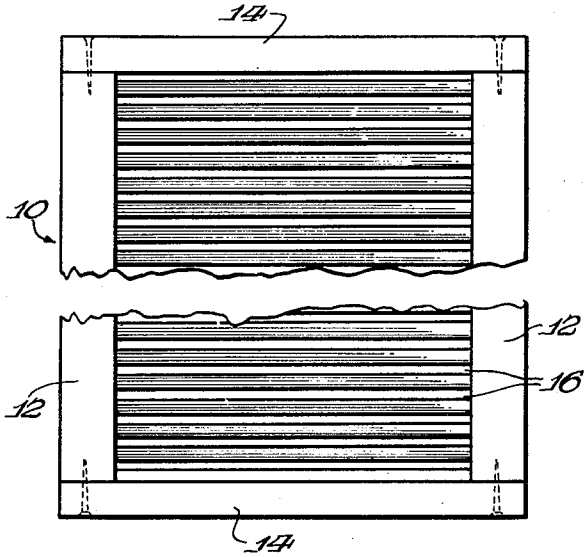
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LOUVERED DOOR

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Fig. 1



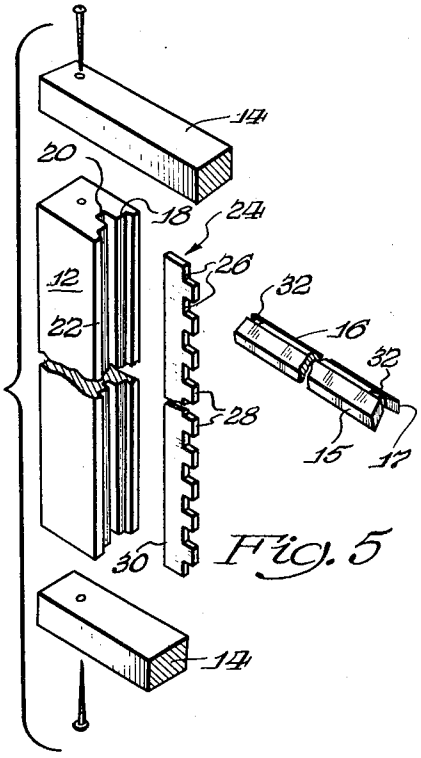


Fig. 5

Fig. 4

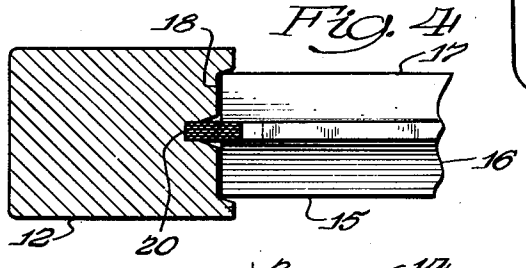
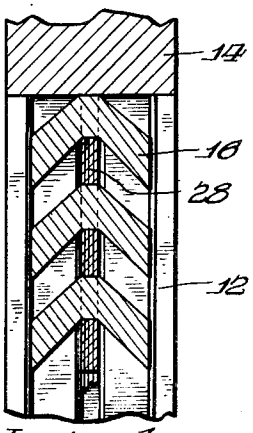


Fig. 3



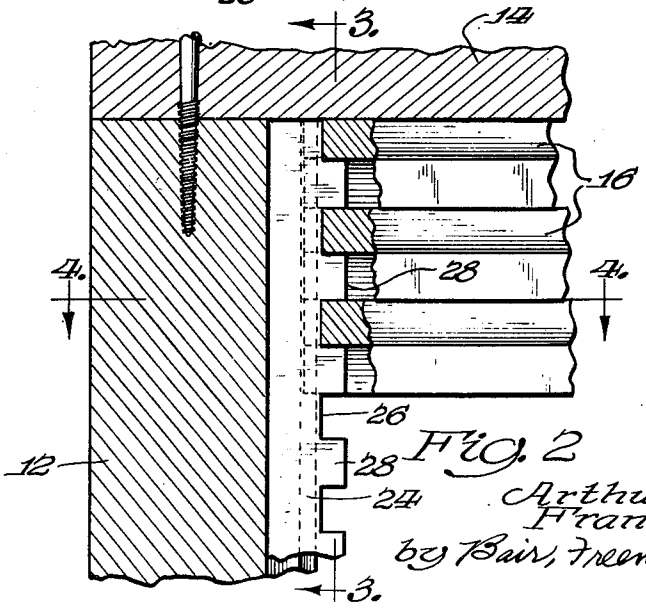


Fig. 2

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Fig. 6

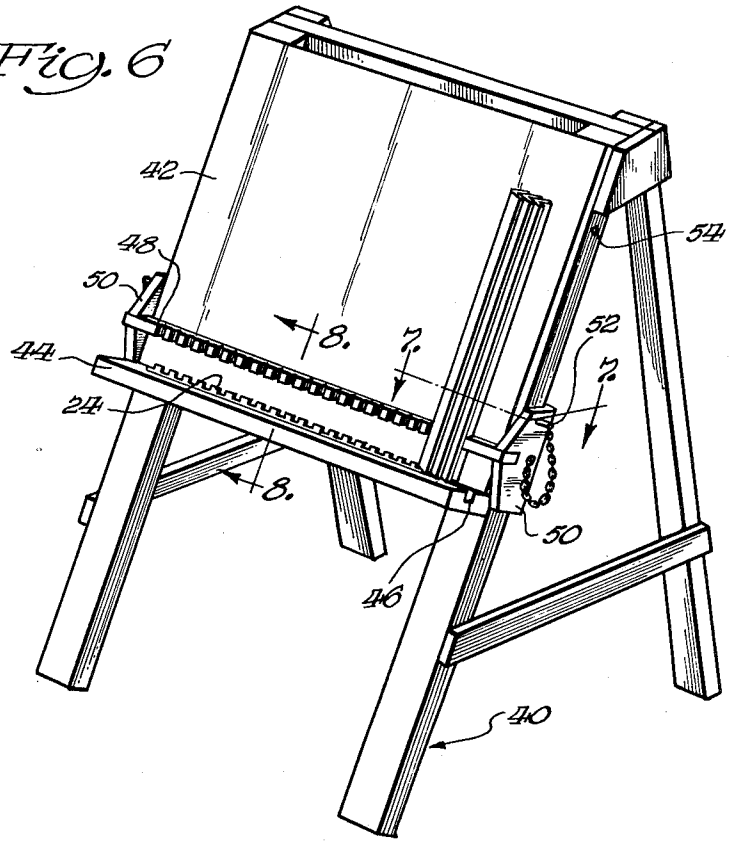


Fig. 7

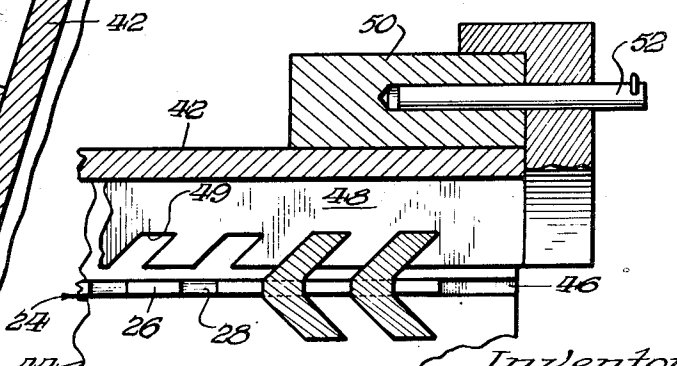
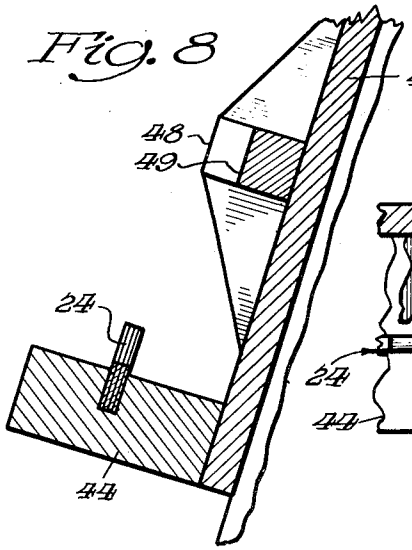


Fig. 8



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LOUVERED DOOR

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2 Claims. (Cl. 20—63)

This invention relates to a louvered panel or door construction and more particularly to an improved means and structure for mounting chevron-type louvers between the frame or door stiles. Louvered doors are used extensively in home and furniture construction.

One object of the invention is to provide means for preassembling the louvers in spaced relation before installation in the door or frame, which means becomes a permanent part of the final door structure.

Another object is to provide a positive and effective means for locking the louvers in the frame to prevent rattling and displacement.

These and other objects will become apparent from the following description when read in conjunction with the accompanying drawings, wherein:

Figure 1 is an elevational view of a louvered panel having the center section broken out;

Figure 2 is a longitudinal section through a corner of the louvered panel shown in Figure 1;

Figure 3 is a section taken along the line 3—3 of Figure 2;

Figure 4 is a section taken along the line 4—4 of Figure 2;

Figure 5 is an exploded view showing the elements comprising one side of the frame construction including a stile, and cooperating slat for locking the louvers in parallel spaced relation;

Figure 6 is a perspective view of an apparatus for facilitating assembly of the louvers with the spacing slats;

Figure 7 is a sectional view taken along the line 7—7 of Figure 6; and

Figure 8 is a sectional view taken along the line 8—8 of Figure 6.

The invention lies in the combination of the various elements and the manner in which they cooperate to provide the novel louver structure.

Referring now to Figures 1 through 5, the louvered panel shown comprises a rectangular frame having parallel vertical members or stiles **12**, and opposed parallel horizontal members or rails **14**. The chevron-shaped louvers **16** are disposed in parallel relation and extend between the stiles **12**. The stiles **12** have a shallow longitudinal channel **18** (as best shown in Figure 4) which is adapted to receive the ends of the louvers **16**. The sides of the channel **18** may be slightly bevelled to facilitate insertion of the louver into the channel. The dimensions are such as to provide a snug fit. Disposed along the centerline of the channel **18** is a relatively narrow groove **20** adapted to receive slat member **24**. The groove **20** may be widened slightly at the mouth to permit insertion of the spacer slat **24** without difficulty. The fit should be snug. The outer edge **30** of the slat **24** is smooth and is adapted to lie in the bottom of the groove **20**. The inner edge of the slat **24** is notched, containing alternate notches **26** and teeth **28**. The notches are of sufficient width to receive the end of louvers **16**. The invention is particularly adapted for the assembling of louvers having a chevron-shaped cross section, comprising angular legs **15**, **17** which

join at the longitudinal center-line of the louver. The louvers contain kerfs **32** (Figure 5) cut into the ends thereof midway between the members **15** and **17**. The kerfs **32** are adapted to embrace the slat **24** when the louvers are assembled therewith.

The assembly is best shown in Figures 2, 3 and 4. The leg members **15** and **17** of the louver **16** fit snugly within the channel **18** and bear against the sides thereof. The upper and lower surfaces of the flat center portion of the louver contact the sides of the notches **26** in the slat **24** while the kerf **32** embraces the portion of the slat adjacent to the bottom of the notch **26**. In this way the louvers are held securely in parallel spaced relation between the vertical members or stiles **12** of the panel or door structure.

Suitable means for preassembling the louvered panels of the invention are shown in Figures 6 through 8. The apparatus comprises a simple easel **40** having a supporting plate **42** fixed to the front thereof and, at the base of the plate, a ledge **44** having a groove **46** extending longitudinally thereof. The groove **46** is of size suitable for receiving the notched slat **24** and is spaced from the surface of the plate **42** to permit louvers fitted with the notched slat to lie with their sides against the face of the plate **42**. In other words, the groove **46** is spaced about half the width of the louver from the face of the plate **42**. An alignment bar **48** containing angular notches **49** is mounted transversely across the plate on brackets **50** which are adapted to slide up and down the front legs of the easel **40**. The notches **49** receive the edges of the louvers. Each bracket **50** has a pin **52** adapted to slide into holes **54** in the front leg of the easel to facilitate vertical adjustment of the alignment bar. The alignment bar serves to hold the free ends of the louvers in parallel spaced relation and preferably is adjustable to take care of louvers of different lengths.

In assembling louvers to the slats using this apparatus the first step consists in placing the slat **24** within the groove **46** with the notches up. The end of each of the louvers **16** is then inserted in the notch **26** with the kerf **32** embracing the slat. Glue may be applied to the mating surfaces if desired. The free end of each louver is held by means of the alignment bar **48**, the sides or legs of the louvers fitting into complementary slots **49**. After all of the louvers have been assembled with the slat **24** lying in the slot **46**, the tops of said louvers are spaced accurately by reason of the alignment bar so that they may be assembled with a second duplicate slat (not shown) which is pressed into locking position. Little difficulty is experienced in putting the second slat into proper position since the free ends of the louvers are accurately aligned to match the notches. The assembly is then removed from the easel and placed within the vertical frame members or stiles **12**, the outer edge **30** of the slats being seated in the groove **20** of the stile. To finish the assembly the horizontal rail members **14** of the frame or door are put into position. They may be screwed to the stiles, as shown in the drawing, or assembled in any other appropriate manner.

From the foregoing description it will be apparent that we have provided an efficient method and construction for assembling louvers having chevron-shaped cross section. It will be noted that the notched slats which hold the louvers in spaced relation become a permanent part of the final louvered panel assembly. By means of our construction a postive and effective locking of the louvers within the frame is brought about. It will be apparent to those skilled in the art that various modifications may be made in structural details without departing from the true spirit and scope of our invention. The particular forms shown in the drawings and described herein are

given merely for purposes of illustration. It is our intention not to limit our invention otherwise than as necessitated by the scope of the appended claims.

What we claim as new and desire to secure by Letters Patent of the United States is:

1. In a louvered door comprising a pair of opposed stiles with chevron-type louvers mounted in longitudinal grooves in the stiles, means for preassembling the louvers and for spacing them in assembled relation with the stiles comprising a pair of notched slats, one for each stile, having alternate notches and spacing teeth in the inner edges thereof, said notches being of sufficient width to receive the ends of the louvers, said slats being adapted to fit into channels provided in the bottom of each of said grooves with the teeth projecting beyond the channel-containing surface of the stiles to support said louvers, and kerfs cut in each end of the louvers adapted to receive the slats when the ends of the louvers are disposed within said notches.

2. A louvered door comprising a pair of opposed stiles each having a relatively shallow longitudinal channel and a narrow groove in the bottom of the channel coextensive therewith, louvers of chevron-shaped cross section extending between said stiles with the ends thereof mounted in said channels, said louvers having kerfs cut in said ends parallel with said grooves, and a pair of notched slats, one for each stile, having smooth outer edges and alternate notches and louver-spacing teeth in the inner edges thereof, said slats being assembled in said stiles with said outer edges disposed within said grooves, and said louvers being disposed within said notches with the portion of the slat adjacent the notch being disposed within said kerf.

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