H. H. Carter,

Sash Holder.

No. 42,431. Patented Apr. 19, 1864.

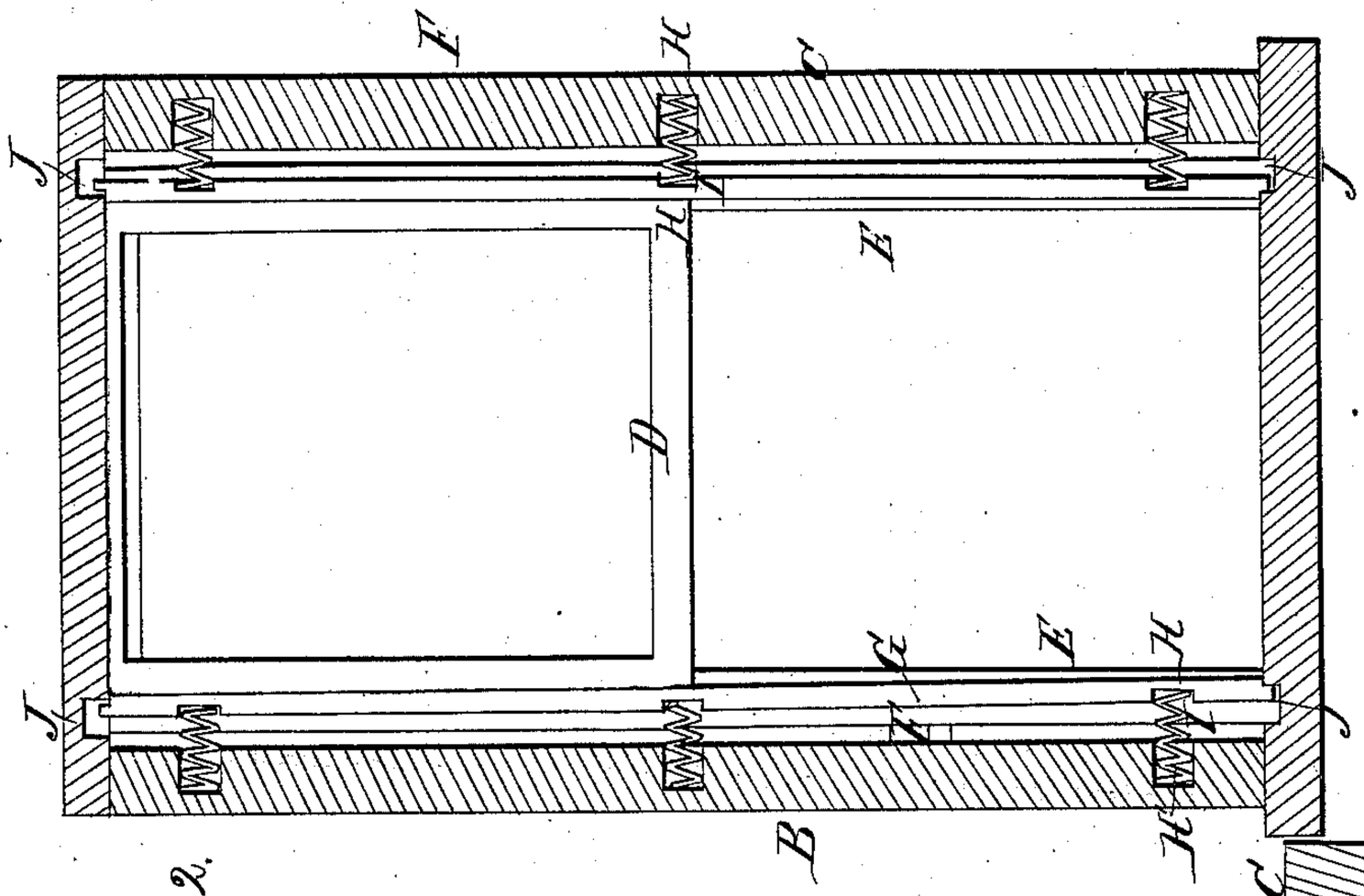

Fig: 2.

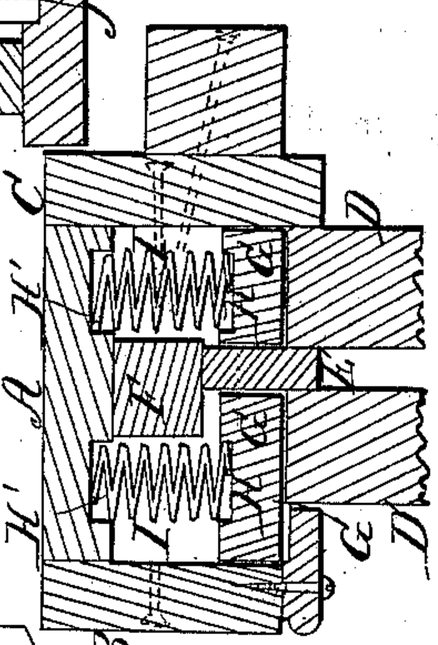

Fig: 3.

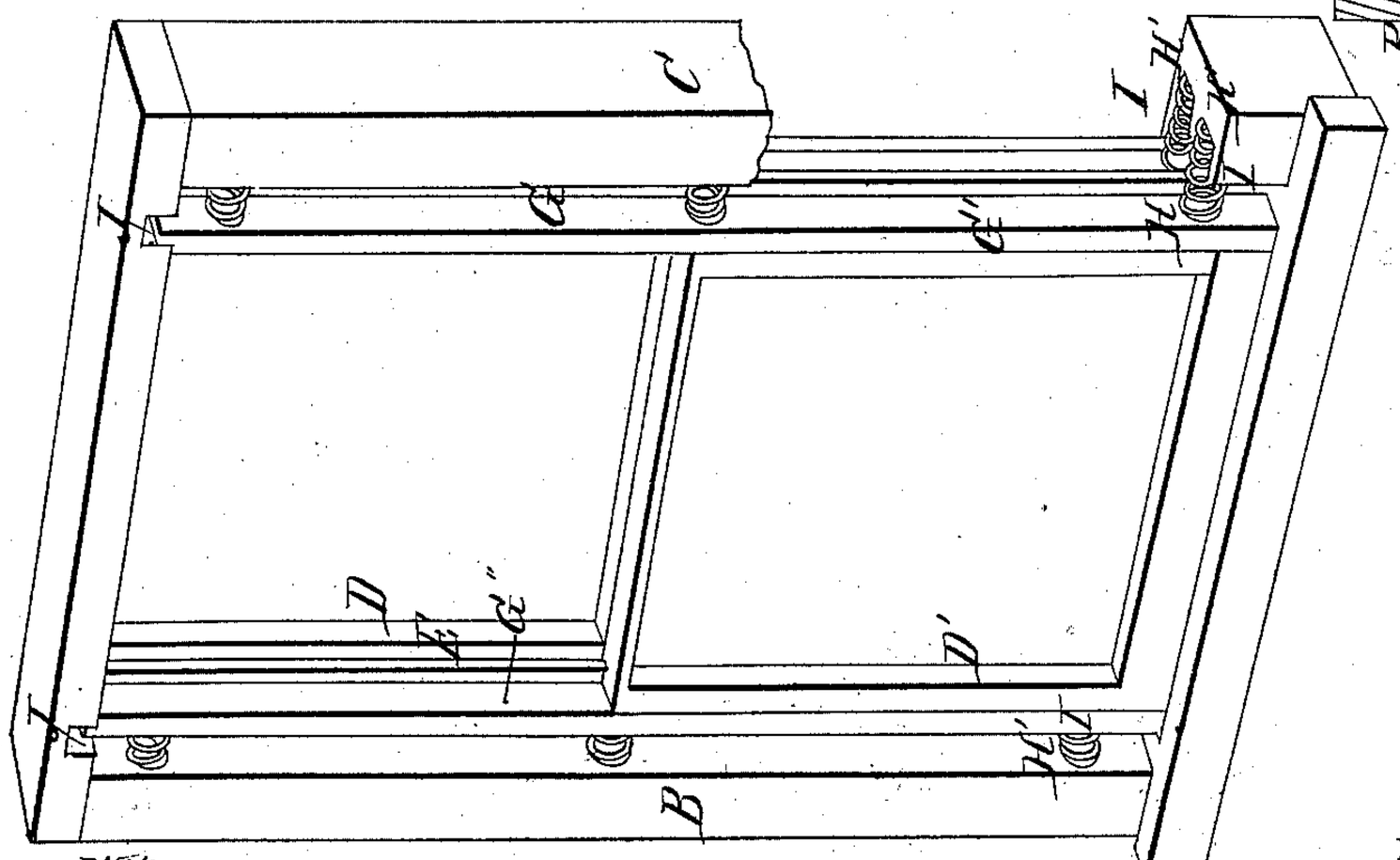

Fig: 1.

Witnesses;
Charles L. Fisher
L Walker

Inventor;
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Attys

UNITED STATES PATENT OFFICE.

HARTZEL H. CENTER, OF CINCINNATI, OHIO, ASSIGNOR TO HIMSELF AND THEODORE MARSH.

IMPROVED SASH-SUSTAINING WINDOW-FRAME.

Specification forming part of Letters Patent No. **42,431**, dated April 19, 1864.

To all whom it may concern.

Be it known that I, HARTZEL H. CENTER, of Cincinnati, Hamilton county, Ohio, have invented a new and useful Sash-Sustaining Window-Frame; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

My invention relates to a modification of the box window-frame, which entirely dispenses with weights and pulleys, and in which the customary pulley-stiles are replaced by four yielding and pressing strips, which act independently of any catch or fastening requiring special manipulation, to sustain one or both sashes at the exact height to which they may be raised or lowered in a perfectly vertical position and entirely free from side sag, leakage, and rattle.

Figure 1 is a perspective view of a window-frame illustrating my invention, viewed from the inside, the inside lining being removed and the sashes closed. Fig. 2 is a longitudinal section of the same, the lower sash being raised. Fig. 3 is a horizontal section, on an enlarged scale, through one jamb.

A, B, and C represent, respectively, the back lining and inside and outside casing of a common box window-frame.

D and D′ represent, respectively, the upper and lowes sashes.

The parting-beads E are either made fast, by screws or otherwise, to blocks F, permanently attached to the back lining, or are fitted in tightly between head and sill.

The essential feature of my improvement is the provision of four yielding or movable and sash-sustaining stiles or strips, G G′ G″ G‴, which extend the entire breadth of the respective sashes and the entire length of the window.

My four movable strips G G′ G″ G‴ occupy the places of the two customary immovable pulley-stiles. Twelve sockets, H, in the rear sides of the strips G G′ G″ G‴, and an equal number, H′, in the back lining receive and hold twelve springs I, which act to press the strips firmly against the edges of the sash, and thus hold the said sash to the precise position at which it may be placed.

The springs I may be of any suitable material and number. I prefer, however, to make them in the spiral form and out of lacquered brass wire and twelve in number, as herein represented, such springs having been satisfactorily tested in the application of my invention. For windows of twelve lights of ten by sixteen inch glass I have found springs made of No. 9 brass wire serve a good purpose.

The upper and lower extremities of the strips G G′ G″ G‴ are rabbeted, as shown, and occupy sockets J J′ in the cap and sill, respectively. The socket J is made so much larger than the strip as to enable the latter to be taken out of the frame by slipping the strip up into the socket, and thus liberating its lower end.

The material which I prefer for the strips G G′ G″ G‴ is yellow or white pine, which may be saturated with linseed-oil or beeswax. The other parts of the window may be of any good seasoned lumber.

Over the various forms of side catches my improvement possesses the signal advantage of requiring no separate manipulation, and of always holding the sash plumb and true without side sag, and in being perfectly and permanently reliable and secure. Over the above forms, and also over the box-window, it presents the advantage of greater neatness of finish, having no visible sash-supporting appendages or attachments. It is also more air and dust tight, and possesses the property of being entirely free from rattle.

Windows on my plan of construction are opened or closed by simply moving the sash itself, which remains where placed and requires no attention. Either sash being in its upper position, the lower ends of the strips press toward each other, as shown in Fig. 2, and thus form a wedge which co-operates with the portion of the strips against edges of the sash to sustain the latter.

Box-frames which have got out of order, either by the fraying away of the cords or otherwise, may be cheaply and effectually repaired by removing the entire machinery of cords, weights, pulleys, and pulley-stiles, and substituting a set of my yielding and sash-sustaining strips.

I am aware that a yielding sash-frame analogous to mine in construction is described in Letters Patent granted to Samuel D. Nims on the 23d of December, 1851. My invention possesses several features of practical superiority

over that of the said Nims, among which I will name the following:

First. By constructing the yielding strips or frames of the upper and lower sashes separately, and providing each with its own independent springs, the sustaining effect of the yielding strips on either sash is not affected by the position of the other, but either sash which may be elevated will be so held by the projection of the strip below it, as before explained, and as illustrated in the drawings, whereas, if a single wide strip be employed extending across the edges of both sashes, as described in the said patent of Nims, when one sash is down and the other up the lower sash will prevent such inward projection of the strip, so that either sash which may be down destroys the peculiar sustaining effect upon the other, but if both be up the strip will project in so as to resist their descent. It will thus be apparent that the position of one sash seriously affects the motion of the other, so that if the springs be made of the required strength to sustain the sash when one is near its lowest position, and the inward projection of the strip thus prevented, it wil lbe very difficult to draw down either sash when both are up, by reason of the additional resistance offered by the inward projection of the strip, and, on the other hand, if the strength of the springs is such as to adapt the sash to be readily drawn down when both are up, the lowering of one will render the other insecure.

Second. By employing yielding strips on both sides of the frame, both sides of the sash are equally supported, whereas by using a yielding strip on but one side, as in Nims' invention, the side of the sash to which the strip is applied will be upheld both by friction and by the projection of the lower part of the strip, while the other side, which depends on friction only, will tend to sag.

Third. By using spiral springs set in sockets, as herein shown and described, great facility is afforded for inserting in the said sockets thin pieces of wood, pasteboard, or other material to re-enforce the springs whenever they may be found too weak.

Fourth. The faces of the strips and the edges of the sash, being flat, instead of grooved, prevent the sash becoming looser by wear, as is the case with Nims' invention.

Fifth. This construction also permits the use of common sash as it comes from the factory, instead of necessitating a special and peculiar formation of the edges.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

The combination of the four separate flat-faced strips G G′ G″ G‴, springs I I I I, and sockets H H′ J J′, all constructed, arranged, and operating in the manner and for the purposes herein specified.

In testimony of which invention I hereunto set my hand.

HARTZEL H. CENTER.

Witnesses:

GEO. H. KNIGHT,

THEO. MARSH.