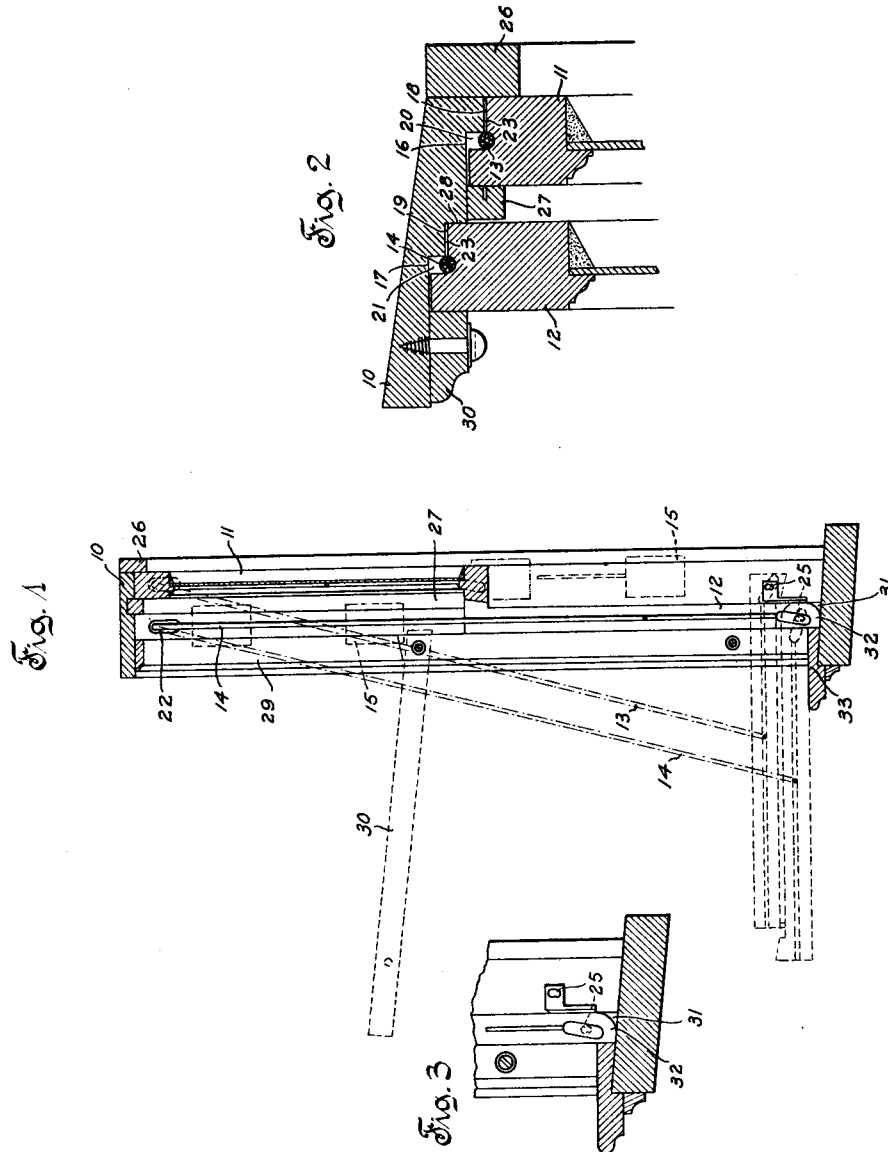


F. J. GRUHL.
WINDOW.
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1,052,335.

Patented Feb. 4, 1913.



Witnesses

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UNITED STATES PATENT OFFICE.

FREDERICK J. GRUHL, OF MILWAUKEE, WISCONSIN.

WINDOW.

1,052,335.

Specification of Letters Patent.

Patented Feb. 4, 1913.

Original application filed December 27, 1910, Serial No. 599,393. Divided and this application filed April 13, 1912. Serial No. 690,479.

To all whom it may concern:

Be it known that I, FREDERICK J. GRUHL, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Windows, of which the following is a full, clear, and exact specification.

My invention relates to windows.

This application is a division of my application Serial No. 599,393, filed Dec. 27, 1910, on which Patent No. 1,032,752 was granted.

In windows constructed thus far it has been almost, if not absolutely, impossible without the use of weather strips, to prevent cold air and dust from blowing into buildings and houses. This is due largely on account of loose fits between the sashes and jambs caused in various ways either in the construction of windows or by weather conditions. The blowing in of cold air and dust is especially noticeable in the case of windows which are not only adapted to be raised and lowered but are also adapted to be swung out of the planes of their normal positions.

It is therefore the object of my invention to provide a simple and inexpensive window adapted to prevent the blowing in of cold air and dust. This object is accomplished by rabbeting either the jambs or the sashes or both to form passageways for the sash cords or bands, the passageways being of proper dimensions so that the sash cords or bands are gripped between the cooperating jambs and sashes to act as weather strips.

This invention is illustrated in the accompanying sheet of drawings in which—

Figure 1 is a vertical sectional view of a window embodying my invention; Fig. 2 is a sectional view taken in the plane of the line 2—2 of Fig. 1, with both sashes in the upper part of the frame; and, Fig. 3 is a detail view of the lower part of the window showing the cooperating curved portions of the jambs and lower sash.

The window comprises jambs 10 and two sashes, an upper one 11 and a lower one 12. The sashes are slidably mounted in the jambs and are provided with sash cords 13 and 14, which have weights 15 at their lower ends and run over pulleys 22 secured in the jambs 10. Instead of using sash cords, sash bands or any other suitable suspension means may be used for the desired

purpose. The jambs 10, instead of being rabbeted the full thickness of the window sashes, are rabbeted only a fractional part thereof as indicated at 16 and 17. The sashes are also rabbeted only a fractional part of their thickness as shown at 18 and 19 respectively. By means of this particular style of rabbeting, channels 20 and 21 are formed between each of the jambs and sashes for the reception of the sash cords 13 and 14 respectively. These sash cords are gripped in between the walls or shoulders of the cooperating jambs and sashes which form the sash cord passageways, and the sash cords are located to cover the clearance spaces 23 between the jambs and sashes. The sash cords are not gripped tightly enough to prevent free relative movement between the jambs and sashes, but are held sufficiently tight to prevent the admission of air and dust. In this way the sash cords also serve as weather strips.

In this particular case I have shown my invention as applied to a window the sashes of which are not only slidably mounted in the jambs, but may be swung relatively to said jambs by means of cooperating pivot and pivot receiving members indicated at 25. The upper sash is located between stops 26 and 27 and its vertical sliding movement is guided thereby. The parting stop 27 extends only half way the length of the jamb, as clearly shown in Fig. 1. This provision is made so that the upper sash 11, after it has been lowered, can be swung inwardly for cleaning purposes and the like. The lower sash 12 is located and guided between a portion 28 of the jamb and a front stop 29, which is formed in two parts, the lower part 30 of which may be swung for the purpose of permitting the sashes to be swung. The jamb 10 at its lower end has a curved portion 31 to conform with the curved bottom portion 32 of the lower sash 12. A small curved block could be set into the jamb instead of curving the jamb, if so desired. This provision is made so that the lower sash can be swung without first raising it above the window stool 33 and further to guide the lower sash so that when it is swung into its normal vertical position the sash cords will be properly gripped and any binding action obviated. Both sides of the window are the same except they are right and left hand sides.

In the illustration I have shown the sash cords as engaged more by the sashes than the jambs. This might be reversed if desired. While I have used the term sash cord, it is to be understood that any other suitable members, such as bands and the like, can be used. The jambs and sashes could also be rabbeted to fit snugly completely around the sash cords. The passageways may take any shape as long as the sash cords are gripped between the jambs and sashes as herein considered. By thus properly rabbeting the jambs and sashes to form passageways for the sash cords and providing the lower ends of the jambs and sashes with curved portions, the object of my invention is accomplished.

There may be various modifications in the precise form and arrangement here shown and described, and I aim to cover all such modifications which do not involve a departure from the spirit and scope of my invention as set forth in the appended claims.

What I claim as new is:

1. In a window, the combination of a jamb having a rabbeted portion, and a sash

movable relatively to said jamb and having a rabbeted portion and a sash cord, the rabbets being so proportioned that the sash cord is gripped between opposing shoulders of said rabbets when the sash is in normal position.

2. In a window, the combination of a jamb, a sash, and suitable suspension means for the sash lying between the jamb and the sash, the sash and jamb being relatively movable and the suspension means being gripped between the jamb and the sash in its normal closed position to form a weather-tight joint.

3. In a window, the combination of a jamb and a sash rabbeted to form a passageway, and suitable suspension means for the sash located in said passageway and gripped between shoulders of said rabbets.

In testimony whereof I affix my signature, in the presence of two witnesses.

FRED. J. GRUHL.

Witnesses:

PAUL E. GRUHL,
ADAM KEVSKI.