

S. W. Huntington,

Sash Balance.

No. 93995.
FIG. 1.

Patented Aug. 24. 1869.

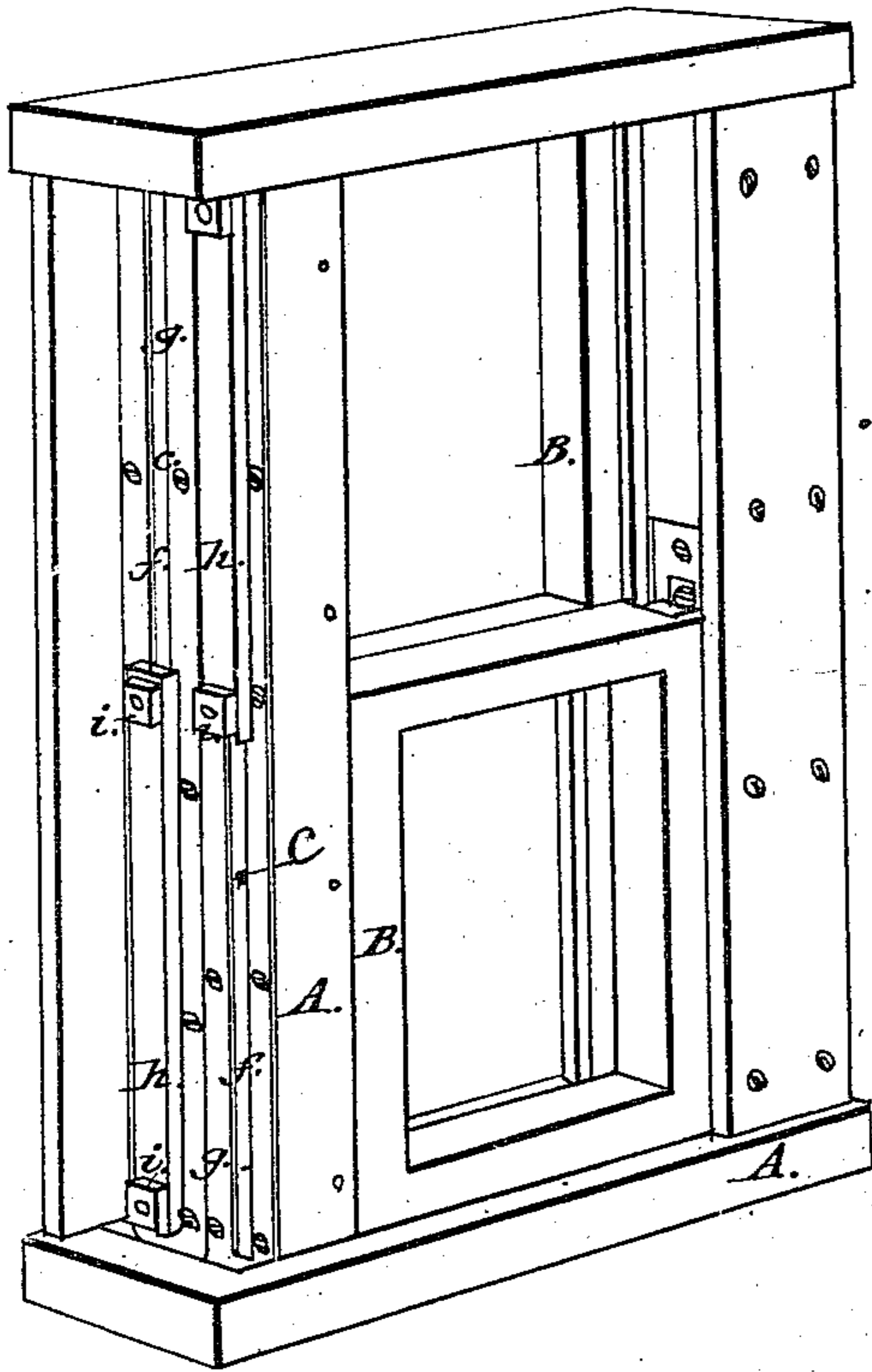


FIG. 2.

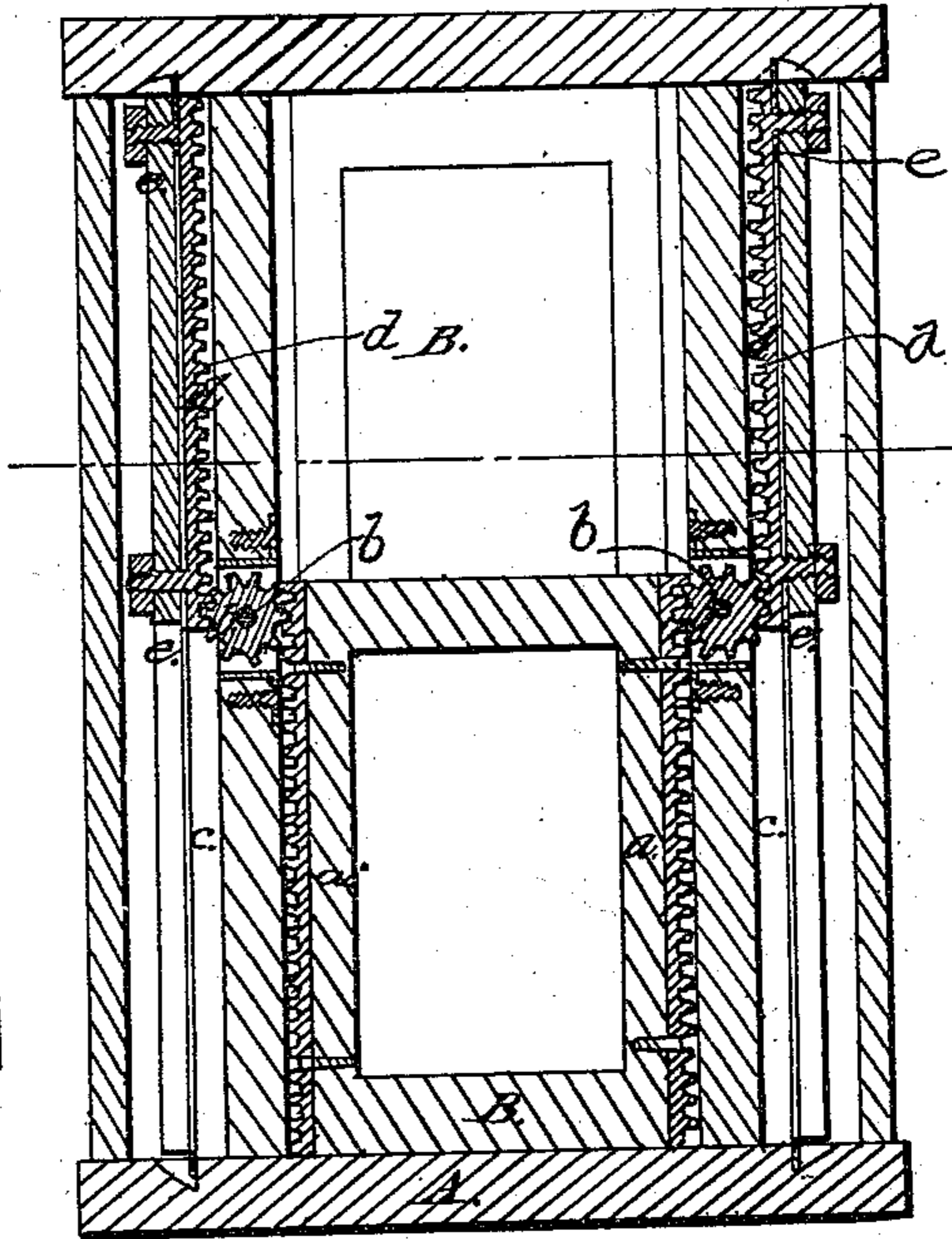
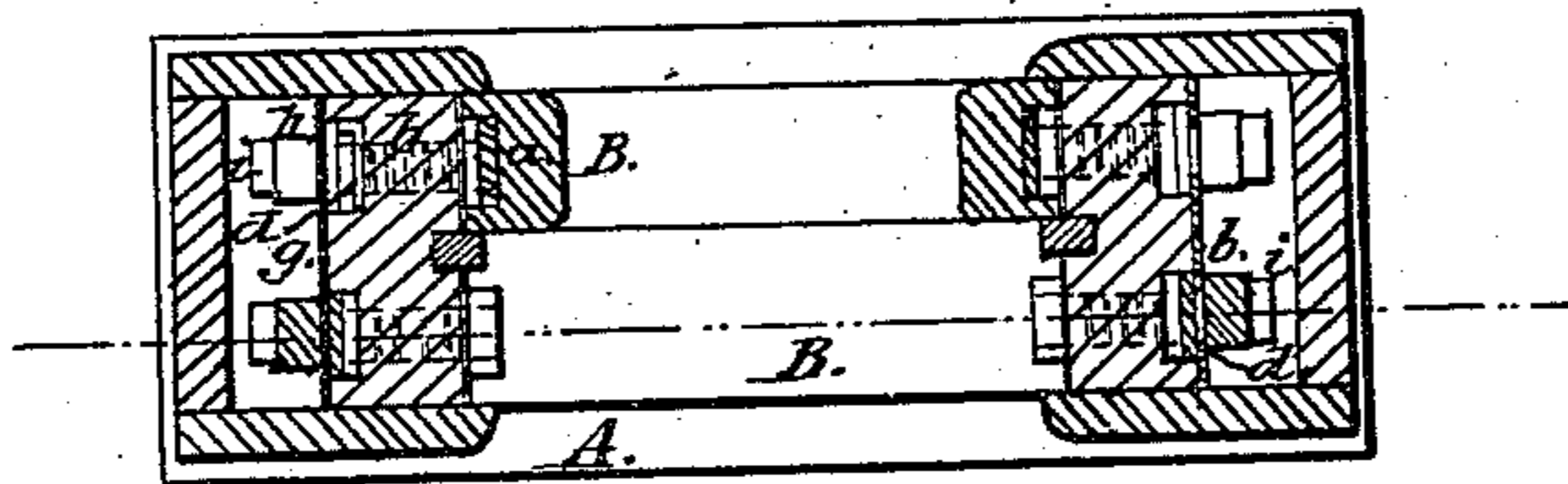


FIG. 3.



WITNESSES:

M. Bailey
Wm. H. Coabe

INVENTOR:

S. W. Huntington
by A. Pollock
attorney.

United States Patent Office.

SAMUEL W. HUNTINGTON, OF AUGUSTA, MAINE.

Letters Patent No. 93,995, dated August 24, 1869.

IMPROVED SASH-BALANCE.

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

To whom it may concern:

Be it known that I, SAMUEL W. HUNTINGTON, of Augusta, in the county of Kennebec, and State of Maine, have invented certain new and useful Improvements in Sash-Balances; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a sash made in accordance with my invention.

Figure 2 is a section of the same, on the line *x*, fig. 3, representing more clearly the arrangement of the weights, and the means by which they are held in place.

Figure 3 is a section of the same on the line *y*, fig. 2.

My invention relates to that class of balance-sashes in which a rack, on the sash, is combined with an intermediate pinion and a weighted rack, which serves to counterbalance the sash. I am aware that sashes have been made on the same general plan, and I make no broad claim to this feature.

My invention is directed to the remedying of defects which have heretofore existed in such sashes, and have prevented their use to any great extent, and its object is to so construct and arrange the parts as to render the devices easy of application, effective in operation, and capable of being made and used with little trouble or expense.

The nature of my invention can be best explained by reference to the accompanying drawings, in which—

A represents the window-frame, and B, the sashes, the latter having attached to them, by any ordinary or suitable means, the racks *a*, which engage with pinions *b*, set in the window-jambs, as will be understood by reference to the drawing, and without further explanation.

The pinions *b* are so set in the jambs that their teeth shall slightly enter grooves or recesses *c*, formed on the further side of the jambs opposite each rack, on the upper and lower sashes.

These grooves, thus cut in the wood, extend the height of the window, and are intended to receive the weighted balance-racks *d*, which, however, are not guided by and need not fit accurately said grooves, but have shoulders *e* formed on them, which fit and slide in a slot, *f*, cut in a strip of nail-plate, *g*, or other metallic strip, adapted for the purpose, which covers each groove, and is attached to the jamb by screws, so as to securely hold each rack *d* in the groove in which it is placed.

The advantages of this arrangement are, that while the racks are received in the body of the jamb, and thus do not occupy unnecessary room, they neverthe-

less are not required to fit the grooves, as this would render them liable to be jammed, or otherwise rendered inoperative, owing to swelling or contraction or splitting of the wood, but are provided with the fixed and invariable ways formed in the nail-plate, in which their shoulders fit and slide. And again, all the devices attached to the jamb, the pinions, racks, and guide-plates, may be fitted in place before the jamb is set in position, and the latter can then be fixed to the other parts of the window with the same ease and in the same manner that an ordinary jamb is.

Under this arrangement there is little or no possibility of the balance-racks getting out of order, no more room is taken up than in cases where such devices are not employed, and the cost of manufacture is very small.

The formation of the grooves adds nothing to the expense, the slotted strips of nail-plate or sheet-metal can be struck out at a trifling cost, and the racks themselves cost but little more.

The arrangement also enables me to readily attach additional weights *h*, when required, they being placed outside the grooves and plates, and secured by nuts *i* to the shoulders of the racks, as indicated in the drawing.

In case, however, these devices are applied to car-windows, for which I have more especially designed them, the auxiliary weights *h* need not be applied, as the racks can, themselves, be made of sufficient weight.

In other cases, however, the weights may be necessary.

It is of course understood, that each balance-rack is about half the weight of the window-sash, so that the weight of each set of racks will counterbalance that of the sash to which they are applied.

Having now described my invention, and the manner in which the same is or may be carried into effect,

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

The construction and arrangement of the grooved sash-jamb, the weighted balance-racks received in such jamb, and the metallic strips, for holding said racks in place, and forming ways, in which the projecting portions of the racks move and are guided, in combination with the window-sash, its racks, and intermediate pinion, as herein set forth.

In testimony whereof, I have signed my name to this specification, before two subscribing witnesses.

S. W. HUNTINGTON.

Witnesses:

M. BAILEY,

EDM. F. BROWN.