

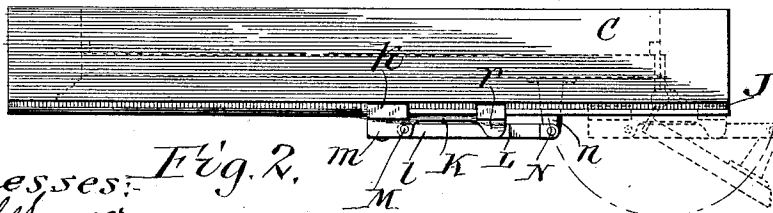
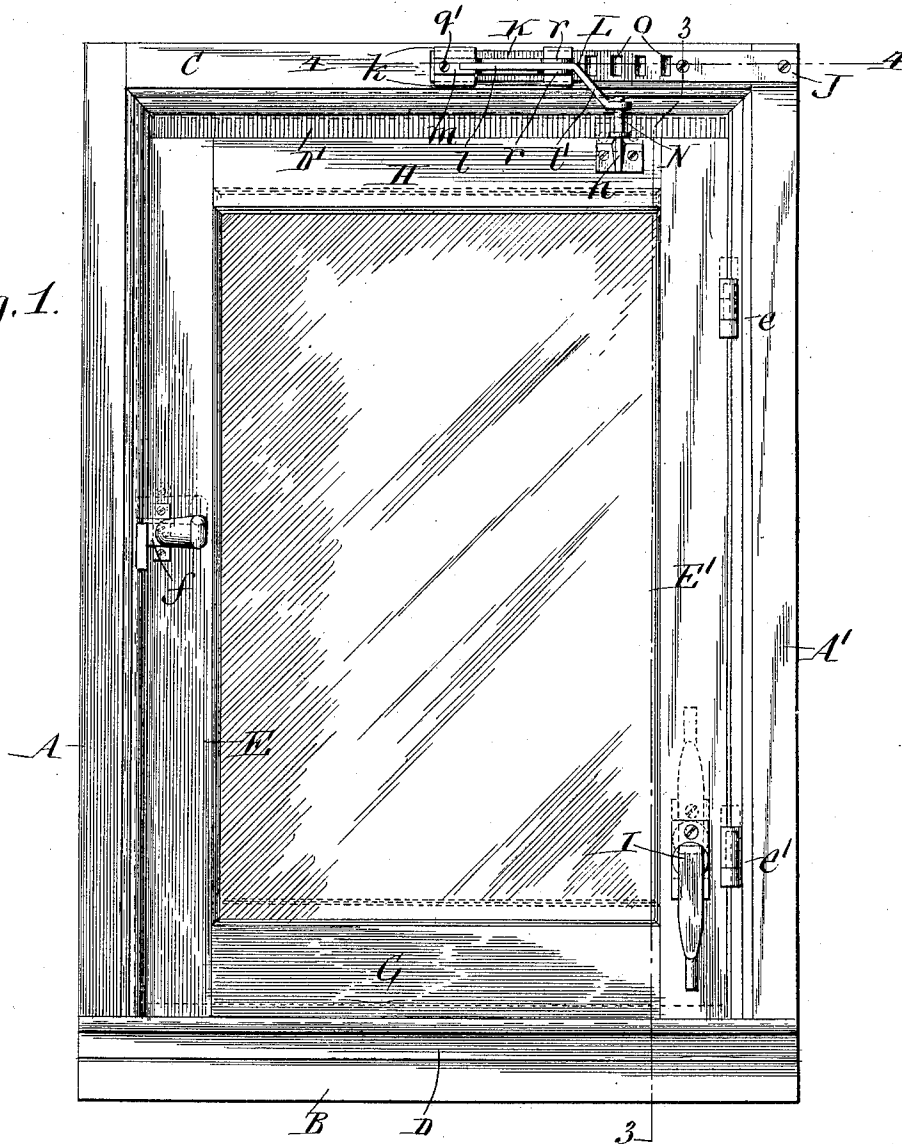
C. D. TABOR.
SASH ADJUSTER.
APPLICATION FILED SEPT. 30, 1910.

1,063,617.

Patented June 3, 1913.

2 SHEETS—SHEET 1.

Fig. 1.



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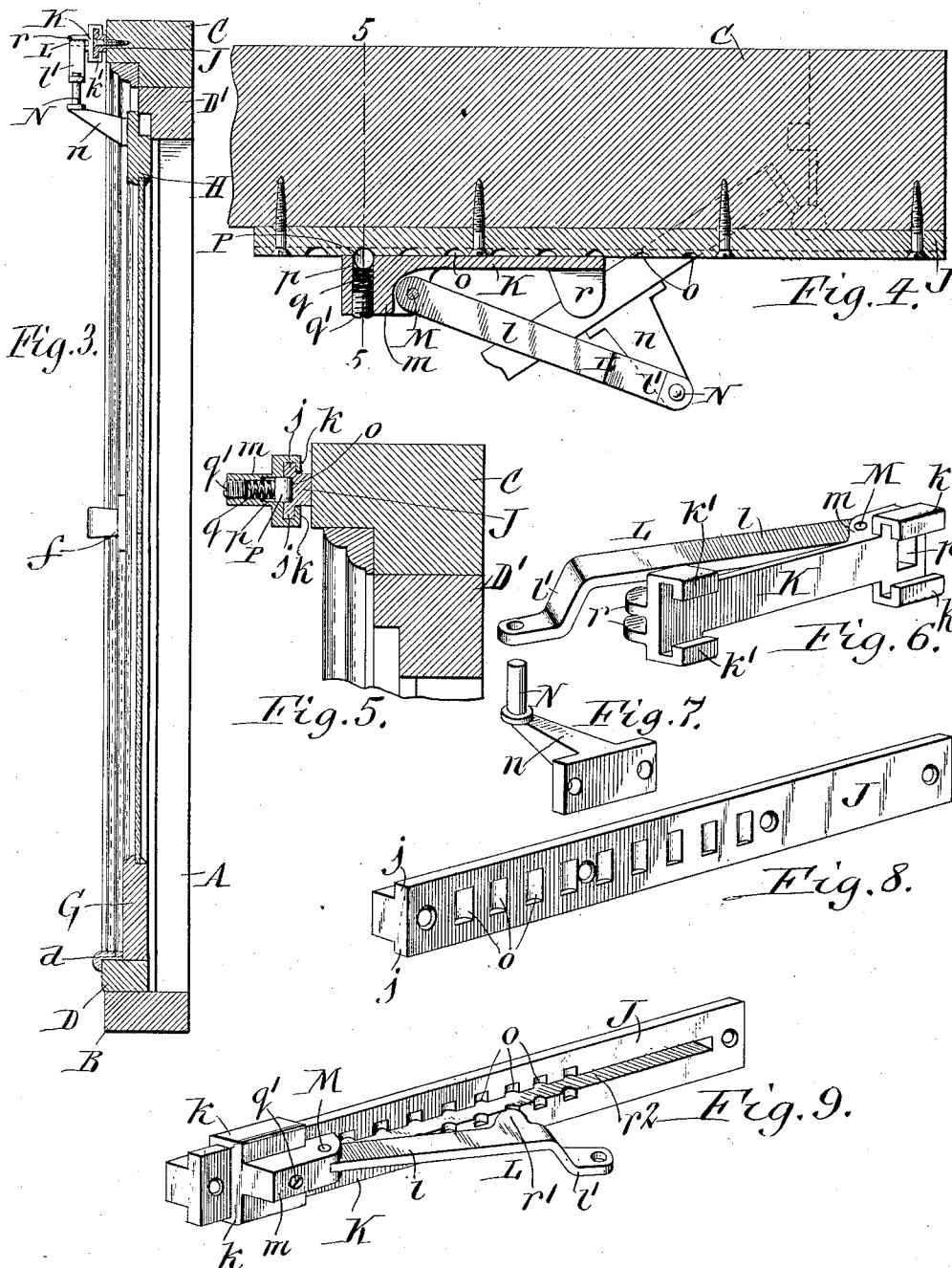
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UNITED STATES PATENT OFFICE.

CLINTON D. TABOR, OF NEW DORP, NEW YORK, ASSIGNOR TO TABOR SASH FIXTURE COMPANY, OF NEWARK, NEW JERSEY, A CORPORATION OF NEW JERSEY.

SASH-ADJUSTER.

1,063,617.

Specification of Letters Patent.

Patented June 3, 1913.

Application filed September 30, 1910. Serial No. 584,603.

To all whom it may concern:

Be it known that I, CLINTON D. TABOR, a citizen of the United States, residing at New Dorp, Staten Island, in the county and State of New York, have invented new and useful Improvements in Sash-Adjusters, of which the following is a specification.

This invention relates to a sash adjuster which is more particularly designed for holding a horizontally-swinging sash in a more or less open position.

It is the object of this invention to provide a sash adjuster of this character which is particularly adapted for use on the upper part of the sash and frame where it is out of the way, and not liable to interfere with the free use of the window and is also not liable to be injured.

In the accompanying drawings consisting of 2 sheets: Figure 1 is an elevation of a casement window equipped with one form of my improved sash adjuster. Fig. 2 is a top plan view of the same. Fig. 3 is a vertical transverse section in line 3—3, Fig. 1. Fig. 4 is a fragmentary horizontal section, on an enlarged scale, in line 4—4, Fig. 1, and showing the sash partly opened. Fig. 5 is a fragmentary vertical section in line 5—5, Fig. 4. Figs. 6, 7 and 8 are detached perspective views of different parts of the adjuster shown in Figs. 1—5. Fig. 9 is a similar view of a modified form of sash adjuster embodying my invention.

Similar letters of reference indicate corresponding parts throughout the several views.

The window shown in the drawings for illustrating my invention comprises a frame having two upright side jambs A, A¹, a horizontal main sill B connecting the lower ends of the side jambs, a horizontal head jamb C connecting the upper ends of the side jambs, a stool D arranged on the main sill and provided on its upper side with an outwardly facing shoulder d, a head stop D¹ arranged on the underside of the head jamb, and a sash having two upright side stiles E, E¹ one of which E¹ is connected by hinges e, e¹ with the hinge jamb A¹ while the other E is detachably connected by a catch f with the lock jamb A, a lower rail G connecting the lower ends of the stiles and having its underside adapted to fit behind the shoulder of the stool, and a top rail H connecting the upper ends of the stiles

and adapted to engage the inner side of the head jamb stop.

In the closed position of the sash the same is in line with the frame and it is lowered so that its lower rail engages behind the shoulder of the stool, as shown in Figs. 1 and 3, thereby forming a tight joint between the sash and frame and preventing the passage of dust, wind, rain and snow between the same. When it is desired to open the window, the sash is first raised so that its lower rail clears the shoulder of the stool after which the sash may be swung on its hinges e, e¹ into a more or less open position. The window is again closed by first swinging the sash into line with the frame and then lowering the sash so that its lower rail engages behind the shoulder of the stool. To permit of thus raising and lowering the sash, the hinges are so constructed that the leaves of the sash can slide on the leaves of the frame in a well known manner. Any suitable means may be employed for raising and lowering the sash, such means being generally indicated at I in Fig. 1, and may be constructed similar to the lifting device shown in my pending application, No. 385,427.

My improved sash adjuster shown in Figs. 1—8 is constructed as follows: J represents a horizontal track or guide-bar secured to the inner side of the head jamb of the frame adjacent to the hinge side jamb and provided on its opposite longitudinal edges with guide ways j, j which are preferably constructed in the form of flanges which are raised from the surface of the frame, as shown in Figs. 3 and 5. Slidable horizontally and lengthwise on the front side of this guide bar is a carriage K which is slidably connected with said bar by means of front and rear pairs of guide hooks or fingers k, k¹ which engage behind the guide flanges j, as shown in Figs. 3 and 5. L represents a draft or shifting link having an elevated front part l which is pivoted by a vertical pin M or otherwise to an outwardly-projecting lug m on the front end of the carriage while its rear part l¹ is depressed and receives an upright pivot pin N which is mounted on the outer end of a bracket n secured to the adjacent part of the upper sash rail. Upon raising and lowering the sash the rear pivot pin N slides vertically in the rear end of the link and

when swinging the sash on its hinges the link moves the carriage horizontally on the guide bar.

In order to hold the sash positively in position and prevent the same from being turned by the wind or other ordinary pressure when the sash is opened more or less, a detent device is provided which preferably operates frictionally and which is constructed as follows: *o* represents a plurality of recesses or notches arranged in a horizontal row on the outer side of the guide bar, said notches being progressively narrower and also preferably shallower from one end of the row to the other, the widest and deepest notch being at the front end of the guide bar and the narrowest and shallowest at the rear end of the same. *P* represents a detent pawl mounted on the carriage and adapted to engage with one or the other of said notches. This pawl is preferably so constructed that it is capable of rolling over the guide bar from one notch to the other and for this purpose the same is preferably constructed of cylindrical form with its axis arranged vertically. This cylindrical detent pawl is arranged in the inner end of a pocket *p* which is formed in the lug *m* and is yieldingly held in engagement with the guide bar by a spring *q* arranged in the pocket and bearing at one end against the detent while its other end bears against a screw *q*¹ which closes the outer end of the pocket *p*, as shown in Fig. 5. When the sash is swung in line with the frame, the detent pawl engages with the widest and deepest notch and as the sash is swung open the pawl rolls successively into one notch after the other toward the rear end of the series. Inasmuch as the detent pawl is able to project a greater extent into a deep wide notch than into a shallow narrow notch, it requires more power to dislodge the pawl from a wide notch than from a narrow notch. The pawl therefore offers greater resistance to any pressure which tends to shift the carriage and sash when the pawl is arranged in a wide notch than when the same is arranged in a narrow notch. It follows from this that when the sash is swung into its closed or nearly closed position it requires more power to dislodge the same from the respective notches, because the same are comparatively wide at this part of the guide bar while less power is required to dislodge the pawl from the notches when the sash is swung wide open or nearly so. Inasmuch as the leverage of the sash when subjected to wind pressure while in its closed or nearly closed position is greatest and least when fully opened or nearly so, the widening of the notches toward the front end of the row and narrowing of the same toward the rear end of the row compensates for the difference in the leverage of the sash

and thus enables the pawl to hold the sash reliably in place either when fully closed or nearly so and when fully opened or nearly so.

When the sash is in its closed position the central part of the link is arranged between a pair of supporting ears or lugs *r* on the rear end of the carriage, thereby holding this link reliably in place and preventing the same from being shifted by the pin *N* as the latter slides vertically in the link upon raising or lowering the sash. When the sash is in its intermediate opened position the link leaves the supporting lugs but again enters between the same when the sash is fully opened, as shown by dotted lines in Fig. 2.

Instead of supporting the guide link against vertical deflection by means of the lugs *r* when the sash is in its closed position, this effect may be produced by the means which are shown in Fig. 9 and which comprise a supporting lug *r*¹ arranged on the inner edge of the link and adapted to engage with a longitudinal slot *r*² in the guide bar. In this last-mentioned construction the carriage may be shortened and the rear guide fingers or hooks *h*¹ omitted, as shown in Fig. 9.

By arranging the sash adjuster at the top of the sash and frame, the same is more sightly, it does not interfere with the full use of the window and the same is also not liable to become injured as frequently happens to sash adjusters arranged at the bottom of the sash and frame. It will be noted that by means of this sash adjuster the sash is held frictionally in place at all times and can be easily shifted into a more or less open position but the rigidity with which the same is held varies, the leverage being greatest and most needed when the sash is closed or nearly so on account of the greater leverage which the sash exposes to the pressure of the wind which tends to displace the same, and the leverage being smallest and least needed when the sash is fully opened or nearly so on account of the small displacing effect which the wind exerts against the sash in this last-mentioned position.

I claim as my invention:

1. A sash adjuster comprising a guide bar adapted to be secured to the frame of a window provided with guide flanges on its opposite longitudinal edges, a carriage provided with guide hooks engaging behind said flanges, a link pivoted at one end on said carriage, a bracket adapted to be secured to the sash of the window and provided with a pivot pin which passes through the other end of said link, and means for supporting the central part of said link on the carriage.

2. A sash adjuster comprising a guide bar adapted to be secured to the frame of a window provided with guide flanges on its op-

posite longitudinal edges, a carriage provided with guide hooks engaging behind said flanges, a link pivoted at one end on said carriage, a bracket adapted to be secured to the sash of the window and provided with a pivot pin which passes through the other end of said link, and means for supporting the central part of said link on the carriage comprising a pair of supporting lugs arranged on the carriage and adapted to receive the link between them.

3. A sash adjuster comprising a guide bar adapted to be secured to a window frame and provided with a row of notches which are of progressively greater width from the front to the rear end of the row, a carriage slidable on said bar, a detent mounted on the carriage and engaging with said notches, and a link connected with said carriage and adapted to be connected with the sash of the window.

4. A sash adjuster comprising a guide bar adapted to be secured to a window frame and provided with a row of notches which are of progressively greater width from the front to the rear end of the row, a carriage

slidable on said bar and provided with a pocket, a rolling detent arranged in said pocket and engaging said notches, a spring operating to press said detent into said notches, and a link adapted to connect said carriage with the sash of the window.

5. A sash adjuster comprising a guide bar adapted to be secured to a window frame and provided with a row of notches which are of progressively greater width from the front to the rear end of the row, a carriage slidable on said bar and provided with a pocket, a rolling detent arranged in said pocket and engaging said notches, a spring bearing at one end against said detent and pressing the same into said notches, a screw arranged in said pocket and bearing against the other end of said spring, and a link adapted to connect said carriage with the sash of the window.

Witness my hand this 21st day of September, 1910.

CLINTON D. TABOR.

Witnesses:

A. SCHRAFFT,
GEORGE SWEZEY.