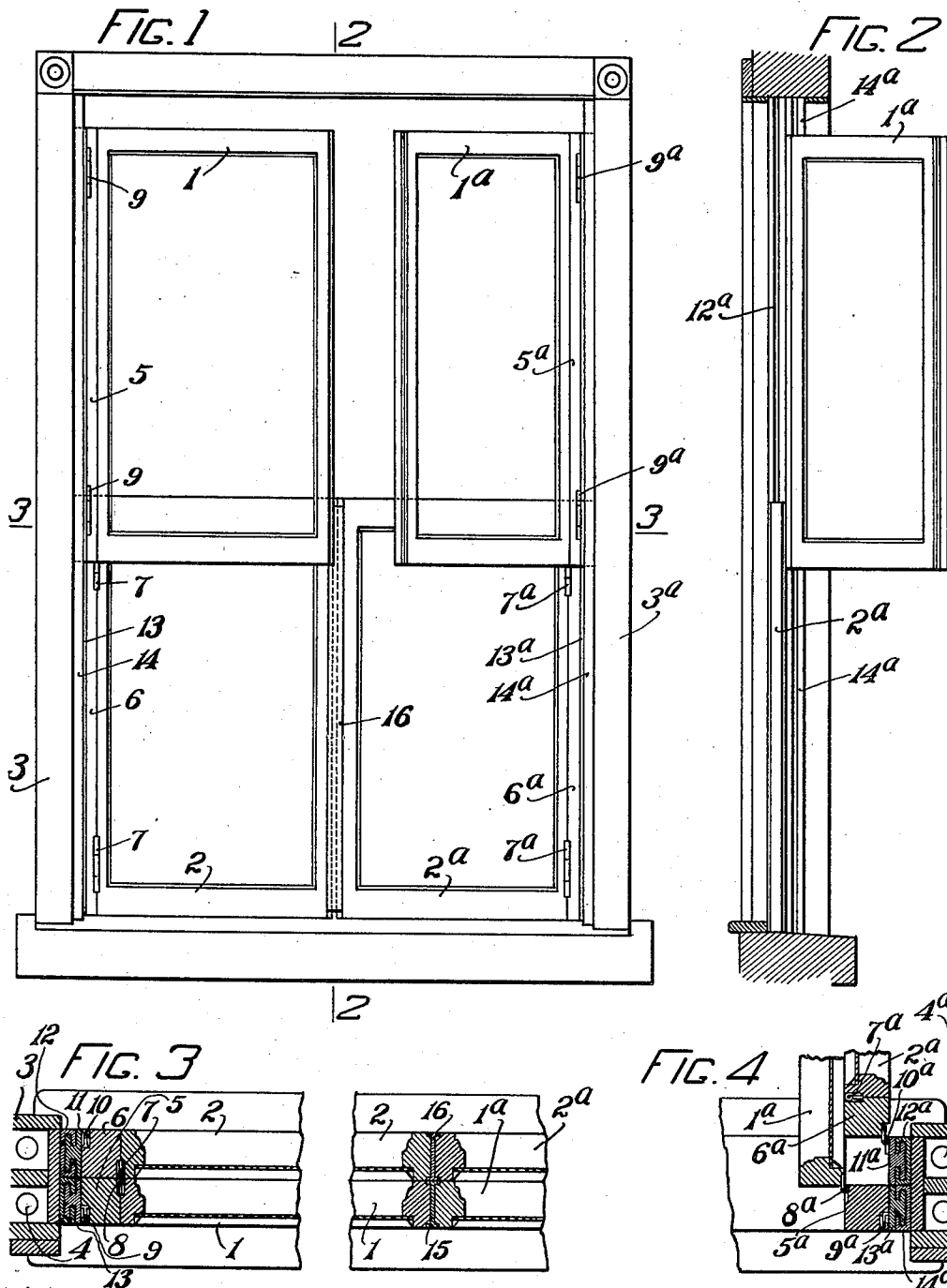


C. M. MARCH.
SLIDING AND SWINGING WINDOW.

APPLICATION FILED NOV. 7, 1910. RENEWED JULY 22, 1911.

1,015,050.

Patented Jan. 16, 1912.



WITNESSES

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SLIDING AND SWINGING WINDOW.

1,015,050.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES M. MARCH, a citizen of the United States, residing at Portland, county of Cumberland, State of Maine, have invented certain new and useful Improvements in Sliding and Swinging Windows, of which the following is a specification.

This invention relates to windows, and particularly to a window in which the sash is capable of both a sliding and also a laterally swinging motion in either direction.

A sliding sash and a swinging sash have both features of advantage and individual elements of desirability, but, each lacks some elements of advantage possessed by the other or is open to some objection not found in the other. It has been, therefore, greatly desired to provide a sash which should be capable of both of these functions. The combination of these two functions, however, in a single sash has involved elements of mechanical difficulty which have been the cause of great difficulty in the construction.

It is the object of my present invention to provide a construction of window sash capable of both of these uses and, at the same time, possessing various elements of advantage and usefulness, all of which will be more fully set forth in the specification which follows.

As illustrative of my invention, I have shown in the drawings which form a part of the specification a construction which I find well adapted to practical use. This construction I shall, therefore, describe in detail in the specification as best disclosing the principles of my invention.

Throughout specification and drawings like reference numerals are employed to indicate corresponding parts and in the drawings:—

Figure 1 is an elevation of a window equipped with sash in accordance with my invention, Fig. 2 is a central sectional view on the line 2—2, Fig. 1, Fig. 3 is a transverse sectional view on the line 3—3, Fig. 1, and Fig. 4 is a view of a similar section with the sash swung in.

The window casing may be formed in the usual manner and, referring to Fig. 1, may be framed with the usual finish 3 and 3^a inclosing the frame proper on the two sides of which are fastened two slideways 12 and 12^a respectively. These slideways are double and receive the flanges of strips 11, 11^a and

13, 13^a on the left and right hand side respectively of the upper sash members 1, 1^a, and the lower sash members 2, 2^a. The portions of the sash members to which these rabbeted strips are attached are, respectively, 6, 6^a and 5, 5^a. While these members are really parts of the sash they are completely severed therefrom and the rabbeted strip, the severed elements and the remainder of the sash are hinged together in the following manner:—The constructions on the opposite sides of the windows are the same in principle and merely reversed on account of their position, so that a description of one side of either sash, or of one side of the window, will afford ample explanation for understanding of both sides. Referring to Fig. 3, which you will understand shows the left hand side of the window, it will be seen that the strip 11, which carries the flanges which work in the slideway 12, is hinged to the portion 6 of the sash member 2 by hinges 10 which are located on the inside adjoining corners. On the outer corners of the strip 6 and the rest of the sash 2 there is located a pair of hinges 7. These two sets of hinges permit the window sash to swing as a whole inwardly upon the hinges 10, or, permit the sash proper to swing on the hinges 7 outwardly as it separates from the portion 6. The upper sash 1 is hinged to its severed portion 5 by a hinge 9 which mounts it upon the strip 13. The hinge 8 unites the strip 5 on its diagonally opposite edge to the adjacent edge of the remainder of the upper sash 1. This permits the sash 1 to swing outwardly as a whole on the hinge 9 and permits the sash to swing inwardly as it separates from the portion 5 on the hinge 8. As the hinging of these elements is reversed, the sash 2 in swinging in swings on its hinge 10, while the sash 1 in swinging in turns on its hinge 8. It is possible to swing both sashes either in or out, even though they overlap each other. This is illustrated in Fig. 4 in which the opposite side of the window from that described is shown. In Fig. 4 the sash 2^a is swung in on its hinge 10^a, its strip 6^a being carried with the rest of the sash. The sash 1^a in swinging in separates from its strip 5^a and swings on its hinge 8^a, thus permitting the sash 1^a to fold close back against the sash 2^a without jamming or interfering with it in any manner. When it is desired to use the window with sliding sash the sections

1, 1^a and 2, 2^a are swung together, as shown in Fig. 3, and interlocked by pieces 15 and 16 which are formed as I-shaped slides 16 which interlock the adjacent edges of the sash members. With the sash thus interlocked it may be moved up or down in the runways, being counter-balanced by any suitable weights in the casing. Various sorts of interlocking devices may be substituted for the slides 16 which are merely shown as a simple form of device for accomplishing the result desired.

I have indicated sash members as divided vertically for the inward and outward swing, but, obviously, for an individual sash or for a sash of but a single pane it would be only necessary to provide hinges on one side.

It is to be noted that the sash, whether integral and hinged at only one side or divided and hinged on both sides, is counter-weighted and balanced both in its whole and also as to each part. That is to say, in the form shown in the drawings the weight of the sash, when locked together, is balanced by equal weights one on each side. When the sash is divided to swing, each half is still balanced by its individual counter-weight.

Various modifications may be made in the construction and operation of my device, all without departing from the spirit of my invention if within the limits of the appended claims.

What I, therefore, claim and desire to secure by Letters Patent is:—

1. A window comprising a frame, a pair of overlapping sashes slidably supported therein and means for supporting each sash so as to permit it to swing inwardly and outwardly, both inside and outside of its sliding plane, said supporting means being so disposed as to permit, in swinging, the following sash to turn outside of the plane of the leading sash.

2. A window comprising a frame, a pair of overlapping sashes slidably supported therein and means for supporting each sash so as to permit it to swing on spaced axes in opposite directions, so that the following sash will turn outside of the plane of the leading sash when they are swung either inside or outside of the sliding plane.

3. In combination with a frame having a pair of vertical slideways, a pair of sashes slidably held therein, each of said sashes having a double line of vertical cleavage adjacent to one of its edges, and means for pivotally joining said sash to permit each sash to swing with the other but at the opposite line of cleavage.

4. In a window construction a frame having runs on one side thereof, a pair of sashes, a separable side strip on one side of each sash, each side strip being hinged to its sash in reverse relation to the hinging of the other sash and strip, a slide for each sash

and guided within said frame runs, the side strip of each sash being hinged to its slide in opposite reversed relation to its hinging to its respective sash.

5. In a window construction, a frame having flanged runs on one side thereof, a pair of sashes, a separable side strip on one side of each sash, each side strip being hinged to its sash in reverse relation to the hinging of the other sash and strip, a flanged slide for each sash held and guided within said frame runs, the side strip of each sash being hinged to its slide in opposite reversed relation to its hinging to its respective sash.

6. In a window construction a frame having a run on each side thereof, a pair of vertically divided sashes, a separable side strip on each side of each sash, each side strip being hinged to its sash member in reverse relation to the hinging of the corresponding member of the other sash and its strip, a slide for each sash member and guided within said frame runs, the side strip of each sash member being hinged to its slide in opposite reversed relation to its hinging to its respective sash member.

7. A window comprising a frame, a pair of overlapping sashes, and means for vertically hinging each sash so that both sashes may simultaneously swing vertically in either direction on both sides of their sliding plane.

8. A window comprising a frame, a pair of vertically divided sashes slidably supported therein and means for supporting each sash member so as to permit it to swing on spaced axes in opposite directions, so as to permit, in swinging, the following sash member to turn outside of the plane of the leading sash member.

9. In combination with a frame having a pair of vertical slideways, a pair of vertically divided sashes slidably held therein, each of said sash members having a double line of vertical cleavage adjacent to one of its edges, and means for pivotally joining together each sash member to permit it to swing with the other but at the opposite line of cleavage.

10. In a window construction a frame having runs on each side thereof, a pair of vertically divided sashes, a separable side strip on one side of each sash member, each side strip being hinged to its sash member in reverse relation to the hinging of the other corresponding sash member and its strip, a slide for each sash member and guided within said frame runs, the side strip of each sash member being hinged to its slide in opposite reversed relation to its hinging to its respective sash member, and means for uniting the central margins of each pair of sash members.

11. In a window construction a frame having a run on each side thereof, a pair of

vertically divided sashes, a separable side strip on each side of each sash, each side strip being hinged to its sash member in reverse relation to the hinging of the corresponding member of the other sash and its strip, a slide for each sash member and guided within said frame runs, the side strip of each sash member being hinged to its slide in opposite reversed relation to its hinging to its respective sash member, and

an I-bar adapted to receive the adjacent edges of each pair of sash members to hold them against swinging when the sash is slid in its runs.

In testimony whereof, I affix my signature 15
in presence of two witnesses.

CHARLES M. MARCH.

Witnesses:

JOSEPH W. DOWNS,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."