

(Model.)

2 Sheets—Sheet 1.

E. M. CHUMARD.
SASH HOLDER.

No. 353,287.

Patented Nov. 30, 1886.

Fig. 1.

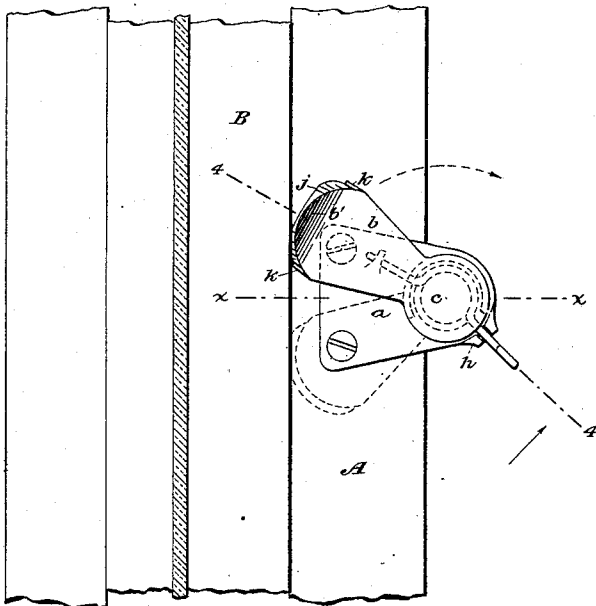


Fig. 2.

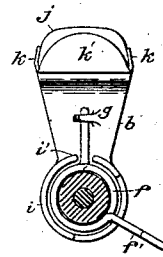


Fig. 4.

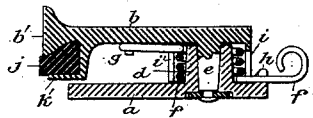


Fig. 2.

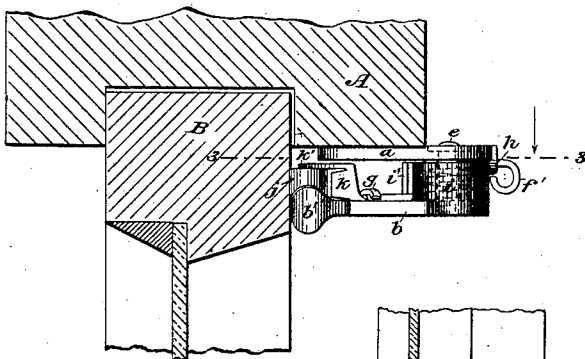


Fig. 4^a.

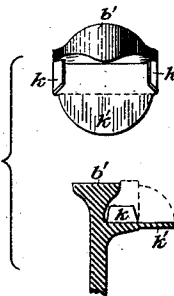
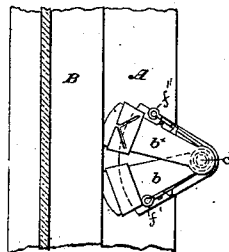


Fig. 16.



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(Model.)

2 Sheets—Sheet 2.

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Fig. 6.

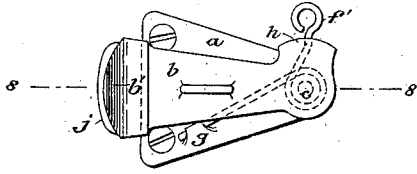


Fig. 7.

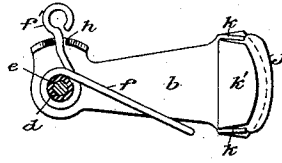


Fig. 6.

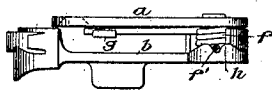


Fig. 8.

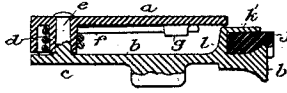


Fig. 9.

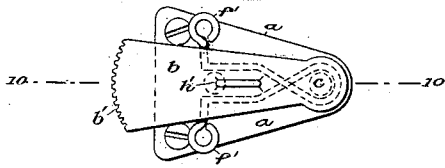


Fig. 10.

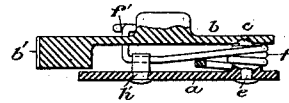


Fig. 11.

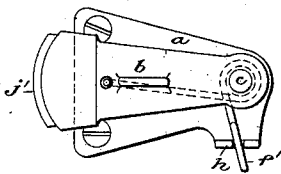


Fig. 12.

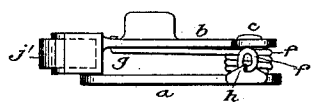


Fig. 13.

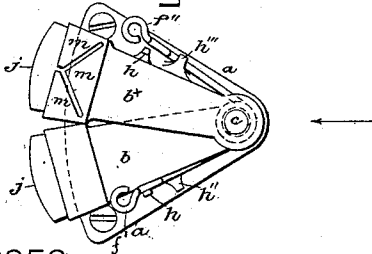
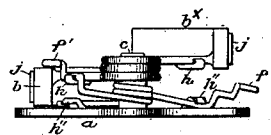


Fig. 14.



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UNITED STATES PATENT OFFICE.

E. MELCHOR CHUMARD, OF STROUDSBURG, PENNSYLVANIA.

SASH-HOLDER.

SPECIFICATION forming part of Letters Patent No. 353,287, dated November 30, 1886.

Application filed February 13, 1886. Serial No. 191,804. (Model.)

To all whom it may concern:

Be it known that I, E. MELCHOR CHUMARD, a citizen of the United States, and a resident of Stroudsburg, in the county of Monroe and State of Pennsylvania, have invented certain Improvements in Sash Supporters and Fasteners, of which the following is a specification.

My invention relates to that class of sash supporters and fasteners wherein a cam-detent pivotally mounted on the casing engages the sash frictionally with its free end and prevents the sash from moving in one or the other direction, according to which way the cam is set. The cam or frictional detent may sometimes be mounted on the sash, and so as to bear on or against the casing. The principle of the operation is the same in both cases. The commonest form of supporter of this class is a simple gravity cam-detent, and the simplest form of sash-fastener to prevent the sash from being raised is a similar cam-detent so weighted as to keep it up to the sash, or the casing, as the case may be.

The object of my invention is to provide a cheap, simple, and easily-manipulated device, that will either support or fasten the sash, as required, or will both support and fasten the sash—that is to say, one that will lock the sash while raised. This latter is a very important feature, as it may be desirable to open the window slightly for purposes of ventilation, and to lock it while open at any desired point.

My supporter is designed to be used mainly upon windows unprovided with balance-weights for the sash; but as a fastener it may be advantageously employed on both sashes of windows provided with sash-weights.

My invention will be hereinafter fully described, and its novel features carefully defined in the claims.

In the drawings which serve to illustrate my invention, I have shown the preferred form in Figures 1, 2, 3, 4 and 4^a, the other views illustrating modified forms of the same.

Fig. 1 is a front elevation of my improved supporter and fastener as applied to the casing of a window and bearing on the sash. The full lines show it in position as a sash-supporter and the dotted lines its position as a sash-fastener. Fig. 2 is a plan of the fastener in position on the window-casing. Fig. 3 is a

detached sectional view, the plane of which is indicated by line 3 3 in Fig. 2. Fig. 4 is a detached sectional view taken in the plane indicated by line 4 4 in Fig. 1. Fig. 4^a illustrates the means employed for securing the rubber cushion in place in the detent, the upper view being a plan, and the lower view a section, of the head of the detent before the rubber is placed therein. Figs. 5, 6, 7, and 8 illustrate a modification wherein the detachable spring is carried by the base-plate instead of by the cam-detent. Figs. 9 and 10 illustrate another modification, wherein both ends of the spring are made detachable from the plate, and the end of the detent is unprovided with a soft cushion. Figs. 11 and 12 illustrate a modification wherein a wooden block is inserted in the end of the detent to form a face to bear on the sash or casing. Figs. 13, 14, and 15 illustrate another modification of my invention, in which two cam-detents are employed.

All of the above modifications will be fully hereinafter described.

Referring first to Figs. 1, 2, 3, 4, and 4^a, *a* is the base-plate, which is usually attached to the window-casing *A* (or sash *B*, as the case may be) by screws. *b* is the cam-detent hinged to the plate *a* at *c*. I usually make both the plate *a* and detent *b* of malleable iron, and cast on or fix to the plate a tubular stud or bearing-sleeve, *d*, Fig. 4, through which passes the hinging-stud *e*, cast with or secured to the detent *b*. This construction is clearly shown in Fig. 4. I usually connect the parts *a* and *b* by riveting down the end of stud *e* on a washer at the back of the plate *a*. This construction gives a long and firm hinge-bearing to the detent, which is important in these devices. Around the sleeve *d*, at the hinge-axis, is coiled a spring, *f*, one branch of which is fastened to the inner face of the detent *b* at *g*, and the other branch of which is detachably fastened to the plate *a* by making its end *f'* engage a notch, *h*, in a flange-like projection on the plate *a*. When the supporter is mounted on the window-casing, as seen in Figs. 1 and 2, the spring *f* holds the free end of the detent pressed elastically but firmly against the sash, which is supported thereby, as the weight of the sash causes the detent to press the sash back against the

casing. If it be desired to lower the sash it is only necessary to raise the detent with the thumb until it is free from the sash. In order to prevent inexperienced persons from pressing the detent back too far, I provide it with a stop which strikes the branch f' of the spring, (which engages the notch h), and thus limits the movement. This stop may be of any kind; but I prefer to provide the detent with a flange-like cylindrical housing, i , slitted at i' for the passage of the fixed end of the spring, and cut away or open on the side where the branch f' of the spring passes out. This opening is wide enough to allow sufficient movement of detent, but the margin of the opening in the housing i will strike the branch f' of the spring and limit the extent of the movement.

If it be desired to lock the sash or fasten it when closed, the spring is released from notch h by lifting its branch f' out of same, and the detent will then be free to be swung over, as indicated by the dotted arrow in Fig. 1, until it assumes the position indicated by dotted lines in this figure. The branch f' of the spring is now again forced into engagement with notch h , and the spring holds the detent against the sash, which prevents it from being raised. The stop i' acts to limit the movement of the detent in this position also as long as the detachable end of the spring is engaged by notch h . The arrangement of the spring is such that its tension tends to keep it in engagement with notch h , and when in engagement the spring tends always to bring the detent into coincidence with line $x x$ in Fig. 1.

In order to provide a soft cushion at the free end of the detent b , to avoid marring the sash, and at the same time to bring a broad metal surface to bear on the sash in case an effort is made to move the sash by forcible compression of the cushion to an extent sufficient to allow the detent to swing past the line $x x$ on the inside, I adopt by preference the construction I will now describe. On the end of the detent I form a rather broad convex-surfaced metal head, b' , and at the side of this head I form a recess to receive and hold a cushion, j , of firm but yielding vulcanized rubber, or other similar soft material. This recess is formed by constructing on the detent two inwardly-inclined keepers, $k k$, as seen in Fig. 4^a, and a lip, k' , which at first stands out horizontally. The rubber is forced in under the overhanging keepers and the overhanging margin of the head b' , and the lip k' is then bent up against the rubber to prevent it from escaping. The rubber projects far enough beyond the convex face of the head b' to prevent contact of the latter with the sash under ordinary conditions; but if an attempt is made to force the sash down by compressing the rubber cushion the metal head b' will be brought into contact with the sash, and will effectually prevent any further movement, as the broad surface of metal presented will prevent it from sinking into the sash.

The construction shown in Figs. 5, 6, 7, and

8 only differs from that already described in these respects, that the spring f is fixed permanently to the plate a , and its branch f' engages a notch, h , in a flange on the detent, and the stop i is mounted on the plate a instead of on the detent. Fig. 5 is an elevation. Fig. 6 is a plan. Fig. 7 is an under side or back view of the detent, and Fig. 8 is a section on line 8 8 of Fig. 5.

In the construction shown in Figs. 9 and 10 the ends $f' f'$ of the spring embrace the detent b , and also embrace a pin, h' , on the plate a . When the detent is pressed in one direction it is resisted by one branch of the spring, and when pressed in the other direction it is resisted by the other branch. By lifting them the ends of the spring clear the pin h' , and the detent and spring may swing around together on the axis. In these views Fig. 9 is an elevation, and Fig. 10 is a section on line 10 10 in Fig. 9. The head of the detent is shown in these figures as of metal and unprovided with a cushion. To prevent slipping, it is shown as roughened.

Fig. 11 is an elevation, and Fig. 12 is a plan illustrating a construction similar to that shown in Figs. 1 and 2, but showing a simple socket formed in the end of the detent b , and a plug, j' , of wood, inserted to bear upon the sash.

Figs. 13, 14, and 15 show a form of my supporter and fastener that is capable of locking the sash at any point. This construction has two detents, $b b^x$, hinged on a common axis, c , and one spring, f , serves for both. Both ends, $f' f''$, of the spring are detachably connected, and they may be connected to their respective detents $b b^x$, or to the plate a . On each detent is formed a notch, h , to receive and hold the ends of the spring, and on the plate a are formed the two notches h'' and h''' , which may also be engaged by the respective ends $f' f''$ of the spring. Suppose the end f' of the spring is made to engage notch h in detent b , and end f'' of the spring is made to engage notch h''' of plate a , then detent b will serve as a lock to prevent the sash from being raised. This is seen in Fig. 15, which shows the device applied. Detent b^x will now serve as a gravity-detent to support the sash. When mounted on the other side of the window, the attachment of the ends of the springs must be reversed, and b^x will then become the locking-detent. Fig. 13 is a side elevation, and Fig. 14 is a rear elevation—that is, a view of Fig. 13 from the right. In these views the rubber cushion j is secured in its place by three flaps, $m m$, constructed to be bent or folded in against the rubber when the latter is in place, and to retain it. When detached from the spring, either of the detents b or b^x may be turned back out of the way.

In all of these constructions it will be seen that the spring is made readily detachable at one or both ends, so as to render it inoperative.

I prefer to attach the end of the spring at g by means of a clip cast on the plate a , (or de-

tent *b*, as the case may be,) and bent down over the end of the spring; but this mode of fastening is feasible only when malleable metal is used. Where the metal is not malleable, other means may be employed.

In mounting my supporter on the window sash or casing it would be feasible to dispense with the plate *a* by mounting the detent *b* directly on the wooden sash or casing. This could be effected by driving a screw through the hole in the pivoting end of the detent and into the wood. The end of spring *f* could be secured to the wood in lieu of the plate. In this construction the wood of the casing or sash would be the substantial equivalent of the plate *a*. In order to provide a complete and readily-attachable device, I prefer to employ the base-plate, as shown.

It has been proposed to construct the detent of a sash supporter and fastener with a double head at its free or operative end, one of which is held up to the sash to form a lock by a spiral spring attached to the detent back of the pivot. By releasing the end of the spring, so as to render it inactive, the detent falls by gravity and brings the other head into play to form a supporter for the sash. This device is substantially different from mine in several important respects—the detent has two heads formed integrally, and one acts by gravity while the spring hangs loose and inoperative. In the principal form of my device there is but one single-headed detent, which is held up to the sash by a spring when serving as a supporter as well as when serving as a fastener. In the modified form two independent detents are employed, both of which are held up to the sash by the spring, and each of which is independently detachable from the spring.

Having thus described my invention, I claim—

1. A sash supporter and fastener comprising the base-plate, the single-headed cam-detent pivoted at one end to said plate, and the spring to hold the detent up to the sash in both of its positions, said spring being attached permanently at one end to one of these parts and detachably connected to the other part at its other end, whereby the cam-detent may be readily released from the operation

of the spring while the detent is being shifted from one position to the other, substantially as set forth.

2. The combination of the base-plate *a*, the single-headed cam-detent *b*, pivoted thereto at one end, and the spring *f*, attached permanently at *g* to one of these parts and provided with a branch, *f'*, adapted to be removably attached to the other part by engagement with a notch, *h*, formed therein, the said spring adapted to hold the head of the cam-detent up to the sash in both positions of said detent—namely, in its position as a support and also as a fastener, substantially as set forth.

3. The combination of the base-plate provided with a retaining-notch, *h*, for the spring, the single-headed cam-detent pivoted to said plate and provided with a stop to limit its movement, as described, and the spring *f*, attached by its one end to the detent, and the branch *f'* at the other end adapted to engage the notch *h*, said spring serving, as described, to hold the detent up elastically to the sash in both of its positions, and, said stop serving to limit the movement of the detent in both of said positions.

4. The combination of the base-plate provided with a flange-like cylindrical housing, *i*, slitted at *i'*, and a tubular stud, *d*, the cam-detent *b*, provided with a stud, *e*, formed integrally therewith, said stud *e* fitting into the hollow of stud *d*, and riveted, as shown, and the spring *f*, coiled around stud *d*, the branches or ends of said spring extending out through slit *i'*, and secured, respectively, to the base-plate and cam-detent, as described, and operating as set forth.

5. The detent having its head *b'* provided with a recess for the cushion with overhanging sides, and provided also with a lip, *k*, capable of being bent against the rubber to retain it in place when inserted, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

E. MELCHOR CHUMARD.

Witnesses:

HENRY CONNETT,
ARTHUR C. FRASER.