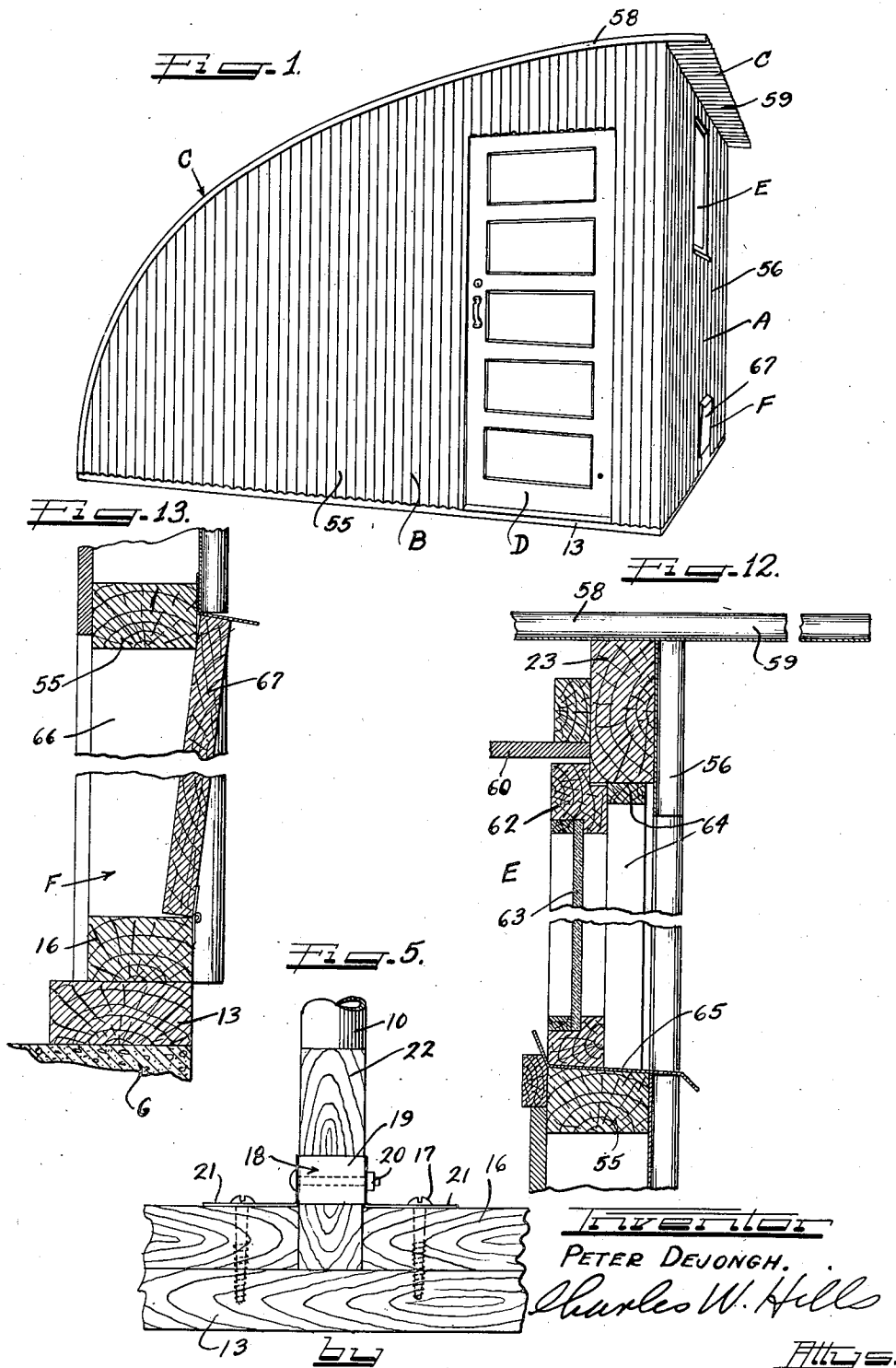


Filed Aug. 28, 1944

POULTRY HOUSE

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May 31, 1949.

P. DE JONGH

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POULTRY HOUSE

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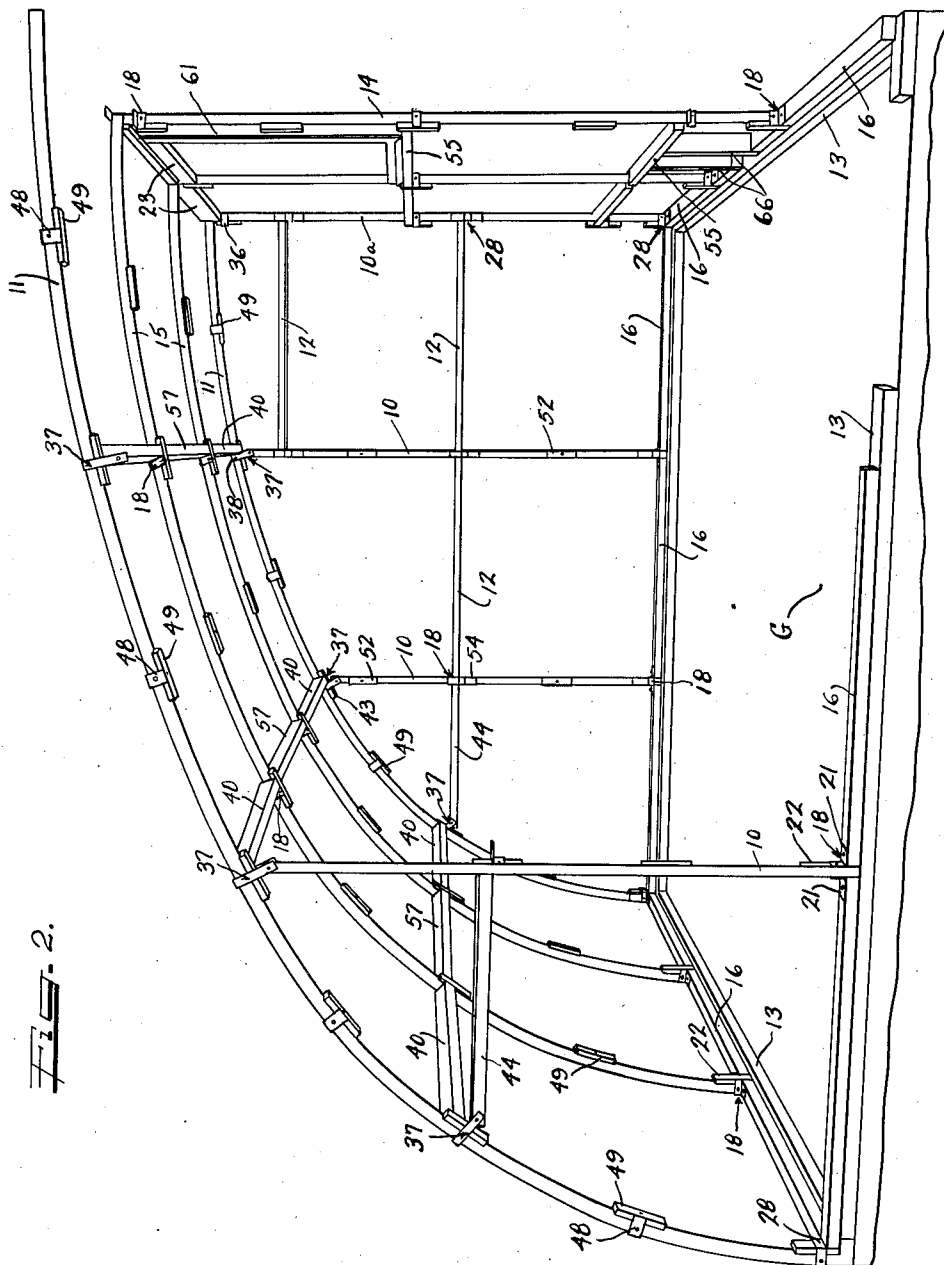


Fig. 2.

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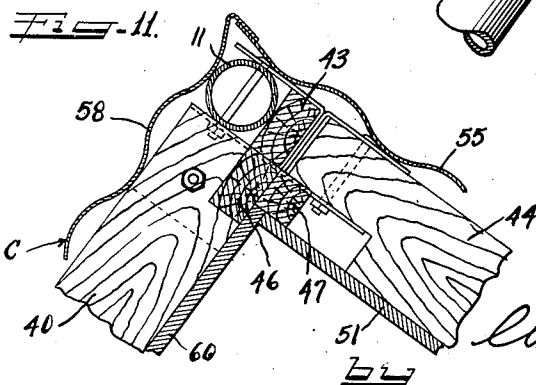
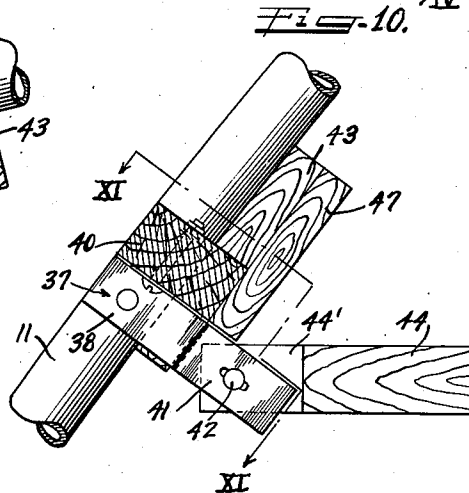
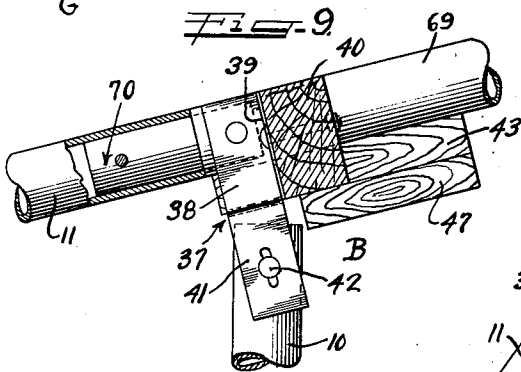
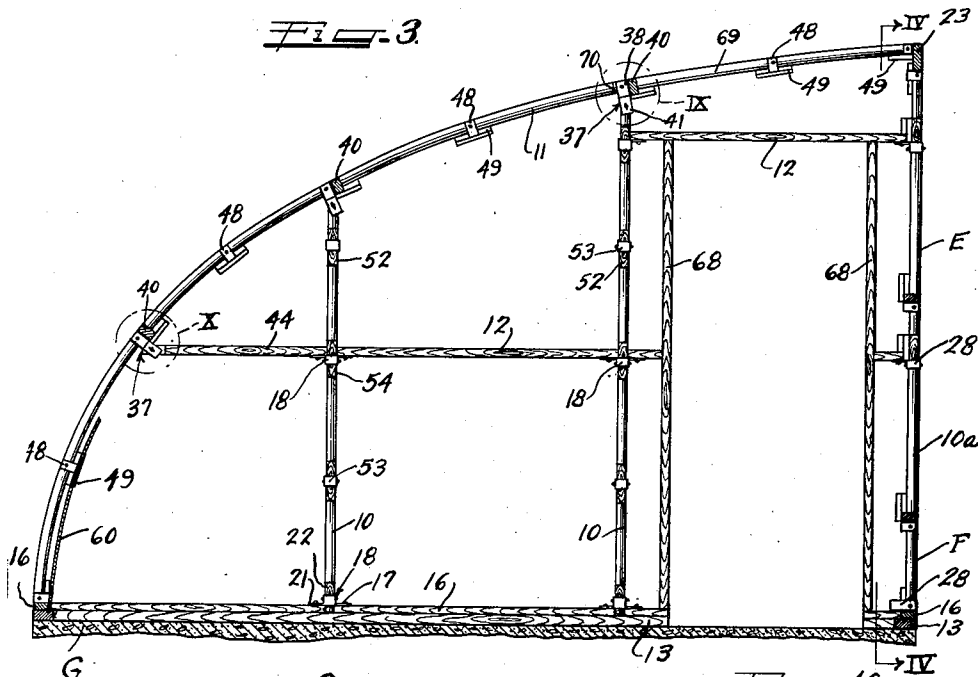
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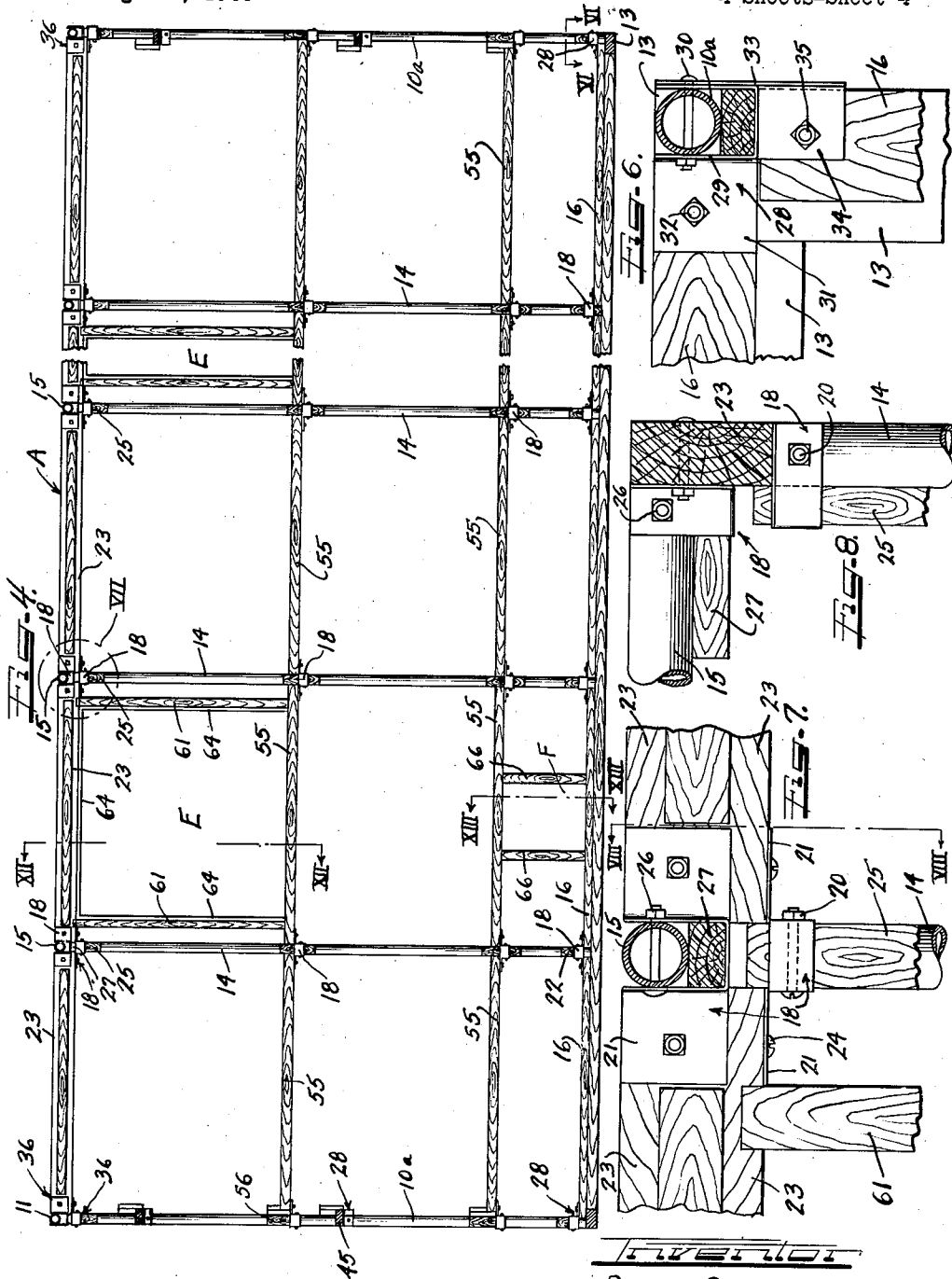
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UNITED STATES PATENT OFFICE

2,471,675

POULTRY HOUSE

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Application August 28, 1944, Serial No. 551,473

15 Claims. (Cl. 189—1)

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My invention relates to building structures, particularly to a prefabricated structure such as a poultry house.

An important object of the invention is to produce a poultry house which is of quarter elliptic cross-section with a rectangular vertical front wall, quarter elliptic end walls and a roof wall or deck supported by the front and side walls sloping downwardly from the front wall to the ground in a quarter elliptic plane.

A further object is to construct the front and side walls of vertical studs in the form of lengths of piping or steel tubing to be held spaced apart by joist or spacer members, and rafters in the form of lengths of steel tubing or piping bent into bow shape to support preferably a sheet metal roofing or decking.

A further object is to provide simple connector fittings readily stamped from sheet metal for anchoring the studs to a floor structure, or for connecting together the upper ends of the studs and the rafter members, and with these fittings provided with horizontal supporting flanges for the joist or spacer members which are preferably of wood.

A further object is to adapt the fittings for supporting nailing blocks, preferably of wood, against the inner sides of the studs and the rafter members to which blocks sheets of suitable material may be nailed for lining of the front and end walls, and the roof wall formed by the pipes and joists, the wood joists or spacers providing support against which corrugated or other type of sheeting may be secured against the outer side of the wall structures and the roof structure.

Another object is to provide window and door sections or panels which are completely prefabricated for delivery and to be installed as units in connection with other panels and the supporting studs and rafters.

A further object is to have the connector fittings already secured in place on the studs so that the only field work required, when the house is to be set up, is the insertion and securing of the wood spacers, and the nailing blocks to which the inner lining and the outer metal sheathing are to be nailed.

The above and other important features of the invention will become apparent from the fol-

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lowing detailed specification in connection with the accompanying drawings, in which drawings:

Figure 1 is a perspective elevation of a poultry house embodying the features of my invention;

Figure 2 is a perspective view of the house partly assembled;

Figure 3 is a cross-section looking from the interior of the house to show the connecting arrangement between the studs, rafters and spacers in one of the end walls and the connections of the studs and rafters with the flooring;

Figure 4 is a longitudinal section on plane IV—IV of Figure 3 showing the interconnection between studs in the front walls and the rafters, and connection of the studs with the flooring;

Figure 5 is an enlarged elevation of the lower end of one of the studs and the connector fitting for holding it in place in the floor boards;

Figure 6 is an enlarged section, such as section VI—VI on Figure 4 showing the connector fitting arrangement for securing a corner stud post to the flooring;

Figure 7 is an enlarged elevation of the structure within the dotted line VII on Figure 4 showing the connecting arrangement between a window panel and an adjacent panel or section;

Figure 8 is a section on plane VIII—VIII of Figure 7;

Figure 9 is an enlarged elevation of the connecting arrangement within the dotted line 9 of Figure 3, between one of the studs and one of the rafters;

Figure 10 is an enlarged elevation of the connecting arrangement within the dotted line X, Figure 3, to show the connection between one of the spacers and a rafter;

Figure 11 is a section on plane XI—XI of Figure 10;

Figure 12 is an enlarged section on plane XII—XII of Figure 4; and

Figure 13 is an enlarged section on plane XIII—XIII of Figure 4.

Referring to Figure 1, the house shown comprises a front wall structure A, end wall structures B, and roofing C, the end wall structures being each of substantially quarter elliptical shape so that the roofing C extends down along the tops of the front and end wall structures to terminate at the floor. One of the end wall structures is usually provided with a door D,

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while the front wall structure A may be provided with a desired number of windows E, and one or more entrance openings F for the poultry. Figure 1 shows a one unit house having one window and one poultry entrance, but the length of the house can be extended to embody a number of units.

Referring to Figures 2 and 3, the skeleton structure for each end wall comprises intermediate studs 10 and a corner stud 10a, a rafter 11, and spacers 12, together with connectors or fittings for connecting these parts together. The studs are preferably in the form of lengths of pipe or steel tubing and the rafter 11 is in the form of a length of pipe or tubing bent to extend downwardly from the top of the corner stud 10a and across the tops of the intermediate studs and to terminate at the floor, the bend of the rafter being substantially quarter elliptical.

The studs when delivered for assembly of the house have secured thereto fittings for connection at their upper ends with the corresponding rafters, and at their lower ends with sill boards 13 which are secured to a supporting platform or floor G, usually of cement.

Referring to Figure 4, the supporting skeleton framework for the front wall structure A includes the end or corner studs 10a of the end walls B, and a number of intermediate studs 14, depending upon the length of the house. The studs divide the front wall structure into panels or sections which are preferably all of the same width and one or more of these panels or sections will include window structure E and entrance structure F. As shown on Figure 4, every other front wall panel is provided with a window and entrance structure. These sections or panels providing the window and entrance structures are preferably completely prefabricated. These prefabricated panel units are mounted on the floor sill board 13 and intermediate rafters 15 are secured thereto.

Figure 5 shows the manner of anchoring the intermediate studs of the front or side wall structures to the floor, while Figure 6 shows the manner of anchoring the corner studs 10a to the floor. The studs rest on the sill boards 13 and are kept properly spaced by spacer strips 16, preferably of wood, which are secured to the sill boards as by means of screws 17, Figure 5. Some of these screws may also serve to secure a sheet metal connector or fitting 18 which folds the studs in place. The fitting comprises the U-shaped body part 19 which between its ends receives a stud 10 or 14 to be secured thereto as by a bolt 20. Extending from the lower edges of the legs of the fitting body 19 are the flanges 21 which engage against the tops of the adjacent spacer strips 16 and which receive screws 17 for securing the fitting to the spacer strips and thereby to the sill board 13. In the fitting, between the stud and the yoke of the body 19 is interposed a nailing block 22, preferably of wood, this nailing block being of a width equal substantially to the diameter of the studs so as to be interposed between the ends of adjacent spacer strips 16 and with the inner faces of the blocks flush with the inner sides of the strips.

Figures 7 and 8 show the connecting arrangement between the intermediate studs 14 of the front wall structure A and the front ends of the intermediate rafter 15. Fittings 18 secured to the upper ends of the studs 14 by bolts 20 receive on their flanges 21 the adjacent ends of spacers or headers 23, the headers being secured

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to the flanges by screws 24. Nailing blocks 25 are held by the fittings 18 against the inner sides of the studs 14. Fittings 18 are secured to the forward ends of each of the intermediate rafter pipes 15 by means of bolts 26, the flanges 21 of the fittings being secured against the inner faces of the adjacent header strips 23, the fittings receiving the nailing blocks 27.

Figure 6 shows a manner of connecting the lower ends of corner studs 10a to the floor. The corner fitting 28 comprises a U-shaped body 29 through which extends the corner stud 10a secured as by a bolt 30, a flange 31 on the body being secured by a bolt or screw 32 to the adjacent spacer strip 16. A plate 33 is secured to the outer leg of the body 29, as by spot welding, and has a flange 34 secured as by a screw or bolt 35 to the end of the adjacent spacer strip 16 which at its other end is secured by one of the fittings 18 to the adjacent intermediate stud 10 of the corresponding end wall structure. The fittings 36 (Figures 2 and 4) for connecting together the corner studs 10a with the end rafters 11 are the same as the fittings 18 except that the outer flanges 21 are omitted.

Figure 9 shows to an enlarged scale the connection between the upper ends of the intermediate studs 10 of the end wall structures with the end rafters 11. A fitting 37 is adapted for this connection comprising the U-shaped body 38 for receiving the rafter 11 and having the flange 39 which is secured to one end of a spacer 40. The body 38 has a U-shaped member 41 secured thereto as by welding, and this member receives the upper end of an intermediate stud 10 to be secured thereto as by a bolt 42. The body 38 also supports a nailing block 43.

Figures 10 and 11 show a connection arrangement like Figure 9, except that the extension 41 on the body 38 receives the end of a horizontal spacer 44, instead of the end of a stud. The end 44' of the spacer is cut down to reduced width to fit into the extension 41 to be secured thereto by the bolt 42. The spacer 44 extends to the adjacent intermediate stud 10 on which is a fitting, like the fitting 18 whose one flange receives the end of the spacer 44 and whose other flange receives the end of a spacer 12 extending to the other intermediate stud 10 to be secured to a fitting 18 which also supports the next spacer 12 extending to the corner stud 10a and secured thereto by a fitting, such as a fitting like the fitting 28 shown on Figure 6.

As shown on Figure 11, the ends of the spacers 40 are recessed to receive nailing blocks 46 to which are secured nailing blocks 47 extending into the recess ends 44' of the spacers 44. Between the connections 37 of the studs with the rafters 11, the rafters have fittings in the form of straps 48 (Figures 2 and 3) secured thereto for holding nailing blocks 49. As shown on Figures 2, 3 and 11, lining panels 51 for the end wall structures are nailed to the blocks 47 and 49, and to blocks 52 secured by suitable fitting 53 to the intermediate studs 10, the end panels being also nailed to the blocks 54 and the spacers 12 held to the studs 10 by the fittings 18. Intermediate fittings 18 on the studs of the front wall structure A support spacers 55 (Figure 4) which are secured to the fitting flanges, and to the blocks 56 held by these fittings and to the spacers 55, the lining paneling for the front wall structure is nailed.

Metallic outer sheathing for the end walls, preferably corrugated sheathing 55a is secured by

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nailing to the blocks 43 and 49 and to the horizontal spacers 12 and 44 and to the spacer strips 16 on the sill boards 13. The corrugated sheathing 56 for the front wall structure A is nailed to the headers 23 and to the various spacer strips between the studs of the front wall structure.

At their inner ends, the spacers 40 extending from the end rafters are secured to the adjacent intermediate rafters 15 by fittings like the fittings 18, and these fittings also secure the intermediate spacers 57 (Figure 2) to the intermediate rafters. The roofing 58, also in the form of corrugated metal sheathing, is carried by the rafters and is secured to the various spacers 40 and 57. The front end of the roofing is nailed to the cross headers 23 of the front wall structure and project a distance beyond the front wall to provide an eave 59. Ceiling panelling 60 (Figure 11) is nailed to the roof spacers 40 and 57 and to the nailing blocks 46 and 49 on the rafters.

As has been stated, the section which has the window and the poultry doorway therein is prefabricated as a unit to be shipped to where the house is to be erected. Referring to Figures 2, 4, 7 and 12, this prefabricated panel or section will comprise two intermediate studs 14 connected together by a header 23 and by spacers 55 by fittings, such as the fittings 18. Between the upper joist 55 and the header 23 sideboards 61 are secured to form the window frame for receiving the sash 62 which carries the pane 63. The sash is hinged at its lower edge to swing inwardly and stop strips 64 are nailed to the header 23 and to the sideboards 61 for engagement by the sash when closed. A sheet metal sill plate 65 may be mounted on the joist 55 to which the sash is hinged.

Extending between the lower spacer 55 on the window section and the spacer strip 16 which is secured by fittings 18 to the lower ends of the studs 14, are sideboards 66 which, with the spacer 55 and the spacer strip 16, provide the doorway or entrance F for the poultry, as best shown on Figures 4 and 13. A closure board or plate 67 is hinged at its lower end to the spacer strip 16 to be swung upwardly for closure of the passageway F, or to swing down against the ground to form a ramp for entrance or exit of the poultry. As best shown on Figure 2 the window panel or section is set down upon the sill board 13 and the spacer strip 16 is nailed to the sill strip and the studs 14 are secured at their upper ends by fittings 18 to the front ends of the corresponding rafters, and after mounting of this window panel in place, the various spacer members are secured to the laterally extending flanges on the various fittings for connection with adjacent studs.

The door frame panel could also be entirely prefabricated and mounted on the sill board for connection with the rafter structure and studs. Referring to Figure 2, the corner stud 10a and the adjacent intermediate stud 10 could form part of a prefabricated wall section or panel, with the studs connected together by the spacers 12, and this panel might be a closed panel with sheathing secured against its outer side and lining on its inner side, or this prefabricated end section could form the doorway as shown on Figure 3. To form the doorway, sideboards 68 would be extended between the upper joist and the spacer strip between the lower ends of the studs, and the door D would be hinged to one of the sideboards. The end rafter could be connected with the studs 10 and 10a after the sec-

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tion has been mounted on the sill board, or a rafter section 69 may form a part of the door frame section when fabricated and this rafter section could then be connected by a suitable joint 70 with the rear portion of the rafter, as shown on Figure 9.

I have thus produced a building structure in the form of a poultry house of which the component parts may be readily prefabricated and readily and quickly assembled. The rafter and studding members are lengths of stock piping or tubing with the connector and nailing block fittings in place thereon, and the wooden spacer elements are for the greater part of the same length to be quickly installed and secured by the various connector fittings. The window and door sections are delivered prefabricated and the metal sheathing and the inner lining panels may be pre-cut before delivery so that the erection and assembly of the house will require merely the application of the various joists and spacer members and the nailing of the inner and outer sheathing in place.

I have shown a practical and efficient embodiment of the features of my invention but I do not desire to be limited to the exact construction or arrangement shown and described and change and modifications may be made without departing from the scope of the invention as defined in the appended claims.

I claim as my invention:

1. A poultry house comprising a front wall structure and end wall structures and a roof curving downwardly from the top of the front wall structure to the floor, studding members for said wall structures in the form of metal tube lengths, connector fittings on the studding elements and wooden spacer members extending between the studding members and secured thereto by said connector fittings, floor engaging sill boards on which the studding members rest, spacer strips secured to said sill boards between the lower end portions of the studding members, and connector fittings on the lower ends of the studding members secured to said spacing strips.

2. A poultry house of substantially quarter elliptic cross-section comprising a front wall structure and end wall structures, studding members for said wall structures in the form of lengths of metal tubing, roofing supporting rafters in the form of lengths of metal tubing, connector fittings on the upper ends of the studding members affording connection with the rafters, connector fittings on the lower ends of the studding members affording connection of said members to a floor, connector fittings on said studding members intermediate their ends and spacer members secured to the studding members by these fittings, other connector fittings on said rafters intermediate their ends, and spacer members extending between the rafters and secured thereto by said other intermediate fittings, all of said connector fittings having nailing blocks to which paneling can be nailed.

3. A poultry house of substantially quarter elliptic cross-section comprising a front wall structure and end wall structures, studding members for said wall structures in the form of lengths of metal tubing, roofing supporting rafters in the form of lengths of metal tubing, connector fittings on the upper ends of the studding members affording connection with the rafters, connector fittings on the lower ends of the studding members affording connection of said members to a floor, connector fittings on said studding members

intermediate their ends and spacer members secured to the studding members by these fittings, other connector fittings on said rafters intermediate their ends, spacer members extending between the rafters and secured thereto by said other intermediate fittings, nailing blocks held by the various connector fittings on the studding members to which inner lining panels for the house may be nailed, and nailing blocks held by the connector fittings on said rafters to which ceiling panels may be nailed.

4. A poultry house of substantially quarter elliptic cross-section comprising a front wall structure and end wall structures, studding members for said wall structures in the form of metal tubing lengths, rafters on said end wall structures and intermediate rafters, said rafters being bowed to substantially quarter elliptic shape, connector fittings connecting the upper ends of the end wall studding members with the respective end rafters and fittings affording connection of the lower ends of the said end wall rafters to a floor, fittings at the ends of the intermediate rafters affording connection thereof respectively with the upper ends of the front wall stud members and the floor, fittings on the studding members intermediate their ends and wood spacer members extending between and secured to the studding members by said fittings, said intermediate rafters having connector fittings thereon in alignment with the fittings connecting the end wall rafters with the studding members, wood spacers connected to the stud member end fittings and the fittings on said intermediate rafters for holding the rafters spaced apart, roofing sheathing resting on the rafters and nailed to the wood spacers extending therebetween, outer sheathing for said front wall and end wall structures secured by nailing to the wood spacers between the stud members of said wall structures, and wood nailing blocks supported by said fittings interiorly of the house and cooperating with said wood spacers for nailing thereto of interior sheathing.

5. In a poultry house having a front wall structure and end wall structures, supporting framework for said wall structures comprising studding members in the form of metal pipe lengths, rafter members in the form of lengths of metal piping and with the end rafter members extending along the tops of the studding members of the end wall structures, connector fittings secured to the upper ends of the front wall studding members and having laterally extending flanges, wood spacing headers between said front wall studding members secured to said flanges, other connector fittings secured to said spacing headers above the ends of the front wall studding members and secured to the front ends of the corresponding rafter members, connector fittings securing the upper ends of the intermediate stud members in said end wall structures to the end rafter members and intermediate rafter members having connector fittings thereon in alignment with said stud member fittings, said aligned connector fittings having supporting flanges thereon, spacer members extending between the rafter members and secured to the flanges of said aligned fittings for holding said rafter members properly spaced, other fittings at the lower ends of the studding members for securing thereof to a supporting floor, and nailing blocks supported by said fittings interiorly of the house and cooperating with said wood spacing headers for nailing of interior sheathing thereagainst.

6. Supporting framework for a poultry house

of the type described comprising studding members in the form of metal pipes, rafter members in the form of metal pipes, sheet metal connector fittings on said studding and rafter members and having supporting flanges for receiving wooden spacer members for holding said studding members and said rafter members properly spaced, bolts securing said connector fittings to the metal pipe studding and rafter members, and direct acting fasteners securing the connector fittings to the wooden spacer members.

7. In supporting framework for a prefabricated building, wall stud members in the form of lengths of metal pipes, connector fittings on the lower ends of the stud members and having laterally extending flanges, spacer members extending between the lower ends of the stud members and secured to said flanges, similar connector fittings on said stud members intermediate their ends and spacer members secured to the flanges thereof, rafter members in the form of steel pipes extending across the tops of said stud members, other connector fittings securing the stud members to the rafter members, said other connector fittings comprising each a U-shaped body receiving and secured to the respective rafter member and a U-shaped end receiving and secured to the upper end of the respective stud member, and nailing blocks carried by said other connector fittings.

8. In a prefabricated house of the type described, frame members in the form of lengths of metal piping, connector fittings on said members, each fitting comprising a U-shaped body receiving a member at its outer end and secured thereto and having laterally extending flanges to which spacer members may be secured, and a nailing block inserted in the rear end of said body part.

9. A poultry house of substantially quarter elliptic cross-section comprising studding members in the form of metal pipes, rafter members in the form of metal pipes bent to substantially quarter elliptic form, means for securing the front ends of the rafter members to some of the studding members, a floor, sill boards on the floor on which the studding members and the rafter members seat at their lower ends, spacer members secured to the floor boards to space the lower ends of the studding members and rafter members, and sheet metal connector fittings on the ends of the stud members and rafter members having flanges overlying said spacer members and secured thereto to thereby hold said stud members and rafter members to the floor.

10. In combination in a building structure adapted for use as a poultry house, a framework including spaced elongated metal members and spacer members, connector fittings securing the metal members and the spacers together, nailing blocks carried by said fittings, and additional nailing blocks carried by said metal members at points intermediate the fittings, said nailing blocks being adapted for nailing thereto of sheathing to be supported by the framework.

11. In combination in a framework structure for prefabricated building construction, angularly related frame members, at least one of which is made of metal, a metallic securing clip connecting said members, and a nailing block secured in the assembly by said clip and resting against said metal frame member and backed up thereby for nailing sheathing to the framework assembly.

12. A structure as defined in claim 11 wherein the clip has a substantially U-shaped intermediate portion the open end section of which is secured

to the metal member and the closed end section of which embraces and secured the nailing block in place.

13. A prefabricated building structure comprising a wooden sill plate, a metal upright frame member resting endwise on said sill plate, wooden spacer members resting on the sill plate and having the end portion of said metal member retainingly disposed between the ends thereof, a retaining member secured to said metal member and having portions thereof resting upon said spacer members, and fastening elements securing said portions to the spacer members and also securing said spacer members to the sill plate.

14. A structure as defined in claim 13 wherein said securing member includes nailing block securing means and a nailing block is secured by said means to the metal frame member cooperatively related to the wooden spacer members to afford a nailing surface for sheathing to be applied to the framework.

15. In combination in a framework structure for prefabricated building construction, principal metallic frame members, wooden spacer and nailing strip members running crosswise thereof and spacing the metal members apart, metallic securing clips connecting the wooden members to the metallic members with the ends of the wooden members spaced apart by the respective metal

members, therebetween, longitudinal surfaces of the wooden members protruding to one side of the metal members and providing a nailing surface in a plane offset from the metal members, and nailing blocks secured in the assembly by the respective clips and filling in the spaces between the ends of the wooden members and lying flush with the nailing faces of the wooden members to provide substantially continuous nailing surfaces for sheathing or the like nailed against the wooden members and nailing blocks.

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