

A.L. Pennock
Mechanism for Operating the Ventilators of Hot Houses, etc.

116483

PATENTED JUN 27 1871

FIG. 1.

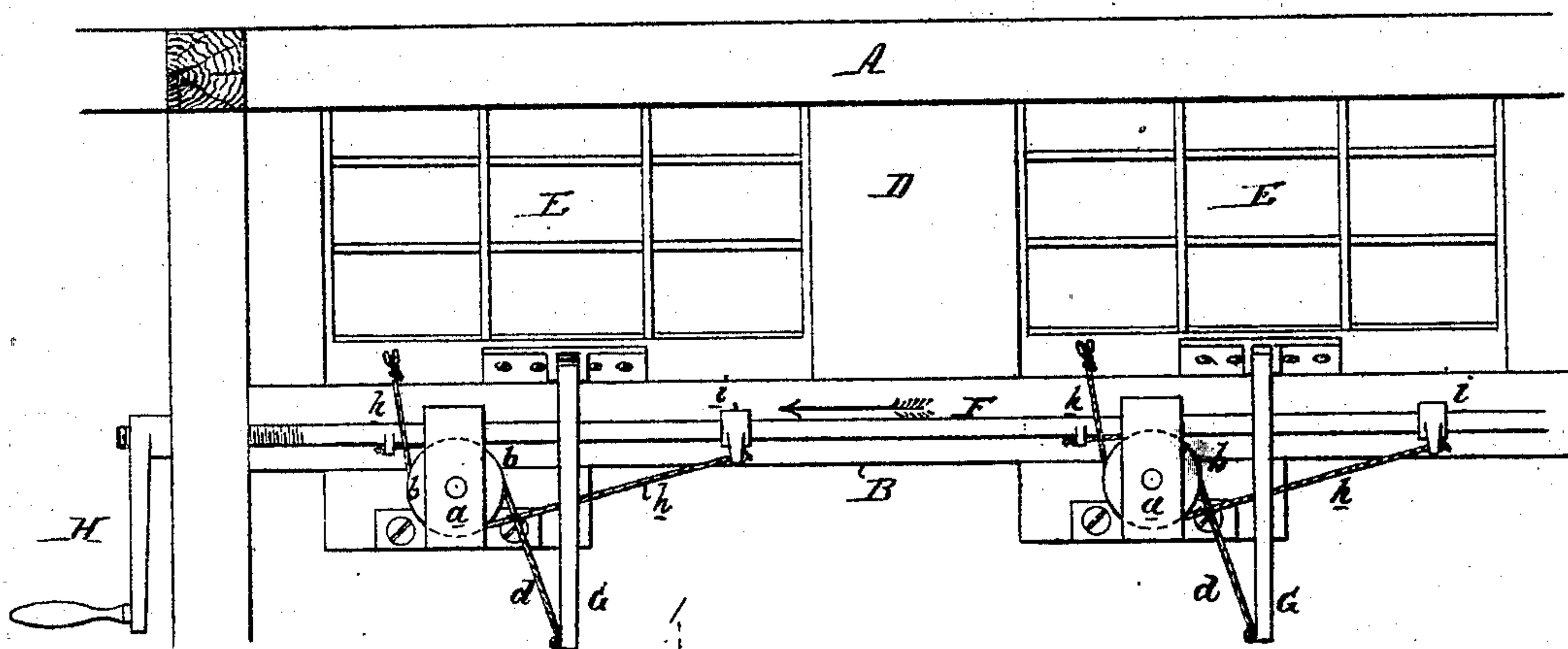
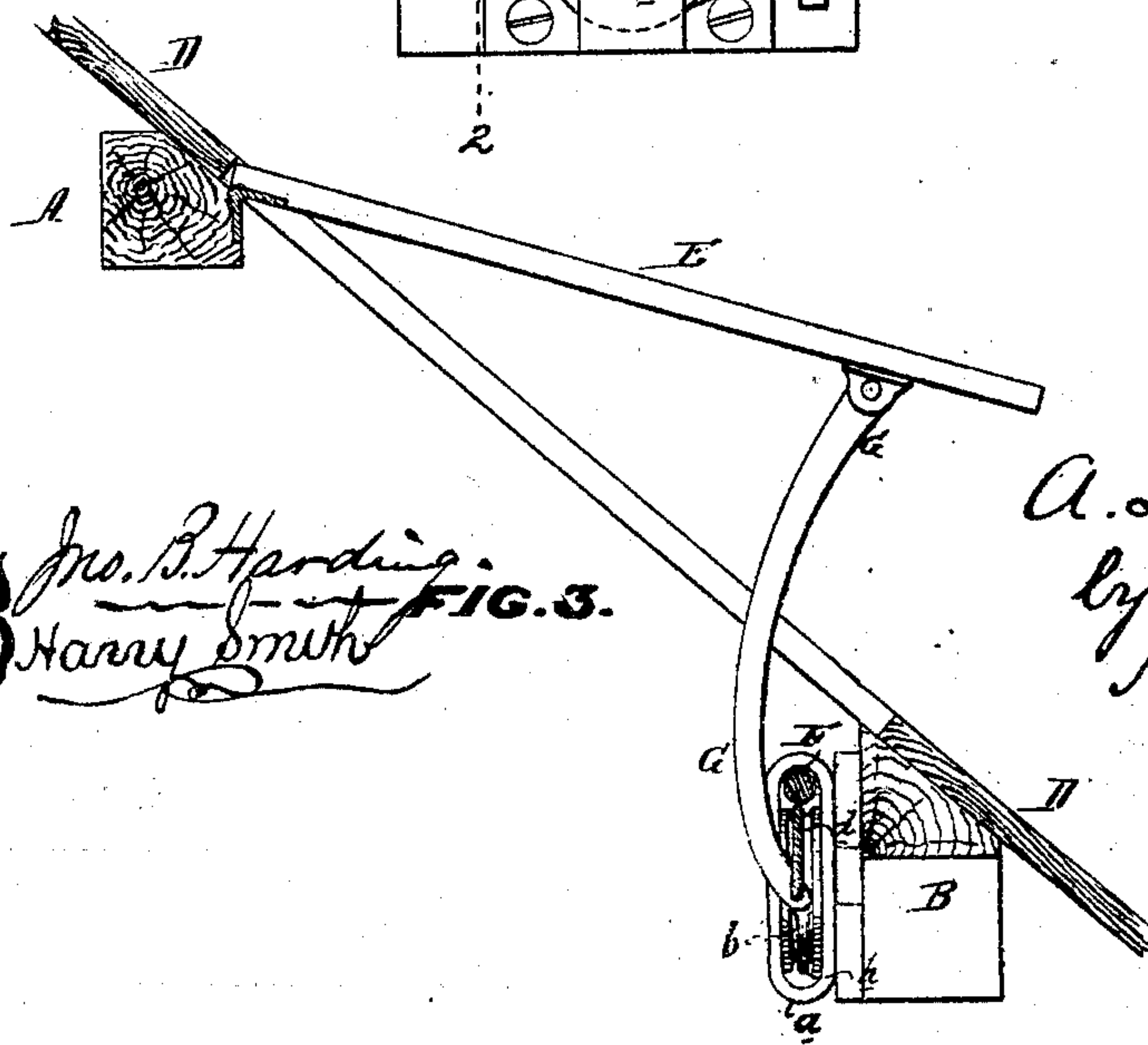
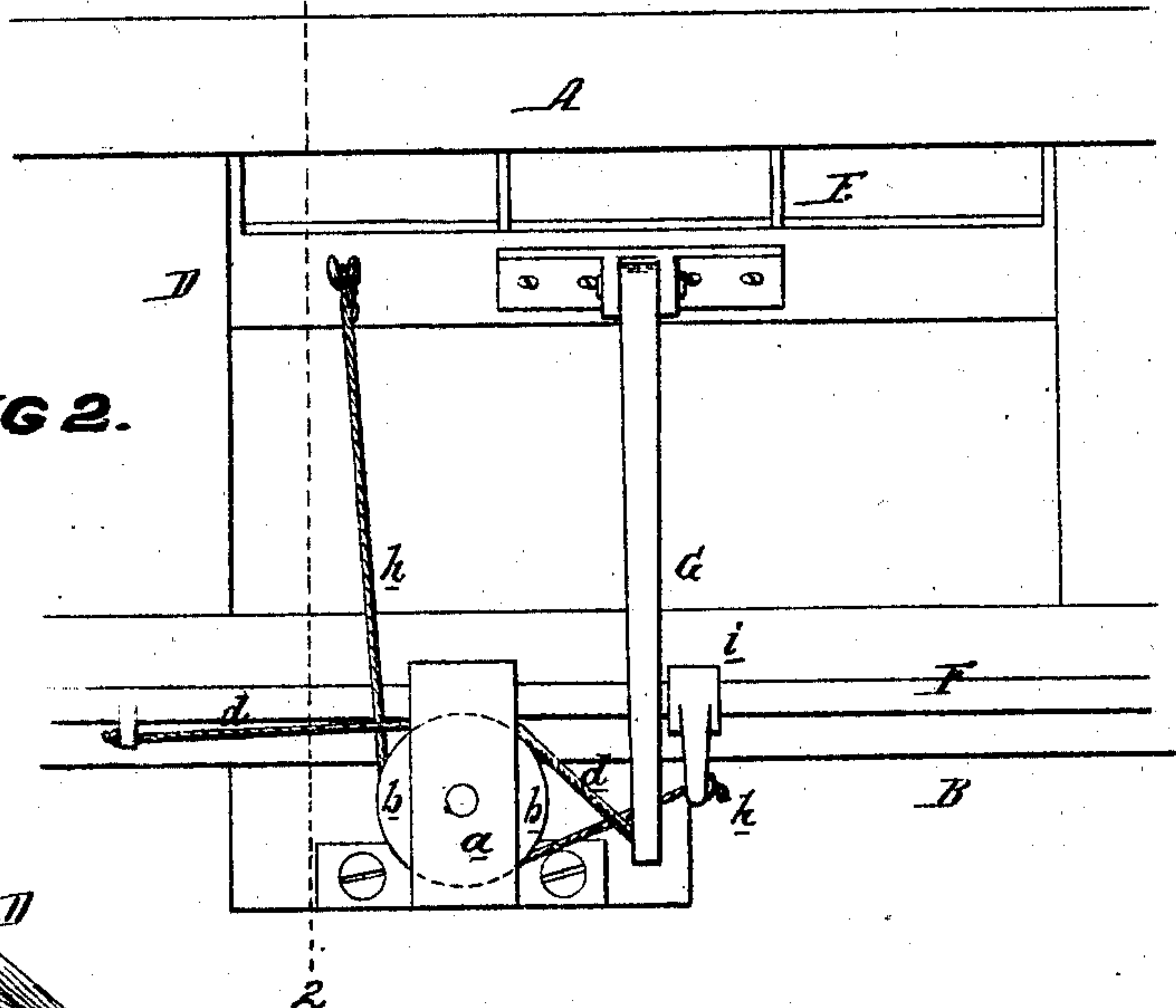


FIG 2.



Witnesses { *Geo. B. Harding.*
Harry Smith

A.L. Pennock
by his Atty
Horizon and Son

UNITED STATES PATENT OFFICE

ABRAHAM L. PENNOCK, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN MECHANISMS FOR OPERATING VENTILATORS.

Specification forming part of Letters Patent No. 116,483, dated June 27, 1871.

To all whom it may concern:

Be it known that I, ABRAHAM L. PENNOCK, of Philadelphia, county of Philadelphia and State of Pennsylvania, have invented Mechanism for Operating the Ventilators of Hot-Houses, &c., of which the following is a specification:

My invention consists of mechanism, too fully explained hereafter to need preliminary description, for simultaneously and readily raising or lowering the hinged ventilating-frames of hot-houses, &c.

Figure 1 is a vertical section of part of a hot-house with my mechanism for operating the ventilators; Fig. 2, a portion of Fig. 1 enlarged; and Fig. 3, a transverse vertical section on the line 1 2, Fig. 1.

A and B represent two of the longitudinal beams which support the glazed roof D of a hot-house, and E is one of the glazed ventilating-frames adapted to an opening in the roof D, and having its upper edge hinged to the beam A, the lower edge, when the frame is depressed, resting on the longitudinal beam B.

In hot-houses there is generally a row of these ventilating-frames, which has to be opened or closed periodically, as circumstances may require. For operating these frames different devices have been employed, all demanding tedious manipulation, which it is the object of my invention to avoid.

To the longitudinal beam B, adjacent to each ventilating-frame, I secure a plate, *a*, carrying a grooved pulley, *b*, over which passes a chain or cord, *d*, one end of the latter being secured to a horizontal rod, F, which extends through the building, the other end being attached to the lower end of the rod G, the upper end of which is jointed to the ventilating-frame. In connection with the rod F are appliances by which the rod can be moved to and fro and retained in any position to which it may be adjusted, a simple handle, H, being in the present instance used for this purpose, the said handle having an internal screw-thread, adapted to an external thread on the rod, so that, on turning the handle, the hub of which bears against one of the end posts of the building, the rod F may be operated as desired. On moving this rod in the direction of the arrow,

Fig. 1, the chains or cords *d* will be drawn over the pulleys *b*, and all the ventilating-frames will be raised simultaneously and to the same extent, and will be retained in this elevated position as long as the rod is retained in the position to which it is adjusted. On moving the rod F, however, in a direction contrary to that pointed out by the arrow, all the frames will fall by their own weight. To provide against any sticking of the frames in an elevated position when it is desired to lower the whole, I sometimes connect one end of a cord or chain, *h*, to the rod F, and, passing the same under the grooved pulley *b*, attach its opposite end to the ventilating-frame, so that, on moving the rod F so as to lower the frames, the cords or chains *h* must necessarily pull them down. For the convenience of readily adjusting the mechanism so that the whole of the frames may be simultaneously raised and lowered precisely alike, and to the same extent, I secure the cords or chains to arms *i*, which are adjustable on the rod F.

I do not desire to restrict myself to any specific mechanism for operating and retaining the rod F, as various devices may be used for that purpose. Nor is it absolutely necessary that a rigid rod, F, should be used, as a wire, or even a rope, would answer the purpose. In case, however, a wire or rope be used in place of the rigid rod, the cords or chains *h* will have to be dispensed with, or be so connected to an endless wire or rope passing around pulleys that both the said cords *h* and the cords *d* can be operated by a direct pull of the endless wire or rope.

I claim—

The combination of an adjustable rod, F, or its equivalent, with a series of hinged ventilating-frames, and with mechanism substantially as herein described, by which the horizontal adjustment of the said rod or its equivalent will be the means of simultaneously raising or lowering the said frames.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ABRAHAM L. PENNOCK.

Witnesses:

WM. A. STEEL,

JNO. B. HARDING.