

March 11, 1924.

1,486,541

H. OTTOSSON-ELLIOT ET AL

SECTIONAL WALL

Filed Aug. 6, 1921

4 Sheets-Sheet 1

*Fig. 1.*

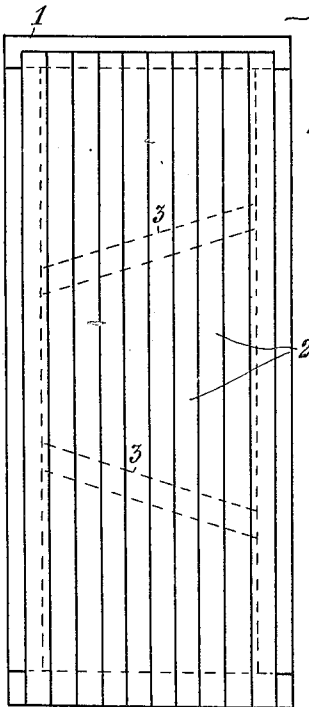


*Fig. 4.*

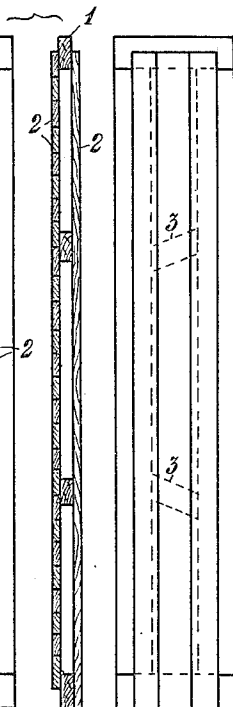


*Fig. 7.*

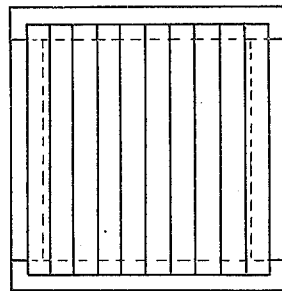


*Fig. 8.*



*Fig. 9.*

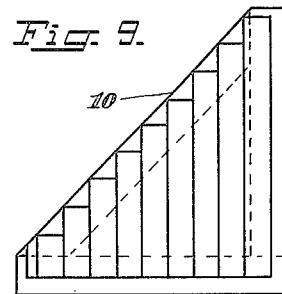


*Fig. 2.*

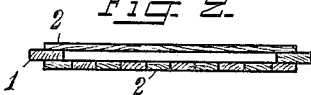


*Fig. 5.*



*Fig. 3.*



*Fig. 6.*



*Fig. 10.*

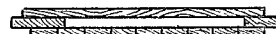


*Fig. 11.*



*Inventors.*

*H. Ottosson-Elliot*

*M. Jonsson*

*By Marks Clerk Attys*

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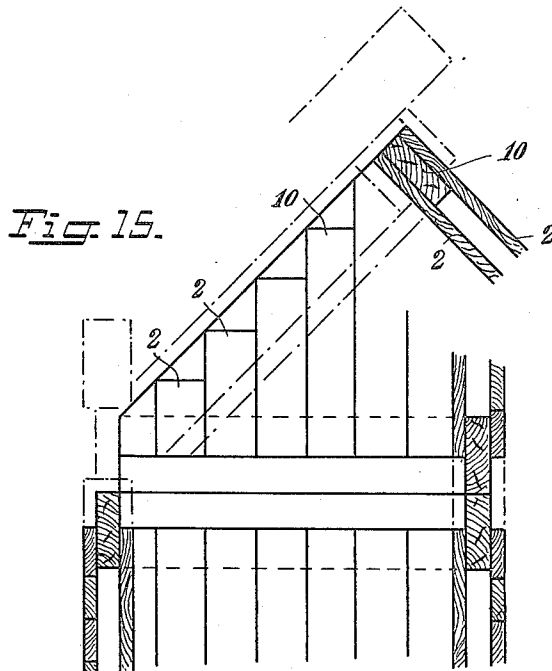


*Fig. 12.*

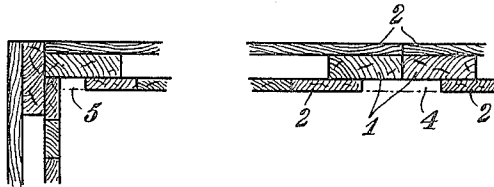
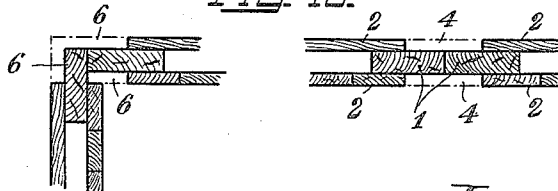


*Fig. 13.*



*Inventors*

*H. Ottosson-Elliott*

*M. Jonsson*

*By Mark & Clerk*  
*Attys.*

March 11, 1924.

H. OTTOSSON-ELLIOT ET AL

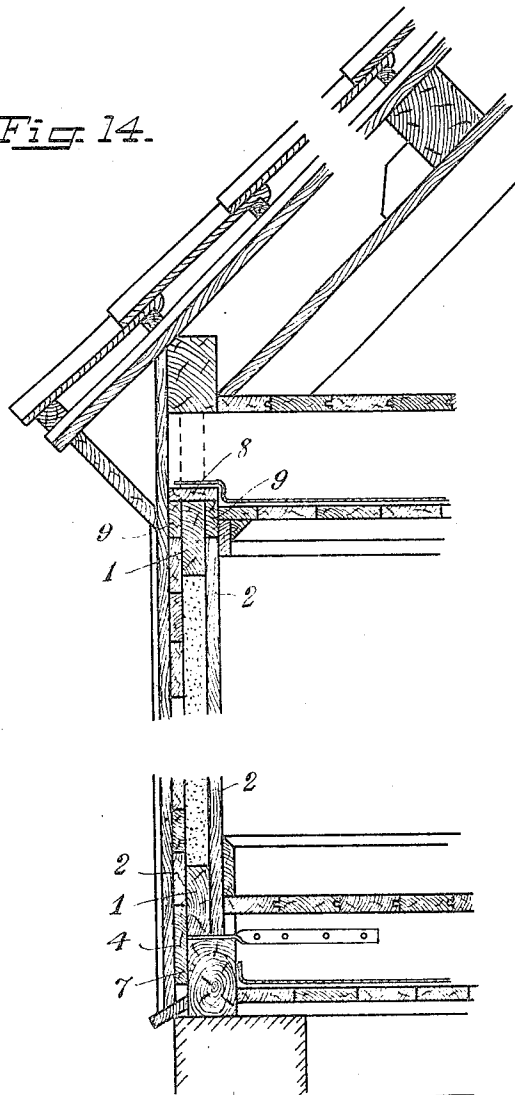
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Fig. 14.



*Inventors*  
*H. Ottosson-Elliott*  
*M. Jonsson*  
*By Marks & Clerk*  
*Attys.*

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H. OTTOSSON-ELLIOT ET AL

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*Fig. 16.*

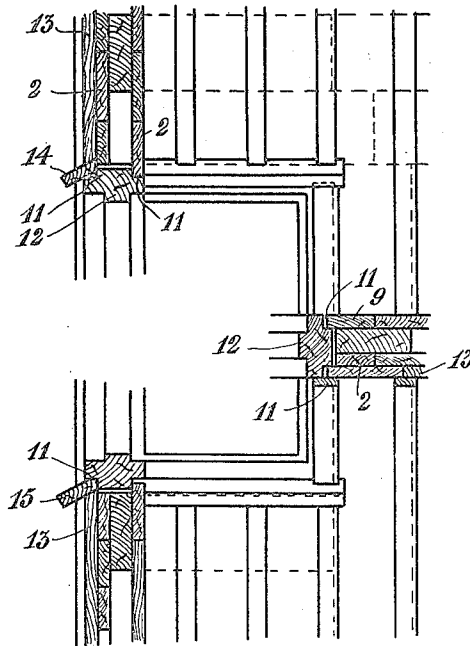


*Fig. 19.*

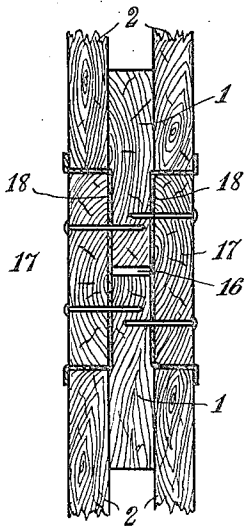


*Fig. 17.*

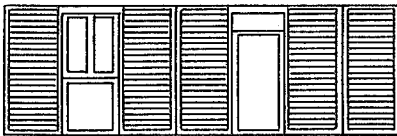


*Fig. 18.*

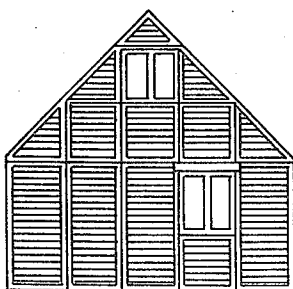
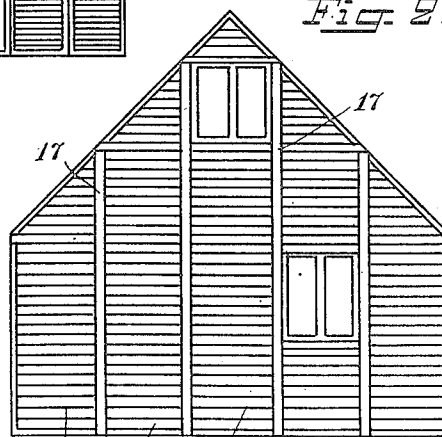


*Fig. 20.*



Inventors  
H. Ottosson-Elliott  
M. Jonsson  
By *Markus Erik Attor*

## UNITED STATES PATENT OFFICE.

HANS OTTOSSON-ELLIOT, OF STOCKHOLM, AND MANNE JÖNSSON, OF ISLINGE, LIDINGO, SWEDEN, ASSIGNORS TO AKTIEBOLAGET INDUSTRIEOSTADER, OF STOCKHOLM, SWEDEN, A CORPORATION.

## SECTIONAL WALL.

Application filed August 6, 1921. Serial No. 480,422.

*To all whom it may concern:*

Be it known that we, HANS OTTOSSON-ELLIOT, a citizen of Sweden, residing at Turnelgaten 25, Stockholm, Sweden, and  
5 MAYNE JÖNSSON, a citizen of Sweden, residing at Islinge, Lidingo, Sweden, subjects of the King of Sweden, have invented new and useful Improvements in or Relating to  
10 Sectional Walls, of which the following is a specification (for which we have applied for patents in Sweden, June 5, 1919; Great Britain, February 21, 1920; Finland, May 31, 1920; Germany, June 24, 1920; Belgium, June 26, 1920; France, June 29, 1920; Denmark, August 19, 1920; Norway, May 24, 1921).

This invention relates to buildings, the walls of which consist of wall-sections, and especially to the construction of such sections as well as their connection with each other and with other parts of the building, particularly at the corners, beams and roofs of the buildings.

The object of the invention is, by means  
25 of ready made wall-sections, to construct a cheap, simple and easily erected building. As to the shape and size, the wall-sections are so adjusted as, by the use of a few different standardized types of wall-sections,  
30 to attain the possibility of varying, to a great extent, the size and appearance of the building.

In comparison with similar earlier arrangements, this invention affords several  
35 advantages, firstly, that if the wall-sections during storage and transport should warp or become distorted, as will easily occur, this will not induce the usual inconveniences of having the wall-sections straightened before being jointed. This operation is unnecessary, when using wall-sections according to the present invention, because of the connections being so constructed as to effect, without further measures, the straightening  
45 of the wall-sections. Another important advantage consists in that the wall, owing to the properties of the connections, obtains the character of a half-timber building or a framework which, as is well-known,  
50 affords considerable advantages as to stability and strength. Another important ad-

vantage consists in that the edge-portions of the wall-sections are resistible against shocks and bending strains and, owing thereto, are very little likely to be damaged  
55 during the transport. In earlier devices of this kind it will easily occur that a great part of the material on account of a fragile edge-construction, will be broken in pieces before being inserted in the building. Another great advantage relating to the manufacture deriving from the simplicity of the connections, consists in that the wall-sections need only be manufactured in a few  
60 standard types, preferably one rectangular, one square, and one triangular type, the short side of the rectangle preferably being coextensive with the side of the square and a short side of the triangle.

The invention is, chiefly, characterized in  
70 each wall-section consisting of one or more frames coated at either side with boards, the edges of the frame extending outside the edges of one or both coatings. When jointing the wall-sections with the frames placed  
75 edge by edge, recesses will be formed in the surfaces of the wall, on account of the edges of the frames extending on one or both sides, the width of each recess being bounded by the edges of the coatings. In the case of  
80 the edges of the frame extending outside both coatings, recesses will be formed at either side of the wall, whereas a recess will otherwise be formed on one side only of the wall. In the recesses fillings are inserted  
85 which are nailed to the frames. By this the advantage is obtained that the fillings cause the edges of the frames to be positioned in front of each other, the wall-sections, if skew, thus being straightened.

Several embodiments of the invention are illustrated in the accompanying drawings, in which:—

Figure 1 is a side-view of a rectangular wall-section.

Figures 2 and 3 are cross-sections of two embodiments of said wall-section.

Figures 4 to 6 show in a similar manner a narrower wall-section.

Figure 7 is a side-view of a square wall-section, and

Figure 8 is a cross-section thereof.

Figure 9 illustrates a triangular wall-section, and

Figures 10 and 11 are cross-sections of two different embodiments thereof.

Figure 12 shows a plan-view of an edge-connection formed by wall-sections according to Figure 3.

Figure 13 an edge-connection formed by wall-sections according to Figure 2.

Figure 14 is a vertical section of a portion of a building composed of wall-sections according to the invention.

Figure 15 is a section of the wall-sections at the eaves and along the roof.

Figure 16 is a cross-section of the wall-sections at the windows and the doors.

Figure 17 shows a long wall composed of the wall-sections and

Figure 18 shows a gable.

Figure 19 shows an insulating and packing arrangement between the meeting edges of two frames, and

Fig. 20 shows a gable with an attaching device between the wall sections.

Referring to Figures 1 to 3, the wall-section consists of a frame 1, both sides of which are coated with boards 2. As shown in Figure 3, the edge of the coating extends on the one side to the edge of the frame 1, whereas on the other side the edge of the coating is positioned inside the edge of the frame. According to Figure 2 the edges of both coatings are situated inside the edges of the frame.

In Figures 4 to 6 and 7 to 8 the wall-sections are constructed in the same manner. The rectangular wall-sections in Figures 1 and 4 may be provided with struts 3 effecting a rigid construction.

When placing two wall-sections constructed as mentioned above edge by edge (as in Figures 12 and 13) recesses 4 are formed which, as in Figure 12, appear on the inside only of the wall, the coatings 2 being close to each other on the outside. In Figure 13 recesses are formed on either side of the wall. In both cases fillings are inserted in the recesses consisting of whole boards nailed to the frames 1.

By this construction the outside and the inside of the wall will be evened and the fillings will straighten the wall-sections, if a-skew, when erected.

The corner in Figure 12, composed of wall-sections according to Figure 3, is very simple. The edges of the frame and of the outer coating of the one wall-section which forms an angle with the other one bears against the inside of the frame of the other wall-section and against the edge of its inner coating. Between the inside of the latter and the edge of the inner coating of the first-named wall-section there is formed a space 5 in which a lath is inserted. Consequently, the corner described does not re-

quire, except said lath, any further additional member, being very simple in construction, no separate pillar or the like being necessary and the strength of the construction being quite satisfactory. In the corner shown in Figure 13 the edge of the frame of one wall-section bears against the inner side of the frame of the other wall-section. In this case three recesses 6 are formed in which laths are inserted.

The wall shown in Figure 14 is composed of wall-sections the lower portion of which being according to Figure 3 and the upper portion according to Fig. 2 and affords great advantages with regard to the connection of the wall-sections with the beam 7 of the building. The edges of the frame 1 and the inner coating bear directly on the upper side of the beam, a board being placed in the recess 4 and nailed to the frame 1 and the beam 7. Thus the wall-sections are connected with each other and the beam 7.

A board 8 is, preferably, placed at the upper edge of the wall on the edge of the frame 1. Between said board and the edges of the inner and the outer coating recesses are formed in which fillings 9 are inserted. Also this construction is very simple and requires only three easily adjustable members beyond the wall-section itself.

When using wall-sections according to Figure 3, to the last named purpose, one recess only is formed in which a filling is to be inserted.

The triangular wall-sections shown in Figures 9, 10 and 11 are adapted to be placed close to the roof at the gables of the building (see Figure 18) the uppermost edge of the frame portion 10 lying close to the roof.

Also the connection between the wall-sections and the door and window frames of the building shown in Figure 16 affords great simplicity. In this case the door and window-frames are provided with external notches close to both edges. The filling 9 nailed to the edge of the frame is inserted in the inner notch, while the edge of the frame and the coating positioned on the other side thereof are jointed to the outer side of the window frame, spaces being left for the necessary tightenings. Inserted in the outer notch 11 of the frame is the edge of the coating 13, which rests above the window against the water-bar 14. The latter bears against the wall-section as well as against the window-frame 12. Inserted at the lower side of the window beneath a water-bar 15 is the coating 13, the water bar being fitted into the outer notch 11 of the window frame. The construction of the water-bars is advantageous on account of its simplicity and effectiveness.

As will appear from Figure 18, the fillings inserted between the wall-sections give

the wall the character of a half-timber building advantageously strengthening the wall as a whole and framing all the wall-sections.

5 In Fig. 19, 1 are the adjacent-lying frames of the wall sections and 2 the frame coverings. When the wall sections are set up adjacently depressions are left at both sides of the meeting edges 16, in which bars are  
10 placed. Before this is done pulp or paper members 18 are placed in the meeting edges which are of such width that when the bars are positioned thereon the pulp members lie closely on the frame portions 1 and are bent  
15 up along the edges of the bars, thereby filling the spaces between the said edges and the edges of the coverings 2. The bars are, of course, of such width that the packing material is tightly retained when the bars  
20 are pressed down and nailed. This arrangement results in a very good packing and insulation and at the same time the wall sections are rigidly connected together.

25 In the gable illustrated in Fig. 20 the wall sections 19, in accordance with the invention, are set on edge close together. Placed in the depressions at the meeting edges are fillers 17, which extend for the entire height of the gable and thus form a rigid connection  
30 between all the adjacent positioned wall sections. The fillers 17, instead of being arranged lengthwise, may be arranged over the entire width of the gable, or in both ways.

35 The narrow wall section shown in Figures 4 and 6 is adapted to allow increased possibility of varying, principally, the length of the building, but also, if required, the width thereof. Thus one or more of such sections may be inserted between or outside the  
40 normal wall sections according to the amount of the increase in length.

45 Of course each of the square and triangular wall sections occurring in the gable-construction of the building should be used in an increased number, according as the size of the gable surface increases. Thus the possibility is obtained, without deviating from the normal types of the wall sections  
50 mentioned above, of varying the size of the building.

#### Claims:

1. A wall section for house building comprising a frame coated with boards, the edges of the frame extending entirely  
55 around and beyond the coating, thus providing marginal spacings and fillets adapted to be applied in the spacings when the wall sections are assembled the surface of said fillets being substantially flush with the coat-  
60 ing substantially as set forth.

2. A wall section for house building comprising a frame coated on both sides with boards, the edges of the frame extending on all sides and ends beyond the coating thus  
65 providing marginal spacings and fillets adapted to be applied in the spacings when the wall sections are removed, the surface of said fillets being substantially flush with the coating, substantially as set forth. 70

3. A wall section for house building comprising a frame coated with boards on both sides, the edges of the frame extending entirely around and beyond both coatings, thus  
75 providing marginal spacings and fillets adapted to be applied in the spacings when the wall sections are assembled, the surface of said fillets being substantially flush with the coatings, substantially as set forth.

4. Wall sections to be used in building  
80 each comprising a frame coated with boards, the surrounding edges of the frame extending beyond the coating, thus providing marginal spacings, one frame being rectangular, another square, and another trian-  
85 gular shape, the two first named being adapted to be placed upright close to each other to form the walls of the building, while the square or triangular sections are adapted to form the triangular parts of the  
90 gables of the building and fillets adapted to be applied in the spacings when the wall sections are assembled, the surfaces of said fillets being substantially flush with the coating substantially as set forth. 95

In witness whereof we have hereunto set our hands in the presence of two witnesses.

HANS OTTOSSON-ELLIOT.

MANNE JÖNSSON.

Witnesses:

INE IVOENSON,  
I. O. BUGOTH.