Dec. 19, 1939. F. F. BEIL ET AL 2,183,879

DOOR FRAME CONSTRUCTION

Filed Oct. 25, 1937 2 Sheets-Sheet 1

Fig. 1.

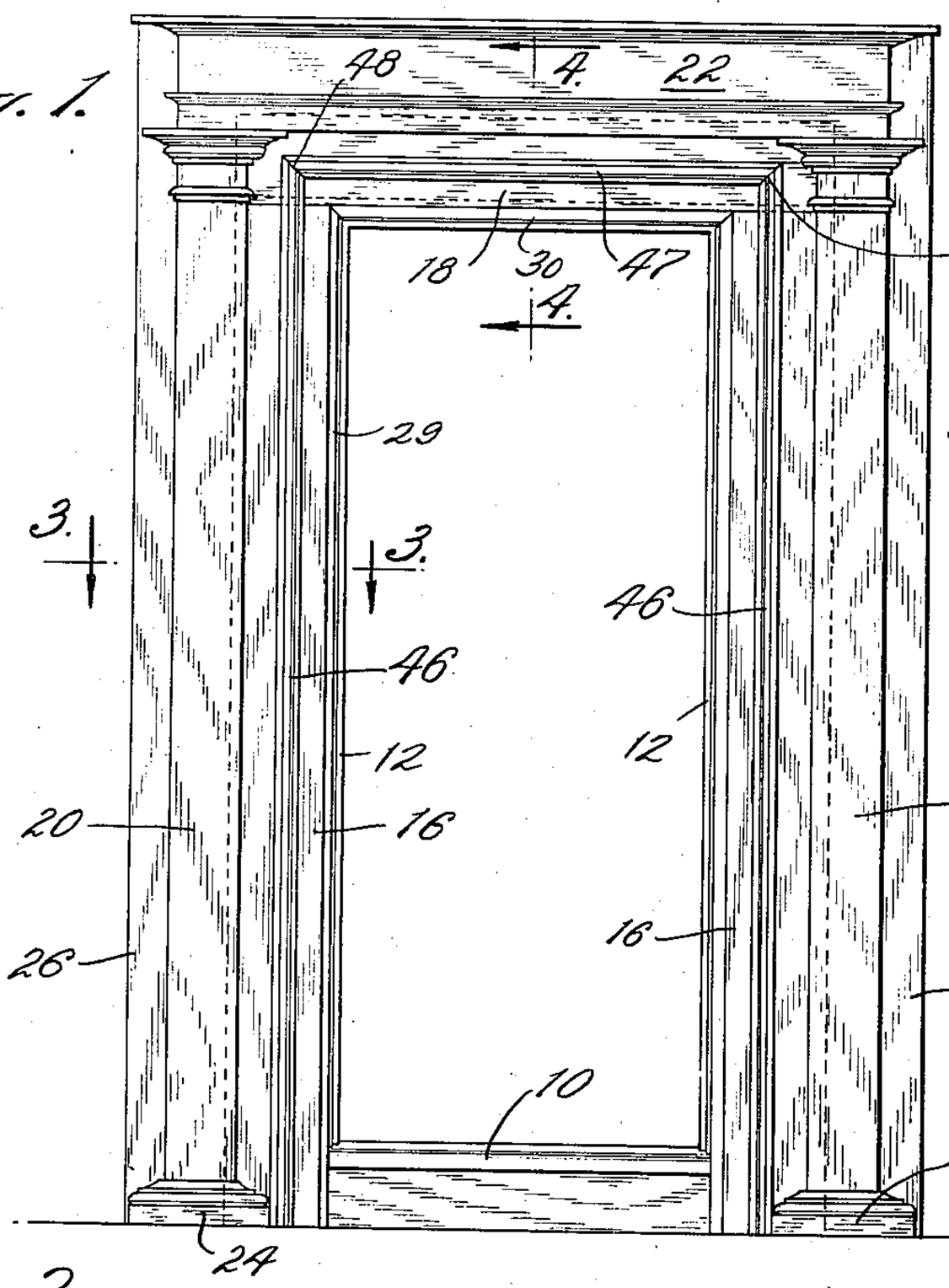


Fig. 2a.

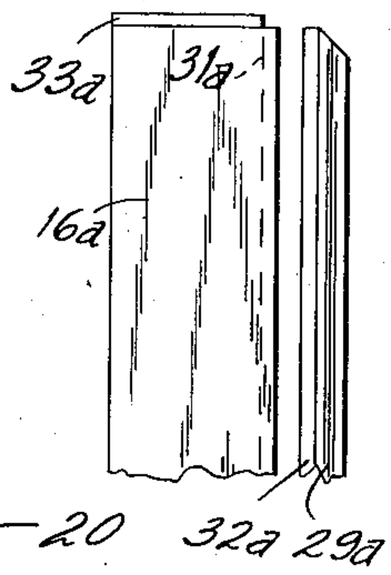
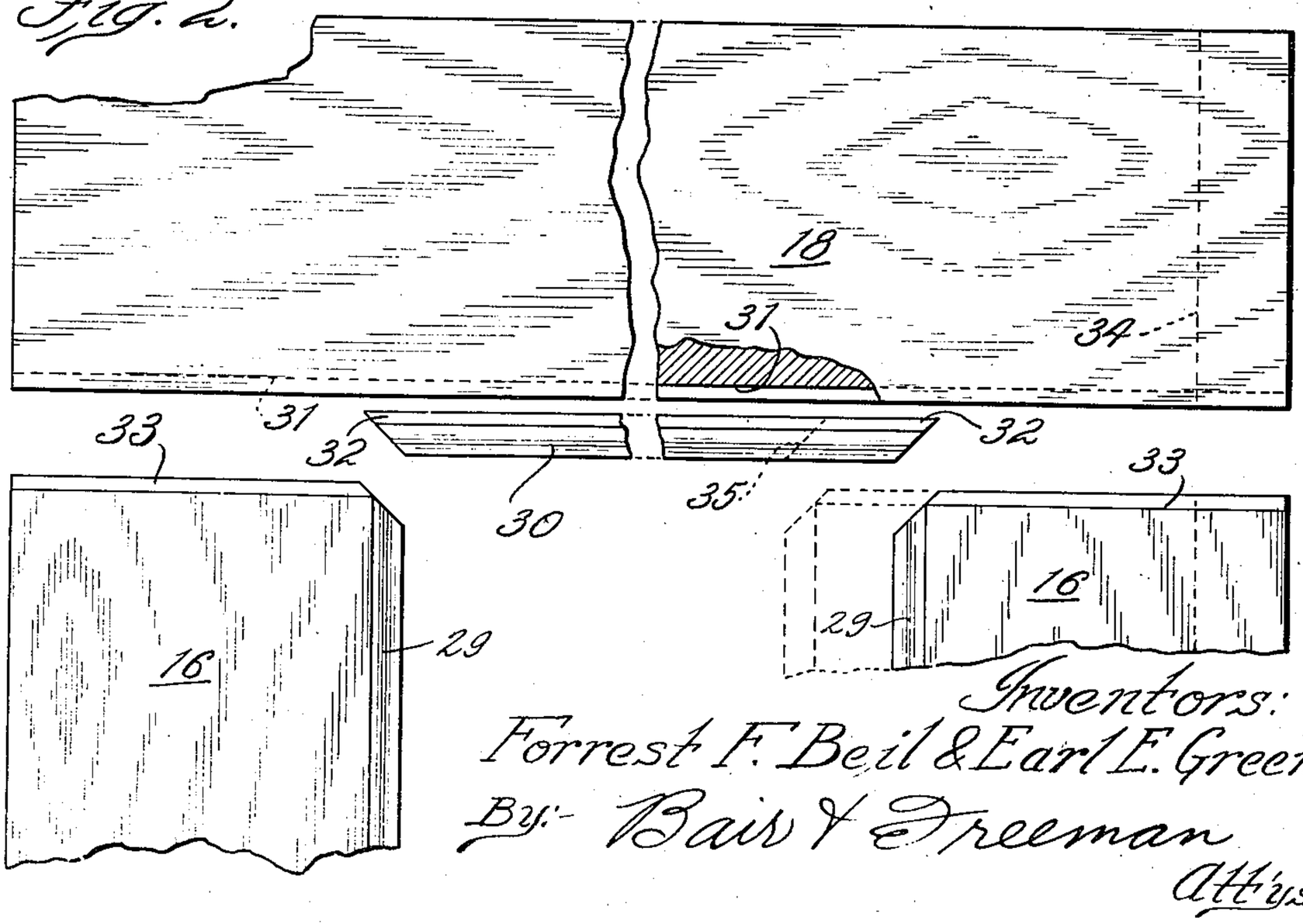


Fig. 2.



Inventors:
Forrest F. Beil & Earl E. Green
By: Bair & Freeman
Atty's.

Dec. 19, 1939. F. F. BEIL ET AL 2,183,879

DOOR FRAME CONSTRUCTION

Filed Oct. 25, 1937 2 Sheets-Sheet 2

Fig. 3.

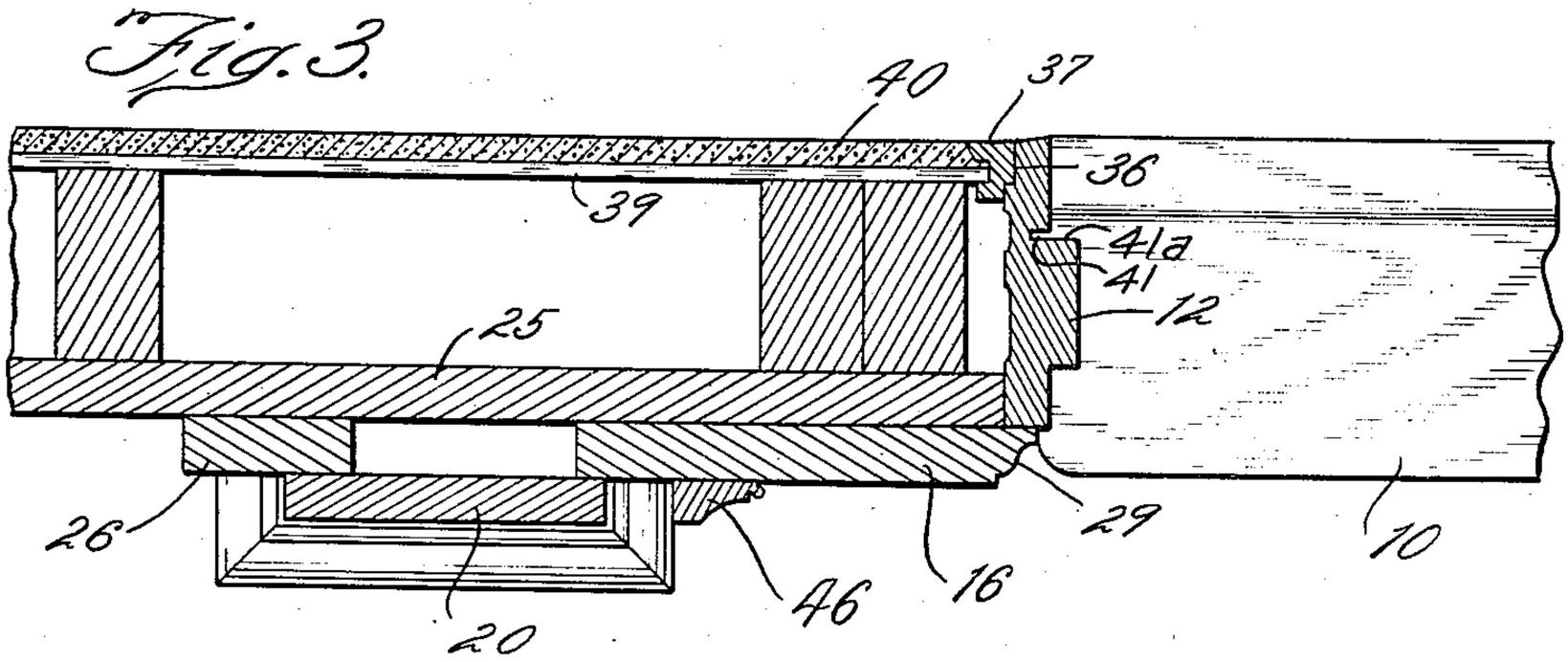


Fig. 6.

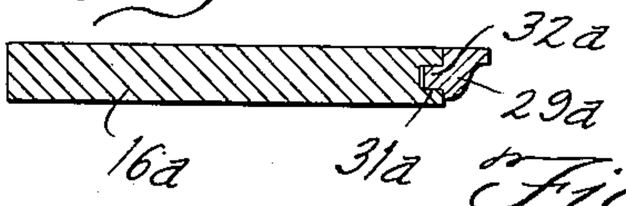


Fig. 7.

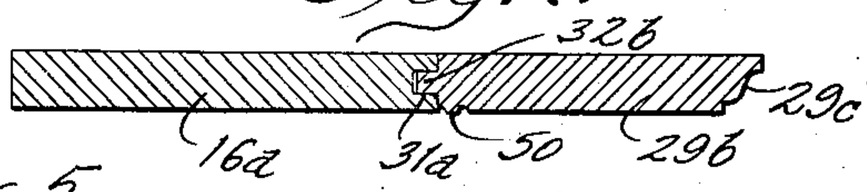


Fig. 4.

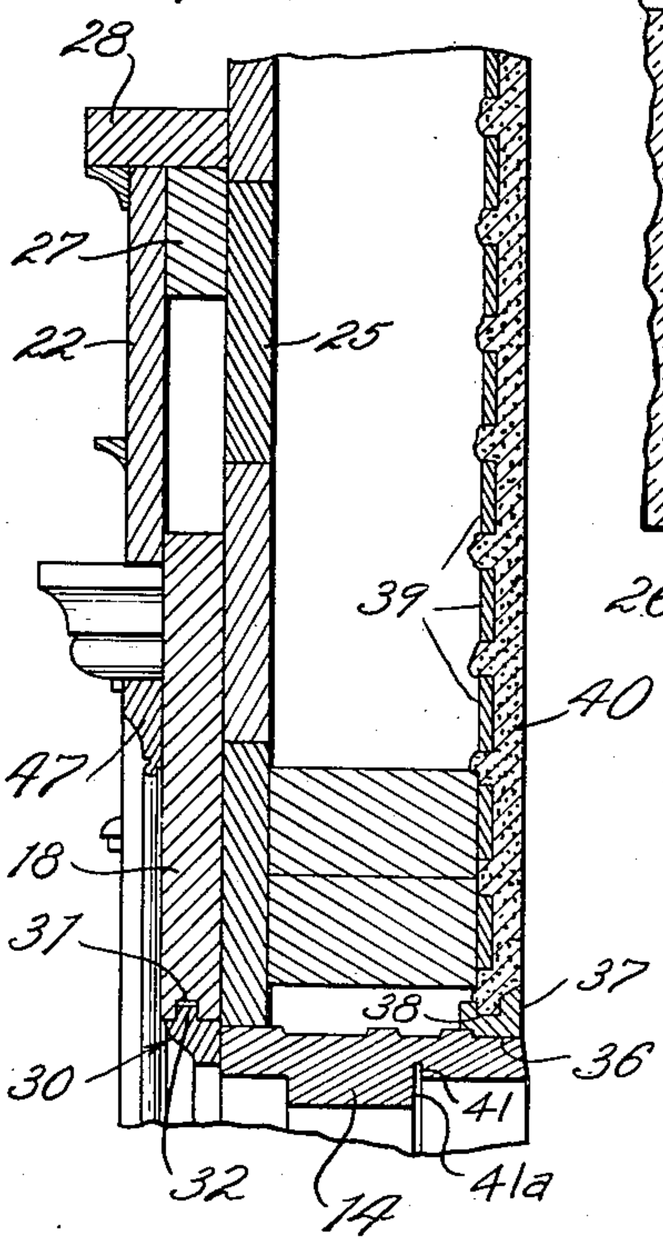
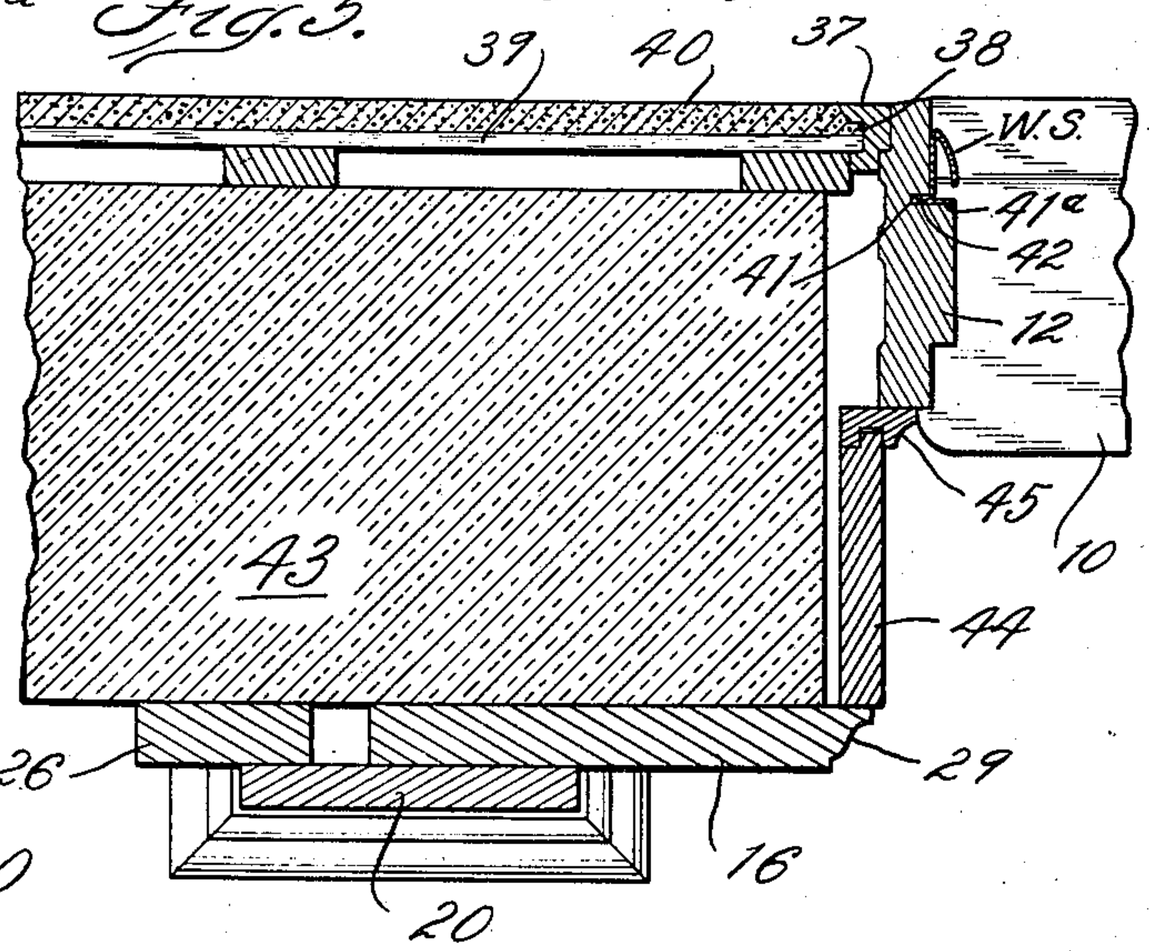


Fig. 5.



Inventors:
Forrest F. Beil
& Earl E. Green.
By:- Bair & Freeman
Att'ys.

Patented Dec. 19, 1939 2,183,879

UNITED STATES PATENT OFFICE

2,183,879

DOOR FRAME CONSTRUCTION

Forrest F. Beil and Earl E. Green, Clinton, Iowa, assignors to Curtis Companies Incorporated, Clinton, Iowa, a corporation of Iowa

Application October 25, 1937, Serial No. 170,890

6 Claims. (Cl. 20—11)

One object of our present invention is to provide a door frame construction which is an improvement over our Patent No. 2,080,555, issued May 18, 1937.

More particularly it is our object to provide in connection with a door frame as shown in our former patent, a means whereby the inner edges of adjustable architraves or other ornamental members are provided with moulded edges yet adjacent edges of the architraves are adjustable relative to each other and the moulded edges are so designed that such adjustment can be accomplished without any intricate reforming or fitting of the parts.

Another object is to provide a pair of side architraves and a head architrave having its lower edge coacting with the upper ends of the side architraves, the inner edges of all the architraves being moulded and one of the moulded edges being provided in the form of a moulding strip positioned by tongue and groove means relative to its architraves and thereby capable of being interfitted with the moulded edges of other architraves by the simple expedient of mitering one end of the moulding strip.

Still another object is to provide a joint between the upper ends of the side architraves and the lower edge of the head architraves which aligns their faces accurately regardless of the various positions relative to each other to which they may be adjusted.

The foregoing objects permit the use of adjustable architraves which are more easily and readily adjusted because they require less fitting and the fitting is of a more simple nature. Also the joints are less susceptible to opening due to shrink and swell of parts of the door frame.

A further object is to provide architraves which are adjustable so that they present greater or less reveal depending on whether narrow or wide doors are to be mounted in the opening around which the architraves are arranged.

Another object is to provide in connection with the architraves when they are extended to such a degree that they present a too wide appearance, an ornamental mould to be applied to the architraves.

Still a further object is to provide plaster locks at the inside of the door jambs and anchor grooves for weather strips in the jambs adjacent the door stops thereof.

With these and other objects in view, our invention consists in the construction, arrangement and combination of the various parts of the device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in our claims and illustrated in the accompanying drawings, in which:

Figure 1 is an outside elevation of a door frame illustrating our invention applied thereto.

Figure 2 is a front elevation of the architraves and a moulding member for the edge of one of them, the parts being separated and partly in section to show tongues, tenons and grooves which form a means to properly align the parts with each other.

Figure 2*a* is a view similar to the lower left corner of Figure 2 showing a modification.

Figure 3 is an enlarged horizontal sectional view on the line 3—3 of Figure 1.

Figure 4 is an enlarged vertical sectional view on the line 4—4 of Figure 1.

Figure 5 is a sectional view similar to Figure 3 showing the addition of an adapter mould and extension jamb where the door frame construction is used in a masonry wall instead of a stud wall as shown in Figures 3 and 4.

Figure 6 is a sectional view of a modified form of side architrave showing a mould strip for the inner edge thereof rather than the edge itself being moulded; and

Figure 7 is a similar sectional view showing the side architrave modified to increase its width by the use of a widened mould strip.

In the accompanying drawings we have used the reference numeral 10 to indicate a door sill. Side jambs are indicated at 12 and a head jamb is indicated at 14. Ornamental members surround the door opening defined by the sill 10 and the jambs 12 and 14 and include side architraves 16, a head architrave 18, pilasters 20 and a cap 22. Base mould members 24 are provided for the lower ends of the pilasters 20.

Referring to Figures 3 and 4, it will be noted that the pilasters 20 and the cap 22 are spaced from the sheathing 25 of the wall. The outer edges thereof are held so spaced by side casings 26 and a filler block 27 for the pilasters and cap respectively. The filler block 27 and the upper edge of the cap 22 are covered by a shelf 28 as shown in Figure 4. The architraves 16 and 18, it will be obvious, may be slid to a greater or less degree of overlap relative to the pilasters 20 and the cap 22.

In Figure 3 approximately maximum extension of the architraves is illustrated while in Figure 5 almost minimum extension thereof is illustrated. In this manner as described in our previous patent, one set of pilasters and cap can be mounted relative to a door frame and will accommodate

several different sizes of doors, it being merely necessary to extend the architraves sufficiently to cover the intervening wall space between the pilasters and the sides of the door opening and between the cap and head of the door opening.

It is desirable from the design standpoint to have the inner edges of the architrave moulded. Referring to Figures 3 and 4, it will be noted, that the cross section of the architraves is substantially rectangular, the side architraves **16** having their inner edges moulded as indicated at **29** and the head architrave **18** having a moulded strip **30** applied to its edge. It is obvious that if the lower edge of the head architrave **18** were moulded, then in order for the lower edge at the ends of the head architrave to fit the upper ends of the side architraves, such moulded edge would have to be partially cut away and the cutting process would have to be performed quite accurately in order to make a good joint. However, we have provided the mould strip **30** of the same shape as the moulded edge **29** and provided other features to eliminate the necessity of such cutting and fitting. Specifically these features include a groove **31** in the lower edge of the head architrave **18** throughout its length, a tongue **32** on the upper face of the mould strip **30** to fit the groove **31** and tenons **33** on the upper ends of the side architrave **16** to also fit the groove. These parts are illustrated in separated position in Figure 2. It will be obvious when the tongues **32** and the tenons **33** are extended into the groove **31**, the parts are aligned so that a correctly mitered joint appears at the ends of the strip **30** and the upper ends of the moulded edges **29**.

As shown by dash lines in Figure 2, when a narrow door is to be fitted, the head architrave **18** can be cut off along the line **34** and in order to make the moulded edges of the architrave fit each other it is merely necessary to miter one end of the strip **30** as indicated at **35**. This obviously is very simple to do and yet when the parts are assembled, the tongue, tenon and groove connections assure proper face and moulded edge alignment.

When the mould strip **30** is assembled on the head architrave **18**, the two have a cross sectional shape similar to the cross section of the side architrave **16** thereby carrying out a similar design around the door frame and inter-fitting of the tenons **33** and the grooves **31** provides a tight joint.

Where shorter doors are to be accommodated, the lower ends of the side architraves are cut off but the tenons at the upper ends need not be cut off or trimmed in any manner thus insuring that the joint machined at the factory can be maintained regardless of the necessary adjustment for fitting the architraves to the size of door being installed.

When the door is of a narrower width than maximum it is a very simple matter to slide the tenons **33** inwardly until the distance between the side architraves is proper for the jambs being installed. It can then be determined just what length the mould strip **30** should be. Any surplus length of the head architrave can be cut off and need not even be cut square as it is concealed by the cap **22** and the pilasters **20**.

As evident from an inspection of Figure 1 wherein the limits of the architraves are shown by dotted lines, the moulded edges of the side architraves and the tenons are cut at a miter at the factory and accordingly on the job it is necessary to miter only one end of the mould strip **30** when the side architraves **16** are adjusted to any position less than the maximum distance apart.

Referring to Figures 3 and 4, it will be noted that the inner edges of the jambs **12** and **14** are rabbeted as indicated at **36** to receive plaster lock mould strips **37**.

The strips **37** have grooves **38** to receive lath **39** and plaster **40** of the inner wall. The inner edges of the jambs, it will be noted, are slightly beveled so that casing or trim later applied will make a tight joint therewith.

The mould strip **37** inter-fits with the rabbet **36** whereby it is definitely located with respect to the jamb. The groove **38** forms a shoulder under which the plaster **40** can lock, thus effectively bonding the edge of the plaster to the edge of the window frame. The mould strip **37** forms not only a plaster lock to produce a tighter, more leak-proof joint but also supplies a nailing surface of greater width than the door jamb to which trim may be applied. This is especially useful when narrow trim is used which ordinarily may not be wide enough to reach over to the stud or in masonry walls as shown in Figure 5 where there is no nailing surface available.

Along the jambs **12** and **14** we provide weather strip receiving grooves **41** adjacent the door stop shoulder **41***a* formed by rabbeting the jamb. These are adapted to frictionally receive weather strips WS of the type shown in the Madsen Patent No. 2,077,845 of April 20, 1937. This groove receives a doubled flange **42** of the weather strip, the flange being merely pushed into the groove. Such connection eliminates the necessity of nailing the weather strip in place and thus the door frame may be factory prepared to receive the weather strip.

In Figure 5 a masonry wall is indicated at **43**. Due to its greater thickness, we have provided a sub or extension jamb **44** and an adapter mould **45**. These take care of the additional thickness of the wall and provide a connection between the inset outer edge of the jamb **12** and the edges of the architraves **16**. A similar extension jamb and adapter mould are, of course, provided at the head as well as at the sides of the door frame. The adapter mould **45** provides set back joint relationship between the jamb and the extension jamb. The extension jamb face is thereby offset outwardly relative to the face of the jamb to provide clearance for door hardware such as hinge barrels and door knobs or handles. The offset arrangement also provides room for the hand of a person on the door knob without danger of striking the hand against the extension jamb when turning the knob.

Although we have described our improved construction as applied to a door frame it is obvious that wherever ornamental members form a building opening and other ornamental members are provided for adjustment relative to the first ones to cover or partially cover the intervening wall space between the opening and the first ornamental members the invention can be used.

A further feature of our invention is the provision of fill-in mould strips **46** and **47** where the architraves are extended to a position where they present an appearance of being too wide to be consistent with good architectural design. These have mitered joints at **48** which can be machined at the factory with the exception of cutting off one end of the strip **47** at a miter after its necessary length for a given installation has been determined. The strips **46** can be cut off square at their lower ends when it is required that they be

shortened thus making necessary only one mitered cut.

The relative adjustment between ornamental members which cover the wall to accommodate different sizes of openings or provide different degrees of reveal may be accomplished with facility when the moulded edges of the ornamental members and a mould strip are machined and one end of the mould strip is cut on the job for interfitting as illustrated in Figure 2.

In Figures 2*a* and 6, we suggest a modification in the side architrave 16. In these figures, the architrave is indicated as 16*a* and includes a groove 31*a* similar to the groove 31 in the head architrave 18. A mould strip 29*a* similar to the mould strip 30 has a tongue 32*a* fitting into the groove 31*a*. In this manner the inner edge of the side architrave may be formed by the mould strip 29*a* instead of this inner edge itself being moulded as at 29 in Figure 3.

In Figure 7 we show a further modification in which the mould strip has been considerably widened and is indicated at 29*b*. With a mould strip such as illustrated in this figure, it is obvious that the extension of the side architrave relative to the pilaster can be considerably increased beyond that possible by the sliding adjustment only of the architrave relative to the pilasters and cap. When the side mould strip 29*b* of Figure 7 is used for the side architrave, a similar head mould strip of course (not shown) would be used for increasing the extension of the head architrave and the upper ends of the side mould strips 29*b* would be miter fitted with the ends of such head mould strip.

Although it is possible to use mould strips 29*b* of different widths and rely on this method of widening the architraves, it is still desirable to have the architraves slidable relative to the pilasters and cap to take care of slight inaccuracies in building construction. The mould strip 29*b* when used, preferably has a bead 50 or other ornamentation to conceal the joint and further ornament the surface.

Some changes may be made in the construction and arrangement of the parts of our device without departing from the real spirit and purpose of our invention, and it is our intention to cover by our claims any modified forms of structure or use of mechanical equivalents which may be reasonably included within their scope.

We claim as our invention:

1. For use in a wall, a door frame construction comprising side and head jambs, side and head architraves extending from the edges thereof and overlapping the face of said wall, the inner edges of said side architraves being molded and the upper ends thereof mitered, spaced pilasters and a cap, said architraves being located between said pilasters and said wall and movable relative thereto and between said cap and said wall and movable relative thereto to define varying widths and heights of door openings, the bottom of said head architrave having a groove therein from end to end thereof, the upper ends of said side architraves having tenons to fit in said groove and means for covering the portion of said groove spanning the distance between said side architraves comprising a molding strip of contour similar to the contour of said molded edges, the ends of said molding strip being mitered and forming joints with the upper mitered ends of said molded edges.

2. For use in a wall, a door frame construction comprising jambs, architraves overlapping the wall sheathing and ornamental members overlying the architraves and the wall at the sides and top of said architraves, said jambs and architraves being movable relative to said wall sheathing and relative to said ornamental members to vary the dimensions of door openings defined by the jambs, the ends of the head architrave and the upper ends of the side architraves being mounted edge to edge, and extension jambs and an adapter mould for widening said jambs to accommodate a wall thicker than a jamb of normal width.

3. For use in a wall, a door frame construction comprising side and head jambs and side and head architraves extending from the jambs and overlying the wall, said head architrave being grooved on its under edge from end to end, said side architraves having tongues at their upper ends to engage said groove and align said architraves relative to each other and permit side adjustment to define varying frame sizes and means to cover the unused exposed groove in said head architrave comprising mitered corners at the inner edges of the side architraves adjacent said tongues and a member having mitered ends to be applied on the grooved edge of the head architrave and forming completed mitered joints with the mitered corners of said side architraves.

4. For use in a wall, a door frame construction comprising side and head jambs and side and head architraves extending from the jambs and overlying the wall, said head architrave being grooved on its under edge from end to end, said side architraves having tongues at their upper ends to engage said groove and align said architraves relative to each other and permit side adjustment to define varying frame sizes and means to cover the unused exposed groove in said head architrave comprising mitered corners at the inner edges of the side architraves adjacent said tongues and a member having mitered ends to be applied on the grooved edge of the head architrave and forming completed mitered joints with the mitered corners of said side architraves, said member having a tongue to fit into said groove in said head architrave to align the mitered ends of said member with the mitered corners of said side architraves.

5. For use in a wall, a frame having jambs, extension jambs and adapter molds, said extension jambs and adapter molds being provided for widening said jambs to accommodate a wall thicker than can be done with a jamb of normal width and said adapter molds being provided for serving as a joint connection between adjacent edges of said jambs and said extension jambs and being constructed and arranged to offset the face of the extension jamb outwardly relative to the jamb to provide clearance for door hardware.

6. For use in a wall, a frame having jambs, extension jambs and adapter molds, said extension jambs and adapter molds being provided for widening said jambs to accommodate a wall thicker than can be done with a jamb of normal width, said adapter mold being constructed and arranged to provide a set back joint relationship between said jamb and said extension jamb.

FORREST F. BEIL.
EARL E. GREEN.