M. BRAND.

REVERSIBLE SASH.

APPLICATION FILED MAY 23, 1917.

1,317,754.

Patented Oct. 7, 1919.

2 SHEETS—SHEET 1.

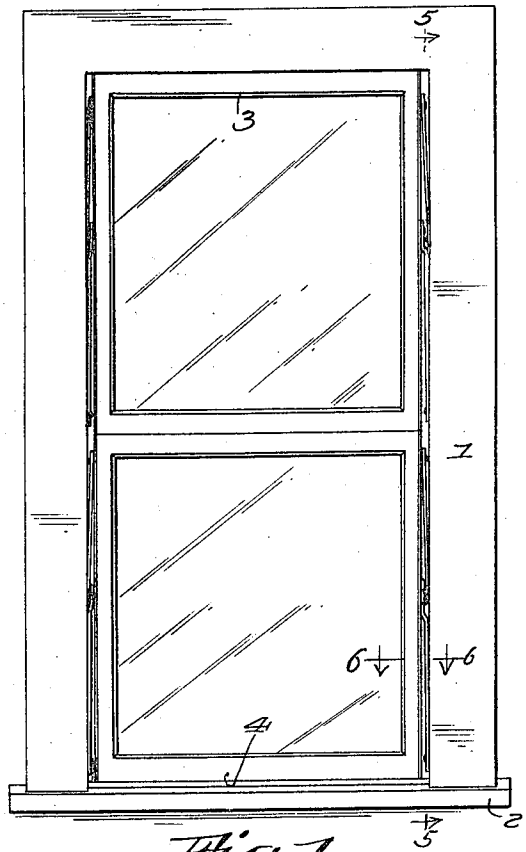


Fig. 1.

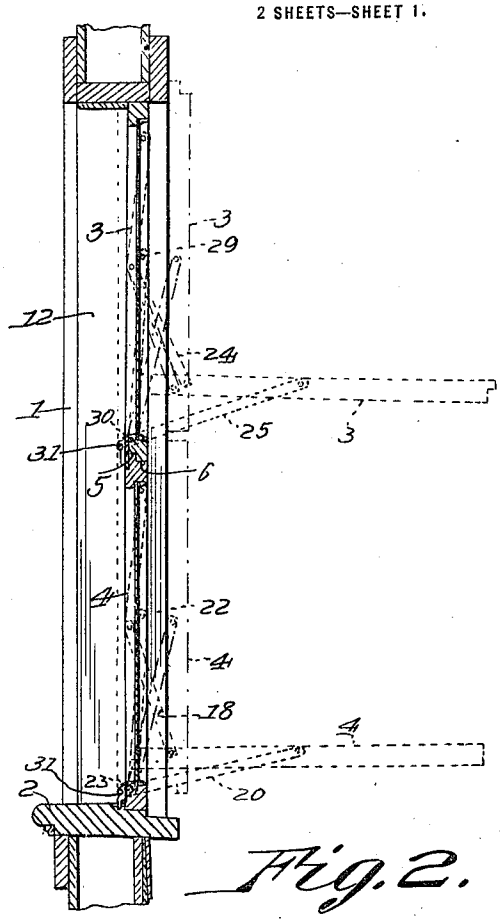


Fig. 2.

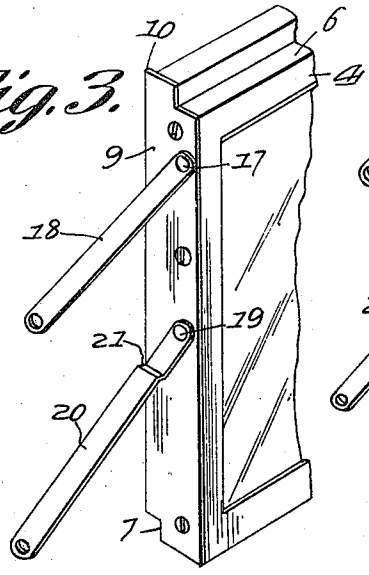


Fig. 3.

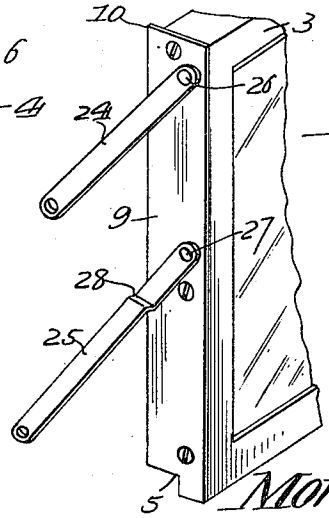


Fig. 4.

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2 SHEETS—SHEET 2.

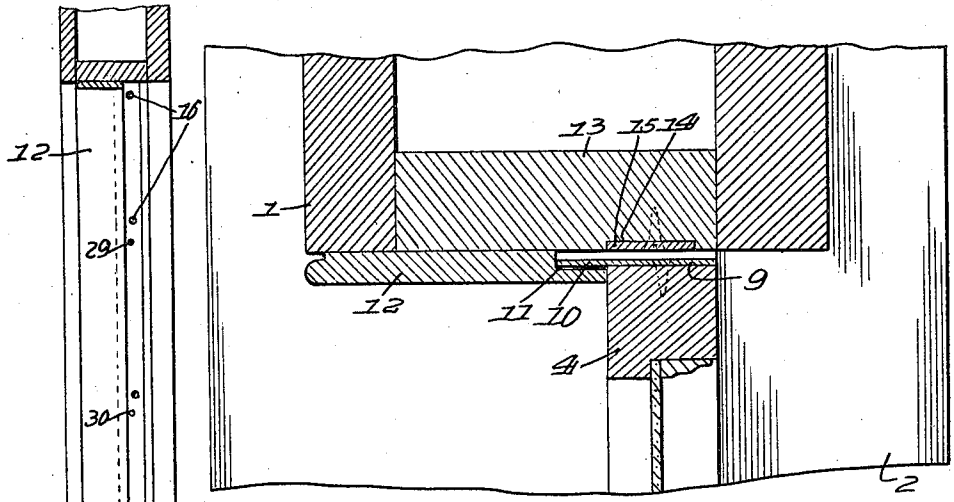


Fig. 6.

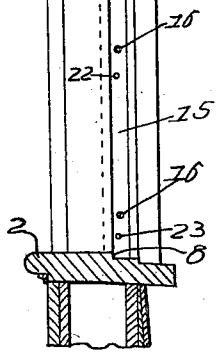


Fig. 5.

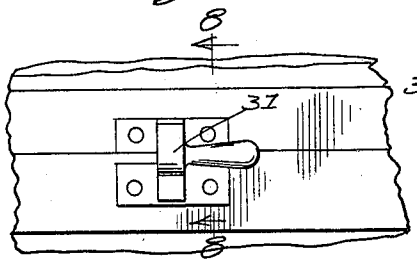


Fig. 7.

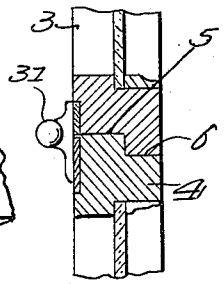


Fig. 8.

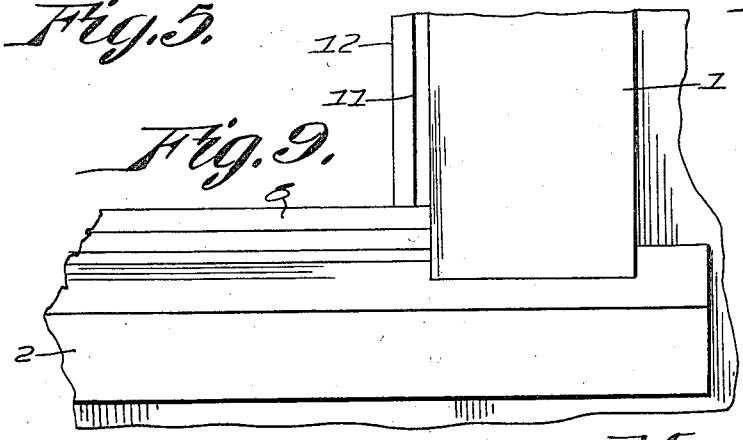


Fig. 9.

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UNITED STATES PATENT OFFICE.

MORRIE BRAND, OF SAN FRANCISCO, CALIFORNIA.

REVERSIBLE SASH.

1,317,754. Specification of Letters Patent. **Patented Oct. 7, 1919.**

Application filed May 23, 1917. Serial No. 170,405.

To all whom it may concern:

Be it known that I, MORRIE BRAND, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Reversible Sashes, of which the following is a specification.

This invention relates to certain new and useful improvements in reversible window sash and it has for its objects among others to provide a simple and improved form of construction with the sash so mounted as to work directly from the frame without a blind stop and so constructed as to close together water-tight by means of coöperating rabbets on the adjacent portions of the upper and lower sashes. The sashes are so arranged that when both are opened out straight, the opening is clear from top to bottom.

It has for a further object to provide means for stiffening and strengthening the sash and frame and further means for forming a water-tight and weather-proof joint at the sides of the sashes.

In the present construction I dispense with the raising and lowering of the sash and thus do away with the cost of weights, sash cords, and pulleys and the expense of framing for their insertion, as well as gaining space—about seven inches—in width space of the opening in the wall for the frame, which is a big desideratum in gaining space for glass in the sash.

In the present structure there is no cross bar at the junction of the sashes and the structure, as a whole, is greatly simplified and cheapened.

Other objects and advantages of the invention will hereinafter appear and the novel features thereof will be particularly pointed out in the appended claim.

The invention is clearly illustrated in the accompanying drawings, which, with the numerals of reference marked thereon, form a part of this specification, and in which—

Figure 1 is an elevation of a window showing my present improvement.

Fig. 2 is a substantially central vertical section through the same.

Fig. 3 is a perspective detail of a portion of a sash with parts broken away.

Fig. 4 is a similar view of the other sash with parts broken away.

Fig. 5 is a vertical section on the line 5—5 of Fig. 1, looking in the direction of the arrows.

Fig. 6 is an enlarged detail on the line 6—6 of Fig. 1, looking in the direction of the arrows.

Fig. 7 is a detail in elevation of the meeting edges of the two sashes.

Fig. 8 is a section on the line 8—8 of Fig. 7, looking in the direction of the arrows.

Fig. 9 is an enlarged detail in elevation with portions broken away showing the lower right-hand corner of the window frame.

Like numerals of reference indicate like parts throughout the several views.

Referring to the drawings,

1 designates a window frame and 2 a sill.

3 is the upper sash and 4 the lower sash. The upper sash is rabbeted at its lower edge, as shown at 5, the lower sash being rabbeted at its upper edge, as seen at 6, upon the one face for coöperation with the rabbet 5 of the upper sash and at its lower edge it is rabbeted, as at 7, upon the opposite face of the sash for coöperation with a rabbet 8 of the sill to form a water-tight joint. When the upper and lower sashes are in closed position, as seen in Figs. 2 and 8, the rabbets 5 and 6, interengaging as they do, form a water-tight joint, and, fitting tightly, serve also to exclude the air.

Upon each vertical face of each sash I affix by screws or any other suitable means, a plate 9 preferably of metal, as seen best in Figs. 3 and 4, each plate being formed with a rabbet coincident with the rabbet or rabbets of the sash to which it is applied, as also clearly illustrated in Fig. 4, and each of these plates is wider than the thickness of the sash so as to leave a projecting portion 10 beyond one face of the sash, as seen clearly in Figs. 3 and 4 and also in Fig. 6. These projecting portions 10 constitute tongues which on the closing of the sash enter grooves 11 in the stops 12 on the frame, making the window absolutely water-tight and weather-proof.

The jambs 13 are grooved at the mill to form grooves 14 to receive metallic brace plates 15 secured therein by suitable means, as screws or the like 16, see Figs. 5 and 6, thus requiring no carpenter work upon fitting the plates in position. These brace plates extend the full height of the two

sashes and materially strengthen the frame, the plates 9 on the sashes materially strengthening the latter.

The brace plates can be installed on any old double-hung or single windows by removing the sash cords, weights and blind stops, retaining the old sashes.

The sashes are mounted in the frame so as to swing outward and to be reversed each independently of the other, for cleaning or for other purposes. As seen in Fig. 3, the lower sash has pivotally connected to its side plates (those on one side only being illustrated, but it being evident that those seen are duplicated upon the other side) as at 17, a link or the like 18, this pivotal connection being near the upper end of the sash, and at a point farther down substantially near the mid-center there is pivotally connected therewith, at at 19, an arm or the like 20, which latter is offset, as at 21, to provide space for the arm 18 in reversing the window, the opposite ends of the arms 18 and 20 being pivotally connected, as at 22 and 23 respectively, with the brace plate 15, as seen in Fig. 2, the points or pivoting being illustrated in Fig. 5.

To opposite edges of the upper sash 3 (those on one edge only being shown) there are pivoted arms 24 and 25, the former being pivoted to the plate 9 adjacent the upper end of the sash, as seen at 26, and the other at a point 27 substantially midway the height of the sash. The arm 25 is offset, as at 28, for the same purpose as the offset 21 in the arm 20, as above described. The opposite ends of these arms 24 and 25 are pivotally connected with the brace plates 15, as seen in Fig. 2, the points of pivoting being illustrated in Fig. 5 at 29 and 30 respectively.

With the parts constructed and arranged substantially as above described, the operation will be readily understood. The top sash is moved outward first in opening and the lower sash closed first in closing, this being necessary by reason of the interengaging rabbets at the adjacent edges of the top and bottom sashes. Either sash can be turned into a horizontal position or completely reversed, as indicated in dotted lines in Fig. 2. As each sash is closed, the tongues 10 on the opposite edges thereof fit into the grooves 11 in the stops and form moisture and weather-proof joints and the interengaging rabbets at the meeting edges of the sashes and at the bottom edge of the lower sash also constitute moisture and weather-proof joints. When both sashes are moved to their outward position, there is an opening clear from top to bottom.

Suitable means may be provided for locking the sash in their closed position, such, for instance, as shown at 31, but no claim is made herein to any particular form of latch or catch for this purpose.

Modifications in details may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

What is claimed as new is:—

A window comprising a sash and pairs of links for reversibly mounting the same, a metal facing or wear plate extending the full length of each of the opposite vertical edge-faces of the sash and carrying the pivots for a pair of the links and also projecting beyond the face of the sash, to engage grooves formed in stops in the window frame, in combination with the window frame and metal facing plates mounted in continuous grooves in said window frame, and said plates mounting both the pivots for the other ends of the pairs of links, the arrangement being such that the links lie flat upon and play between the plates of the sash and frame and the plates strengthen and prevent wear on the sash and frame and maintain all the pivots in their proper relations.

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

MORRIE BRAND.

Witnesses:
CHARLES J. GRISEZ,
A. E. LONG.

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