Nov. 20, 1928. 1,692,073

R. F. BRENNER

CASEMENT WINDOW OPERATOR

Filed Jan. 23, 1928

FIG. 1.

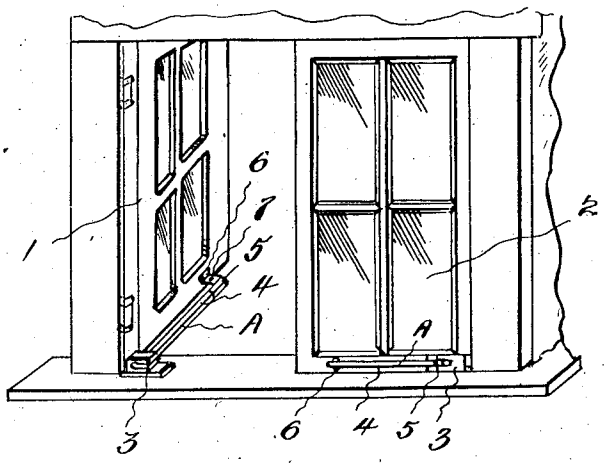


FIG. 2.

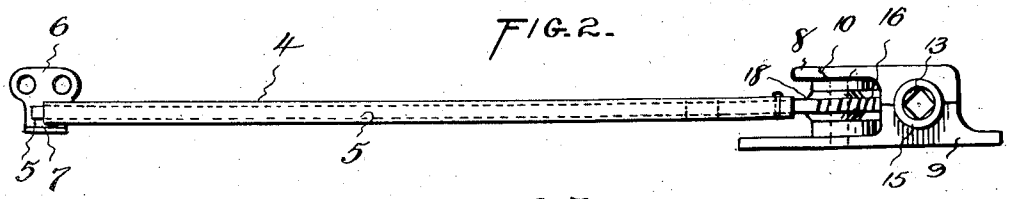


FIG. 3.

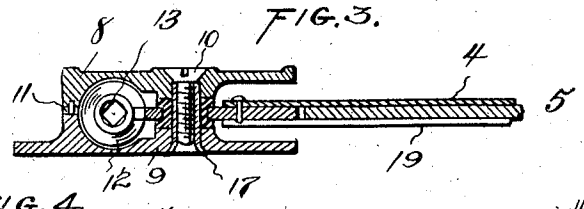


FIG. 4.

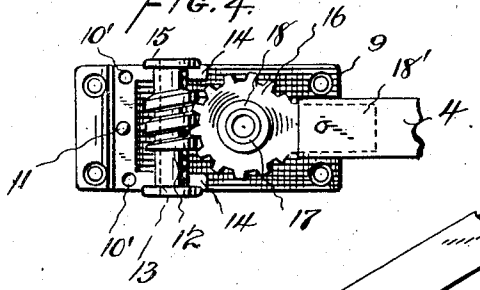


FIG. 5.

FIG. 6.

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UNITED STATES PATENT OFFICE.

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CASEMENT-WINDOW OPERATOR.

Application filed January 23, 1928. Serial No. 248,767.

The present invention relates to devices for operating casement or hinged windows and the like. One object of the invention amongst others is to provide an efficient device which is of comparatively simple construction and easy to operate.

The improved operating means hereinafter described belongs to the class of devices having transmission means which are operative from a stationary point to throw or adjust and hold the window into the desired open or closed position. Heretofore, various types of devices have been proposed and in many instances the devices are separately designed and constructed for windows which swing to the right or to the left as the case may be. Other devices have been proposed where the devices may be changed by re-arrangement of parts so that the same device can be used for windows swinging in different directions. According to the present invention the device is improved in general construction and it is so designed that the same device may be applied to different windows without re-arrangement or reversing of the operative parts of the device.

An embodiment of the invention will be described hereinafter with reference to the accompanying drawings wherein—

Figure 1 is a perspective view showing the improved device used in a pair and applied to double windows swinging in opposite directions;

Figure 2 is a side elevation of the improved device;

Figure 3 is a longitudinal section;

Figure 4 is a top plan view with the upper cover of the device removed;

Figure 5 is a top plan view of the complete device and

Figure 6 illustrates a form of extensible operating crank which is specially designed for use for the present improved device.

Referring to said drawings, in Figure 1 the invention is shown applied to double casement windows, the window 1 swinging in an opposite direction to the window 2 and for each window a similar operating device A is used. This device comprises the base 3 supporting the pivoted arm 4. An inner member or rod 5 is adapted to slide or telescope within the hollow arm 4 and at the end of this rod 5 a bracket 6 is pivotally connected by the pivot 7 to said rod. It will be understood that the improved device can be set up for operation for windows operating in either a right hand or left hand direction by locating the base in different positions and by swinging the bracket 6 from one side of the arm 4 to the other side as required.

In the embodiment of the invention shown in the drawings, the base of the device is composed of an upper section 8 and a lower section or base plate 9. These two sections are united together by screw 10 and other screws engaged in holes 10′. A dowel pin 11 is preferably employed to centralize the parts. A worm 12 having a squared bore 13 open at both ends is supported in matched bearings 14 formed as a part of the plates of the base member. The worm 12 has expanded ends 15 so as to prevent dislodgment of the worm. A segmental gear 16 is mounted on the stud shaft 17, suitable anti-friction bearing 18 being interposed between the shaft and the gear. This gear 16 has a shank 18′ which is fixedly secured to the arm 4 which arm 4 is preferably composed of sheet metal with the lower edges apart so as to leave a slot or opening 19. The rod 5, corresponding in shape to the arm 4, is enclosed within the latter and is arranged to slide therein. At the free end of the rod 5, the bracket 6 is connected by pivot pin 7 to said rod 5.

When the improved device is to be set up in its position for operation, the base 3 is secured on the window sill adjacent to the window frame in all cases whether or not the window works to the left or to the right. When, for example, the device is to be used for a window swinging outwardly to the left, the device is in the position shown by Figure 5 with the bracket 6 in the full line position but when the device is used for a right hand swinging window, the bracket is in the broken line position and the complete device is turned around so that the opposite side of the base will be the operating side.

In practise, there may be considerable variation in the depth of the window sill, for example, so that an operating crank or key must be provided to meet the variable conditions. For this purpose, the extensible operating means shown in Figure 6 may be employed with advantage. This operating means consists of a tubular hollow head 20 having a squared shank 21 which shank is adapted to be received in the squared bore of the worm 12 from either end. A handle having the shank 21′ fits in the hollow tubular member 20 and by means of set screw 22 and groove 23, said handle may be adjusted to and

be retained in different extended or adjusted positions.

Various modifications may be made in carrying out the details of the invention hereinbefore described and it is to be understood that any modification coming fairly within the terms of the appended claims shall be covered thereby.

I claim—

1. An operating device of the class described rendered operative for windows moving in several or opposite directions by location of the device, said device having a body or base, a pivoted arm or outer member supported by and swinging from said base, a rod or inner member slidably mounted with relation to said arm, a pivoted bracket carried at the outer end of said rod and means operative from either side of said base whereby operation of said arm is effected.

2. A casement window operating device having a base, a pivoted arm extending from said base, a rod telescoping into said arm, a bracket pivotally mounted on the outer end of said rod; a worm and segmental gear for operating said arm and means whereby operation of said worm and gear is effected from either side of said base so as to adapt said device by location for operating windows swinging in opposite directions.

Signed at New Haven, county of New Haven, State of Connecticut this 18th day of Jan., 1928.

REINHOLD F. BRENNER.