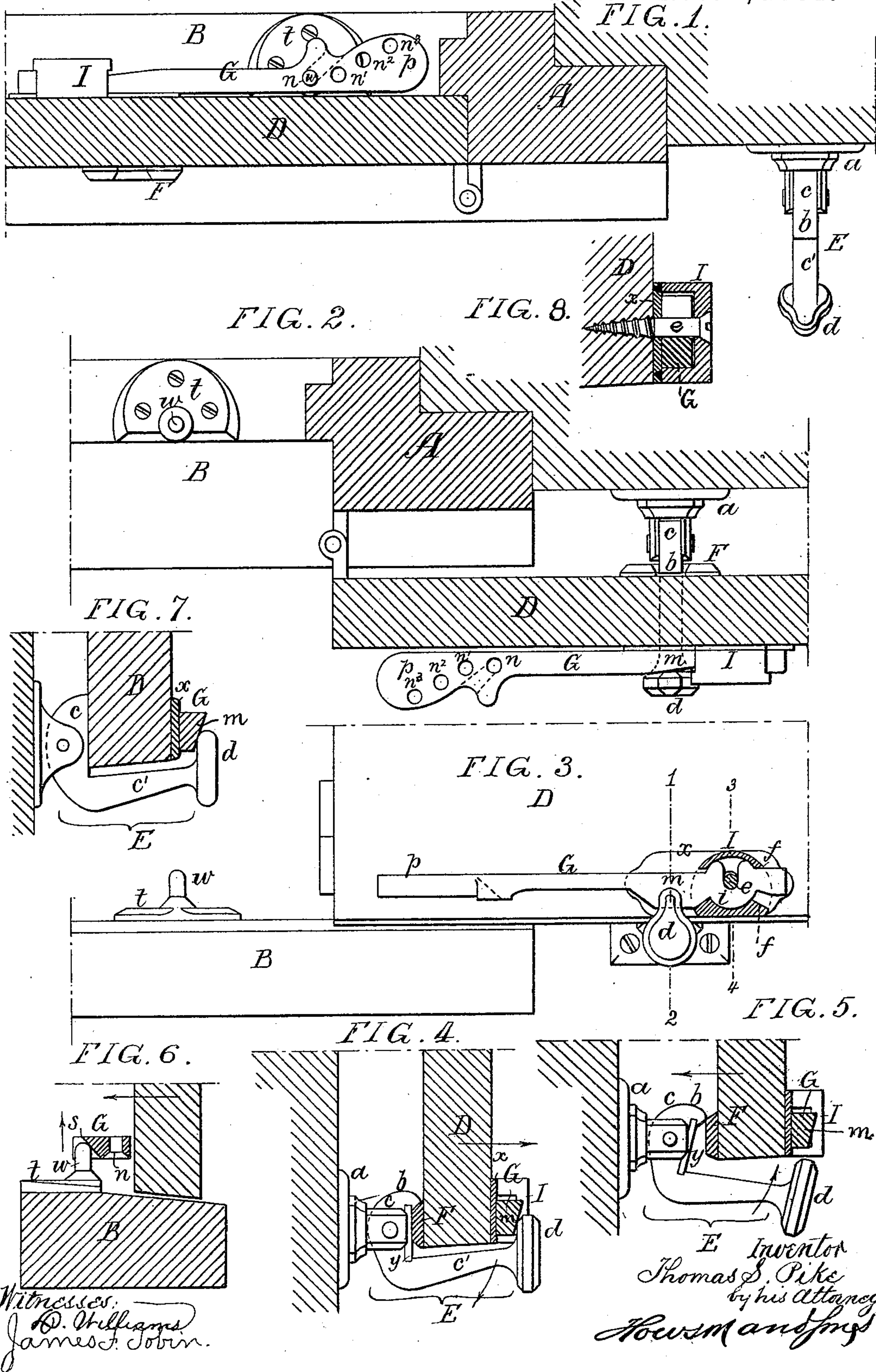


(No Model.)

T. S. PIKE.
SHUTTER FASTENER.

No. 249,087.

Patented Nov. 1, 1881.



UNITED STATES PATENT OFFICE.

THOMAS S. PIKE, OF WOODBURY, NEW JERSEY.

SHUTTER-FASTENER.

SPECIFICATION forming part of Letters Patent No. 249,087, dated November 1, 1881.

Application filed June 27, 1881. (No model.)

To all whom it may concern :

Be it known that I, THOMAS S. PIKE, a citizen of the United States, residing in Woodbury, Gloucester county, New Jersey, have invented certain Improvements in Shutter-Retainers, of which the following is a specification.

The object of my invention is to so construct a shutter-retainer that it will be automatic in its action, and will securely hold the shutter either in an opened, closed, or partly-closed position; and this object I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawings, in which—

Figure 1 is a sectional plan view of part of a window frame and shutter provided with my improved retainer, the shutter being closed; Fig. 2, a similar view, with the shutter opened; Fig. 3, a front view of Fig. 2; Fig. 4, a transverse section on the line 1 2, Fig. 3; Fig. 5, a view showing the act of locking the shutter in opening the same; Fig. 6, a view showing how the shutter is locked on being closed; Fig. 7, a view showing a modification of part of the invention; and Fig. 8, a section on the line 3 4, Fig. 3.

A represents part of one of the side frames of the window; B, part of the sill; and D, part of one of the shutters, hung to the frame A by hinges in the usual manner. A plate, *a*, is secured to the front of the house, adjacent to the window-frame A, and to bearings on this plate is hung a lever, E, the short arm *c* of which has a projection, *b*, adapted to engage with a plate, F, secured to one side of the shutter D, adjacent to the lower edge of the same. The long arm *c'* of the lever E is bent so as to project beneath the shutter when the latter is opened, as shown in Fig. 4, and the outer end of this arm of the lever has a projection, *d*, upon which acts a locking-arm, G, pivoted to the shutter, as described hereinafter, so that it is free to rise and fall at its outer end, *p*, to a limited extent, the movement of the arm being restricted by stops *f* on a box, I, which is secured to a plate, *x*, on the shutter, and is adapted for the reception of a segmental enlargement, *i*, on the arm, the periphery of said enlargement fitting snugly to the interior of the box I, so that an extended

bearing of the lever in the said box is insured. The box I is secured to the plate *x* by means of a central screw, *e*, and in order to prevent any twisting of the box on the plate, I adapt lugs or projections on said box to recesses in the plate, as shown in Fig. 8. The portion *m* of the locking-arm G, which acts upon the projection *d* of the retaining-lever E, is tapered longitudinally, as shown in Fig. 2, and is wedge-shaped in cross-section, as shown in Fig. 4, for a purpose explained hereinafter. The outer end, *p*, of the arm G is enlarged, and has formed therein a series of openings, *n*, *n'*, *n*², and *n*³, the under side of the arm being recessed at a point adjacent to the opening *n*, so as to form an inclined face, *s*, Fig. 6, extending from the base of the opening *n* to the upper edge of the arm.

To the sill B of the window-frame is secured a plate, *t*, having a projecting pin, *w*, which acts, in conjunction with the enlarged and perforated portion of the arm G, to lock the shutter in a closed or partly-closed position, as will be understood from the following description of the operation of the device.

When the shutter is open, as shown in Figs. 1, 2, 3, and 4, the lever E occupies the position shown in the latter figure, the projection *b* on the short arm *c* of the lever engaging with the plate F, and the portion *m* of the arm G being interposed between the plate *x* on the shutter and the projection *d* on the long arm *c'* of the lever, so that any movement of the latter on its pivot is prevented, and the shutter is firmly retained and prevented from raising off its hinges or from moving in either direction, the longitudinal taper and wedge-shaped cross-section of the portion *m* of the arm G causing it to be self-tightening, and thus effectually preventing any rattling of the parts.

When it is desired to close or partly close the shutter the end *p* of the arm G is elevated so as to free the projection *d* of the lever E from the influence of the portion *m* of the arm G, and the shutter is then free to be moved in the direction of the arrow, Fig. 4, the long arm of the lever E being depressed, as shown by its arrow. Before the shutter reaches the closed position the pin *w* on the sill commences to act on the inclined bearings of the arm G, as shown

in Fig. 6, and the arm is gradually elevated until the opening n coincides with the pin, when the arm falls and the pin enters the opening.

In order to release the shutter, the end p of the arm G is elevated so as to free the pin w from the opening n , and if it is desired to bow the shutter the pin is adapted to one of the openings, n' , n^2 , or n^3 , in accordance with the extent of opening desired, slight lateral play of the arm G in the box I being permitted in order that this operation may be readily effected.

In opening the shutter the short arm of the lever E is first struck by the plate F , and said lever is caused to turn on the pivot, as shown in Fig. 5, this movement continuing until the shutter has reached the fully-opened position shown in Fig. 4, when the portion m of the arm G falls behind the projection d of the lever and locks the latter in position.

In order to prevent undue shocks, owing to the contact of the plate F with the short arm of the lever E , I provide the latter with a pad, y , of rubber, leather, cork, paper, or similar material, which receives the blow of the plate F , and serves as a cushion therefor.

In carrying out my invention the exact construction shown in the drawings need not be adhered to in all cases. For instance, a sliding plate may be substituted for the arm G as a means of locking the lever E , or the arm alone may be used in connection with the pin w as a means of retaining the shutter in a closed or partly-closed position. The construction shown, however, is preferred.

The catch b on the short arm of the lever E and the projecting plate F on the shutter are intended principally to prevent the shutter from being lifted from its hinges when opened, and while preferred, they are not essential to the practical carrying out of my invention. For instance, in Fig. 7 I have shown a modification of my invention in which they are omitted.

I claim as my invention—

1. The combination of the pivoted retaining-

lever E , having two arms, c c' , with the shutter having a locking-arm, G , adapted to engage with a projection, d , on the arm c' of the lever, as set forth.

2. The combination of the pivoted retaining-lever E , having a projection, b , on one arm, c , and a projection, d , on the other arm, c' , with the shutter having a plate, F , adapted to engage the projection b , and a locking-arm, G , adapted to engage the projection d , as set forth.

3. The combination of the pin w on the sill of the window, with the arm G hung to the shutter, and having an opening, n , and inclined bearing-surface s adjacent thereto on the under side of the arm, whereby the automatic elevation and guidance of said arm on contact of the latter with the pin w is effected, as set forth.

4. The combination of the shutter, the arm G , having a segmental enlargement, i , and the box I , adapted to embrace and form an extended bearing for said segmental enlargement of the arm, as set forth.

5. The combination of the recessed plate x on the shutter, with the box I , having lugs adapted to the recesses of the plate, the locking-arm G , pivoted to said box, and the central screw, e , for securing the box to the plate, as set forth.

6. The combination of the lever E and its projection d with the locking-arm G , the portion m of which is wedge-shaped in cross-section, as set forth.

7. The combination of the lever E and its projection d with the locking-arm G , having a portion, m , tapered longitudinally and wedge-shaped in cross-section, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS S. PIKE.

Witnesses:

JAMES F. TOBIN,
HARRY SMITH.