

R. JOHNSON.  
Window Sash Balance.

No. 21,136.

Patented Aug. 10, 1858.

Fig. 1

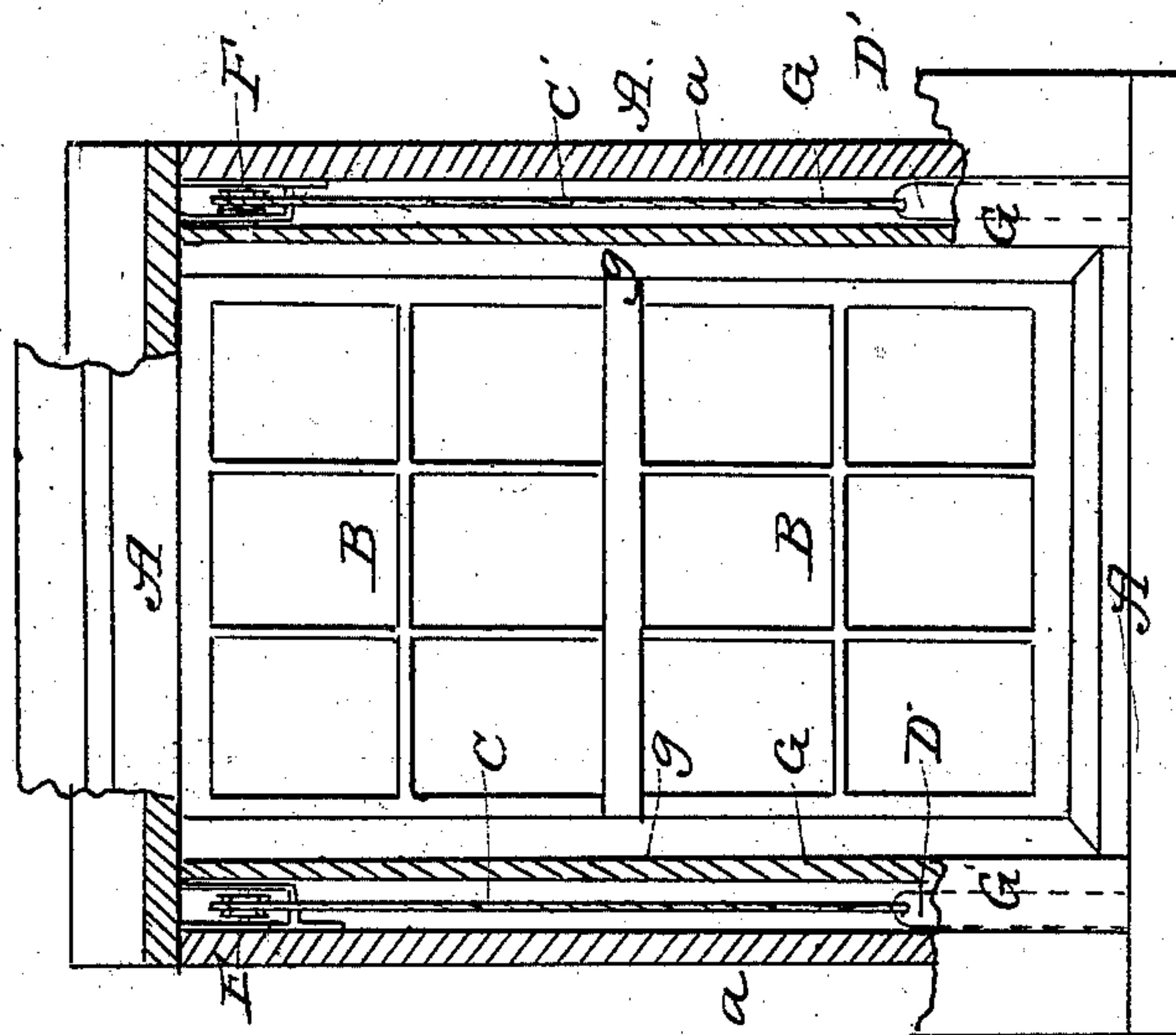


Fig. 3

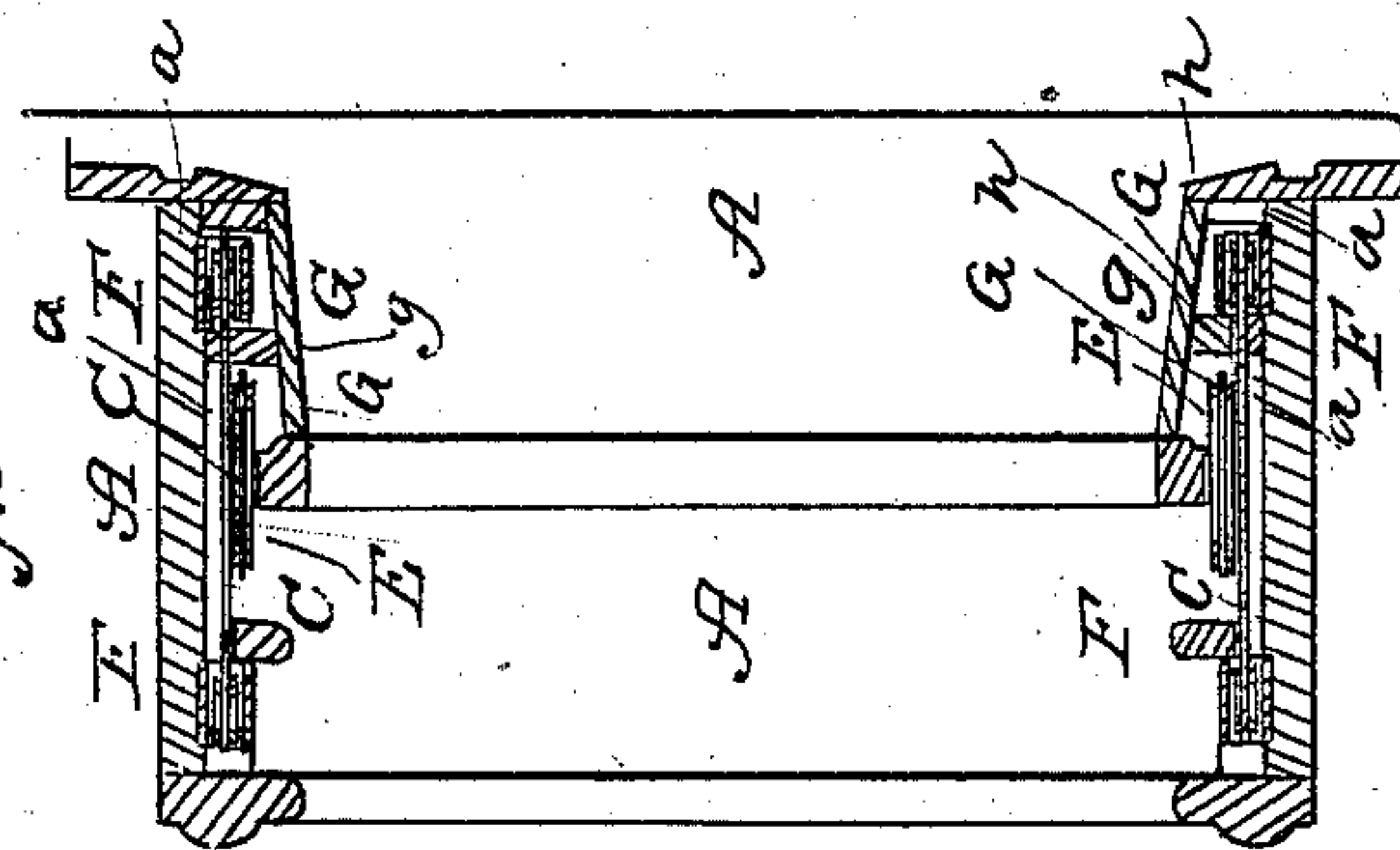
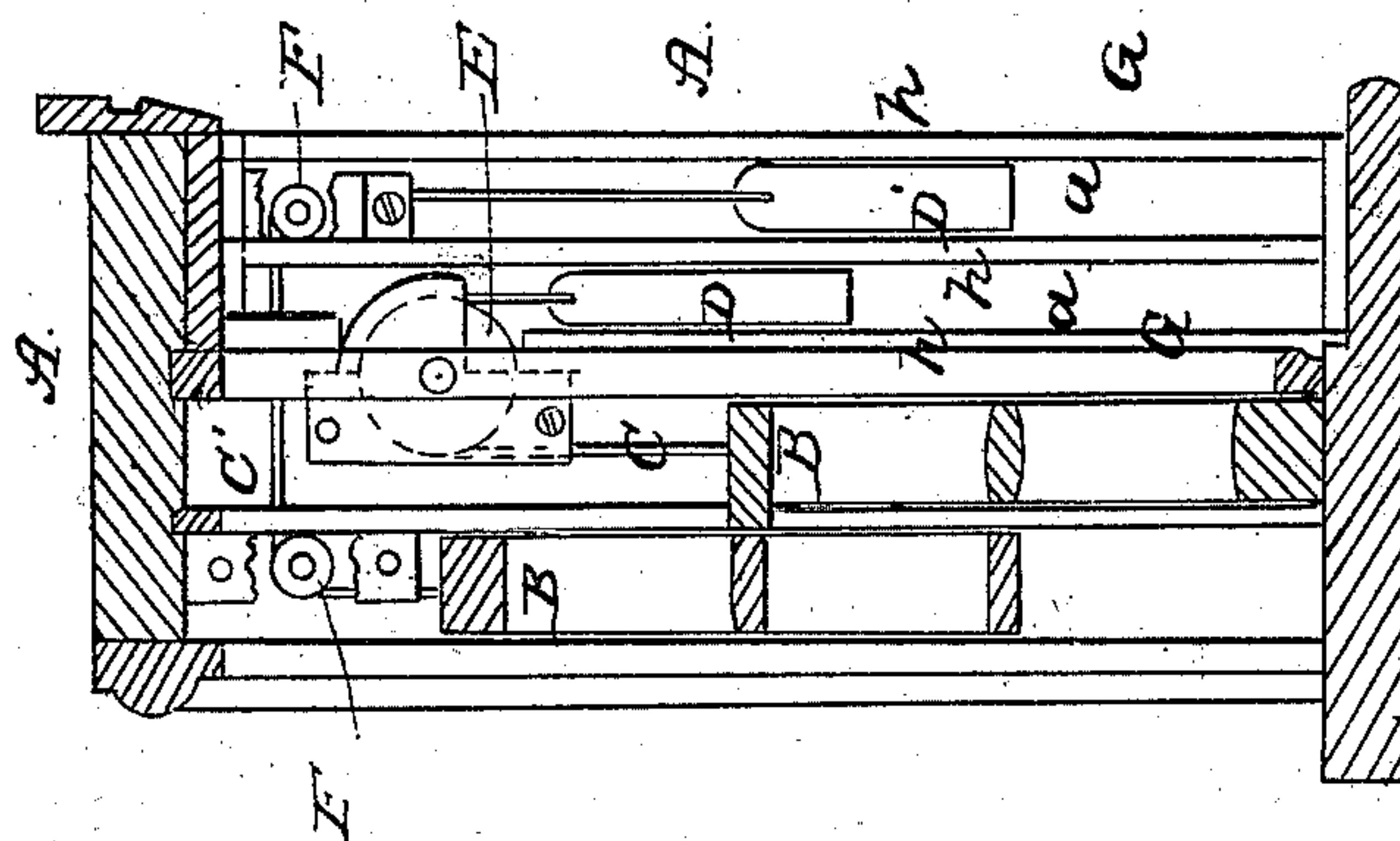


Fig. 2





# UNITED STATES PATENT OFFICE.

R. JOHNSON, OF FREDERICK, MARYLAND.

## HANGING WINDOW-SASH.

Specification of Letters Patent No. 21,136, dated August 10, 1858.

*To all whom it may concern:*

Be it known that I, ROSS JOHNSON, of the city and county of Frederick and State of Maryland, have invented a new and useful improvement in the mode of adapting the well-known weight, cord, and pulley balancing arrangement to old and new window-frames; 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, forming a part of this specification, in which—

Figure 1, is a front view of a window frame constructed after my invention. Fig. 2, is a vertical, transverse section of the same, the jamb board being removed. Fig. 3, is a horizontal section of the same.

Similar letters of reference, in each of the several figures indicate corresponding parts.

The main object of my invention is to enable builders and others to employ the well-known and approved cord pulley and weight balancing arrangement, and at the same time to so simplify the mode of applying the same that a considerable portion of the expense for box windows may be saved in the construction of new houses, and also much of the time and inconvenience now experienced in applying said balancing arrangement to old windows avoided; and likewise great facilities afforded for getting at the machinery for the purpose of adjusting the same in case of derangement.

The nature of my invention consists in side boxes constructed on the face of the jambs and arranged in front and at right angles to the face of the sash, in combination with narrow oblong weights, and with pulleys arranged in a manner adapted for the use of said side boxes and flat weights.

To enable others, skilled in the art, to make and use my invention, I will proceed to describe its construction and operation.

A, represents the frame of an old window not constructed with a view of having a balancing arrangement applied to it.

B, B', are the sashes arranged in the frame in the usual manner.

C, C', are cords with weights D, D', attached, for balancing the sashes. The cord C, passes over a pulley E, at right angles to the face of the sash B, said pulley being hung on a shaft which runs at right angles to the edge of the sash. The cord C', passes over pulleys F, F', which are placed above

the pulley E, and also have their axes running at right angles to the edge of the sash. The weights D, D', which are attached to the cords C, C', are made narrow and oblong and pass down close against the face of the jambs *a, a*, of the frame. G, G', are narrow boxes constructed on the faces of the jambs so as to inclose the weights D, D', as shown in the drawing. The front board *g*, of these boxes are set slightly oblique so as to make the space between the two jambs flaring as shown. These boards serve as auxiliary jambs and give a finish to the window as well as hide the weights from view. They are confined to the narrow side pieces *h, h*, of the boxes by screws so as to be removed whenever the weights &c. get deranged. By placing the pulleys and using narrow flat weights as above described, the boxes can be made so narrow that only a very small portion of the sash will be covered and the window will hardly have the appearance of having been altered, as will be evident from the drawings.

Instead of using two weights on each side of the frame, one weight on each side might be used. In this case two friction rollers should be placed on that edge of the sash which has no weight attached to it so as to prevent binding. Again in case the frame is so narrow that no room for the construction of the boxes on the face of the jambs is provided the cords might be carried forward to the inner edge and around a horizontal pulley and then down over a vertical pulley. This would render the construction of narrow boxes or pockets on the inner face of the wall alongside the edge of the window frame necessary. I, however, do not regard this as a desirable arrangement, but as its adoption may be necessary in some instances, I make mention of it in order to show that my improvement is capable of being applied to different descriptions of window frames whether being constructed or already constructed.

It has long been a desideratum to get a substitute for the expensive box window, and cord pulley and weight balancing arrangement, but never as yet has one which is entirely free from objections been produced. The substitute which I propose, it is thought, will answer better the end desired than those which have preceded it, it being simple, easily applied and very durable.

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

Side boxes G, G, constructed on the face of the jamb *a*, and arranged in front and  
5 at right angles to the face of the sash, in combination with narrow oblong weights D, D', and with pulleys E, F, arranged in

a manner adapted for the use of side boxes and flat weights, substantially as and for the purposes set forth.

ROSS JOHNSON.

Witnesses:

G. YORKE ATLEE,  
R. W. FENWICK.