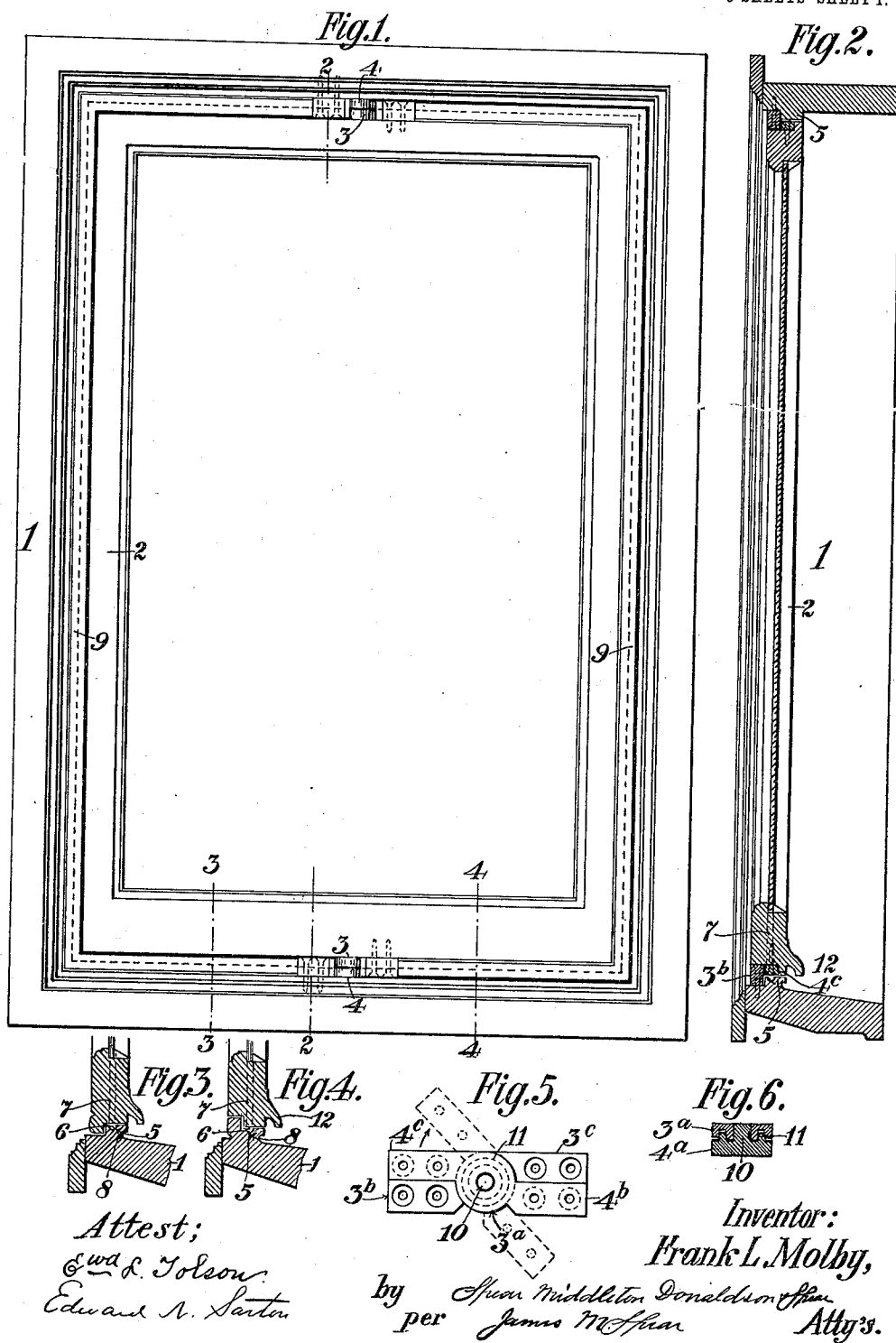


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F. L. MOLBY.
WINDOW CONSTRUCTION.
APPLICATION FILED NOV. 15, 1910.

Patented Oct. 3, 1911.

3 SHEETS—SHEET 1.



Attest;
E. L. Tolson.
Edward N. Sartor

by Susan Middleton Donaldson
per James M. Swan

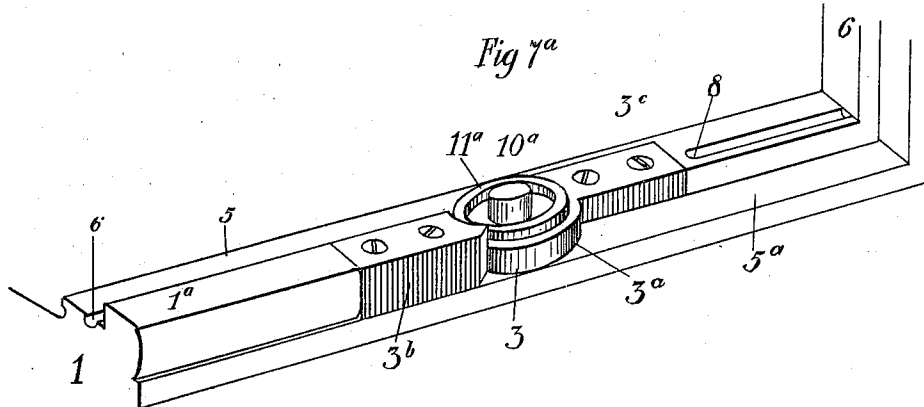
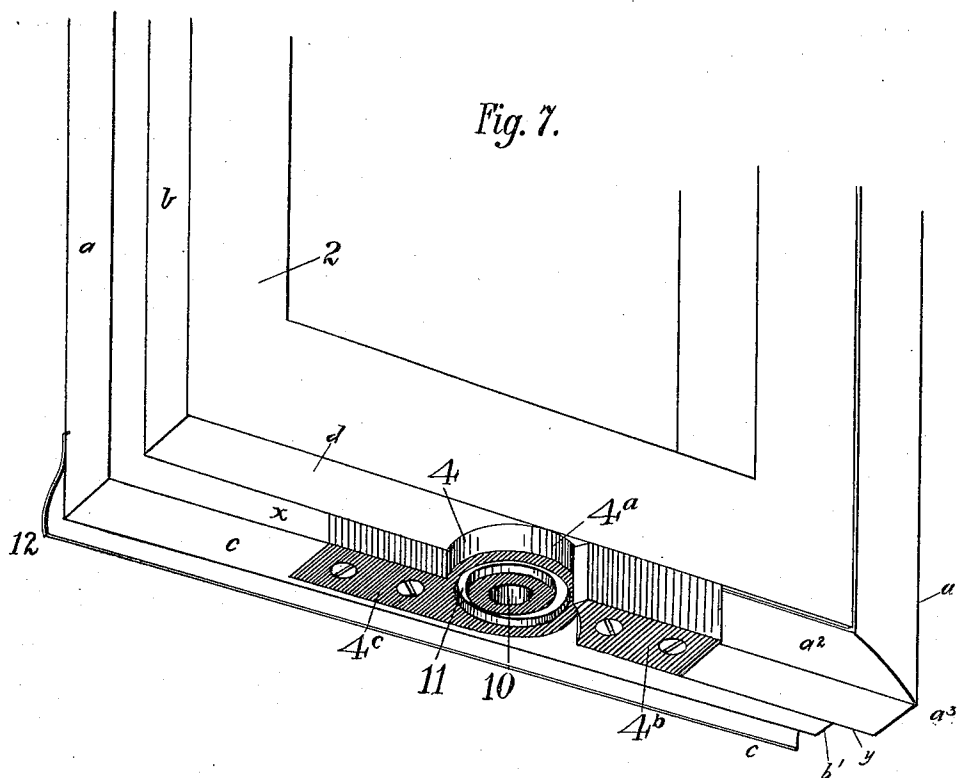
Inventor:
Frank L. Molby,
Attys.

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3 SHEETS—SHEET 2.



Attest:
Edw. L. Tolson
Edward N. Sarton

Inventor:
Frank L. Molby
By *Officer Middleton Donaldson*
Atty's.

UNITED STATES PATENT OFFICE.

FRANK L. MOLBY, OF DETROIT, MICHIGAN.

WINDOW CONSTRUCTION.

1,004,672.

Specification of Letters Patent.

Patented Oct. 3, 1911.

Application filed November 15, 1910. Serial No. 592,506.

To all whom it may concern:

Be it known that I, FRANK L. MOLBY, a citizen of the United States, residing at Detroit, Michigan, have invented certain new and useful Improvements in Window Construction, of which the following is a specification.

My invention hereinafter fully described, relates to pivoted windows and to a special form of window sash and frame fitted thereto, and to special form of pivot structure, corresponding to the particular rabbeted structure of sash and frame whereby the rabbeting is made practically continuous on all sides of the sash, the joint more secure against wind, and the pivot protected from exposure to the weather. This is all illustrated in the accompanying drawings, in which—

Figure 1 represents a front elevation of the sash and frame, as seen from the inside of the building; Fig. 2 a cross section on line 2—2 of Fig. 1; Fig. 3 a vertical section on line 3—3 of Fig. 1; Fig. 4 is a section on line 4—4 of Fig. 1; Fig. 5 shows a plan view of the structure of the pivot; Fig. 6 is a transverse sectional view through the pivot shown in Fig. 5; Figs. 7 and 7^a show in perspective respectively the lower portion of the sash, viewed from below and the sill as seen from above; Fig. 8 is a front view of the lower portion of the window sash removed from the frame; Fig. 9 is a bottom plan view of Fig. 7; Fig. 10 is an elevation of the frame with the sash removed; and Fig. 11 is a top or plan view of Fig. 9.

For convenience of illustration I have shown the sash pivoted on central vertical pivots, but the invention is not confined to this particular arrangement.

Following the objects of securing a continuous weatherproof joint around the entire sash, and the protection of the hinge, I explain first the general rabbeted or beaded construction. On the sides this is illustrated best in Figs. 7 and 9 where *a* represents the bead or high part of the rabbet, and *b* the low part, these being on that side of the sash which swings outward. On the opposite side the rabbet is reversed, and the bead or high part *a'* is on the inside and swings inward, while the low part is marked *b'*. The opposing faces of the frame are made to correspond to these rabbets. These parts *a* and *b* and *a'* and *b'*, extend the entire length of the sides and form a close

joint. Following these parts around and upon the ends of the sash their correspondence with the face of the sill will now be noted. This is shown best in Figs. 7 and 7^a. That part of the face of the sill toward the outside 5, is in the same horizontal plane throughout, and extends beyond the circle of the pivot, as shown in Fig. 11. The bead or high part *a*, of the outward swinging side of the sash, is extended on the bottom of the sash at *c*, *c'* continuously in the same plane, to the other side, forming after it has passed the pivot, the low part, and joining at the corner the low side *b'*. Like the face 5, it extends outside of the pivot margin. The low part *b* on the outswinging side is continuous with the bottom low face *d* of the sash, which extends to the pivot as shown in Fig. 7. When the sash is shut, the low face *d* shuts over the bead, or high part 1^a, of the sill and the metal extension 3^b of the hinge. The hinge part 4 of the sash comprises a disk 4^a and wings 4^c and 4^b, the former continuing the bead *c* to the hinge disk and forming part of the vertical shoulder *x* between the faces *d* and *c*, and the latter continuing the high part *a'* on the inswinging side of the sash which high part *a'* corresponds to and meets the high part *a'* at the corner *a''*, and forms a shoulder *y* reversely faced with respect to shoulder *x*. The disk 4^a has a central hole 10 for the pintle and an annular groove 11, fitting corresponding pintle 10^a and annular flange 11^a on the hinge part of the sill. The sash pivot disk is secured to the sash by screws passed through its wings 4^b and 4^c as shown. The sash hinge part rests, when the sash is in place, on the sill pivot disk 3.

The pivot disk 3 of the sill is fixed by its wings 3^b and 3^c, the latter of which is flush with the face or part 5, and half the height of the high part or bead 1^a and wing 3^b which constitutes an extension thereof. To meet this construction the high part or bead *a'* on the inside of the inwardly swinging edge of the sash is continued on the bottom at *a''*, at a vertical distance twice that of the hinge part 4 or equal to the thickness of the two complete pivot disks, and the wing 4^b which forms a continuation thereof abuts against the edge of the wing 3^c of the lower pivot part. It will be understood that the lower pivot part rests on the low part of sill face 5^a, and that the high part or bead 1^a and its metal continuation 3^b extend up

from the sill face or rabbet 5^a twice the extent of the part 3^c, so as to be flush on top with the top of the completed hinge. Thus there is a rabbeted joint at the bottom, practically continuous, and the outer edges of the pivot disks are back of the exposed edge of sill face 5. The meeting faces at the outside may be further protected by the ordinary guard or drip flange 12.

- 10 The upper end of the sash and corresponding faces on the frame, together with the pivot parts, are the same as those of the bottom above described.

I claim:—

- 15 1. In combination with a swinging sash and its frame, a frame sill having a continuous face, as 5, on the outer side thereof, a hinge part on the sill substantially flush on its upper face with the face 5, a bead or high part, such as 1^a, of twice the height of said hinge part, a rabbeted face such as 5^a, the lower face of the hinge part being flush with the face last named, and corresponding parts on the edge of the sash, substantially as described.

- 25 2. In combination with a swinging sash having oppositely rabbeted side and end edges, the high part of which on the outward swinging edge is continuous with parts on the ends of the sash, which, in turn, are continuous with the low part of the rabbet on the inwardly swinging edge of the sash, said parts on the ends of the sash bearing, when the sash is closed, on the surface of the sill, and corresponding hinge parts for the sash and sill, all substantially as described.

- 30 3. The sill or end part of a window frame having, on the outer side, a continuous plane surface, such as 5, a hinge part flush therewith, a rabbeted face as at 5^a on which the hinge part rests, a bead or high part as 1^a of double the height of the hinge part, in combination with a sash reversely rabbeted on its side edges, the high and low parts of the rabbet on the outer side forming continuations of end surface, said end surface bearing, when the sash is closed, on the said surface 5, and a pivot part on the sash corresponding in location and shape to that on the sill, substantially as described.

- 50 4. In combination a window frame having oppositely rabbeted side faces and having on the outer side at the ends continuous

plane surfaces joining the low part of the rabbet on one face with the high part of the other face, said portions having on the inside of said continuous plane surfaces rabbets and beads on respectively opposite sides of the center, combined with a sash having also reversely rabbeted side edges with continuous plane surfaces at the ends contiguous to the outer face, and connecting the low part of the rabbet on one side with the high part on the opposite side and having respectively on the inside of said continuous surface beads and rabbets corresponding respectively to the rabbets and beads of the ends of the frame, combined with suitable hinges, substantially as described.

5. In combination a window frame having oppositely rabbeted side faces and having on the outer side at the ends continuous plane surfaces joining the low part of the rabbet on one face with the high part of the other face, said portions having on the inside of said continuous plane surfaces rabbets and beads on respectively opposite sides of the center, combined with a sash having also reversely rabbeted side edges with continuous plane surfaces at the ends contiguous to the outer face and connecting the low part of the rabbet on one side with the high part on the opposite side and having respectively on the inside of said continuous surface beads and rabbets corresponding respectively to the rabbets and beads of the ends of the frame, combined with suitable hinges, said hinges comprising suitable superimposed engaging disks each having a pair of integral wings arranged out of line with each other, one wing being of the same thickness of the disk and the other of double the thickness, the wings of the two disks being reversely arranged, and said wings and disks being mortised into the sill and sash, the plane surfaces of the ends of the frame and sash being extended outside of the hinge parts so as to be uninterrupted thereby, substantially as described.

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

FRANK L. MOLBY.

Witnesses:

D. H. MORGAN,
HARRY C. VICARY.