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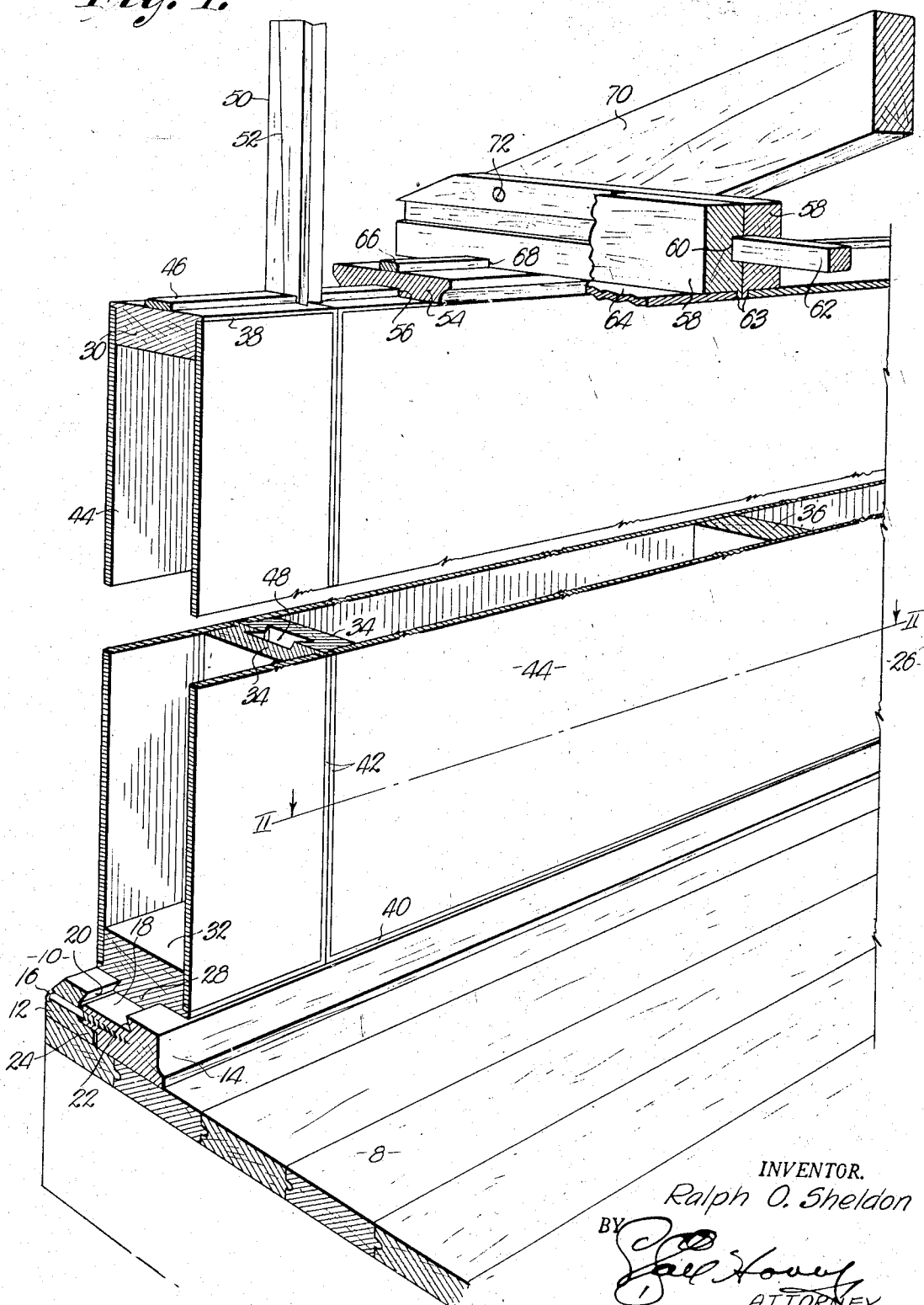
R. O. SHELDON
UNIT BUILDING STRUCTURE

2,362,162

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Fig. 1.



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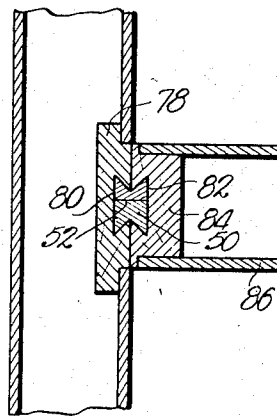
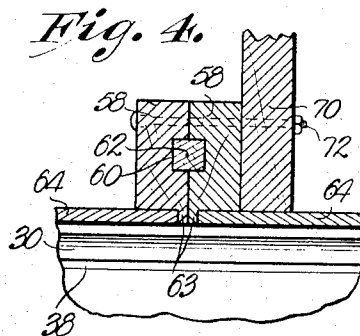
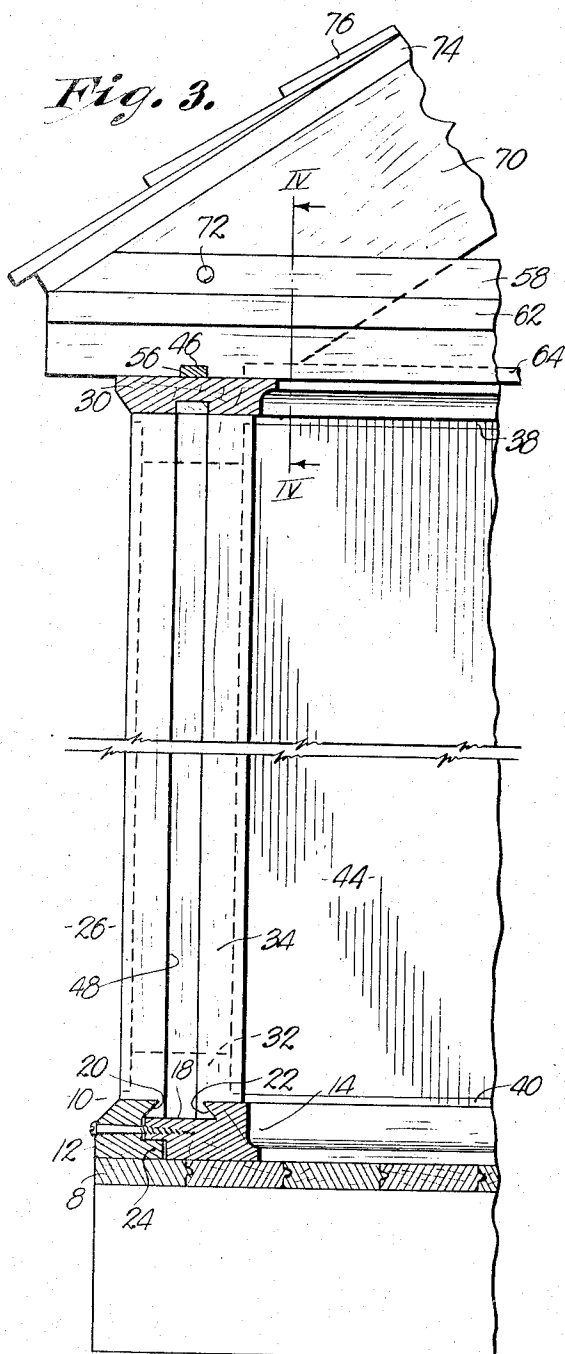
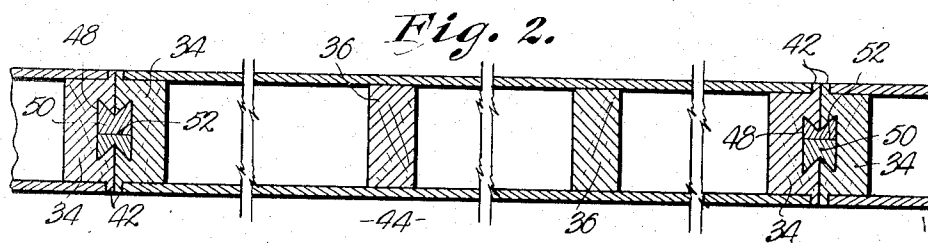
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UNIT BUILDING STRUCTURE

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3 Claims. (Cl. 20—2)

This invention relates to buildings of sectional character constructed from units provided with unique interlocking means, allowing erection without the use of nails, screws or analogous articles.

The primary aim of the instant invention is to provide a building structure having as a component part thereof, a number of units completely formed in the factory and capable of being assembled at the point of erection.

This invention has for a still further object to provide in a unit building structure, a group of unique parts, all of which inter-lock and that may be disassembled after a period of use without destroying the value of the structural elements, so far as re-employment is concerned.

One of the most important objects of this invention is to provide a wall unit for building structures having a sectional base anchor and provided with a locking element movable to and from a position at the abutting edge of the units, whereby a continuous vertical wall may be erected upon a horizontal foundation prior to the application of ceiling structure.

Another object of this invention is to provide unique ceiling assembly for buildings having means for removably engaging the upper portion of the aforesaid wall units, which ceiling may be assembled and mounted on the job without altering the form of the material from which the ceiling parts are made.

Minor objects of the invention include the unique way in which abutting stringers of a ceiling structure are keyed together; the novel character of header employed to extend longitudinally along the wall composed of a number of units, whereby the inter-locking splines are maintained in place; the way in which the panels of the several units are applied to the frame-work of the unit to protect the edges thereof; and the way in which the sectional base anchor functions to draw the building units downwardly thereagainst as the sections of the anchor are pulled together.

Other objects of the invention will appear during the course of the following specification, referring to the accompanying drawings wherein:

Fig. 1 is a perspective fragmentary view illustrating a unit building structure made in accordance with the present invention.

Fig. 2 is a fragmentary sectional view through a portion of the building wall.

Fig. 3 is a vertical condensed sectional view through one of the building walls illustrating the manner in which the building units are positioned with respect to the floor and ceiling.

Fig. 4 is a fragmentary sectional view taken on line IV—IV of Fig. 3; and

Fig. 5 is a fragmentary horizontal sectional view through the building wall and a partition illustrating the manner in which the units may be made to engage a partition.

In erecting unit buildings having parts made in accordance with this invention, a conventional floor or supporting slab 8 is first placed to receive sectional base anchor 10. This base anchor 10 is composed of two longitudinal sections 12 and 14 respectively, held together by screws or analogous elements 16.

When sections 12 and 14 are in the operative position, a groove 18 is created between downwardly and outwardly inclined faces 20 and 22 formed on sections 12 and 14 respectively. Section 14 overlaps a longitudinal flange 24 of section 12 and its lower face slides on the upper face of said flange 24 when the sections are moved toward and from each other. This sectional base anchor 10 has only section 12 secured to floor or slab 8 and when units 26 are elevated to a vertical position, sections 12 and 14 should be far enough apart to admit bead 28. This bead is dove-tail in cross sectional contour and the downwardly and outwardly longitudinal faces thereof abut faces 20 and 22.

Each unit 26 includes a circumscribing frame comprising upper and lower members 30 and 32 respectively and vertical members 34. Intermediate spacing and strengthening beams 36 joining members 30 and 32 are provided at spaced intervals between members 34.

Members 30, 32 and 34 have laterally extending flanges 38, 40 and 42 respectively to completely circumscribe panels 44 secured to the frame of unit 26. These said flanges protect the edges of panels 44 during shipment and handling. The joint created between panels 44 and the frame of units 26 is also capable of precluding entrance of air into the building.

When units 26 are arranged in edge-to-edge relation, the length thereof should be sufficient to hold the hereinafter described ceiling parts in place a distance above floor 8 to establish the normal vertical dimension of a room or building.

Upper member 30 has a bead 46 secured thereto and vertical members 34 are milled to provide a groove 48 that is dove-tail in cross sectional form. The vertical inner edges of members 34 forming the sides of groove 48 extend outwardly and inwardly from the base of the groove as illustrated in Fig. 2. A spline 50 is entered between each unit 26. This spline has V-shaped grooves

along opposed edges thereof to engage the sides of groove 48 and a wedging action is obtained by longitudinally splitting spline 50 along line 52 which extends to an angle to the grooved edges thereof. Thus, when spline 50 is entered into the inter-communicating groove 48 of adjacent units 26, the sections of said spline may be longitudinally offset to a slight degree for the purpose of establishing a tight connection and to draw together said sections. The abutting relation of the sections and the function of spline 50 is clearly shown in Fig. 2.

After the building wall has been erected through the employment of a number of units 26, header 54 is mounted upon the upper edges of units 26 with its groove 56 receiving bead 46. Header 54 extends over the joint between units 26 and spline 50 is thereby maintained in position between base anchor 10 and header 54.

The ceiling and roof are constructed of a number of units long enough to bridge the distance between the walls of the building and when these units are in position, they are in abutting relation with stringers 58 thereof in close relation as shown in Fig. 1. Stringers 58 of adjoining sections are grooved as at 60 and a spline 62 is introduced to preclude vertical relative displacement.

Stringers 58 have flanges 63 formed thereon to abut the edges of ceiling panels 64. The edges of said panels close to header 54 contact the inner vertical edge of said header to establish a finish as shown in Fig. 3. The thickness of the vertical edge of header 54 should be substantially the same as the thickness of panel 64 and when such dimensions are followed, a smooth corner is established.

Header 54 has a longitudinal bead or strip 66 along the upper face thereof to enter transverse grooves 68 in stringers 58. Rafters 70 secured by bolts or similar elements 72 to the ends of stringers 58 should likewise be cut to conform to the contour of the upper face of header 54 whereby bead 66 will be engaged in the same manner as it is engaged by stringers 58. Rafters 70 carry a plate 74 to receive roofing 76 and when the ceiling units are assembled, they are mountable upon the unitary wall with ease and dispatch.

In some instances, partitions may be required in a building and if so, the aforesaid units 26 may have a vertical filler 78 extending between upper and lower members 30 and 32 respectively. A dove-tail shaped groove 80 in this filler is opposed to similar groove 82 in member 84 of partition unit 86. A spline 50 made as above speci-

fied, serves as a key to draw together the abutting faces of partition 86 and filler 78.

All of the parts of the unitary building structure may be formed of wood and glued, screwed, nailed or otherwise assembled at the factory. After the units are produced, shipment to the point of erection may be in a flat, stacked condition.

The manner of erecting the building has been made clear during the course of the foregoing detailed description thereof, and while the preferred embodiment of the invention has been illustrated and described, it is desired to be limited only by the scope of the appended claims.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent is:

1. In a building structure of the character described, a plurality of edge-to-edge wall units; a bead along the lower edges of the wall units; and a base anchor gripping said bead to prevent lateral displacement of the said units, said anchor comprising a pair of longitudinal sections for engaging opposite side edges of the bead, said sections having overlapping portions, and means for drawing said sections toward each other.

2. In a building structure of the character described, a plurality of edge-to-edge wall units; a bead along the lower edge of each wall unit; a base anchor for gripping said beads to prevent lateral displacement of the said units, said anchor comprising a pair of longitudinal sections for engaging opposite sides of the bead, one of said sections having a longitudinal flange, the other of said sections being undercut for receiving said flange; and means for drawing the sections together to clamp said bead therebetween.

3. In a building structure of the character described, a plurality of edge-to-edge wall units; a bead of dovetail cross section along the lower edge of each wall unit; a base anchor for gripping said beads to prevent lateral displacement of the said units, said anchor comprising a pair of longitudinal sections, one of said sections having a downwardly offset area substantially corresponding in width to the width of said bead and forming an inclined face for engaging one side of the bead, the other of said sections having an inclined face for engaging the opposite side of the bead and having a longitudinal flange, said first named section being undercut for receiving said flange to create an overlapped relation of the meeting edges of the sections; and means for drawing the sections together to clamp said bead therebetween.

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