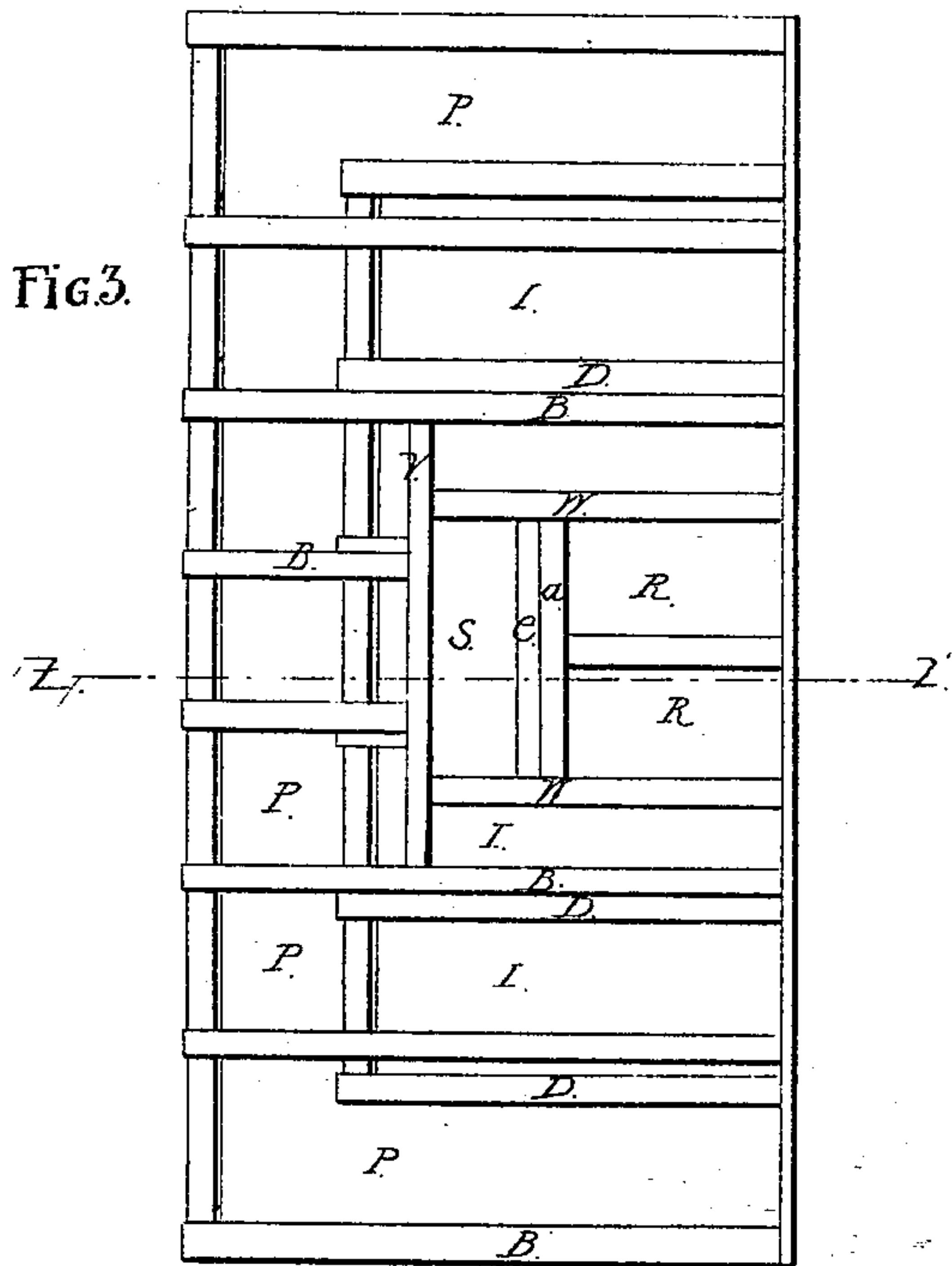
Sheet 2 of 2 Sheets.

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Witnesses:

S. C. Field
A. Hayward

Inventor:

Francis Lucillow
By his Attorney,
C. L. Chapin

United States Patent Office.

FRANCIS LUDLOW, OF LAKE VIEW, ILLINOIS.

Letters Patent No. 90,760, dated June 1, 1869.

IMPROVED HORTICULTURAL BUILDING.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom this may concern:

Be it known that I, FRANCIS LUDLOW, of Lake View, in the county of Cook, and State of Illinois, have invented an Improved Horticultural Building; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and letters marked thereon, making a part of this description, in which—

Figure 1 is a transverse sectional elevation of my invention, taken through fig. 2, on the line *x x*.

Figure 2, a horizontal section, taken through fig. 1, on the line *z z*.

Figure 3, drawing 2, a top view of one side of the roof.

Figure 4, same drawing, a perspective representation of the ventilating-door, removed from its place in the roof.

The present invention relates to an improvement in that class of buildings that is designed for rearing and protecting vegetation in cold climates; and

Its nature consists in enclosing any required area with double walls, between which is a heating-chamber, the whole being so arranged that the inner compartment is reached and ventilated without allowing the heat to escape from the outer compartment.

To enable others to fully comprehend the construction and arrangement of my invention, I have marked corresponding parts with similar letters, and will now give a detailed description.

A represents the exterior of a horticultural building, which is constructed with side and end-frames, A A; roof-frame, B B; and glass, P; all of which constitute a house very similar to those now in use for a like purpose, the foundation being made of brick or other suitable material, as most convenient.

C C, &c., represent an inner enclosure, which consists of a frame-work filled with glass, and placed a suitable distance from the outer enclosure, generally from four to six inches, the space between the two enclosures being used as a heating-chamber.

The pipes *k*, figs. 1 and 2, drawing 1, may be used to heat this chamber, by means of hot water, or it may be heated by any suitable apparatus having registers, as most convenient or desirable, no novelty being claimed in this respect, for if the house is very small, lamps or gas will be sufficient to heat it.

Access is had to the interior compartment, F, by means of a double door, H H, filled with glass, J J, at its outer and inner side, and the heated air from the chamber N will pass into the chamber enclosed by the walls of the door, when a slide, G, placed under it, is drawn out, as shown at dotted lines *m*, fig. 2, drawing 1.

This slide, or a similar device, is necessary, otherwise the heat will escape from the chamber N when the door H is open, or the heated air from said chamber will have no direct communication with the chamber enclosed by the walls of the door.

The inner enclosure, F, is ventilated by means of a double door, shown at fig. 4, drawing 2, which is hung to the ridge, or any other convenient place on the roof, the sides of the opening which the door closes being made air-tight, to prevent the escape of heat when said door is open.

The frame-work of the enclosure C surrounding the door is shown at *a W*, fig. 1, drawing 1, and fig. 3, drawing 2.

The frame-work of the enclosure A is shown at *v B*, same figures.

The outer and inner side of the door is filled with glass, R, in order that all parts of the area F may receive the rays of the sun.

A horticultural house built and arranged on this plan, will require much less fuel to keep up the temperature than those houses built according to the old method, and the vapor in the area F will not condense, and injure vegetation—an important advantage in the use of double walls, inasmuch as there is little or no moisture in the heating-chamber, and consequently a sudden fall of temperature in the surrounding atmosphere, will not break the glass, as is now the case when single-walled houses are used.

For a propagating-house it is very suitable, as a constant and even temperature is maintained more advantageously than by any means of which I have knowledge, and plants can be reared at such cost as will soon compensate for the expense of the additional wall.

Having thus fully described my invention,

What I claim, and desire to secure by Letters Patent of the United States, is—

1. The double-walled horticultural building, having such construction of ventilators that the interior may be ventilated without permitting the escape of heat from between the walls, substantially as herein shown and described.

2. In combination with a double-walled horticultural building, a door, H H, the walls of which enclose a heating-chamber, and a slide, G, for admitting air into said chamber when the door is shut, and preventing air from escaping when the door is open, as herein specified and shown.

FRANCIS LUDLOW.

Witnesses:

G. L. CHAPIN,
A. HAYWARD.