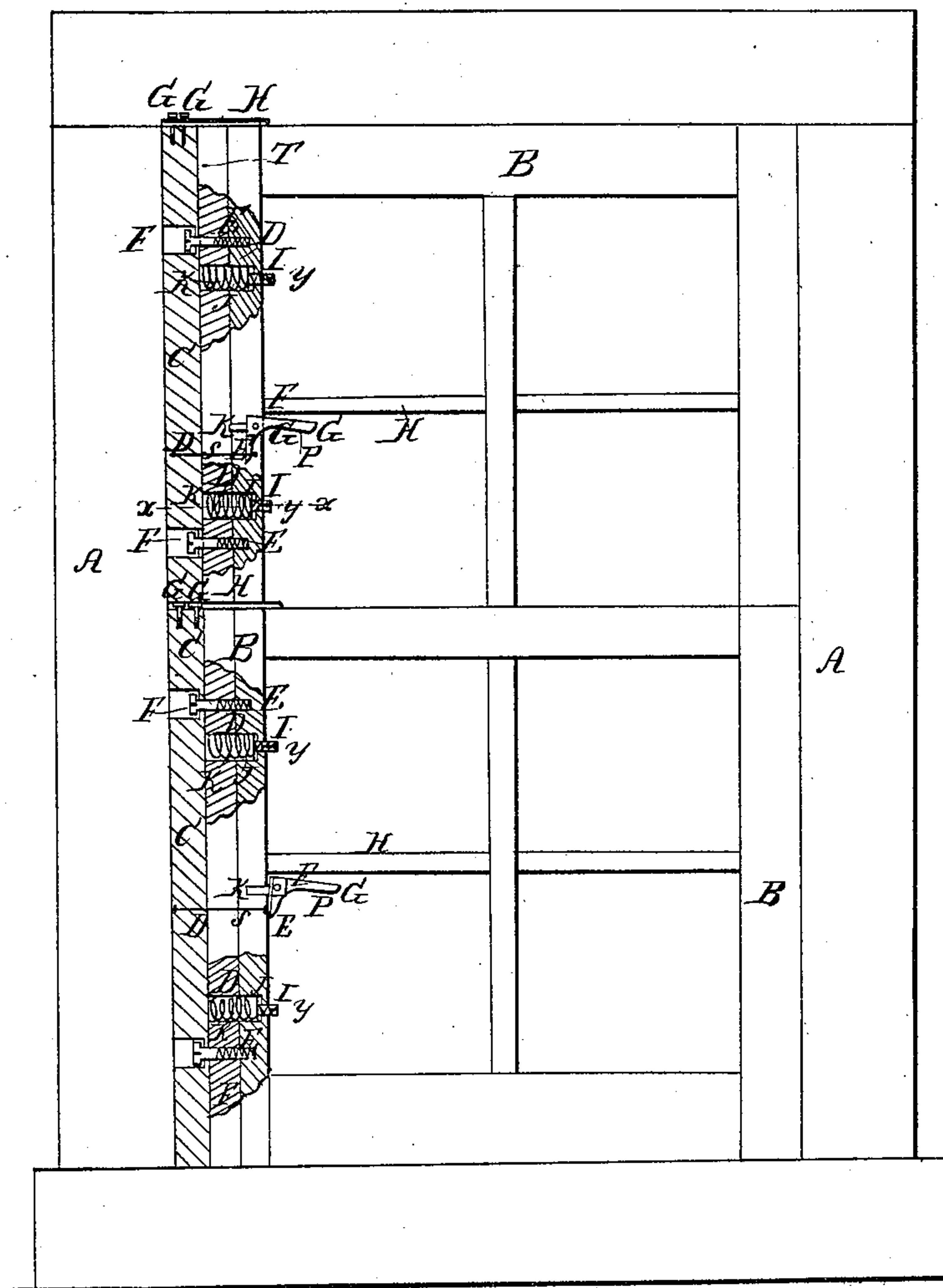
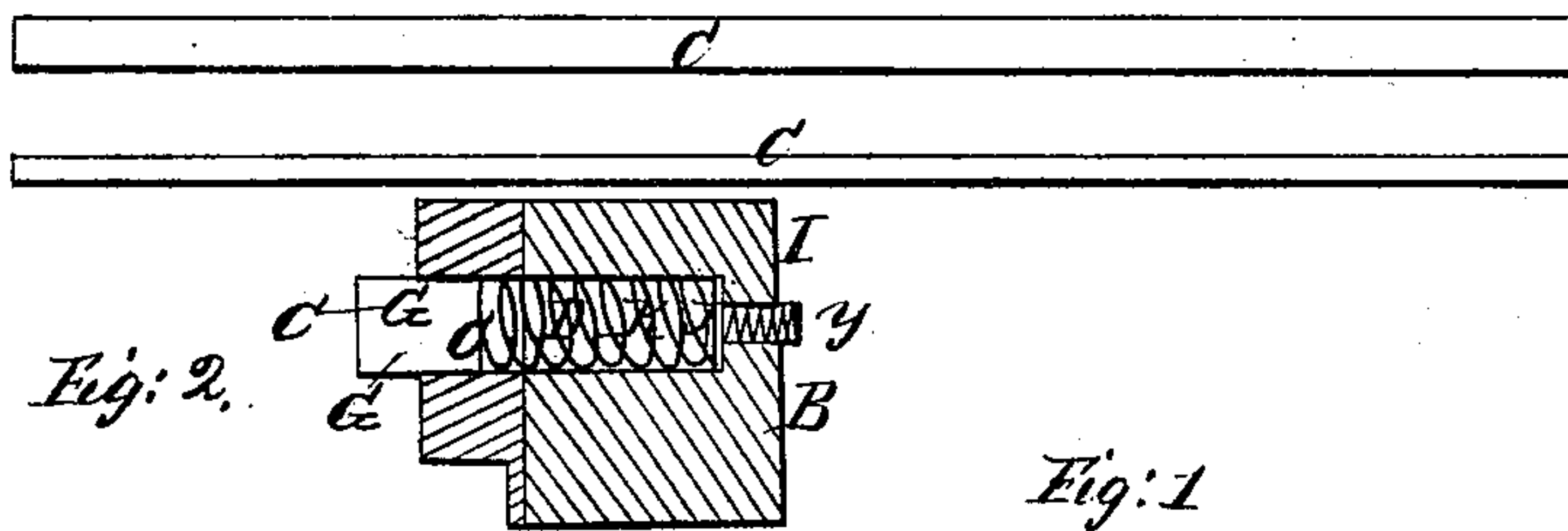


M. Nitting,
Sash Holder.

N^o 9,331.

Patented Oct. 12, 1852.



UNITED STATES PATENT OFFICE.

MIGHILL NUTTING, OF PORTLAND, MAINE.

EXPANDING WINDOW-SASH.

Specification of Letters Patent No. 9,331, dated October 12, 1852.

To all whom it may concern:

Be it known that I, MIGHILL NUTTING, of Portland, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in the Construction of Expanding Window-Sashes, of which the following is a full, clear, and exact description, reference being had to the annexed drawing of the same, making part of this specification, and in which—

Figure 1, is a front elevation of a window with certain portions removed to expose the interior of the mechanism which constitutes my improvement, and Fig. 2 is a transverse section of one side of a sash, taken through the line $x x$ of Fig. 1.

In operating my improved expanding sash for which I have heretofore applied for Letters Patent, it is found that the friction produced between the edges of the sash, and the jambs of the window frame, by the springs which constantly tend to expand the sash, render it difficult to raise or lower the sash because it involves too great an amount of force.

The object of my present invention is to remedy this difficulty, and it consists in arranging a lever in connection with two parts of the sash in such manner that the springs are compressed by the pressure of the hand upon the lever preparatory to moving the sash up or down, in a sufficient degree to reduce the friction between the sides of the jambs and the edges of the sash, so that the latter can be either raised or lowered as readily as a common non-expanding sash of the same weight, when it is free to move without binding. I have also applied an adjusting screw to the springs by means of which the sash can be made to expand with a greater or less force as may be required.

The drawings represent a window frame A fitted with an expanding sash B, in the manner invented by me, and fully described in a previous application for a patent, which description need not therefore be repeated here.

The narrow movable strip (C) at the side of the sash between which, and the other portion of the sash, the springs are inserted, is connected by a link rod (D) with the vertical arm (E) of an elbow lever (F) pivoted to the side of the sash; the horizontal arm (G) of this lever extends beneath one of the cross bars (H) of the sash, so that when the thumb is placed upon the latter, and the first

finger of the hand placed beneath the horizontal arm (G) of the lever, and the thumb and finger thus placed pressed toward each other, the lever will turn and draw back from the jamb the strip, compressing the springs behind it, so as to reduce, or entirely remove the pressure of the edges of the sash against the jambs, thus allowing the sash to be raised, by the exertion of barely sufficient force to overcome its weight, or allowing it to lower by the action of gravity alone; in this way, the difficulty above mentioned in the use of my expanding sash is completely remedied.

It is obvious that the construction and arrangement of the lever for relieving the sash from the pressure of the expanding springs, may be varied almost infinitely without in the least degree changing the principle upon which it operates to relieve the sash, for so long as the lever is connected with the two parts in such manner that by the pressure of the hand it will draw them together against the tension of the springs, it will perform the office, which in this contrivance is assigned to it.

In making the springs for my improved expanding sash, it is found to be best, and most convenient plan to make all of them strong enough for the heaviest sash of the number of lights for which they are adapted, and then to temper or regulate their tension, or pressure against the expanding strip, or between the two parts of the sash, by means of an adjusting screw (I) which in this instance is arranged to act upon a movable bottom or piston (J) in the socket which contains a helical spring (K) to press against the strips so that when the bottom is advanced, toward the mouth of the socket, the latter will be rendered shallower and the tension of the spring correspondingly increased; and when the adjusting screw is turned in the opposite direction the movable bottom is caused to recede from the mouth of the socket, the tension of the springs is diminished, and the pressure of the edges of the sash against the jambs is reduced. In this manner the pressure and friction of the edges of the sash against the jambs of the frame can be increased or diminished at will, for any pressure for which it may be desirable to increase or diminish it.

I have represented and described helical springs placed in sockets to cause the frame to expand, but any other kind of spring ar-

ranged in any convenient way, and having its tension controlled by a set screw, may be used.

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

The method of varying the pressure of the edges of the expanding sash against the jambs of the window frame, by means of the combination of the adjusting screws and
10 springs, with the set screws, or the equiva-

lent thereof, for limiting the extent of the expansion of the sash substantially as herein set forth.

In testimony whereof I have hereunto subscribed my name.

MIGHILL NUTTING.

Witnesses:

P. H. WATSON,
E. S. RENWICK.