Jan. 2, 1940. G. E. SHIPWAY ET AL 2,185,650

ADJUSTABLE FRAME

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Fig. 1.

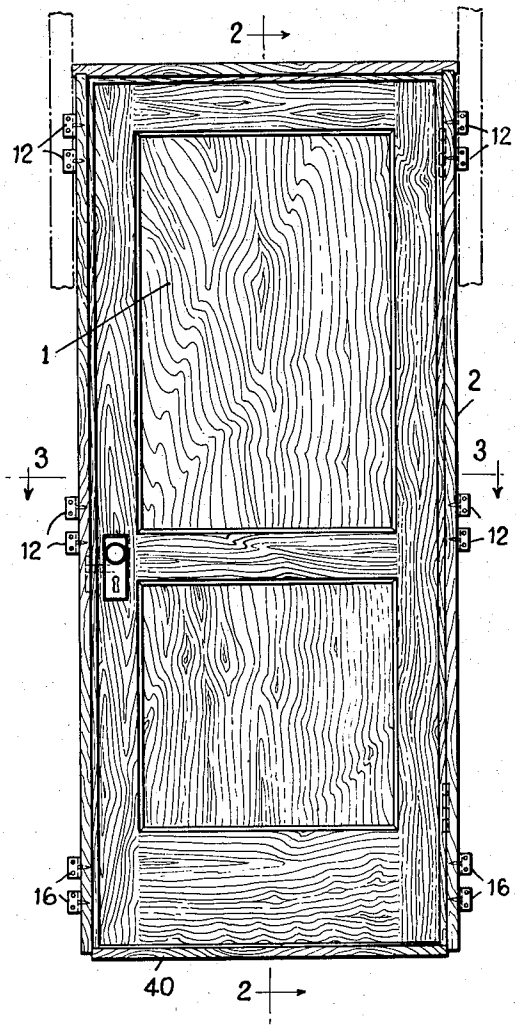
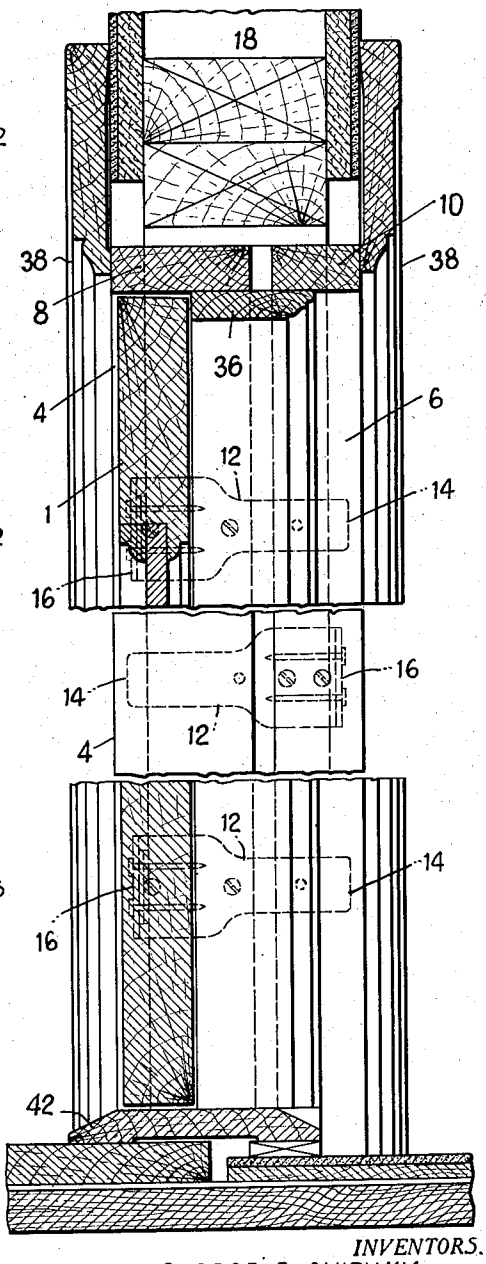


Fig. 2.



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Fig. 3.

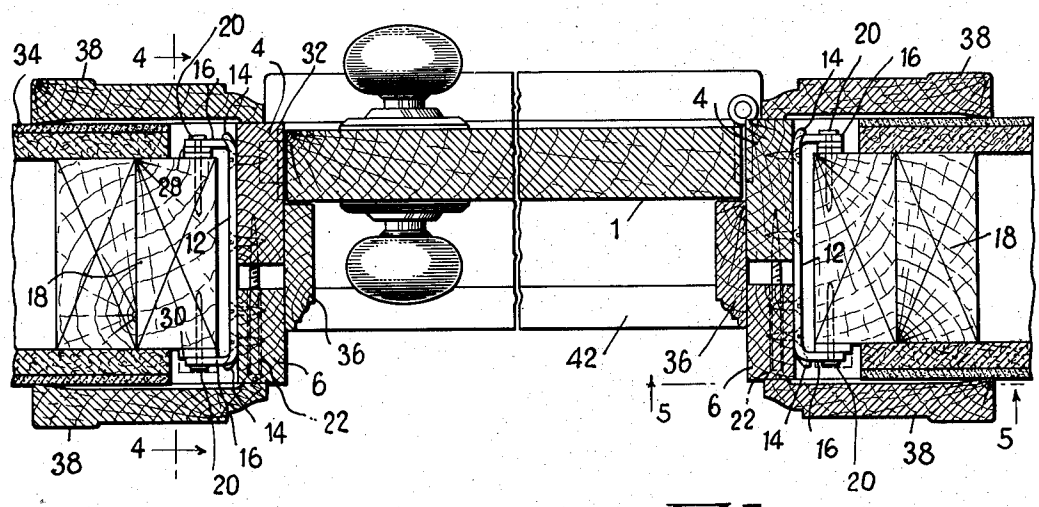


Fig. 4.

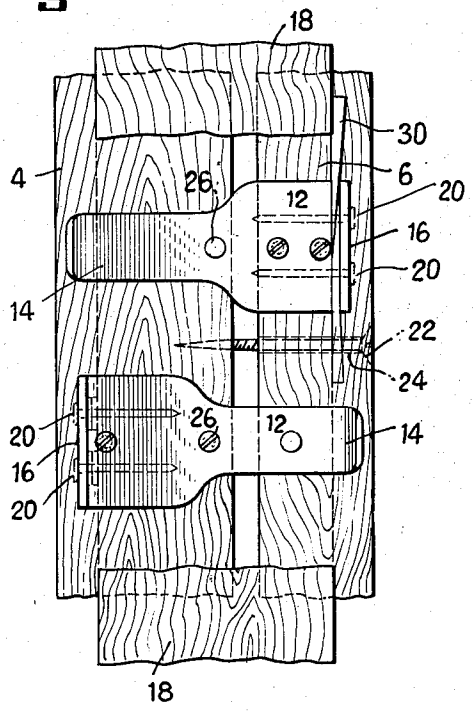
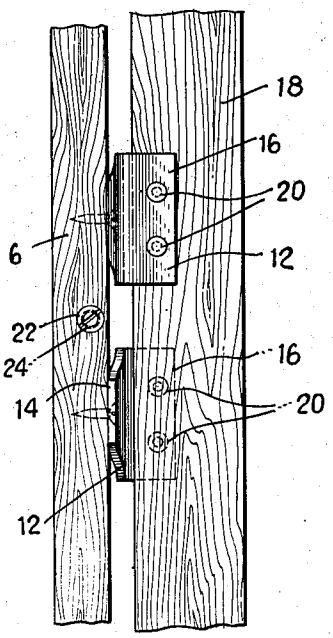


Fig. 5.



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Fig. 6.

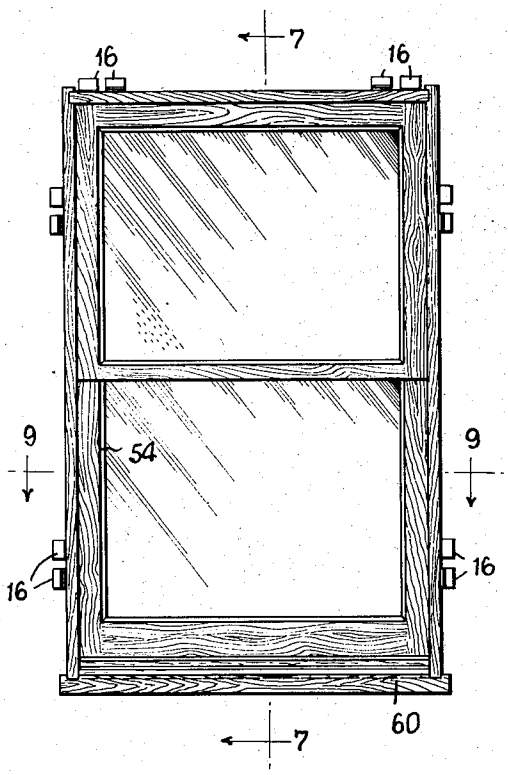


Fig. 7.

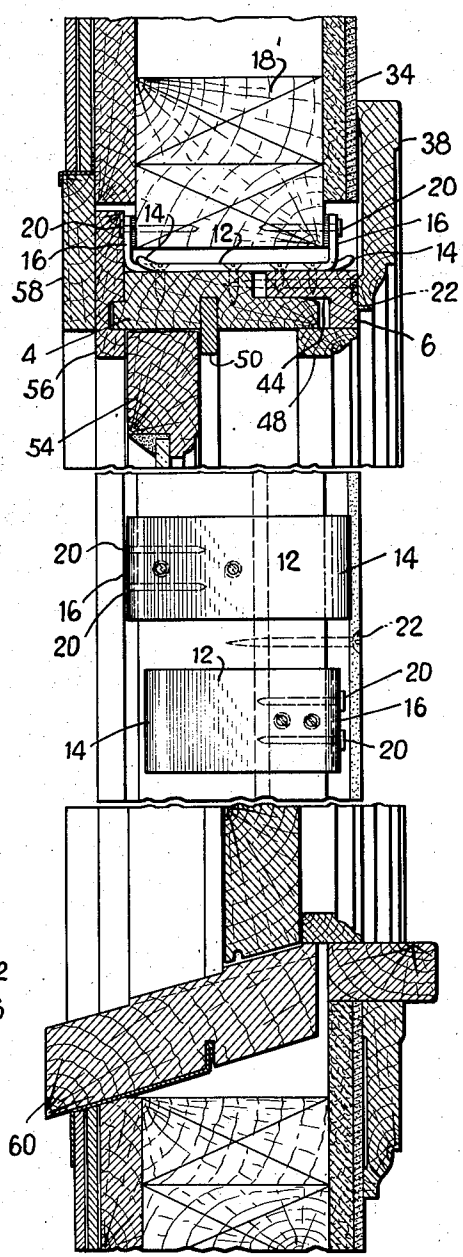
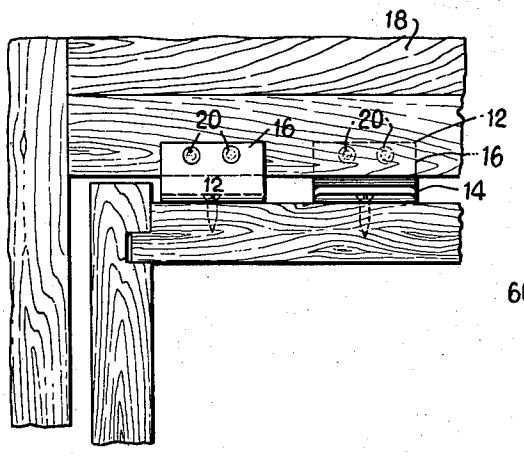


Fig. 8.



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Fig. 9.

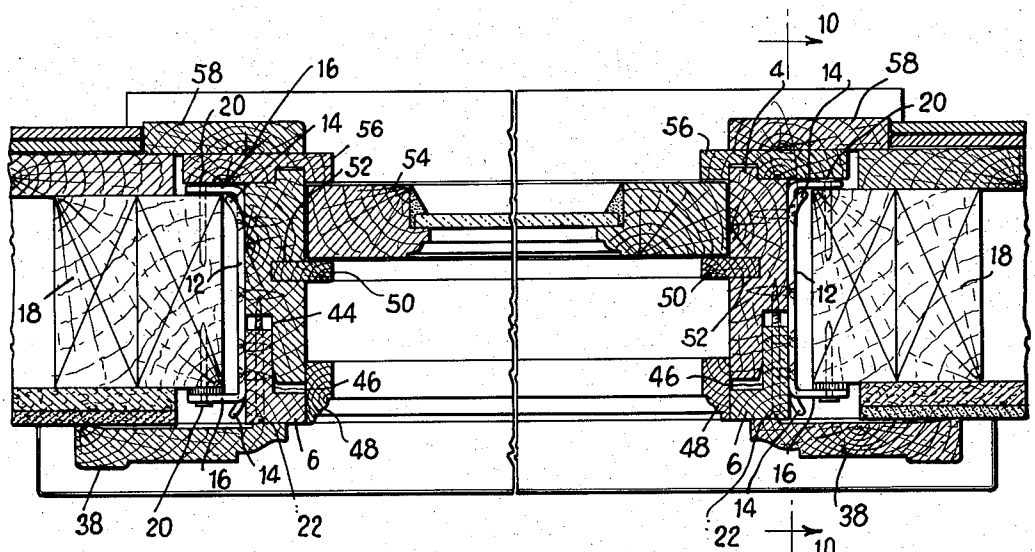
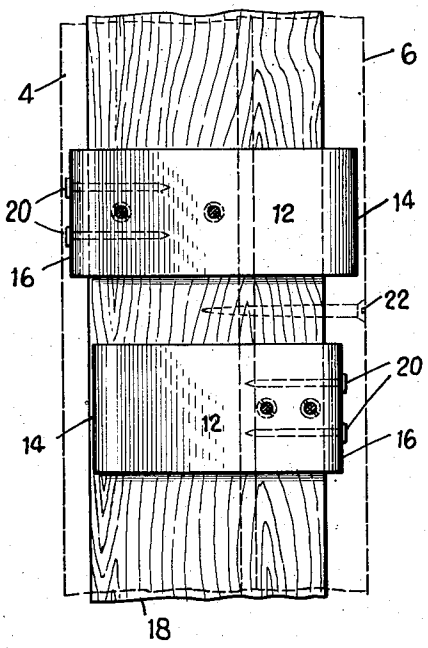
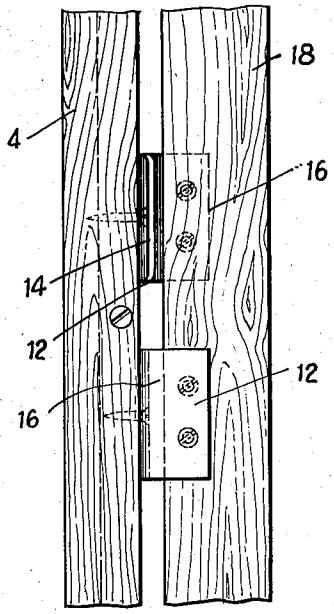


Fig. 10.

Fig. 11.





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UNITED STATES PATENT OFFICE

2,185,650

ADJUSTABLE FRAME

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Application May 21, 1937, Serial No. 143,904

10 Claims. (Cl. 20—12)

This invention relates to building structures, and more particularly to building light and entrance opening frames, such as door frames and window frames.

It is customary for door and window frames to be assembled at the factory or mill and delivered to the site of the building operation in condition for rapid erection. This reduces the amount of labor required at the site of the building operation, and also enables door and window frames to be more accurately constructed because of the better facilities present in a mill or factory for aligning the various elements during their assembly.

This procedure has been successful heretofore because the wall surface coatings predominantly used have been plaster coatings, and any variations in the sizes of frame members could be compensated for by varying the thickness of the plaster coats and thereby make all walls of the same thickness to correspond to a standard width for the side members of door and window frames. That is, door frames or window frames, could be made with the jambs of standard width and any variations in the size of the studs used in the construction of walls could be compensated by varying the thickness of the plaster coat to bring the face of the finish coat flush with the edge of the door jamb. It is found in practice that the so-called 2 by 4 inch studding vary in width as much as ¼ to ⅜ of an inch in lots obtained from different sources. When this variation in width could be easily compensated for by variation in the thickness of the plaster coat, the varying stud size presented little or no problem, but with the advent of "dry wall" constructions involving the use of composition boards which are of a fixed thickness, this variation in stud sizes could not be easily compensated for and has presented a distinct problem. For example, a door or window jamb of a standard width would project beyond the faces of a wall formed of undersized studding faced with plaster board, and would be too narrow and would not have its edges flush with the wall faces of a wall formed by wall boards placed over oversized studding.

It is an object of the present invention to provide adjustable frames for building light and entrance opening closures which can be assembled at the factory or mill, and adjusted to accurately conform to any normal variation encountered in the widths of studding employed in building operations.

It is a further object of this invention to provide adjustable door and window frames which can be rapidly assembled in position in a building structure with a minimum of labor and a maximum of accuracy.

Other objects and advantages of the present invention, if not particularly pointed out, will be apparent to those skilled in the art from the following detailed description of what are now considered to be the preferred embodiments of the present invention.

In the drawings:

Fig. 1 is a side elevational view of a door frame constructed in accordance with the present invention and with the door hung in position;

Fig. 2 is an elevational sectional view taken on the line 2—2 of Fig. 1, and looking in the direction of the arrows;

Fig. 3 is a horizontal sectional view taken on line 3—3 of Fig. 1, and looking in the direction of the arrows;

Fig. 4 is a fragmentary sectional view taken on line 4—4 of Fig. 3 and looking in the direction of the arrows;

Fig. 5 is a fragmentary sectional view taken on line 5—5 of Fig. 3, and looking in the direction of the arrows;

Fig. 6 is an elevational side view of a window frame constructed in accordance with the present invention;

Fig. 7 is a sectional elevational view taken on line 7—7 of Fig. 6 and looking in the direction of the arrows;

Fig. 8 is a detailed side view of a portion of the top of a window frame showing a clip or angle assembly constituting a feature of the present invention;

Fig. 9 is a horizontal, sectional view taken on line 9—9 of Fig. 6, and looking in the direction of the arrows;

Fig. 10 is a fragmentary sectional view taken on line 10—10 of Fig. 9 and looking in the direction of the arrows, and shown on a slightly enlarged scale with some of the elements omitted to more clearly disclose the structural features, and

Fig. 11 is a side view of the section shown in Fig. 10.

Referring to Fig. 1, a door 1 is shown hung in position in a door frame 2. The door frame 2 (see Figs. 2 and 3) comprises a jamb for each side of the frame formed of sections 4 and 6. The sections 4 on opposite sides of the frame are connected by a head piece 8, and the sections 6 on opposite sides of the frame are connected by a head piece 10.

Clip members or angles 12 each have one leg

14 fastened to the back of one of the jamb sections and the other leg 16 fastened by nails or screws to a door buck 18 formed of a double stud member or a single stud member as may be desired. The back of a jamb and the attached angles are shown in Fig. 4. This figure is shown on a slightly enlarged scale with some of the elements omitted to more clearly disclose the structural features, and shows the stud forming the door buck 18 cut away in the center for the purpose of clearly disclosing the manner of connecting the angles to the jamb sections and to the door buck.

Referring to Figs. 3 and 4, an angle is shown having one leg 14 screwed to the back of a jamb section 6 and extending crosswise of the jamb section 6 and also of the jamb section 4. Another clip is shown positioned below the clip just described, having one leg 14 screwed to the back of the jamb section 4 and extending crosswise of this section and also of the jamb section 6. The right angled leg 16 of each of these clips is nailed or screwed to the door buck as shown at 20. As many of these clips as may be desired may be positioned along the door jamb on each side of the door frame, and clips may also be fastened to the head pieces 8 and 10 if desired. It has been found that 6 clips, placed in pairs along each door jamb, are sufficient to rigidly fasten each door to the adjacent door buck.

A screw 22 is passed through a hole 24 in the jamb section 6 and screwed into the jamb section 4 to draw the jamb sections 4 and 6 towards each other during assembly of the frame incidental to incorporation of the same in the building structure.

A door frame comprising opposite jambs connected by a head piece can be completely assembled at the mill or factory. This is effected by fastening the angle members to the jamb sections, sliding the sections together, inserting the screws 22 to prevent the jamb sections from separating, and driving a nail partly into each jamb through a nailing hole 26 provided in the unattached portion of the crosswise extending leg of each angle to prevent the jamb sections 4 and 6 from sliding toward each during shipment. The nails in the nailing openings 26 are removed before final erection of the frame.

When the frame arrives at the site of the building operations, the nails in the nail holes 26 are withdrawn, the screws 22 are removed and the jamb sections are separated. The frame section formed by jamb sections 4 and their connecting head piece 8 is slipped in place in the door opening and washers 28 or wedges 30 are placed between the legs 16 of the angles to position the jamb sections 4 so that their side faces 32 are in line with the face 34 of the wall, which is usually formed of composition boards but may be plaster if so desired. Nails 20 are then passed through suitable openings in the leg 16 to fasten the jamb sections 4 in position.

The frame section comprising the jamb sections 6 and their connecting head piece 10 is then slipped into the door opening from the opposite side of the wall and the edges of the frame sections 6 are aligned with the face of the wall in the same manner as that described above, and the legs 16 are nailed or screwed to the door buck. The screws 22 are then passed through openings 24 in one of the jamb sections, which has been shown for the purpose of illustration as jamb section 6, and screwed into the other jamb section, which in the present instance is jamb section 4, to rigidly lock the jamb sections together. A stop strip 36 is then nailed or screwed to the jamb sections 4 and 6 over the joint therebetween on each side of the door frame. The trim pieces 38 are then suitably fastened in place, and a door 1 is hung in the usual manner.

If desired, the door may be hung initially at the factory, shipped to the site of the building operations assembled in the frame, and removed during installation of the frame as described above, and then replaced. During assembly of the jamb sections, the legs 14 which extend crosswise of the backs of the jamb sections serve as guides for the last jamb section placed in position and thereby automatically properly align the jamb sections.

During shipment of the door frame the temporary member 40 (see Fig. 1) may be nailed across the bottom of the jamb sections to prevent their separation. A conventional saddle 42 is substituted for member 40 when the door frame is finally installed.

Referring to Fig. 6 a window frame is shown which is constructed in accordance with the present invention. The window frame is constructed in substantially the same manner as the door frame just described and common parts throughout have been designated by the same reference numerals in order to avoid repetition. Only those parts of the window frame which do not exist in the door frame will be described in detail.

The main difference in the construction of the window frame from the construction of the door frame resides in the joint between the jamb sections 4 and 6. The jamb sections 4 and 6 are rabbeted out as shown at 44 to enable a part of one section to slide over a part of the other section during assembly, and overlap each other in the finished structure, and thereby provide a stronger frame. This overlapping relationship of the sections 4 and 6 could also be embodied in the door frame, if such is desired, but it is a more expensive construction and will usually be omitted.

This overlapping construction could also be omitted from the window frame if an extremely rigid frame is not required.

Jamb members 4 and 6 extend horizontally and are connected to the side members 4 and 6, respectively, to form the top of the window frame. Clips or angles 12 are connected to the horizontally extending members 4 and 6 and to a frame member 18', corresponding to the side studs 18, in the same manner as the clips 12 on the sides of the frame. The construction forming the top of the window frame is identical in all respects with the construction of the sides or jambs.

In Fig. 10, the jamb sections 4 and 6 are shown in dotted lines in order to more clearly show the manner in which the angles 12 are attached to the studs forming the buck 18.

A sash guide 48 is fastened over the joint between the jamb members 4 and 6, and an intermediate sash guide 50, is suitably connected to each jamb section 4, as by being seated in a groove 52, to provide guides for the window sash 54.

An end piece 56 is suitably fastened to the outermost end face of each jamb section 4 to act as a sash guide and a nailing base for the outside window trim 58.

The window frames are assembled at the mill, and installed in the building structure in exactly the same manner as the door frames. A conventional sill 60 is placed across the bottom of each window frame.

The foregoing details have been given for the

purpose of description and are not to be considered as limitative since the invention may take many different forms and is to be limited only by the scope of the appended claims.

What we claim is:

1. A building wall opening closure frame comprising a jamb section, an angle member having one leg connected to and extending crosswise of the back of the jamb section, and the other leg projecting away from the jamb section and positioned and constructed for attachment to the wall, a second jamb section adjacent to the first jamb section and contacting at the back with the crosswise extending leg of the angle member, and a second angle member having one leg connected to and extending crosswise of the back of the second jamb section and contacting with the back of the first jamb section, and the other leg projecting away from the second jamb section and positioned and constructed for attachment to the wall.

2. A building wall opening closure frame comprising a jamb section, a plurality of angle members, each having one leg connected to and extending crosswise of the back of the jamb section, and the other leg projecting away from the jamb section and positioned and constructed for attachment to the wall, a second jamb section adjacent to the first jamb section and contacting at the back with the crosswise extending legs of the angle members, and a plurality of angle members, each having one leg connected to and extending crosswise of the back of the second jamb section and contacting with the back of the first jamb section, and the other leg projecting away from the second jamb member and positioned and constructed for attachment to the wall.

3. A building wall opening closure frame comprising a jamb section, an angle member having one leg connected to and extending crosswise of the back of the jamb section, and the other leg projecting away from the jamb section and positioned and constructed for attachment to the wall, a second jamb section adjacent to the first jamb section and contacting at the back with the crosswise extending leg of the angle member, a second angle member having one leg connected to and extending crosswise of the back of the second jamb section and contacting with the back of the first jamb section, and the other leg projecting away from the second jamb section and positioned and constructed for attachment to the wall, and means for drawing the jamb sections toward one another.

4. A door frame comprising a jamb formed of two adjacent sections, a door buck, a member having one leg extending crosswise of the backs of the jamb sections and connected to one of the sections, and a second leg extending at an angle to said first leg attached to the buck, and a second member having one leg extending crosswise of the backs of the jamb sections and connected to the other of the sections, and a second leg extending at an angle to the first leg attached to the buck.

5. A door frame comprising a jamb formed of two adjacent sections, a door buck, an angle member having one leg extending crosswise of the backs of the jamb sections and contacting therewith and connected to only one of them, and a second leg attached to the door buck, a second angle member having one leg extending crosswise of the backs of the jamb sections and contacting therewith and connected to only the other of the sections, and a second leg attached to the door buck, means for drawing the jamb sections toward each other, and a stop strip positioned over the joint between the jamb sections.

6. A window frame comprising a jamb section having a rabbet edge, a second jamb section having a rabbet edge overlying the rabbet edge of the first section, an angle member having one leg extending crosswise of the backs of the jamb sections and connected to only one of the sections, and the other leg projecting away from the jamb sections, a second angle member having one leg extending crosswise of the backs of the jamb sections and connected to only the other of the sections, and the other leg projecting away from the jamb sections, screw means for drawing the jamb sections toward each other, and a sash guide positioned over the joint between the jamb sections.

7. An adjustable window frame comprising a jamb section, an angle member having one leg extending crosswise of and connected to the back of the jamb section and the other leg extending away from the section, a second jamb section adjacent to the first section and contacting at the back with the crosswise extending leg of the angle member, and a second angle member having one leg extending crosswise of and connected to the back of the second jamb section and contacting with the back of the first jamb section, and the other leg extending away from the jamb sections, and means for relatively moving said jamb sections to vary their combined width.

8. A door frame including a door buck and a jamb, said jamb comprising two adjacent sections, members attached to each section and each of said members in guiding and supporting contact with the other section and means separately securing each member to the door buck.

9. A door frame comprising a door buck and a jamb, said jamb including two adjacent sections lying in substantial parallelism to the face of the door buck, members attached to each section and each of said members in guiding and supporting contact with the other section and including portions extending at an angle to the attached portions and secured to the door buck.

10. A building wall opening closure frame comprising a jamb section, an angle member having one leg connected to and extending crosswise of the back of the jamb section, and the other leg projecting away from the jamb section for attachment to a wall, a second jamb section arranged to lie adjacent to the first jamb section and to contact at the back with the crosswise extending leg of said angle member, and a second angle member having one leg connected to and extending crosswise of the back of the second jamb section and arranged to contact with the back of the first jamb section, and the other leg projecting away from the first jamb section for attachment to the wall.

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