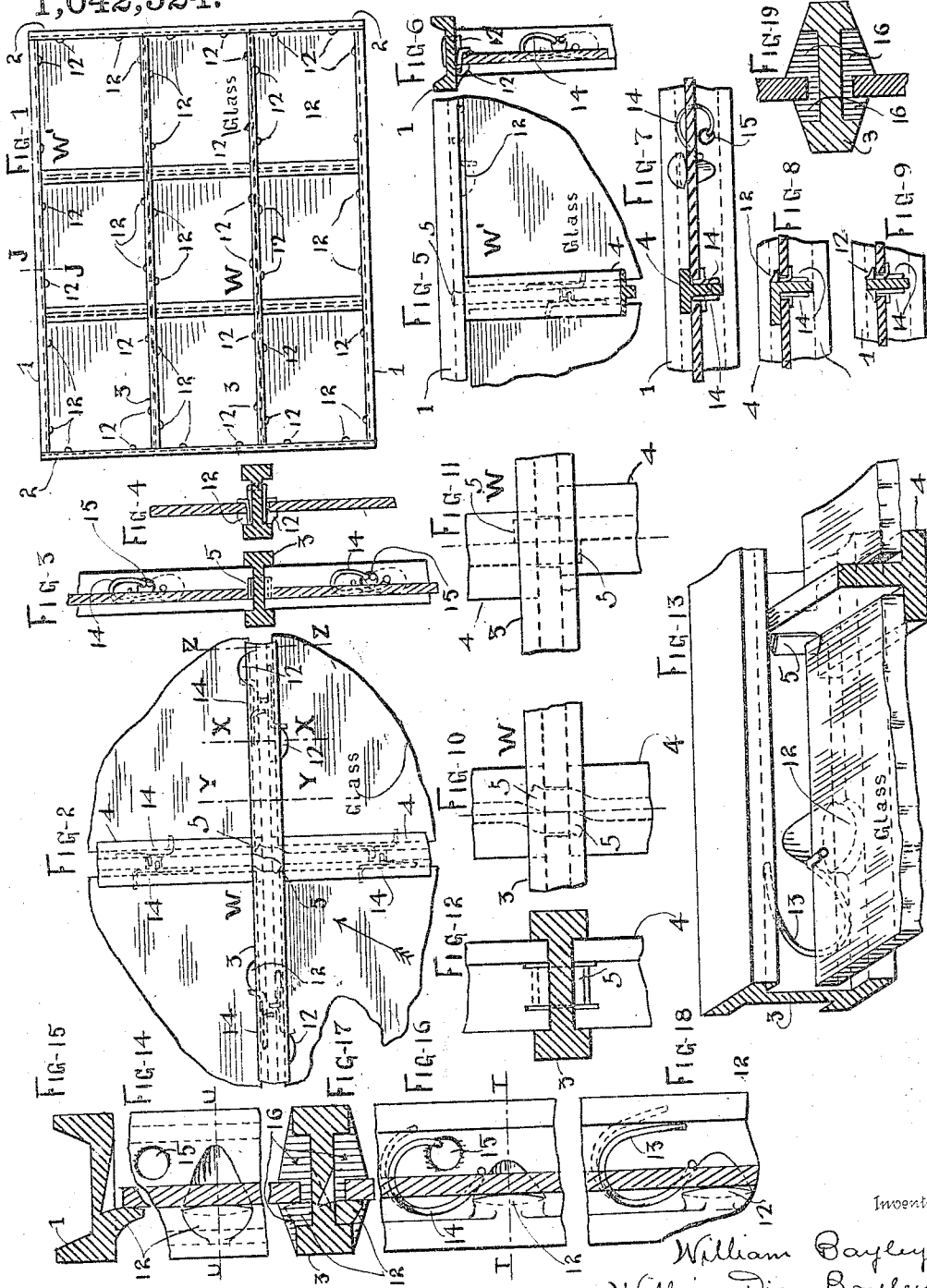


W. & W. D. BAYLEY.
METAL WINDOW SASH.
APPLICATION FILED APR. 17, 1911.

Patented Oct. 29, 1912.

1,042,524.



Witnesses

A. L. Bailey
H. P. Snow,

Inventors

William Bayley
William Dicus Bayley

by William Bayley Attorney

UNITED STATES PATENT OFFICE.

WILLIAM BAYLEY AND WILLIAM DICUS BAYLEY, OF SPRINGFIELD, OHIO.

METAL WINDOW-SASH.

1,042,524.

Specification of Letters Patent.

Patented Oct. 29, 1912.

Application filed April 17, 1911. Serial No. 621,732.

To all whom it may concern:

Be it known that we, WILLIAM BAYLEY and WILLIAM DICUS BAYLEY, citizens of the United States, residing at Springfield, in the county of Clark, State of Ohio, have invented certain new and useful Improvements in Metal Window-Sashes, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to sash bars for window sashes and to springs, which locate and hold in the window glass.

Heretofore, panes of glass have been inserted into window sashes against the under side of the head of the T bars forming the sash. These surfaces are not true, in the direction of their length, neither is the pane of glass. These surfaces are not true in the direction of their width; in fact they are always beveled as they come from the mill rollers. All of this results in an imperfect bearing for the glass, and on the weather exposed side too, it results in the glass being imperfectly supported and also results in letting water work in between the iron and the glass, which causes rusting, and freezing and loosening of the glass. Some manufacturers say "make a putty bed to push the glass in against," but the glazing contractor considers this a loss of time and material and does not comply to it unless compelled to, so that in nine cases out of ten a bad job results. The glass when put in as above is held in by wooden or lead pins in advance of the men applying the putty, and it is obvious that the panes cannot be held closely in this way.

In this invention the vertical members of the sash are constructed of an I beam section, and the edge of the glass stands alongside of the sash member without touching it, and there are inserted lead or other pins, or by a peculiar shaped tool there is raised out of the side of the member at one or more points along the edge of the glass, a support for the front edge of the glass. A bail shaped spring is then inserted at the edge of the glass and between the glass and the web of the I beam section, one end of the spring being bent out toward the glass and resting on it holding it down upon the supports. The other end of this spring being bent in the opposite direction, and sprung into a hole, in the web of the I beam section, or made straight and sprung under the flange of the I beam section. Two of

these springs are placed on each side of the pane of glass of ordinary size, the number required being regulated by the size of the glass, these springs hold the glass in gently yet firmly, and allow the edge of the glass to retain its own shape. The putty is applied on both sides and around the edge of the glass, and the putty is held in by the recess of the I beam section. The cross members of this sash are either made of flat sections, or small angles or small T sections. If made of flat sections then on both sides the glass is held as above, if made of angles it is with the flat side up and the leg hanging down in front of the pane of glass below it. In this case the glass is located on the upper side of the angle in the same way as has been explained in reference to the I beam section, and there is no place left for water to work in. On the lower side the glass is put against the leg of the angle and the glass is held in both on the top and the bottom by similar springs and in similar manner to the I beam section. If made of T sections the glass is held as just described on the lower side of the angle.

In the drawings Figure 1 is a full front view of a plain window sash. Fig. 2 is a front view of the intersection of the vertical and cross members of the sash as shown at W in Fig. 1. Fig. 3 is a section of the vertical member shown in Fig. 2 on the line Y Y. Fig. 4 is a section of the vertical members shown on Fig. 2 on the line Z Z. Fig. 5 is a front view of the intersection of the side vertical and a cross member of the sash as shown at W' in Fig. 1. Fig. 6 is a plan of Fig. 5. Fig. 7 is a side view of Fig. 5 using T sectioned cross bars. Fig. 8 is a side view of Fig. 5 using angle sectioned cross bars. Fig. 9 is a side view of Fig. 5 using flat cross bars. Fig. 10 is an enlarged view of the intersection (W) on Figs. 1 and 2. Fig. 11 is also an enlarged view of the intersection W in Figs. 1 and 2. Fig. 12 is an enlarged view of Fig. 3. Fig. 13 is an enlarged isometric view of the intersection W, (Figs. 1 and 2,) looking in the direction of the arrow, it shows how the springs are introduced and the glass supported on the vertical members. Fig. 14 is a side view of a side vertical member at the point of the glass support, with a section of the glass in front, but without the spring. Fig. 15 is a section of Fig. 14 on the line U U. Fig. 16 is a side view of an I beam vertical

member at the point of the glass support, with a section of the glass in front of it. Fig. 17 is a section of Fig. 16 on line T T, but without the springs. Fig. 18 is a similar view to Fig. 16 but with a spring having one straight end and locked under the flange of the I beam section. Fig. 19 is a section the same as at Y Y on Fig. 2.

The numeral 1 designates the side vertical members of a main sash, 2 represents the top and bottom members of a main sash, the top and bottom and two sides are all made of the same section and the side members are tenoned and go through the top and bottom members and are riveted. 3 represents the inside vertical members of the main sash, which are also tenoned on the end and riveted into the top and bottom members of the main sash. 4 represents the inside cross members of the main sash. They have a tenon 5 on the end, and are riveted into the side member 1.

In order to support the panes of glass, and to hold them in place until the putty sets, and also to assist the putty in holding them, a support 12 is formed. It might be a pin driven into the sash member, but it is preferred to raise it out of the metal of the bar, which is a more economical and better plan, because then it is not a loose piece.

Used in conjunction with the support 12, is a spring 13, which has a hook on one end used against the glass, and is plain on the other end and hooks under the flange of the I beam member (in Fig. 18 this spring is

shown in its released form in dotted lines), or in conjunction with the supports 12, is the spring 14, which has a hook on both ends, one of them holding the glass down, and the other entering a hole 15, (in Fig. 16, this spring is also shown in released form in dotted lines) and also in place in the member of the sash. It will be observed that the spring is put in alongside of the edge of the glass, it is very efficient, easily put in, and when in, is buried completely by the putty 16.

Having thus fully described this invention, what is claimed as new and desired to secure by Letters Patent, is:

1. A window sash comprising a sash bar having a web and a flange, rigidly attached supports extending at intervals from said web to support a pane of glass out of contact with the flange, and means for holding said pane against said supports and spaced from said web.

2. In a window sash, a main sash, with the sash bars having supports to locate the glass against extending into the glass openings, and the horse shoe shaped springs lying in beside the edge of the glass, with one end bent out and holding the glass down and the other end pressing against said sash bar, to hold the glass against the supports.

WILLIAM BAYLEY.

WILLIAM DICUS BAYLEY.

Witnesses:

H. F. McCONKEY,
HENRY P. SNOW.