

Feb. 19, 1957

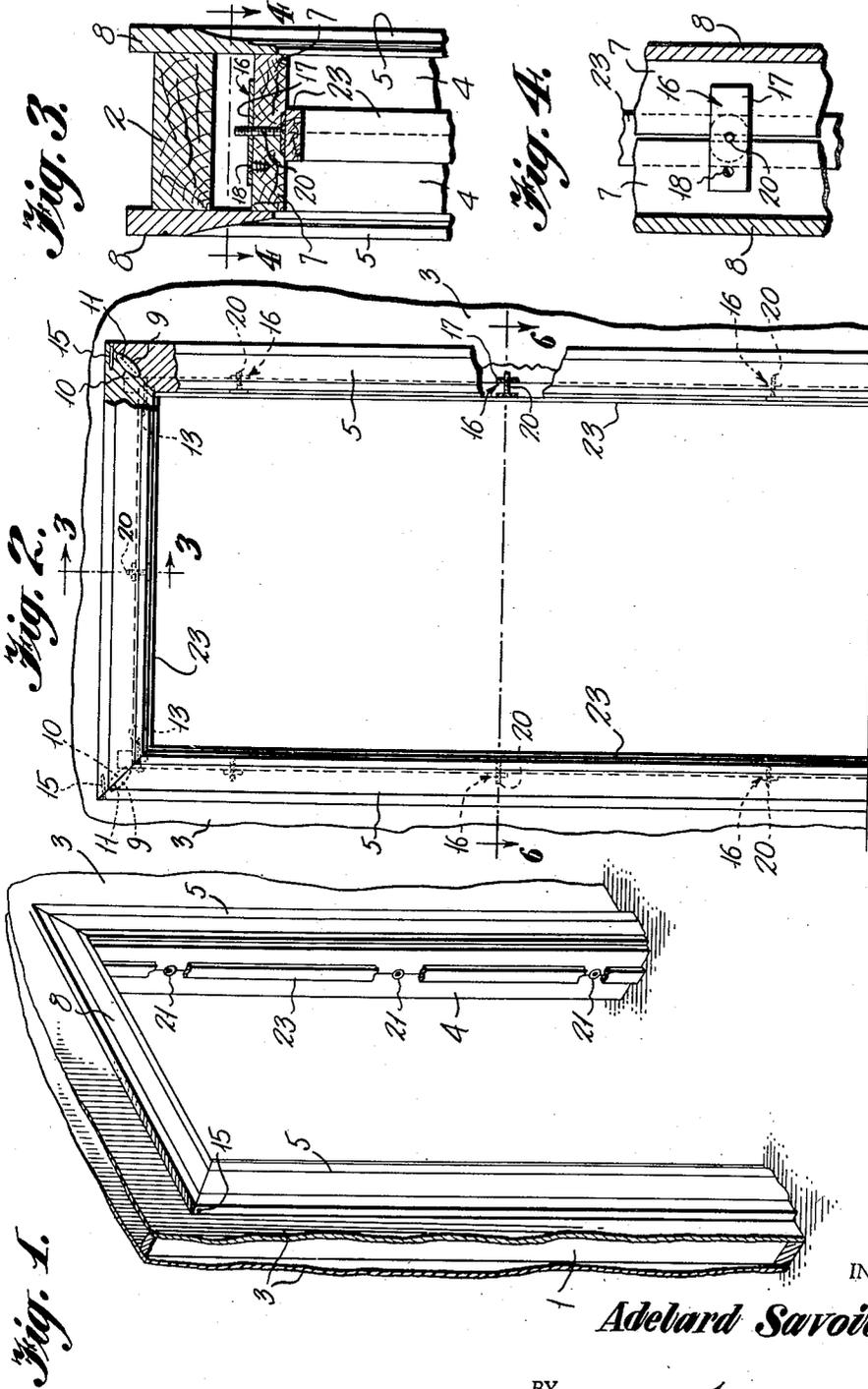
A. SAVOIE

2,781,559

PREFABRICATED FRAMES

Filed March 26, 1954

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

Fig. 5.

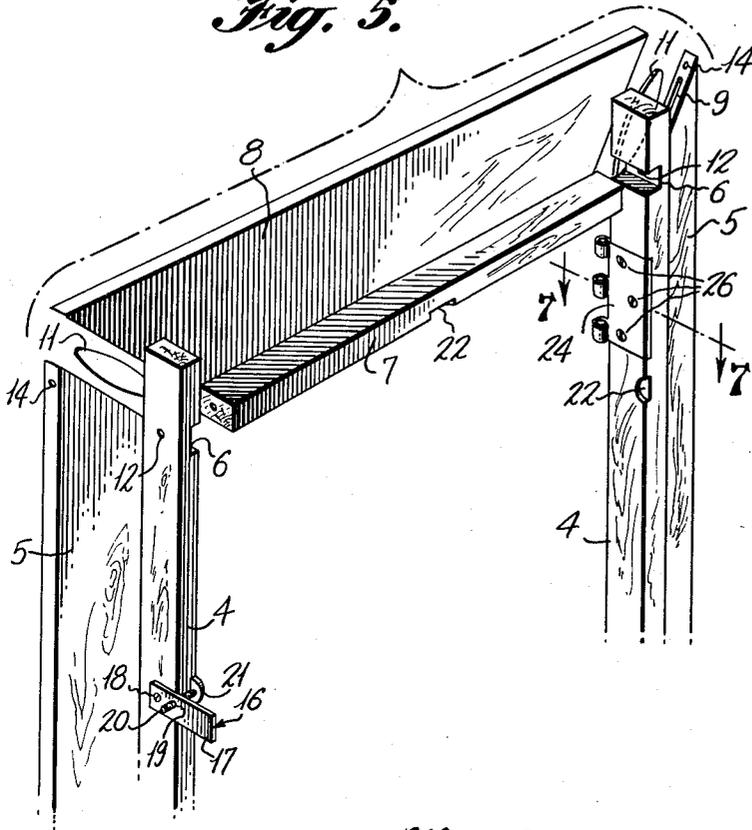


Fig. 8.

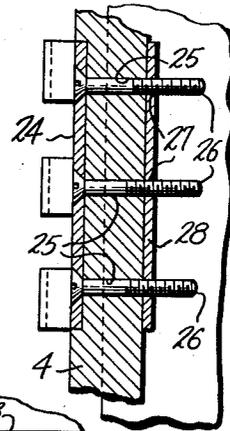


Fig. 6.

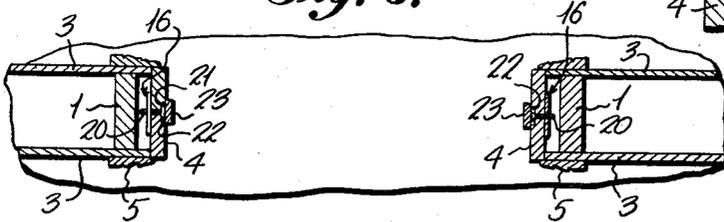
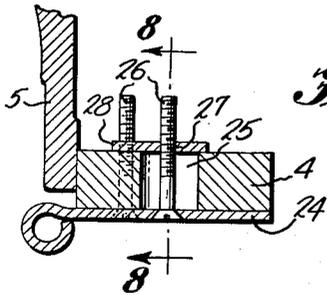


Fig. 7.



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1

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PREFABRICATED FRAMES

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6 Claims. (Cl. 20—11)

This invention relates to door or window frames of the type which has the constituent parts prefabricated for assembly on the job.

The construction of door and window frames has always presented a problem. For the door to hang properly, or the window to slide freely, the frames must be erected with absolute accuracy. This requires a great deal of time and considerable skill. Many frames have mitered corners which must be accurately cut and the various sections properly matched, or the frame will present a very unsightly appearance. Only the most highly skilled carpenters on a job are qualified to do this type of work, and the time required prolongs the construction of a building.

The principal object of the present invention is to provide pre-cut and matched parts for use in erecting door and window frames, so that the frames can be assembled on the job by unskilled labor and each frame will have a perfect fit and be in proper alignment.

Another object of the invention is to provide means for properly aligning the various sections of the frames so that the alignment will be automatic and not dependent upon the skill of the laborer.

Still another object of the invention is to provide prefabricated parts for the frame which have an interfitting relationship to rigidify the assembled frame.

Other objects of the invention will become apparent from the following description of one practical embodiment thereof when taken in conjunction with the drawings which accompany, and form part of, this specification.

In the drawings:

Figure 1 is a perspective view, parts being broken away, of an erected door frame embodying the principles of the present invention;

Figure 2 is an elevational view of the frame with parts being broken away to show interior construction;

Figure 3 is a vertical section through the lintel, and is taken on the line 3—3 of Figure 2;

Figure 4 is a fragmentary horizontal section taken on the line 4—4 of Figure 3;

Figure 5 is an exploded perspective view showing the various units in disassembled relationship;

Figure 6 is a horizontal section through the jambs taken on the line 6—6 of Figure 2;

Figure 7 is a horizontal section taken on the line 7—7 of Figure 5; and,

Figure 8 is a vertical section taken on the line 8—8 of Figure 7.

In general, the invention consists of a door or window frame composed of prefabricated units, with the various units adapted to interfit with one another and with auxiliary means for aligning the sections. The frame illustrated is of the split jamb type, where the two assembled sections of the frame are slipped in from opposite sides of the opening and a parting strip put in place over the adjacent edges of the two sections.

In the drawings a typical door frame construction has been shown, and that construction will be described here-

2

in, but it is to be understood that the principles of the invention are equally applicable to window frames.

Referring to the drawings in detail, there is shown a rough opening in a wall formed by the spaced vertical studs 1 and the horizontal frame member 2. Plaster, or plaster board 3 forming the finished wall will extend over the sides of the studding forming the rough opening. The finishing frame, in which the door will be hung, is erected in this opening.

As previously mentioned, the frame illustrated is of the split jamb type, so on each side of the door opening there will be a half-jamb 4 which carries the face trim member 5. The trim member may be wide molding, as shown, or if preferred can have a flat surface. The trim is nailed or otherwise secured along the outer longitudinal edge of the jamb member. The jamb and trim are joined together at the mill and form one unit of the prefabricated structure. There will be two of these units, reversely formed, for each side of the door opening.

The bottom of the jamb and trim are cut off square to fit flush against the floor. The top of the trim member is cut at a 45° angle so that a mitered joint will be formed between the trim of the jamb and the lintel. The face of the jamb, near the upper edge, has a horizontal groove 6 to seat the end of the lintel.

The lintel unit consists of a half lintel member 7 which carries the face trim 8. The lintel is square-cut at the ends, and the trim member has its ends cut at a 45° angle to make a smooth joint with the jamb trim when the units are assembled. The lintel is made sufficiently long so that its ends project and seat in the grooves 6 in the jambs. When the lintel is fully seated in the grooves the beveled edges of the lintel and jamb trim members meet to form smooth mitered corners.

In order that all of the trim members will be properly aligned in the same vertical plane when the units are assembled, the beveled ends of the jamb trim members are provided with grooves 9 and the beveled edges of the lintel trim member are provided with matching grooves 10. Splines 11, of metal or other suitable material, are provided to seat in the matching grooves 9 and 10 and align the units as they are assembled. In order to securely fasten the units together, the jamb members 4 have holes 12 opening into the grooves 6 so that nails or screws 13 can be inserted through the holes and into the end of the lintel. The jamb trim members also have holes 14 near their upper ends for nails or screws 15 to secure the outer meeting edges of the jamb and lintel trim members together. It will be obvious that the ends of the lintel seated in the grooves 6 and the spline and groove arrangement between the meeting edges of the trim members will rigidly hold the assembled units against vertical or transverse misalignment, and the fastening elements 13 and 15 will secure the units together.

In the preferred embodiment of the invention, one of the jamb units will be mortised in its face to receive hinge plates 24 for hanging a door. The half jamb below the mortise will be provided with a series of slots 25 equal in number to the screws 26 used to hold the hinge plate in place. The screws will be threaded into threaded openings 27 in a fastening plate 28 which will bear against the back of the half jamb. By reason of this construction the hinge plates can be moved properly plumb the door to insure a flush seating against the parting strip. The screws can be loosened and the plate moved transversely of the jamb required amounts and then the screws can be tightened to hold the hinge plate in position. The hinge plates are made rather wide so that they extend completely across the jamb member and when the completed frame is in place and the parting strip mounted over the line of separation between the two frame sections, it will cover the end of the hinge plates. Thus

3

the ends of the plates will not be exposed even when adjusted outwardly. This gives a finished appearance to the frame.

When two of the half-jamb units and a lintel unit have been assembled and secured, half of the frame is formed. When two of the halves have been assembled they are put in the door opening from opposite sides of the wall and secured together to form the completed frame. In order to join the two assembled sections of the frame together and secure proper alignment, it is proposed to use a plurality of securing and aligning members 16 spaced along the jambs and lintel. These aligning devices each consists of a length of strap metal 17 having one end secured to the rear face of one of the half-jamb or lintel members, as by a screw 18, with the strap positioned so that more than half its length extends beyond the vertical edge of the jamb. The strap is provided with a threaded opening 19 at its middle to receive a locking bolt 20. The bolt has a large flat head 21 and, due to the position of the opening in the strap, the bolt shank extends across the inner vertical edge of the jamb. When the two assembled units are positioned in the rough opening, the ends of the straps projecting from the section to which the straps are attached will overlie the rear faces of the jamb and lintel members of the other frame section and bring the two sections into alignment. When the bolts 20 are tightened, the two sections will be held together. The jambs and lintel are recessed, as at 22, to receive the heads of the bolts so that they will not extend beyond the faces of the members. A parting strip 23 is then secured over the separation between the frame sections to close the gap, as is usual in split jamb construction.

It is proposed that the various jamb and lintel units will be prefabricated at a mill where the joints and interfitting parts can be formed with extreme accuracy. The contractor can purchase desired numbers of the units and they can be assembled and installed on the job by unskilled labor. Due to the interfitting of the parts, the splines and the frame section aligning means, the assembled frame will have perfectly matched joints and all of the parts will be plumb and properly aligned. It will take but a few minutes to assemble and install a frame of this type which will greatly speed up construction work. As unskilled labor can be used, the cost of installing the frames will be reduced to a minimum.

While in the above one practical embodiment of the invention has been disclosed, it will be understood that the various details of construction illustrated and described are merely by way of example and that changes may be made within the scope of the appended claims.

What is claimed is:

1. Prefabricated frame to surround and define a wall opening in a building comprising, jamb and lintel units, said jamb units including a half-jamb and a trim member attached to one edge thereof at right angles thereto, the lintel units including a half lintel and a trim member attached to one edge thereof at right angles thereto, said half jambs having grooves to receive the ends of the half

4

lintels, the trim members on the jamb and lintel units adapted to lie in a single plane with the ends of the trim members of the jamb units in abutting relation with the ends of the trim members of the lintel units when the units are assembled, the abutting ends of said trim members having matching grooves, means to seat in the grooves in the trim members to hold the members in alignment, and means to secure the units together.

2. Prefabricated frame to surround and define a wall opening in a building comprising, jamb and lintel units, said jamb units including a half jamb and a trim member attached to one edge thereof at right angles thereto, the lintel units including a half lintel and a trim member attached to one edge thereof at right angles thereto, said half jamb having grooves to receive the ends of said half lintels, the ends of the trim members of said jamb and lintel cut to abut when two of said jamb units are positioned at opposite ends of one of said lintel units with the ends of the half lintel seated in the grooves of the half jambs to form one section of the frame, matching grooves in the abutting ends of the trim members, means to seat in the grooves in the ends of the trim members to align the members in a common plane, means to secure the units together, and means attached to the half jambs and half units of one assembled frame section to align and join two of said frame sections in back to back position within a wall opening.

3. In prefabricated frames as claimed in claim 2, said means to align and join two frame sections comprising straps attached to the half jambs and half lintel of one of said frame sections and projecting rearwardly thereof, and bolts threaded through said straps for clamping engagement with the half jambs and lintels of the two frame sections.

4. In prefabricated frames as claimed in claim 2, the means seating in the grooves in the ends of said trim members being splines.

5. In prefabricated frames as claimed in claim 2, the abutting ends of the trim members being mitered, and the means seating in the grooves in the ends of said trim members being splines.

6. In prefabricated frames as claimed in claim 2, one of said half-jambs being mortised and having a plurality of transversely extending slots completely through the half-jamb in the regions of said mortises, hinge plates seated in said mortises, a fastening plate having threaded openings therein on the opposite side of said half-jamb and bolts passing through said hinge plate and said slots and threadedly engaged with said fastening plate.

References Cited in the file of this patent

UNITED STATES PATENTS

466,897	Ballard	Jan. 12, 1892
593,435	Roehr	Nov. 9, 1897
749,118	Wallridge	Jan. 5, 1904
1,926,673	Gregg	Sept. 12, 1933
2,297,023	Phelan	Sept. 29, 1942