Oct. 30, 1934. T. G. JOHNSON 1,979,039

BUILDING

Filed Feb. 27, 1932 3 Sheets-Sheet 1

FIG. 1.

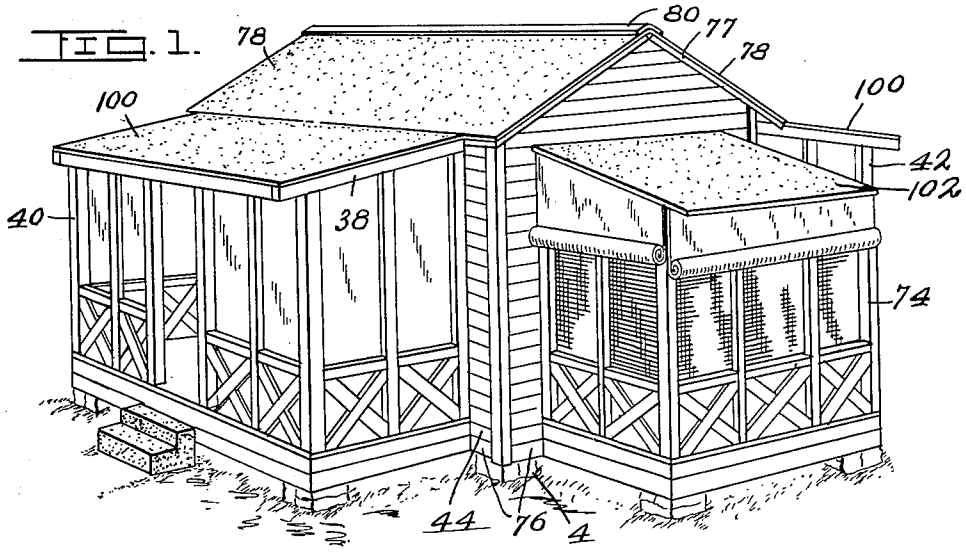
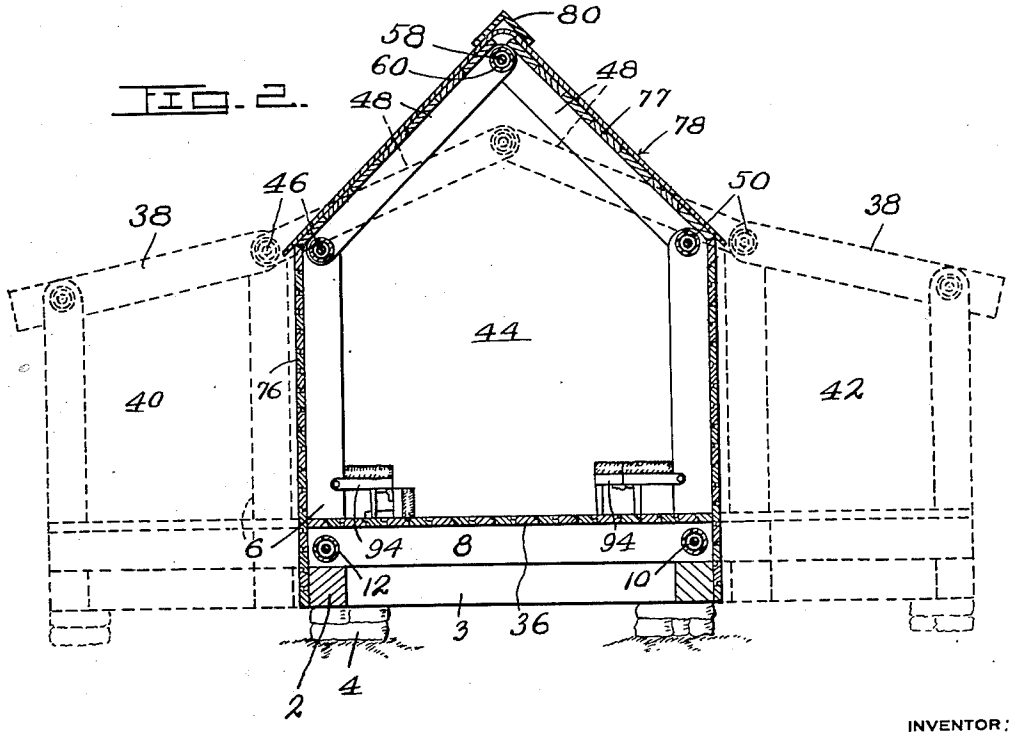


FIG. 2.



INVENTOR:

Theodore G. Johnson,

BY

F. G. Fischer,

ATTORNEY.

Oct. 30, 1934. T. G. JOHNSON 1,979,039

BUILDING

Filed Feb. 27, 1932 3 Sheets-Sheet 2

FIG. 3.

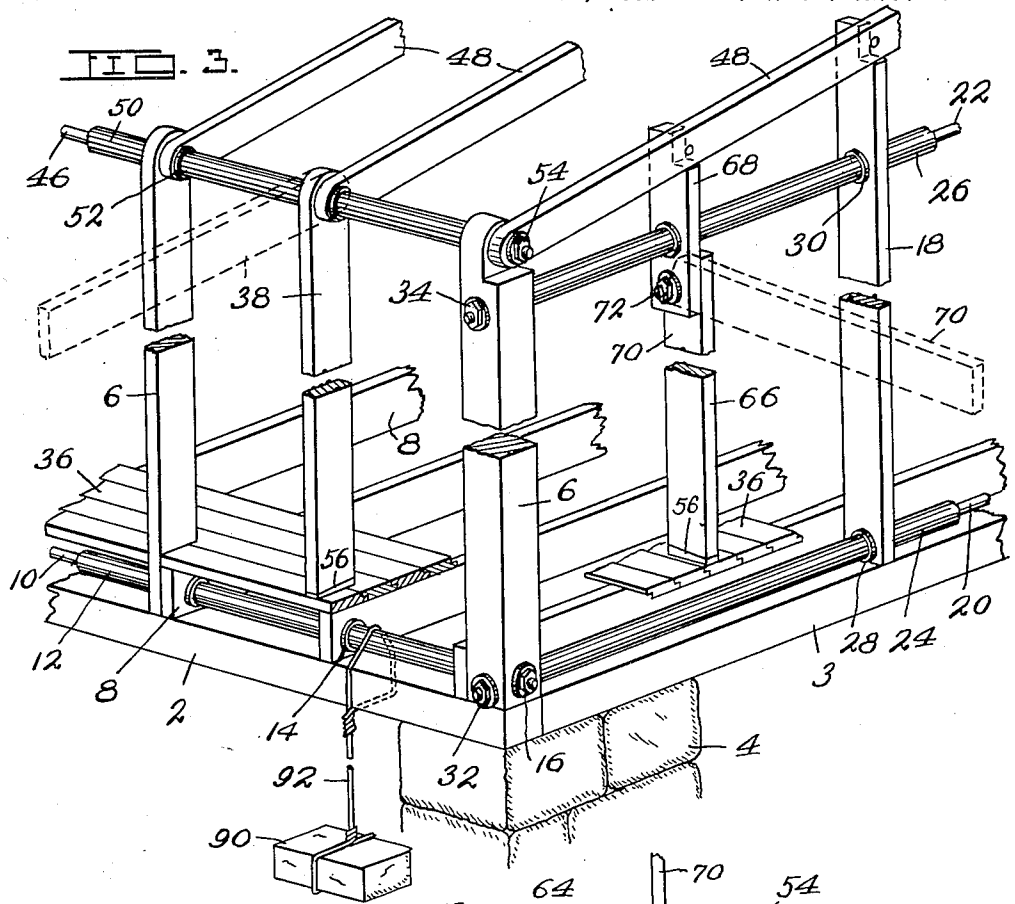
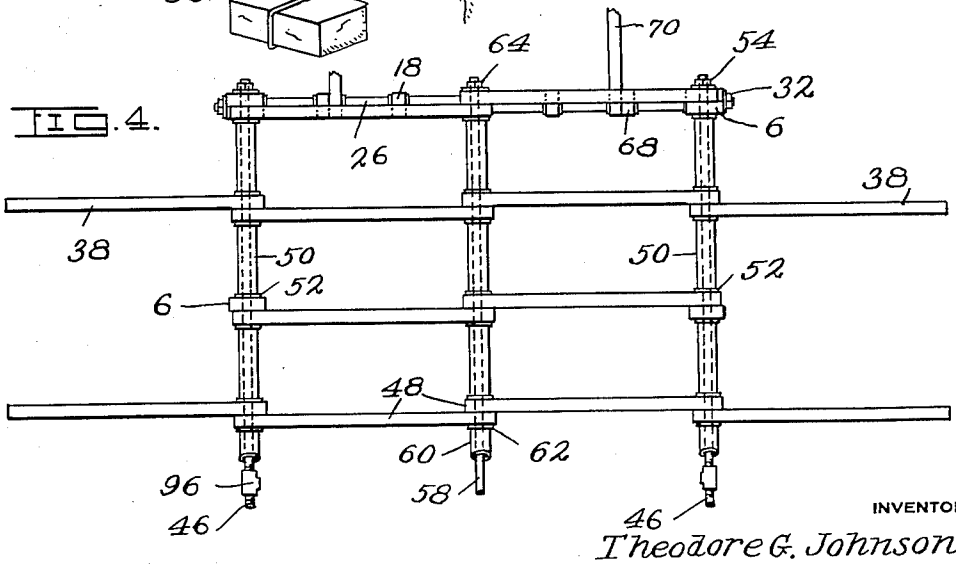


FIG. 4.



INVENTOR:
Theodore G. Johnson,

BY

F. G. Fischer,

ATTORNEY.

Oct. 30, 1934. T. G. JOHNSON 1,979,039

BUILDING

Filed Feb. 27, 1932 3 Sheets-Sheet 3

FIG. 5.

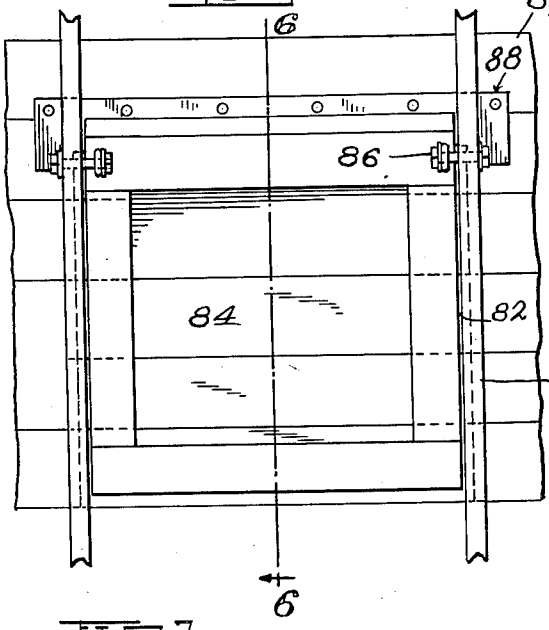


FIG. 6.

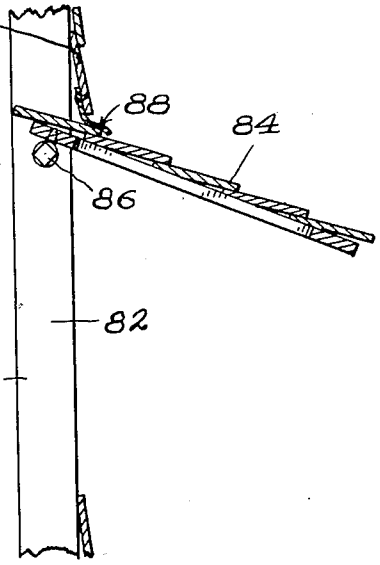


FIG. 7.

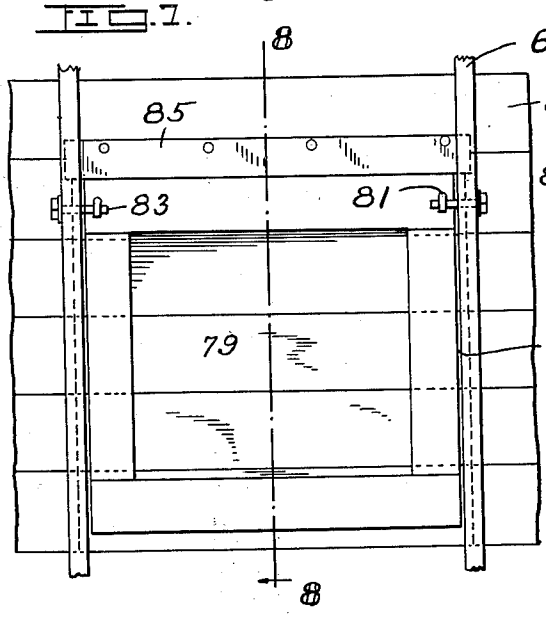


FIG. 8.

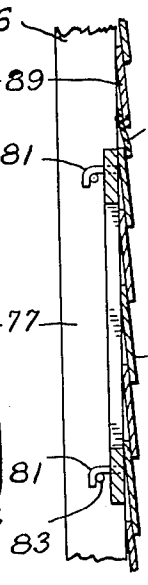
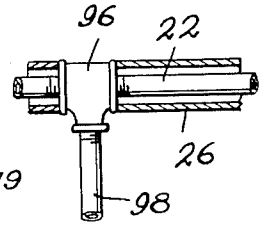


FIG. 9.



INVENTOR:

Theodore G. Johnson,

BY

F. G. Fischer,

ATTORNEY.

Patented Oct. 30, 1934

1,979,039

UNITED STATES PATENT OFFICE

1,979,039

BUILDING

Theodore G. Johnson, Kansas City, Mo.; Annie V. Johnson, executrix of said Theodore G. Johnson, deceased, assignor to Robert F. Gornall, Kansas City, Mo.

Application February 27, 1932, Serial No. 595,551

2 Claims. (Cl. 20—2)

My invention relates to buildings and one object is to provide an adjustable structure of this character which can be initially erected at minimum cost in the form of a single room to which porches and other rooms may be added from time to time as needed at a small expenditure of time, labor and funds.

A further object is to provide a structure in which the floor joists, studding and rafters may be quickly assembled, connected together while lying upon the ground, and set up in position for use without requiring the workmen to mount ladders, scaffolds, or the like.

Another object is to provide a structure in which the rafters are operably connected in such manner that when being set up for use they can be adjusted to various pitches to lend greater or less width to the building as desired. Another object is to mount a number of the studding so that they may be swung upwardly and outwardly to form rafters for porches or rooms which may be added to the main structure when desired.

Another object is to provide the walls of the structure with panels which may be either removably arranged or pivotally mounted to swing upwardly for the purpose of providing door or window openings.

A further object is to provide a structure in which the component parts may be cut to length and finished in a factory ready to erect when shipped out to the point of use.

Other objects will hereinafter appear and in order that the invention may be fully understood, reference will now be had to the accompanying drawings, in which:

Fig. 1 is a perspective view of the structure arranged in the form of a cottage suitable for use at a summer resort.

Fig. 2 is a vertical cross sectional view showing by full and dotted lines how the width of the structure may be varied by changing the pitch of the rafters and how some members of the studding may be converted into rafters when porches or other rooms are to be added to the main room.

Fig. 3 is a fragmentary sectional view of a portion of the frame of the structure.

Fig. 4 is a fragmentary plan view showing a portion of the frame of the structure.

Fig. 5 is a fragmentary elevation of the inside of a portion of one of the walls equipped with a hinged panel which may be swung upwardly and outwardly to leave a door or window opening.

Fig. 6 is a vertical section on line 6—6 of Fig. 5 with the panel swung to open position.

Fig. 7 is a fragmentary elevation of the inside of a portion of one of the walls equipped with a panel which may be removed to leave a door or window opening.

Fig. 8 is a vertical section on line 8—8 of Fig. 7.

Fig. 9 is a fragmentary detail of a tubular tie-rod, a pipe connection thereto and spacing elements mounted thereon.

Referring in detail to the different parts, 2 and 3 designate a suitable number of sills forming the lower portion of the frame of the structure, which may be supported above ground upon a suitable foundation such as that indicated by the reference numeral 4. The sills 2 extend longitudinally of the sides and the sills 3 longitudinally of the ends of the structure.

6 designates a plurality of studs resting upon the sills 2 to which they may be secured in any suitable manner. The lower portions of the studs 6 are secured to a plurality of joists 8, resting upon the sills 2, by tie-rods 10 equipped with spacing elements 12 which may be of any suitable material and shape. In the present instance said spacing elements 12 are of tubular cross section and placed to hold the abutting portions of the studs 6 and joists 8 firmly against each other. Washers 14 are arranged at the ends of the spacing elements 12 to prevent them from becoming embedded in the surface of the studs 6 and the joists 8 when nuts 16, threaded upon the ends of the tie-rods 10, are tightened up.

18 designates a plurality of studs secured upon the sills 3 at the gable ends of the building. The studs 18 are secured in spaced relation to each other by tie-rods 20 and 22, spacing elements 24 and 26 and washers 28 and 30 located at the lower and upper portions, respectively, of said studs 18. The tie-rods 20 and 22 are provided at their threaded ends with nuts 32 and 34, so that the washers 28 and 30, respectively, may be firmly clamped against the adjacent sides of the studding 6 and 18.

36 designates suitable flooring laid upon the joists 8. 38 designates a plurality of studs paralleling the studs 6 from which they are spaced at suitable intervals. The studs 38 may be utilized to assist the studs 6 in supporting the main roof hereinafter described, or they may be swung upwardly and outwardly to the dotted line position disclosed by Figs. 2 and 3, to form rafters for porches or rooms 40 and 42 at opposite sides of the main or central room 44 of the structure.

The studs 38 are swingably mounted at their upper ends upon tie-rods 46 paralleling the tie-rods 10 and extending through the outer ends of

two sets of rafters 48 forming the upper portion of the frame of the main room 44. Spacing elements 50 and washers 52 are placed upon the tie-rods 46 to hold the upper ends of the studs 6 and 38 against the adjacent ends of the rafters 48.

The tie-rods 46 are provided at their threaded ends with nuts 54, which, upon being tightened cause the spacing elements 50 and the washers 52 to firmly clamp the outer ends of the rafters 48 against the adjacent upper ends of the studding 6 and 38. The lower ends of the studs 38 rest upon removable wedge members 56 placed upon the flooring 36. Upon removal of the wedge members 56 the studs 38 may be swung upwardly to form rafters as hereinbefore stated.

The inner ends of the rafters 48 are pivotally connected by a tie-rod 50 equipped with spacing elements 60 and washers 62 which firmly hold the adjacent ends of the rafters 48 against each other when nuts 64 threaded upon the ends of the tie-rods 58, are tightened up.

66 designate a plurality of studs held in spaced relation with each other and the studs 18 by the tie-rods 22, the spacing elements 26 and the washers 30. The studs 66 comprise upper stationary sections 68 and swingable lower sections 70. The upper sections 68 are supported by the tie-rods 22 and the endmost rafters 48, while the lower sections 70 are connected at their upper ends to the lower ends of the sections 68 by pivotal means 72 located beneath the spacing elements 26. Wedges 56 are interposed between the lower ends of the sections 68 and the floor 36, which on being removed permit said sections 68 to be swung upwardly to the dotted line position, Fig. 3, to form rafters for a porch or room 74 at the end of the main room 44. If desired the porch or room 74 may be duplicated at the opposite end of the main room 44.

The sides and ends of the main room 44 are enclosed with suitable siding 76 nailed to the studding 6 and 18, suitable openings being left for doors and windows. The upper portion of the main room 44 is closed with a roof consisting of suitable material such as sheathing 77 nailed to the rafters 48 and covered either with shingles or any well-known form of roofing paper 78. A ridge cap 80 is used for forming a weather proof joint at the apex of the roof. If desired suitable insulating material, not shown, may be employed for retaining heat thrown off from a fire built during cold weather in a stove or fire-place located within the main room 44.

Figs. 5 and 6 disclose an opening 82 equipped with a closure 84 mounted upon pivots 86, so that it may be swung to the open position shown by Fig. 6. Openings of this character may be formed at convenient points in the walls of the structure and made in different sizes to provide door or window openings. Flashing 88 is provided to form a weather-tight joint between the siding 89 and the upper portion of the shutter or closure 84 when the latter is in either open or closed position.

For convenience of the occupants of the structure beds 94 are located at suitable places such as the opposite sides of the main room 44. The beds 94 are preferably of a type which may be partly folded and used for lounging purposes through the day and extended to provide double beds for sleeping purposes at night.

In erecting the structure the studding 6 and 38 and the rafters 48 may be spread out upon the ground somewhat in the manner disclosed by Fig. 4 and readily connected in spaced relation to each other by means of the tie-rods 46 and 58 with their respective spacing elements and washers. The studding 6 and 38 may then be raised to a vertical position and the rafters 48 adjusted to different inclinations to obtain the desired width of the main room 44. The remainder of the structure may then be added as desired.

If desired one or more of the tie-rods may be made in tubular cross section as shown by Fig. 9 and equipped with T-couplings 96 from which branch pipes 98 may be run to different points of the structure for the distribution of gas and water, or through which electric wires may be strung for connection to an electric stove and lights.

If the structure is to be occupied in the summer months only, the component parts of the additions 40, 42 and 74 may be arranged so that they can be taken down and stored in the main room 44 during the winter season, and the openings thus left in the main room may be closed by lowering the studding 38 and 66 with the respective roofs 100 and 102.

From the foregoing description it is apparent that I have provided a structure embodying the advantages above pointed out, and while I have shown and described one form of said structure I reserve all rights to such other forms and modifications thereof as properly fall within the spirit and scope of the invention as claimed.

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

1. A structure of the character described comprising a plurality of sills suitably connected, joists resting upon a number of said sills, flooring secured upon said joists, studding resting upon the sills, a plurality of rafters extending in opposite directions, means operably connecting the outer ends of the rafters to the studding so that said rafters may be adjusted to different inclinations, means operably connecting the inner ends of said rafters together, walls secured to the studding and having suitable openings, suitable roofing covering the rafters, studding operably connected to the outer ends of a number of said rafters so that said studding may be swung upwardly and outwardly to form rafters for a porch or room, wedge members adapted to be interposed between the flooring and the lower ends of the last-mentioned studding when the latter are in an upright position, and means for supporting the free ends of said last-mentioned studding when in raised position.

2. In a structure of the character described, a set of rafters suitably spaced, a second set of rafters suitably spaced and extending in an opposite direction from the first set, suitable means connecting the inner ends of the two sets of rafters together, suitable means connecting the outer ends of each set of rafters, a plurality of studs supporting the outer ends of the two sets of rafters, studs operably connected to a number of the rafters and adapted to be adjusted to a vertical position or swung outwardly to form rafters for an addition to the structure, supporting means for the raised ends of the last-mentioned studs, roofing for said last-mentioned studs when in raised position, flooring beneath the last-mentioned studs, and securing means adapted to be removably inserted between said flooring and the lower ends of the last-mentioned studs after the same have been adjusted to a vertical position.

THEODORE G. JOHNSON.