

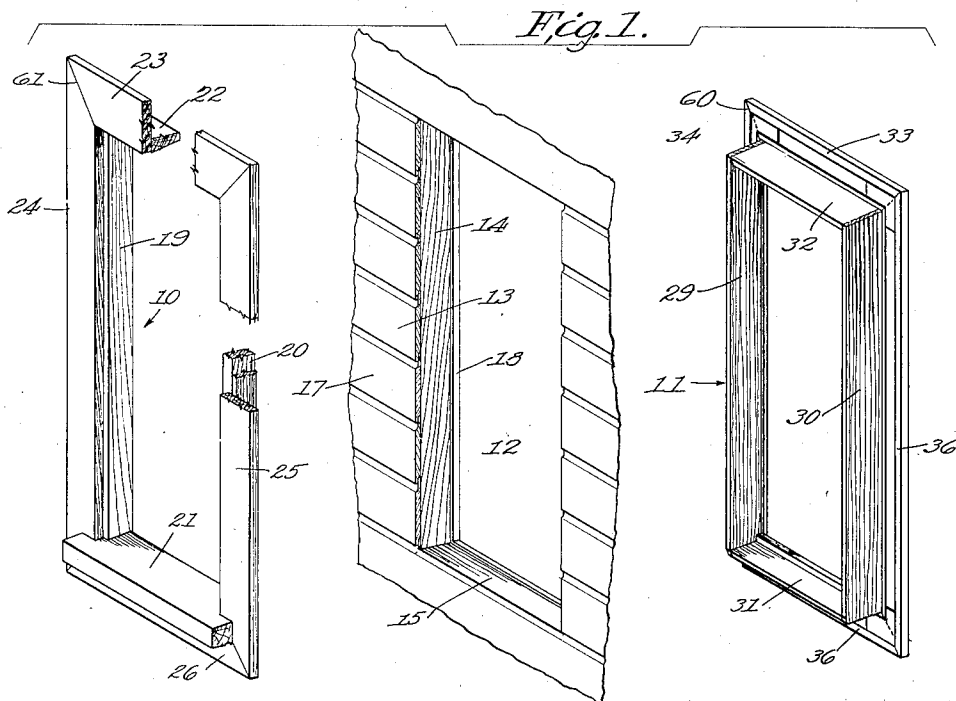
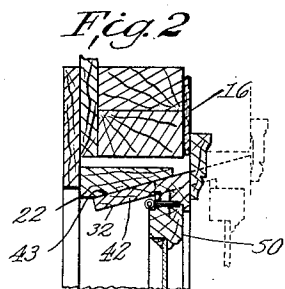
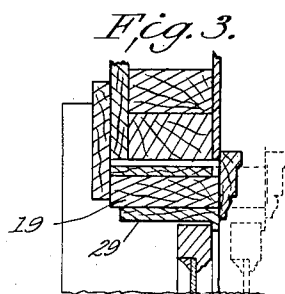
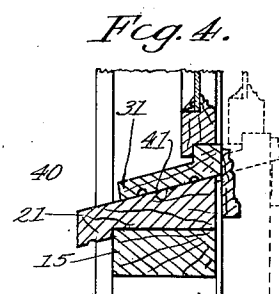
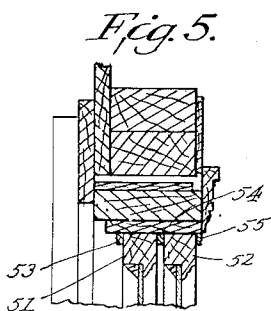
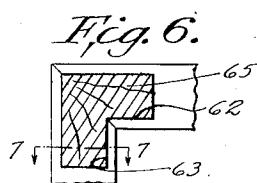
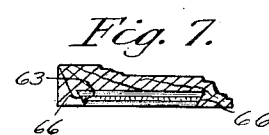
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WINDOW FRAME

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2,293,648

WINDOW FRAME

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2 Claims. (Cl. 20—11)

The present invention relates to an improved window frame characterized by a telescoping feature adapting it to provide automatic adjustment for varying wall thickness.

In recent years a great change has taken place in the construction materials used in houses and similar structures, particularly with regard to the materials employed for both inner and outer wall surfacing. Until recently, a great proportion of houses were built with external wood sheathing and lath and plaster inner walls, both sheathings being about $\frac{3}{4}$ " thick. With standard studding lumber this gave a total wall thickness of about $5\frac{1}{4}$ " to which standard window and door jambs were accommodated. At the present time however, changing materials have much upset this standard so that in window and door construction a greater flexibility to varying non-standard wall thickness becomes desirable. For example, plywood is to an increasing extent replacing lath and plaster for the inner wall, and lath and plaster is frequently replaced with insulating board and plaster which also produces a different wall thickness. In the same way the thickness of the exterior wall is being varied from the old $\frac{3}{4}$ " standard by the use of plywood and other materials. It has been found in practice that variations from the old standard $5\frac{1}{4}$ " wall thickness frequently run to as much as plus $\frac{1}{2}$ " and minus $1\frac{1}{4}$ ".

The building trade now has to be prepared to deal with such combinations of new material which produce as many as eight or ten non-standard wall thicknesses within approximately the foregoing range. The result makes the so-called standard window or door jamb obsolete as a practical proposition so that most of the jambs have to be made special to fit the wall on the individual job. This interferes with attempts to standardize the relatively costly fabrication of the parts comprising the window frames and has the effect that most of the contractors ask the millwork shops to make their window frames specially for the jobs as they come along, while a few of the larger contractors prefer to eliminate the shop work altogether and have a crew which goes from job to job making up the window frames by hand methods specially at each location.

The principal object of the present invention is to do away with this movement towards specialization and preserve the economies of shop pre-fabrication by providing a construction that permits standard window frames to automatically accommodate themselves to the varying wall

thickness. This still leaves architects and builders free to make full use of the variety of available wall materials. At the same time I have been able to provide other important subsidiary advantages so that in the aggregate the present invention not only restores the former advantages of a comparatively standardized construction but also provides new advantages as well.

To the accomplishment of the foregoing and related ends, the invention, then, comprises the features hereinafter fully described, and particularly pointed out in the claims, the following description setting forth in detail certain illustrative embodiments of the invention, these being indicative, however, of but a few of the various ways in which the principle of the invention may be employed.

In the present invention I subdivide the group of parts required for a window frame into an exterior and an interior assembly and then provide means for joining the two assemblies together on the job by a telescoping action which provides ample latitude for the maximum variations in wall thickness indicated above. I further prefer to include in the exterior assembly unit a sill and header joined by two lateral members to form a frame carrying the external casing. These two lateral members may be described as false jambs, because they occupy the lateral positions of true jambs but do not actually contact the window sashes. Correspondingly, I prefer to provide an inner assembly including the sub-sill, a header, true jambs, and the internal interior casing. The locations of the false jambs is such that they snugly fit the outer surface of the true jambs and their width is such that they are able to receive the true jambs by a telescoping action to a depth which may vary as much as two inches so as to provide for the various wall thicknesses.

In the accompanying drawing, two specific embodiments of the invention are shown, but it must be understood that the invention is not limited to the details disclosed, since other modifications will readily occur to those skilled in the art and the principles of the invention may be embodied in other types of construction:

In the drawing:

Figure 1 is an exploded view, with certain parts broken away, showing an outer frame section, a conventional wall having a window opening therein, and an inner frame section.

Figure 2 is a fragmentary vertical section through the head of a window frame and building wall.

Figure 3 is a similar horizontal section through the jamb.

Figure 4 is a similar vertical section through the sill.

Figure 5 is a view corresponding to Figure 3, showing a slight modification.

Figure 6 is an elevation on an enlarged scale, showing a special corner-holding cleat, and

Figure 7 is a sectional view on line 7-7 of Figure 6.

The window or door frame of the present invention is made up of two sections 10, 11 adapted to be received in telescoping relation in a window or door opening 12 in the wall 13 of a building. As shown in Figure 1, the opening 12 is defined by vertical studs 14, a lower horizontal plate 15 and a similar, upper plate 16. The outer sheathing is represented at 17 and the inner wall covering, such as plywood, wall board, plaster or the like at 18. These are conventional building elements, arranged in the usual manner, and form no part of the present invention, except insofar as the novel window or door frames cooperate therewith.

The outer frame section comprises inwardly projecting framing elements including vertically disposed, parallel jambs 19, 20, a sill 21 and head piece 22, hereinafter termed "false" jambs, sills and head pieces. These framing elements are preferably pre-fabricated at the mill, and in many cases, the exterior trim boards 23, 24, 25, 26 are also assembled with the framing elements prior to the installation of the window or door frame in the building. However, in other cases the trim boards are assembled on the job, or after the framing elements 19-22 have been put in place, and the invention is not limited to any particular procedure in this respect.

The inner frame section comprises outwardly projecting framing elements including vertical jambs 29, 30, a sill 31 and a head piece 32, secured together at their ends. Interior trim boards 33, 34, 35, 36 are secured to the inner face of the framing members 29-32, preferably at the mill, so that the inner frame section may be delivered as a pre-fabricated unit.

As indicated in Figures 2, 3 and 4, the inner section 11 is received in telescopic, sliding relation within the other section 10. Of course, the arrangement may be reversed, and the outer section be received in telescopic relation within the inner section, but the arrangement shown in Figures 2-4 is preferred. Thus, the vertical jamb members 29, 30 are received in telescopic, sliding relation within the false jamb members 19, 20 of the outer section, while the sill section 31 and head section 32 are disposed in sliding relation to the false sill section 21 and false head section 22 of the outer section.

Hence, by varying the degree of telescoping movement between the sections, the window or door frame may accommodate walls of widely different thicknesses, as indicated by the dotted lines in Figures 2-4.

Preferably, the sill section 21 has an upper surface 40 disposed upon a downwardly and outwardly inclined plane. The lower surface 41 of the sill section 31 is disposed on a corresponding plane, so that a water-shed surface is provided, as indicated in Figure 4. Thus, the inner section telescopes within the outer section by movement on a downwardly and outwardly inclined plane, defined by the surfaces 40, 41. In order to permit this movement, while providing a substantially weather-tight joint at the top of the sec-

tions, the lower surface 42 of the upper, outer head piece 22 and the upper surface 43 of the inner, lower head piece 32 are disposed on an outwardly and downwardly inclined plane, parallel to the plane of the surface 40, as shown in Figure 2.

Any desired type of window sash may be mounted in the inner frame section. As shown in Figure 2, an outwardly swinging, casement sash 50 may be employed while in Figure 7, two vertically sliding sashes 51, 52 are shown, separated and guided by appropriate strips 53, 54, 55. Since the present invention is not limited to any particular sash arrangement, however, these elements are not described in detail.

Obviously, instead of mounting a window sash in the frame, a conventional door may be provided, if the frames are to be used in a doorway. Any slight modifications that may be required to adapt the construction shown herein for use as a door frame will readily occur to one skilled in the art.

In assembling the frame of the present invention, the outer frame 10, (which may or may not have the trim boards 23-26 associated therewith) is secured in place in the window opening by conventional nails, screws or the like. After the interior wall covering has been applied, the inner section 11 is telescoped within the outer section by downward and outward sliding movement, until its inner face is flush with the wall or until the trim boards about the interior wall covering, whereupon it is secured in place, for instance by counter-sunk screws or the like. The outer trim boards may be applied at any desired time, and the same is true of the interior trim but as stated above the latter boards are preferably pre-fabricated and assembled at the mill with the inner section 11.

Considerable difficulty has been encountered in the past in preventing mitred joints 60, 61 in the trim associated with door and window frames from separating, when the boards dry and contract with age, and various expedients have been used in an attempt to prevent this action, with little or no success. The present invention provides a novel plywood cleat or spline as a remedy for this difficulty. As shown in Figures 8 and 9, the rear faces of the trim members adjacent the mitred ends are provided with undercut, dove-tail grooves 62, 63. These grooves are disposed in right-angular relation to each other and are adapted to receive a special insert 65, cut in L-shaped plan from plywood stock and having bevelled edges 66 closely abutting the edges of the dove-tail groove. These splines are glued in the grooves, preferably with a water-resistant adhesive such as a casein glue. As a result, the mitred ends of the trim elements are maintained in closely abutting relation, and cracks cannot appear with age.

Besides preventing the appearance of cracks, the strength and rigidity of the frame is considerably improved. The utility of this device is of general application to mitred wood frames. Owing to the cheapness of plywood, its ease of fabrication, and especially, its combination of strength and non-splitting character derived from the crossed component plies, it is seen that L-shaped plywood cleats or splines, when glued in well fitted grooves provide an ideal solution of the problem of preventing cracks in mitred wood frames.

I claim:

1. A wooden window frame adapted for instal-

lation in window openings in building walls of different thicknesses, comprising pre-fabricated inner and outer sections adapted to be received in the opening in a building in telescopic relation to each other, the outer section comprising two independent jamb boards disposed in vertical parallel planes and having vertically disposed, parallel, mutually facing inner plane surfaces, and independent sill and head boards connected to the lower and upper ends of the jamb boards respectively, said sill and head boards having mutually facing inner plane surfaces disposed on outwardly and downwardly inclined parallel planes, the inner prefabricated section comprising two independent jamb boards disposed in vertical parallel planes and having vertically disposed, parallel outer plane surfaces disposed on planes parallel to and substantially coinciding with the planes of the inner surfaces of the jamb boards of the outer section, said inner section further comprising independent sill and head boards connected to the lower and upper ends of the inner section jamb boards, and having their outer surfaces disposed on outwardly and downwardly inclined parallel planes, parallel to and substantially coinciding with the planes of the inner, mutually facing surfaces of the sill and head boards of the outer frame section, whereby the inner section may be telescoped within the outer section by downward and outward sliding movement with the outer surfaces of the boards of the inner section sliding along the parallel plane inner surfaces of the boards of the outer section, to accommodate building walls of different thicknesses.

2. A wooden window frame adapted for installation in window openings in building walls of different thicknesses, comprising pre-fabricated inner and outer sections adapted to be received in the opening in a building in telescopic rela-

tion to each other, the outer section comprising two independent jamb boards disposed in vertical parallel planes and having vertically disposed, parallel, mutually facing inner plane surfaces, and independent sill and head boards connected to the lower and upper ends of the jamb boards respectively, said sill and head boards having mutually facing inner plane surfaces disposed on outwardly and downwardly inclined parallel planes, said outer section further comprising outer trim boards secured to the edges of the jamb, sill and head boards and projecting laterally therefrom in a single plane and connected together at their adjacent edges, the inner prefabricated section comprising two independent jamb boards disposed in vertical parallel planes and having vertically disposed, parallel outer plane surfaces disposed on planes parallel to and substantially coinciding with the planes of the inner surfaces of the jamb boards of the outer section, said inner section further comprising independent sill and head boards connected to the lower and upper ends of the inner section jamb boards, and having their outer surfaces disposed on outwardly and downwardly inclined parallel planes, parallel to and substantially coinciding with the planes of the inner, mutually facing surfaces of the sill and head boards of the outer frame section, whereby the outer section may be positioned in the window opening in a building wall with the laterally projecting trim boards thereof lying against the outer surface of the building and the inner section telescoped within the outer section by downward and outward sliding movement with the outer surfaces of the boards of the inner section sliding along the parallel plane inner surfaces of the boards of the outer section, to accommodate building walls of different thicknesses.

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