March 17, 1964 M. E. SINGER ETAL 3,125,191

PARTITION PANEL ASSEMBLY

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Fig. 1.

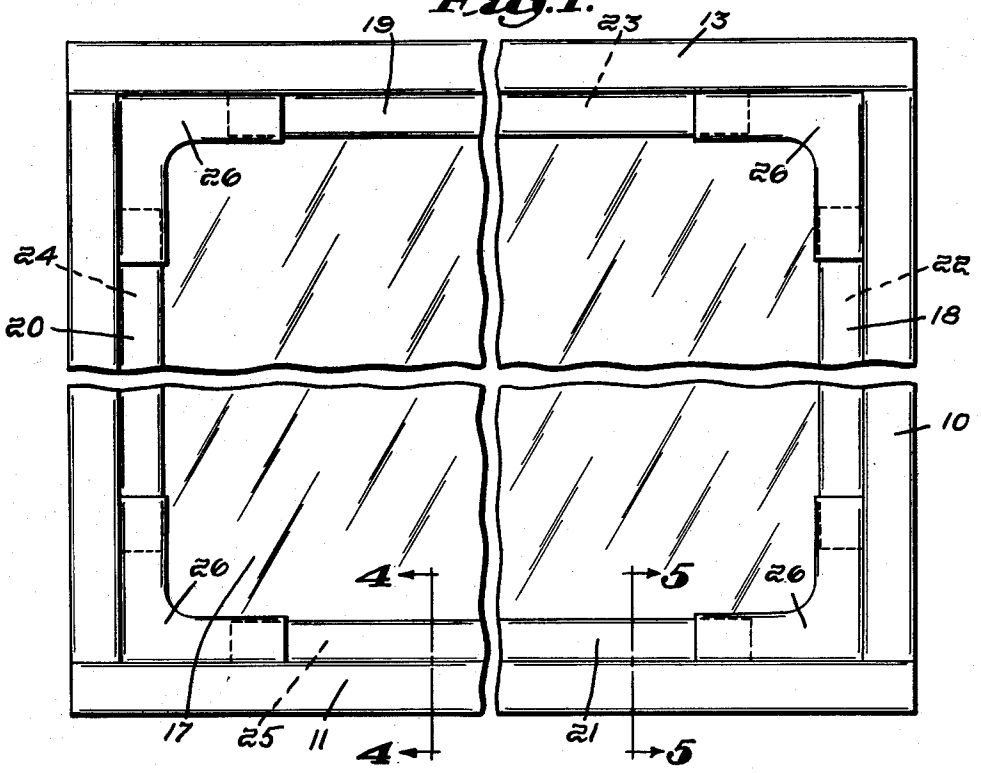
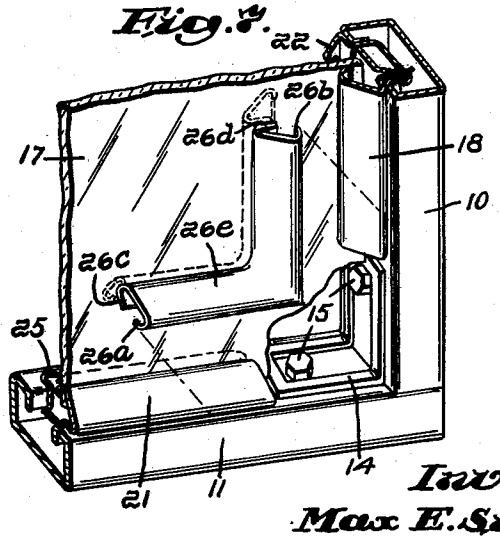


Fig. 2.



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Fig. 2.

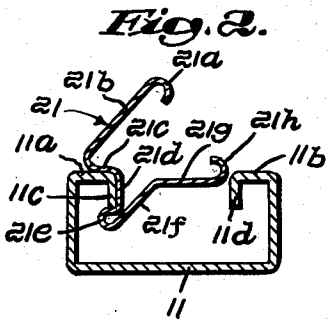


Fig. 3.

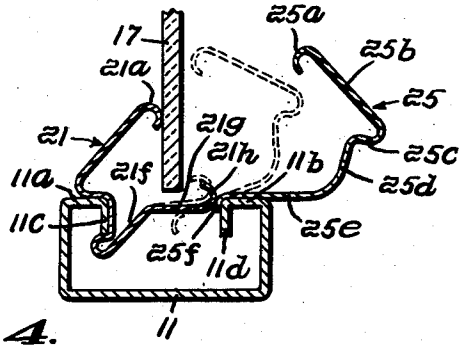


Fig. 4.

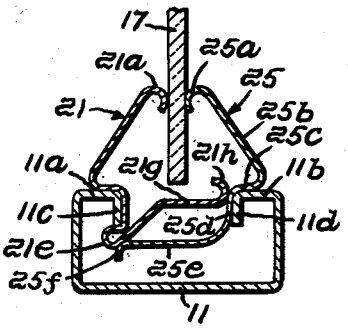


Fig. 6.

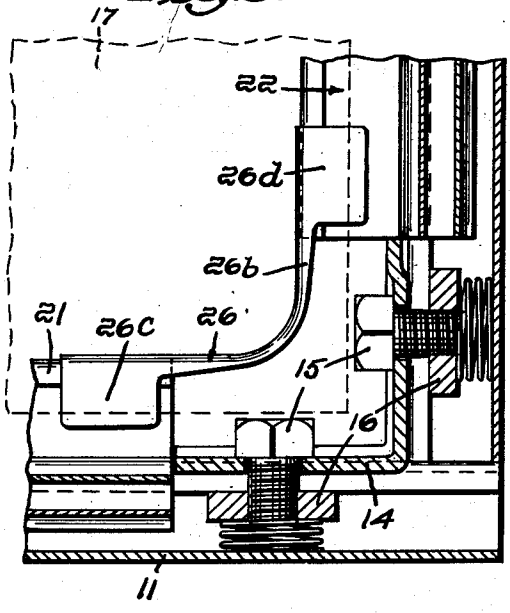
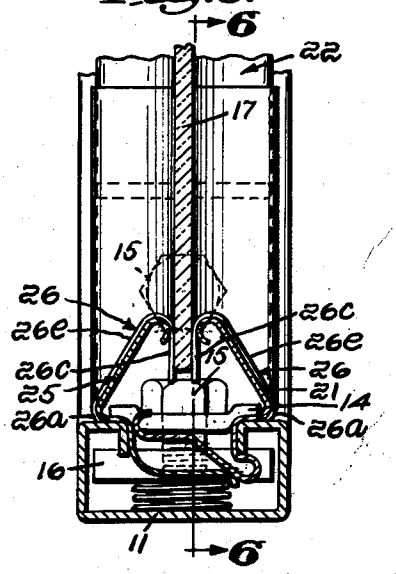


Fig. 5.



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PARTITION PANEL ASSEMBLY

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1 Claim. (Cl. 189—34)

This invention relates to panel assemblies of the general type used for making prefabricated building partitions. The panel construction here shown may be used for permanent partitions, but is especially suitable for temporary partitions for offices, stores, factories, and similar buildings where rearrangement of the interior space may become necessary from time to time.

The general object of the invention is to provide a partition panel assembly which can be erected with a minimum of labor and without special tools, which is smooth and attractive in appearance and easy to keep clean, which is sufficiently rigid and durable to form as a permanent partition, yet may be readily dismantled and moved to another location, as desired, and which permits the use of a wide variety of wall-forming materials.

The assembly here described consists in general of a frame composed of metal channels, a number of molding strips, referred to as primary moldings, which snap on to the frame and engage one face of a panel of stiff sheet material, and a number of other molding strips which also snap on to the frame and engage the opposite face of the panel to secure it in the frame. Other advantages and novel features will be apparent from the following detailed description.

In the drawings illustrating the invention:

FIG. 1 is a side elevation, partly broken away, of a panel assembly constructed according to the invention;

FIG. 2 is a fragmentary cross-section through one of the frame channels showing the primary molding in place;

FIG. 3 is a cross-section similar to FIG. 2 showing a panel in place and the secondary molding in the process of assembly;

FIG. 4 is a cross-section similar to FIGS. 2 and 3 with the secondary molding completely assembled;

FIG. 5 is a cross-section, somewhat enlarged, taken along line 5—5 of FIG. 1;

FIG. 6 is a cross-section taken along line 6—6 of FIG. 5; and

FIG. 7 is a fragmentary exploded view of one corner of the assembly.

The supporting frame for the panel assembly is constructed of four channels 10, 11, 12 and 13 of a generally conventional type used for adjustable framing. Channel 11, as illustrated in FIG. 2, is generally U-shaped with inturned flanges 11*a* and 11*b*, and downturned lips 11*c* and 11*d*. The channels are secured together at the corners by means of angle brackets 14, one of which is shown in FIGS. 6 and 7, bolts 15, and spring-pressed nuts 16 inserted into the channels. The panel 17 may be made of any desired stiff sheet material, such as glass, metal, wood, or composition wall board.

The panel 17 is cut to a size to substantially fill the opening of the frame with some clearance all around. The panel is secured to the frame by molding strips 18, 19, 20 and 21, referred to as the primary moldings, and 22, 23, 24 and 25, referred to as the secondary moldings. These moldings stop short of brackets 14, and the corners are filled in, on both faces of the panel, by corner pieces 26.

The molding strips are all made of relatively thin rolled sheet metal, or similar material, with a certain amount of spring. A typical primary molding 21, as shown in FIGS. 2 through 4, has a curved rim 21*a*, and an outwardly sloping portion 21*b*, an inturned flat portion 21*c*, a downturned portion 21*d*, a looped rib 21*e*, an upwardly sloping portion 21*f*, a flat portion 21*g*, and a curved rim 21*h*. A typical secondary molding 25 (FIG. 3) has a curved rim 25*a*, an outwardly sloping portion 25*b*, an inturned flat portion 25*c*, a downturned portion 25*d*, a horizontally extending portion 25*e*, and a downturned lip 25*f*.

To assemble the panel 17 into the frame, the primary moldings are first assembled on to the frame channels. For example, molding 21 is placed so that portion 21*c* seats on flange 11*a*, and rib 21*e* engages under the end of downturned lip 11*c* of the channel. Preferably portion 21*d* is of such dimension that lip 11*c* is fitted rather tightly between portion 21*c* and rib 21*e* so that the molding snaps on to the channel and will stay in proper position while the assembly is being completed. Portions 21*f* and 21*g* extend across the opening between the channel lips, with rim 21*h* spaced only a short distance from lip 11*d*, for example, by about the thickness of the sheet metal from which the molding strips are made.

When all four primary strips have been assembled on to the channel frames, the panel 17 is set in place. The secondary moldings are then installed. For example, the lip 25*f* of molding 25 is inserted between rim 21*h* and lip 11*d*, as shown in FIG. 3. By rotating molding 25 to the position indicated by the dotted outline 27 and pushing the molding inward and downward, portion 25*e* can be inserted under portions 21*f* and 21*g*. Molding 25 is finally pressed down into the fully assembled position shown in FIG. 4. In this position portion 25*c* seats on flange 11*b*, portion 25*d* is held between rim 21*h* and lip 11*d*, and the left-hand end of portion 25*e* is engaged under rib 21*e*. The secondary molding is thus held firmly in place by the primary moldings. The other secondary moldings are applied in the same manner as molding 25.

Preferably the primary and secondary strips are so proportioned with respect to the frame channel, that rims 21*a* and 25*a* would almost touch each other where the strips are assembled in unstressed condition. With the panel 17 in place, portions 21*b*, 25*b* are flexed to a certain extent and pressure is applied to the panel by rims 21*a*, 25*a*. The panel is thus securely gripped by the moldings. The moldings will yield sufficiently to receive panels of various thicknesses, for example from 1/16 inch up to 1/2 inch.

Each of the corner pieces 26, as exemplified in FIGS. 5 and 6, has a rounded outer rim 26a, a rounded inner rim 26*b*, and a pair of tabs 26*c* and 26*d*. The corner pieces are generally L-shaped and have sloping faces 26*e* which correspond approximately in slope to the outwardly sloping portions of the moldings. The corner pieces are assembled onto the frame by sliding tabs 26*c* and 26*d* under adjacent moldings, between the panel 17 and rim 21*a*, for example, and between the panel and the corresponding panel engaging rim of molding 18. The curved rim 26*a* of the corner piece can then be snapped around the outer edges of the exposed sloping portions of the moldings.

Ordinarily the corner pieces are applied to the primary moldings before the panel is set in place. After the panel and secondary moldings have been installed, the four corner pieces are snapped onto the secondary moldings, completing the assembly. As the corner pieces, due to their shape, are not as flexible as the moldings, the slope of the face 26*e* should be made approximately equal to the slope which the portions 21*b* or 25*b* will assume when assembled on a panel of certain thickness. Several variations of corner pieces with various slopes may thus be required to cover the range of panel thicknesses to which the moldings will adapt themselves.

The panel can be assembled into the frame by one man because the primary moldings and associated corner pieces will retain their position on the framework while the

panel is being set in place. All the assembly operations can be performed from one side, which is a great convenience when erecting a long series of panels.

The unit is here shown as having a four-sided frame, but the top channel can be omitted, as three channels are adequate to support the panel. In some instances, a pair of vertical panels anchored to the floor and ceiling, or a pair of horizontal channels anchored to opposite walls, might be used. A number of variations of partition structures can be made up from the basic unit here described. For example, the end channels of a succession of panel assemblies can be connected back to back to form a continuous wall of any length, or four frame channels connected back to back may serve as an intersection for two partitions.

The panel assembly may be readily dismantled by prying off the corner pieces on the secondary molding side with a screw driver or similar tool, removing the secondary molding, removing the panel, and then taking out the primary moldings and corner pieces. A partition made up of these assemblies can thus be readily taken down and erected in a new location, without loss of material and with a minimum of expense for labor. The various parts of the assembly can be prefinished according to any desired decorative scheme, thus eliminating the inconvenience and delay of painting on the job. The molding and corner assemblies form a smooth rim which is neat in appearance and easy to keep clean.

What is claimed is:

A partition panel assembly comprising: a supporting frame, including a channel member having a first flange with a first reentrant lip having an inner end, and a second flange with a second reentrant lip, said flanges extending toward each other, and said lips having opposed spaced side faces; a panel centrally disposed with respect to said flanges, a primary molding made of resilient material having a rim engaging said panel outside said channel, a first portion sloping from said rim away from said panel toward said channel, a second portion seated on said first flange, a third portion extending along the side face of said first lip, a loop engaged inside said inner end, and a fourth portion extending toward the other lip; and a secondary molding made of resilient material, having a rim engaging said panel opposite the rim of said primary molding, and a first portion sloping oppositely and symmetrically with respect to the first portion of said primary molding, a second portion engaged between said fourth portion and said second lip, and a third portion extending toward said first flange and engaged inside said primary molding in the region of said loop.

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