

Feb. 8, 1938.

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2,107,334

PARTITION

Filed Dec. 9, 1933

2 Sheets-Sheet 1

Fig. 1.

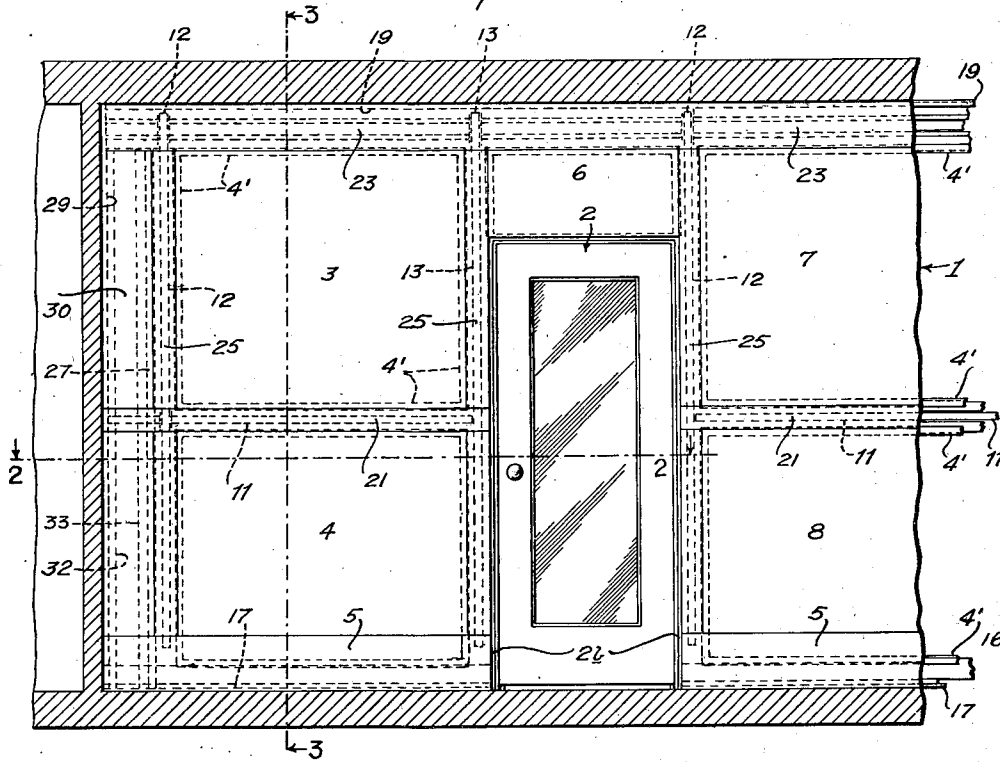
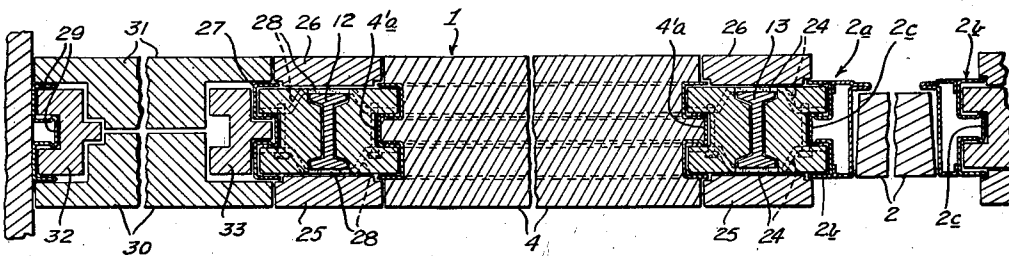


Fig. 2.



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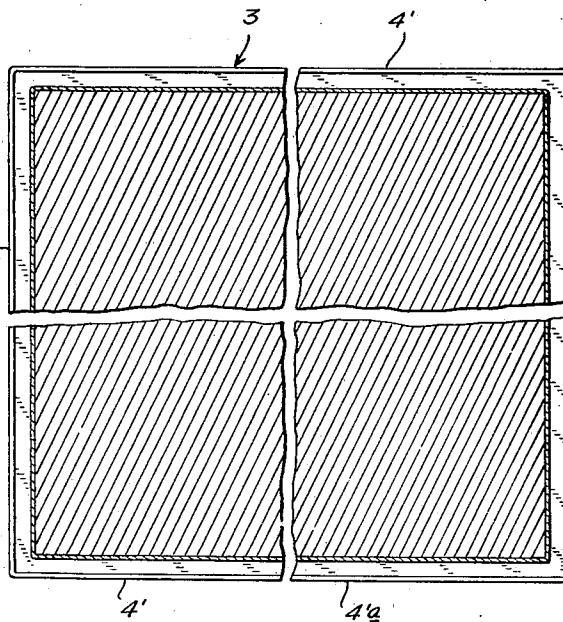
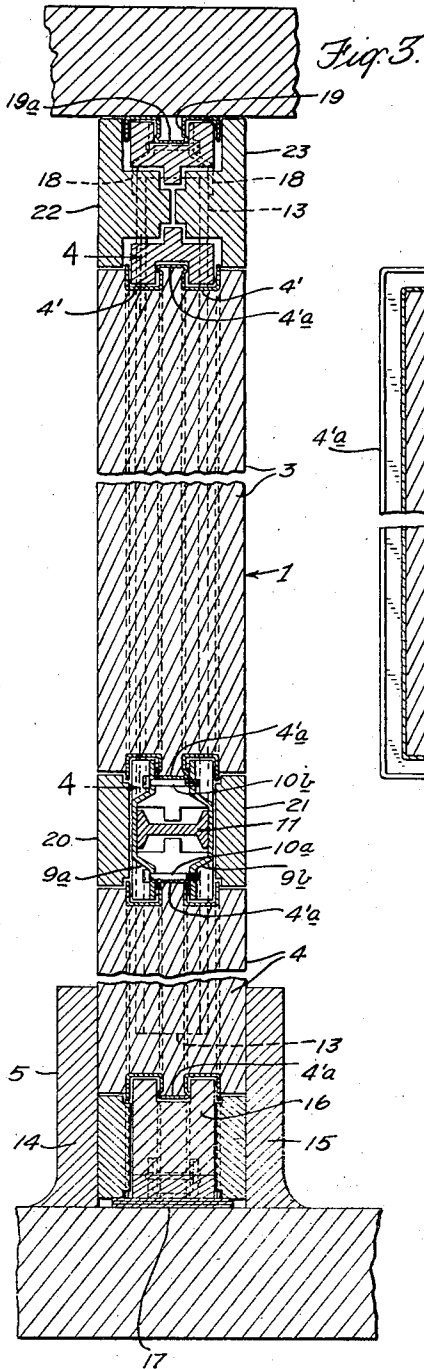
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2,107,334

PARTITION

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Application December 9, 1933, Serial No. 701,626

5 Claims. (Cl. 72-46)

The invention herein disclosed relates to building partitions of the type which are built in sections at a factory and assembled on the field.

The advantages of mass production have not heretofore been generally available to the building industry except in connection with temporary, non-bearing partition walls for dividing space into various offices or rooms. The common partition wall of this type, however, does not have the advantages of a solid plastic wall nor the strength to enter into the building as a stress-bearing part thereof. More recently, there has been used removable partitions which have practically all of the advantages of solid plaster partitions and which are built in the factory and assembled on the field. These latter wall partitions are not, however, suitable as stress-bearing members; they are only suitable for dividing space into various rooms.

In partition structures embodying this invention, the parts thereof may be manufactured in sections at the factory and assembled on the field, and partitions made up of the sections so made and so assembled may be used as stress-bearing members and enter in, as an integral part, of the supporting superstructure of the building. In accordance with the invention, there is provided a wall section which includes a block of plastic material having about the edges thereof securing means for securing the block of plastic material to similar blocks. These blocks may be made in various sizes and in accordance with the invention they are, in an assembled partition, secured to each other in spaced relation both horizontally and vertically. The space between adjacent edges of contiguous wall sections is provided for stiffening or stress-bearing members which support the wall sections and also enter in to the building structure as a stress-bearing part thereof.

In one form of my invention, wall sections are formed of gypsum slabs cast to any desired thickness. Molded into this slab of plastic material, there is a continuous frame about the perimeter thereof. This frame is a channel-shaped iron having a continuous longitudinal central projection adapted to cooperate with securing means in securing the edge of the slab to an adjacent edge of a contiguous wall section or to some other member such as a door frame or end wall.

In an assembled wall, these wall sections are secured together by clips which extend between the edges of contiguous wall sections and grip the central projection of the frame. The clips hold the wall sections in spaced relation both vertically

and horizontally. Strategically located in certain of the spaces between the edges of the wall sections, there is mounted structural steel I beams which enter in to the structure of the building as the stress-bearing members.

A wall section of this type is illustrated in the accompanying drawings and described immediately below from which illustration and description a clearer understanding of the invention may be had.

In the drawings:

Fig. 1 is a fragmentary elevation of a wall assembled in accordance with this invention;

Fig. 2 is a section taken along the line 2-2 of Fig. 1;

Fig. 3 is a vertical section taken along the line 3-3 of Fig. 1; and

Fig. 4 is a section of one of the wall sections taken along the line 4-4 of Fig. 3.

The wall 1 shown in the drawings is assembled from wall sections made in accordance with this invention. The wall is an interior wall and has a door 2 therein. That portion of the wall to the left of the door is made up of two wall sections 3 and 4 mounted vertically one upon the other, a base 5 and horizontal and vertical filler members. The wall section 3 is connected by a section 6 across the top of the door to a section 7 on the opposite side of the door. The section 7 together with a section 8 form that portion of the wall to the right of the door. Each of the wall sections consists of a cast gypsum slab having a frame member about the edges thereof. As illustrated in Fig. 4, the slab 3 has a continuous channel-shaped steel frame 4' extending around the edge thereof and molded therein. The channel-shaped member has formed in the web thereof a continuous longitudinal central projection 4'a which is provided for securing the adjacent edges of contiguous wall sections together.

The several wall sections forming the wall 1 are identical. The adjacent edges of the wall sections 3 and 4 are secured together by a clip. There are a series of these clips connecting together each adjacent edge of contiguous wall sections. The clip includes two elements 9a and 9b each having a central offset portion and end portions secured in clamping relation to the projections 4'a on the frame elements of the wall sections 3 and 4. The clip elements are secured together by machine screws 10a and 10b and maintain these wall sections in spaced relation.

In the space provided between the wall sections and between the offset portions of the elements 9a and 9b of the clips, there is mounted

a structural steel I-beam 11 which extends horizontally of the wall 1 between the sections 3 and 4. The I-beam is secured in place by the clips which firmly clamp the I-beam. This horizontal beam is secured to similar vertical spaced I-beams 12 and 13 which extend vertically between the ceiling and the floor and one extending through the clips joining the wall sections 3 and 4 with the wall section 6 and the frame of the door, and the other extending through the clips on the opposite end of the wall sections 3 and 4. The vertical I-beams 12 and 13 form vertical bearing supports or columns and are located in number and position in accordance with the vertical load to be supported by the wall. The horizontal stress-bearing members such as the member 11 are located in accordance with the desired lateral strength of the wall and the vertical load.

As illustrated in Fig. 3, the lower end of the wall is received between spaced pre-cast concrete base members 14 and 15. The lower end of the wall is mounted upon a support 16 between these base members and resting upon the floor, shims 17 being provided for leveling the wall. The upper end of the wall is secured by means of semi-clips 18 to an element 19 identical with the frame elements 4' extending around the wall sections. The clips 18 extend between the central projection 19a on the element 19 and each of the vertical I-beams 12 and 13. The element 19 is secured to the ceiling and assists in securing the wall against lateral displacement. The space between the surface of the two adjacent wall sections 3 and 4 is closed by fillers 20 and 21 which extend along the wall sections. The joints between the fillers and the wall sections are filled in with gypsum cement. Similar fillers 22 and 23 extend between the upper edge of the wall section 3 and the ceiling.

The frame 2a of the door 2 is provided along its side and upper edges with a frame element 2b similar to that which surrounds the edge of a wall section. The edges of the wall sections 3 and 4 are secured to the central projection 2c of this frame element in the same manner and by clips 24 similar to those securing the edges of the wall sections 3 and 4 together. The clips of course clamp the vertical I-beam 13 in place and secure the walls to this I-beam. Vertical filler members 25 and 26 such as the filler members 20 and 21 enclose the joint between two adjacent wall sections or the wall sections 3 and 4 and the door frame.

The vertical edges of the wall sections 3 and 4 may be secured to the end wall in the same manner as the horizontal upper edges are secured to the ceiling. The space, however, may vary and various sized filler members are provided to fill in the space between the edge of the wall and its adjoining wall. In the wall shown, a vertical anchor member 27, similar to the member 19, extends between the floor and the ceiling. The frame members on the side edges of the sections 3 and 4 are secured to this vertical anchor member by clips 28, similar to the clips 9, which clips 28 also clamp the I-column 12. A like member 29 is secured to the end wall. Extending between the members 27 and 29 there are vertical filler members 30 and 31 and in ad-

dition, there are provided vertical fireproofing fillers 32 and 33 which close the space between the filler members and the members 27 and 29. When the joints between the sections of the wall are filled with gypsum cement, the wall provides a solid stress-bearing wall which can be removed if desired or changed to suit particular conditions, proper stress-bearing elements being provided to take the place of those in the wall shown.

It will be seen that the construction described immediately above provides a wall, the parts of which can be made up at the factory and shipped to the job where they may be assembled into walls, floors or ceilings. In this way the advantage of solid walls of plastic material is obtained without any of the disadvantages of the common portable partitions.

It will be obvious that various changes may be made by those skilled in the art in the details of the construction illustrated in the drawings and described immediately above within the principle and scope of the invention as expressed in the appended claims.

I claim:

1. A partition comprising a plurality of partition sections, each partition section comprising a molded block of solid material and a member molded in the edge thereof and including a protruding portion of lesser width than the block, and clips for securing the partition sections having jaws clamping the protruding portion of the members molded in the edges of the partition sections.

2. A partition comprising a plurality of vertical and horizontal I-beams, a plurality of partition sections, each partition section comprising a molded block of solid material and a member molded in the edge thereof and including a protruding portion of lesser width than the block, and clips for securing the partition sections together and to the I-beams, the clips having jaws clamping the protruding portion of the members molded in the edges of the partition sections.

3. A partition section comprising a molded block and a continuous, circumambient member of less width than the thickness of the block molded in the block of material at the edge thereof and including a central protruding portion and a recessed channel portion on each side of the protruding portion.

4. A partition section comprising a molded block and a member of lesser width than the thickness of the block molded in the block and embracing a corner of the block, the member including a continuous central protruding portion and a recessed channel portion on each side of the protruding portion.

5. A partition comprising a plurality of partition sections, each partition section comprising a molded block and a member of less width than the thickness of the block molded in the block and including a central protruding portion and a recessed channel portion on each side of the protruding section, and means engaging the protruding portions of adjacent blocks for securing the blocks together.

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