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J. P. BECKER

CLOSURE OPERATOR

Filed March 28, 1924

Fig. 1.

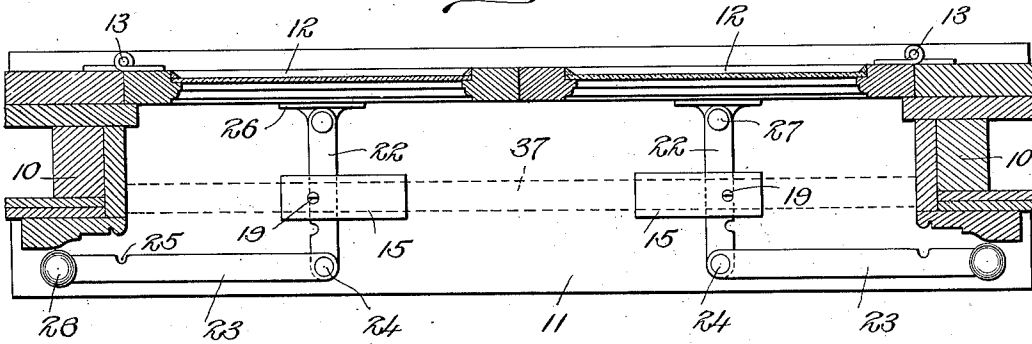


Fig. 3.

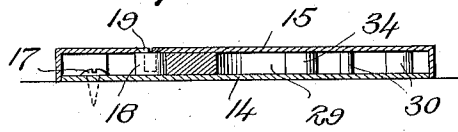


Fig. 2.

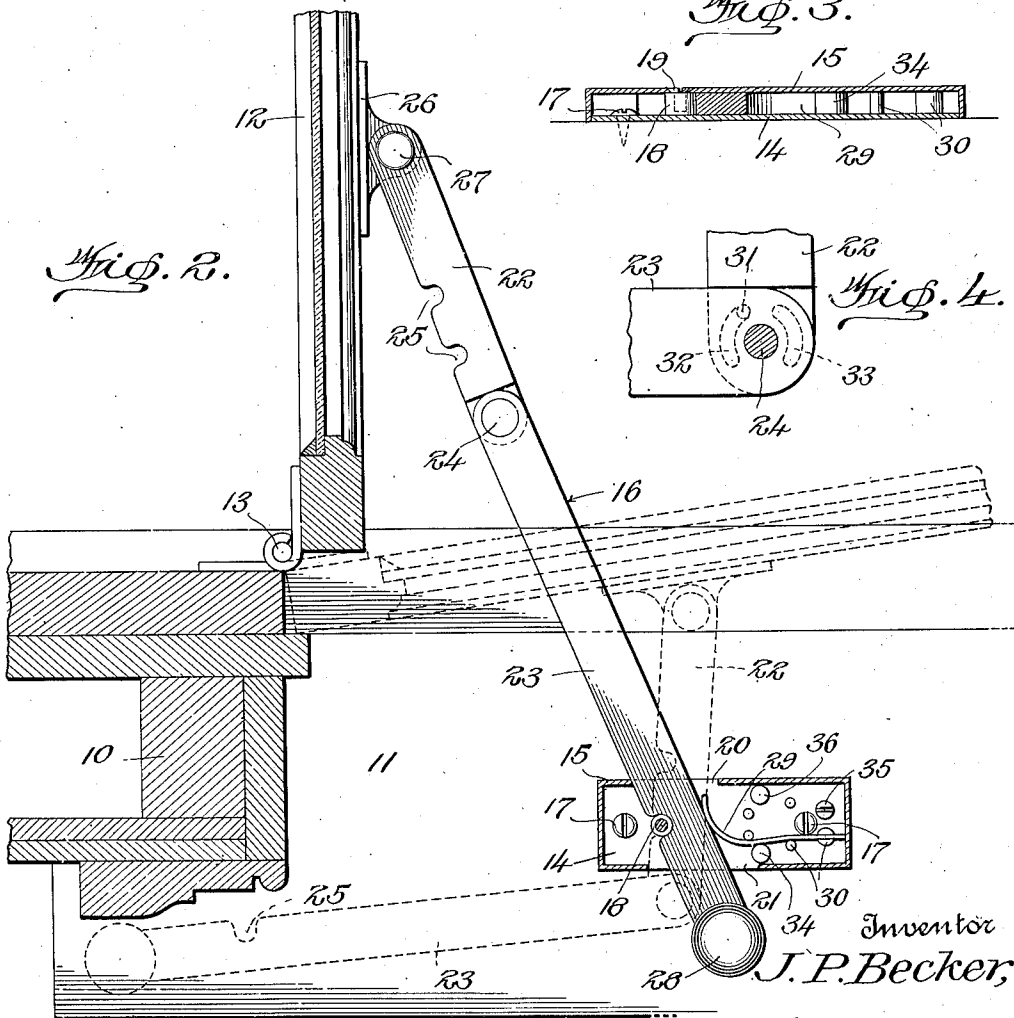
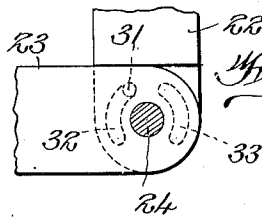


Fig. 4.



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UNITED STATES PATENT OFFICE.

JAMES P. BECKER, OF MIAMI, FLORIDA.

CLOSURE OPERATOR.

Application filed March 28, 1924. Serial No. 702,809.

To all whom it may concern:

Be it known that I, JAMES P. BECKER, a citizen of the United States, and resident of Miami, in the county of Dade and State of Florida, have invented certain new and useful Improvements in Closure Operators, of which the following is a specification.

My invention relates to closure operators and has particular reference to improvements in devices for securing casement or swinging window sashes in different adjusted positions, my improvements consisting more particularly in the novel features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings and defined in the appended claim.

In the drawings, wherein like characters of reference denote corresponding parts in the different views.

Figure 1 is a horizontal section through a window showing a pair of my improved devices holding the swinging sashes of the window in closed positions;

Figure 2, an enlarged horizontal section showing in full and dotted lines, respectively a swinging window sash held in different adjusted positions by one of my improved devices.

Figure 3, a longitudinal section through the base portion and housing member of one of my devices; and

Figure 4, a detail view showing the joint between the sections of the operating arm of one of my devices.

Referring now to the drawings in detail, 10 designates a window frame including a sill 11, and 12, 12, a pair of sashes hinged to the frame as at 13 for outward swinging movement.

My improved devices for securing the sashes 12 in different adjusted positions are, in all essential respects, duplicates of one another, and therefore only one of them will be described in detail. It consists of a base plate 14, a housing 15 therefor, and a sectional operating arm 16. Base plate 14 is of elongated rectangular shape and is adapted to be secured to the window sill 11 by means of screws or other fasteners 17 as shown in Figure 2, while from the upper face of said plate, near one end thereof and midway between its side edges, rises

a pin or lug 18, which latter is threaded to receive a screw 19 for securing the housing 15 over said plate.

Arm 16 extends across base plate 14 and through openings 20 and 21, respectively, formed in the side walls of housing 15, said arm, as aforementioned, being formed in two sections 22 and 23 pivotally connected together at adjacent ends as at 24 and each section having formed in one edge thereof one or more notches 25 to be selectively engaged with pin 18. A bracket 26 is secured to the sash 12 and the outer end of section 22 is pivotally connected to this bracket as at 27, while the inner or free end of section 23 is provided with a knob 28 or other suitable hand grip device for manipulating the arm.

A leaf spring 29 is mounted on the base plate 14 and exerts a pressure against arm 16 in the direction of pin or lug 18, so that when the arm is manipulated to engage a selected notch 25 with said pin or lug, the arm is held thus engaged against accidental release.

In the present instance the means for mounting leaf spring 29 on the base plate 14 consists of a series of staggered pins 30 rising from the base plate, the spring being woven between said pins, so that one end thereof is disposed against the edge of arm 16 opposite to the edge provided with the notches 25 and is free to flex to permit manipulation of said arm, while its other end abuts the inner face of the adjacent end of the housing 15 by reason of which it is held against longitudinal movement from its effective relation with respect to arm 16.

The sections of arm 16 are of such length relative to one another that pivot 24 is disposed inwardly of the housing 15 when the sash 12 is closed, whereby section 23 may be swung on said pivot to lie within the limits of the sill 11, the purpose being to avoid any projections beyond the sill that might catch into and tear a person's clothing or that might be struck with damaging results to the device.

As is understood, when the device is in the position shown in full lines in Figure 1 and it is desired to open the window, knob 28 is grasped and section 23 is swung inward on pivot 24 slightly beyond a position of alignment with section 22, section 22 at the same

time and by the same movement being swung to disengage its notch 25 from pin 18. Arm 16 is then pushed outward until the sash has been opened to the desired extent, when the knob is released and leaf spring 29 acts to again move the arm to hold a notch 25 thereof in engagement with pin 18 and thus retain the sash in its adjusted position.

On one section of the arm 16 near the pivot 24 is a pin 31 that is disposed in an arcuate slot 32 in the other section of the arm, said slot being of such length as to limit swinging movement of section 23 to a position slightly beyond alinement with section 22, thereby to produce a joint at 24 that is broken in the direction of the hinge 13 when the sash 12 is in the open position shown in Figure 2, so any tendency of the sash to swing inward is positively prevented. Preferably an additional arcuate slot 33 is formed in the slotted section of the arm, so that pin 31 may be engaged therein instead of in slot 32, so that when the window is closed the section 23 may be swung to an out of the way position towards the center of the sill 11, rather than towards an end of the sill, as in some instances it may be found that the window frame will interfere with swinging of said section 23 in the latter direction.

A stop pin or lug 34 is provided on base 14 to limit swinging movement of section 22 in the direction of spring 29 when the section 23 is being swung from its full line position of Figure 1 to a position in substantial alinement with section 22 prior to opening the window, thereby to avoid damage to spring 29 and at the same time provide a rigid surface against which the arm 16 may operate during its sliding movement to open or close the sash.

The pins 30 and 34 are disposed to one side of a medial line extending longitudinally of the base plate, as is apparent from the showing in Figure 2 of the drawings, and another set of pins 35 and 36, respectively, corresponding to said pins 30 and 34, but disposed to the other side of a medial line extending longitudinally of the base plate, is provided so that the leaf spring may be reversed and in the same base plate thus

used with sashes that swing open in either a right hand or left hand direction.

The thickness of the arm 16 is such that it is snugly received between the base plate 14 and the under face of the top of the housing 15, and as will be apparent from Figure 2 of the drawings, insects are prevented from passing through the housing due to the leaf spring which is of the same height as the arm constantly bearing against one edge of the arm and to the fact that the other edge of the arm contacts with one or the other of the adjacent edges of the side walls of the housing defining the limits of openings 20, 21, it being understood, of course that a screen covers the window opening as indicated by dotted lines at 37 in Figure 1 of the drawings and that the frame of the screen is notched where it extends over the housing or housings 15, so that its lower edge may contact with the sill.

From the foregoing description considered in connection with the accompanying drawings, it is believed that the construction, operation and advantages of my improved device will be clearly understood. It is desired to point out, however, that various changes and desirable additions may be made in and to the structure herein disclosed within the spirit and scope of my invention as defined in the appended claim.

I claim:—

An operator for swinging closures comprising an arm adapted to be pivotally secured at one end to a closure, a base plate adapted to be secured to a fixed support and over which said arm is slidably disposed, a housing adapted to be secured over said base plate, said housing having openings in the side walls thereof through which said arm is adapted to pass, a pin within said housing adapted to be engaged by a notch in said arm, and means holding the arm with a notch thereof engaged with said pin, said means providing a stop cooperating with said arm to completely close said housing against the passage of insects.

In testimony whereof I hereunto affix my signature.

JAMES P. BECKER.