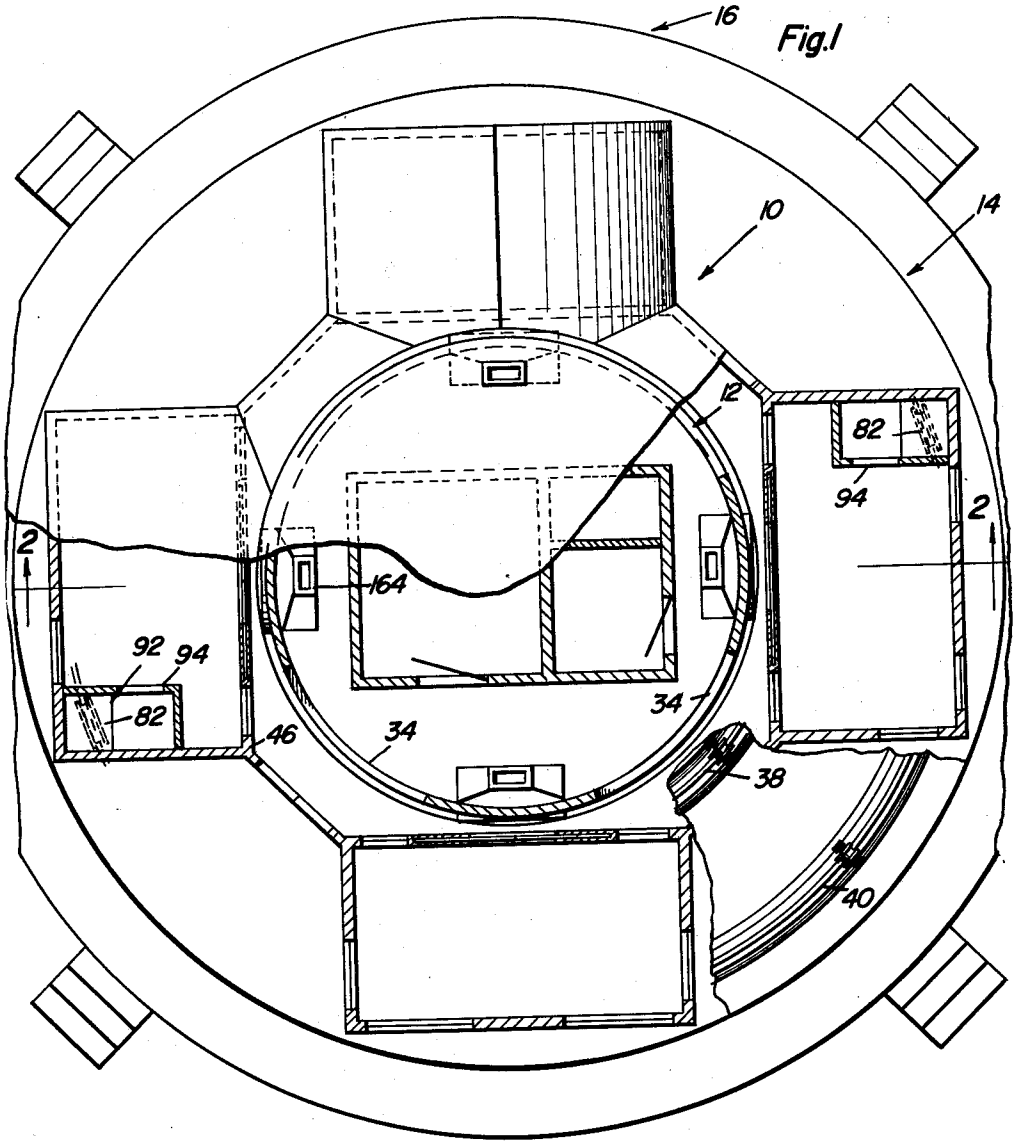
Feb. 26, 1963 N. A. ANDERSON 3,078,522

ROTATABLE STRUCTURE

Filed April 1, 1960 4 Sheets-Sheet 1

Fig. 1



Norman A. Anderson
INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

Feb. 26, 1963 N. A. ANDERSON 3,078,522

ROTATABLE STRUCTURE

Filed April 1, 1960 4 Sheets-Sheet 2

Fig.2

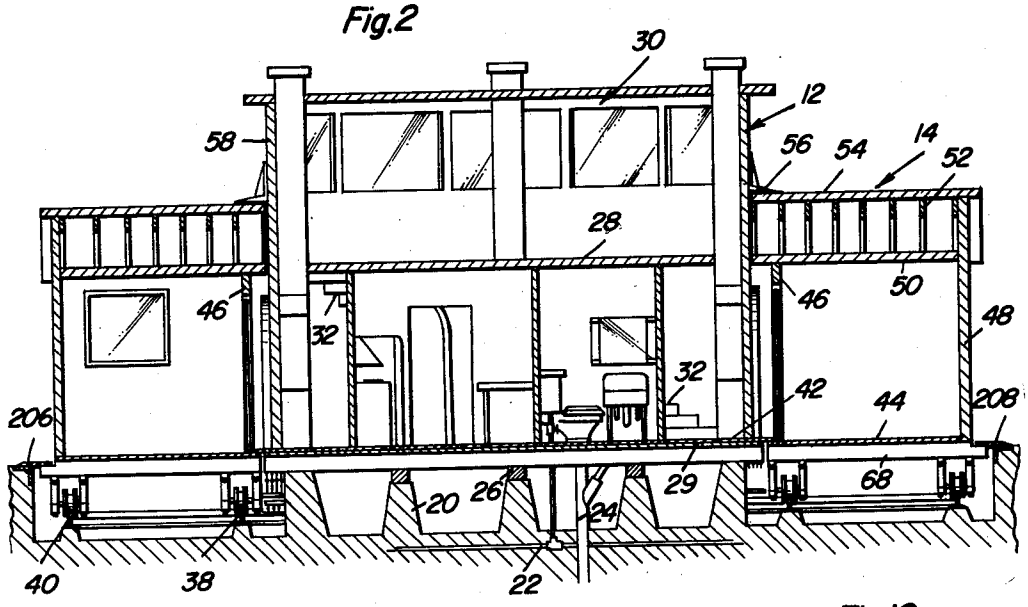


Fig.7

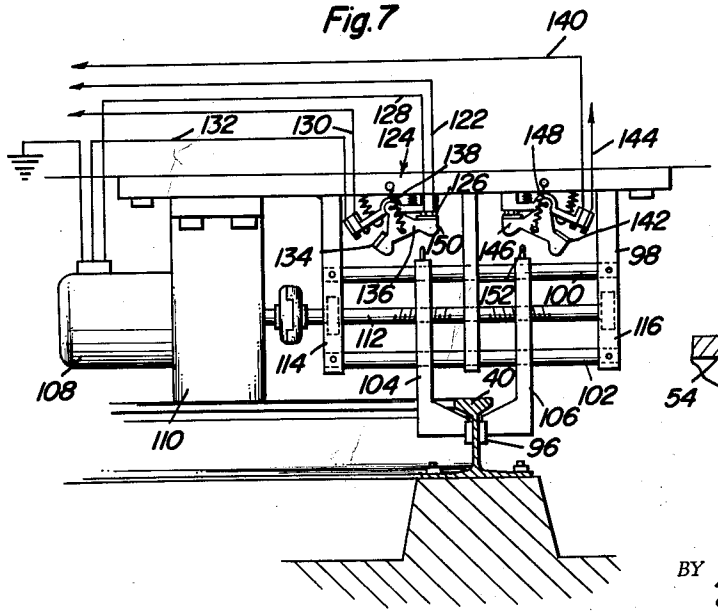
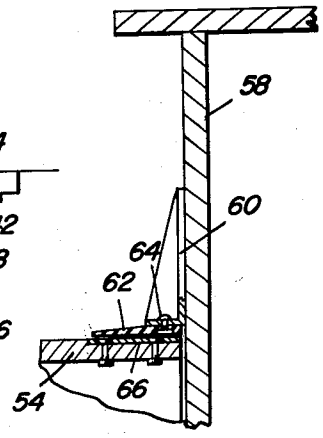


Fig.10



Norman A. Anderson

INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson

Attorneys

Feb. 26, 1963 N. A. ANDERSON 3,078,522

ROTATABLE STRUCTURE

Filed April 1, 1960 4 Sheets-Sheet 3

Fig.3

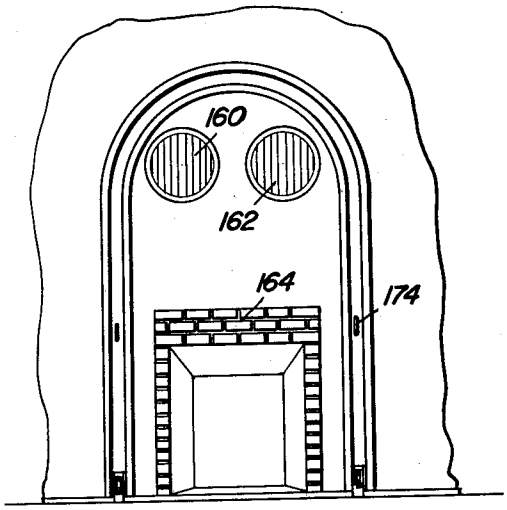


Fig.4

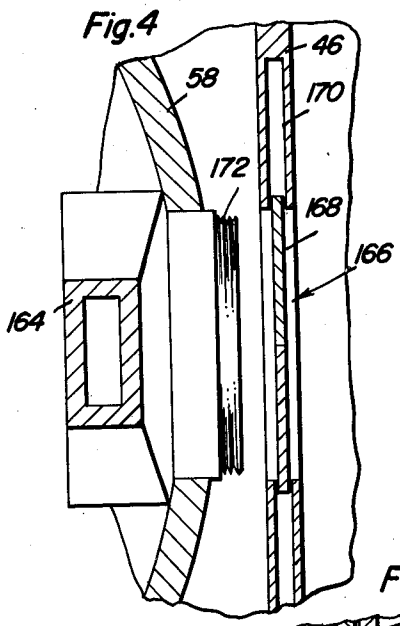


Fig.5

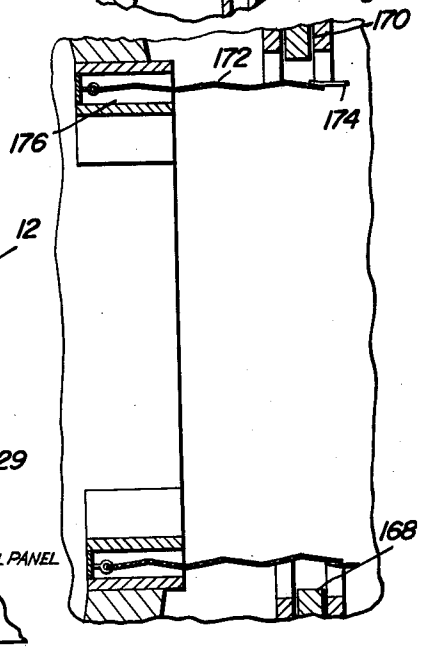
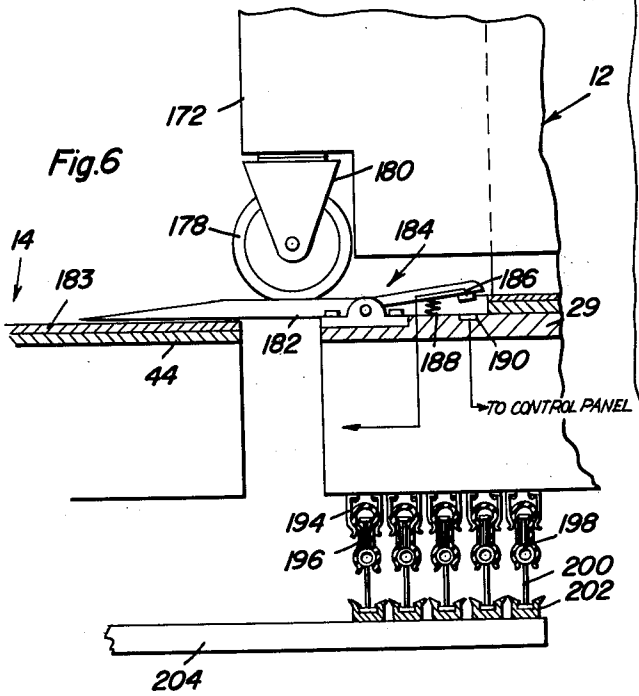


Fig.6



Norman A. Anderson

INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson

Attorneys

Feb. 26, 1963 N. A. ANDERSON 3,078,522

ROTATABLE STRUCTURE

Filed April 1, 1960 4 Sheets-Sheet 4

Fig.11

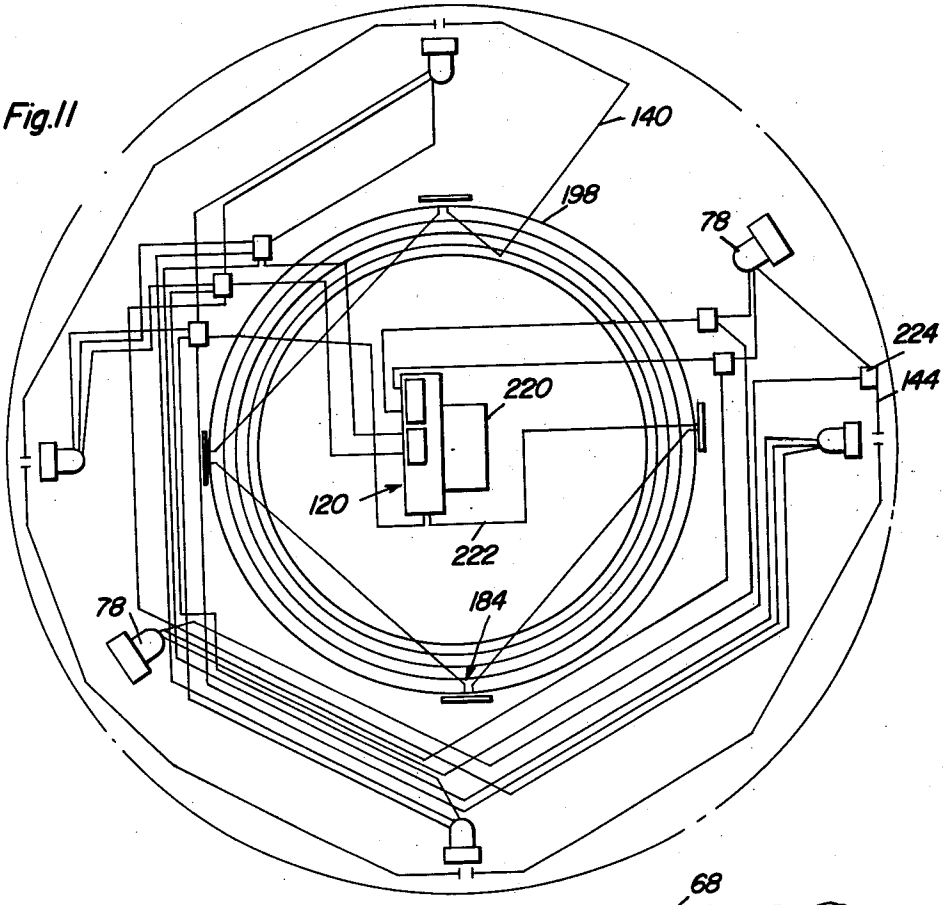


Fig.8

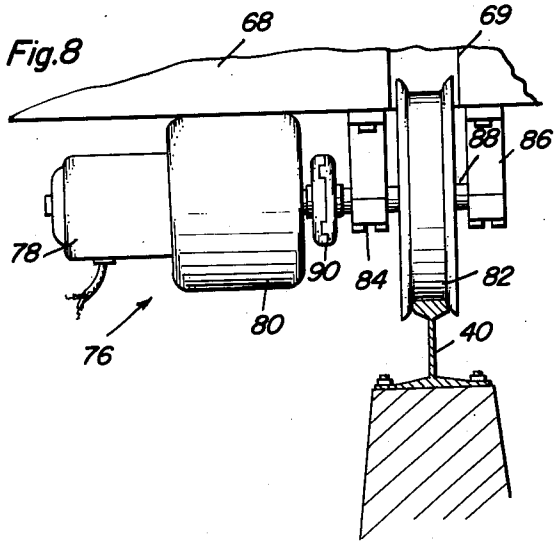
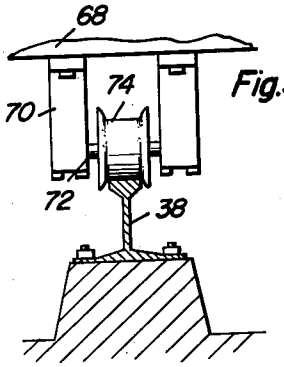


Fig.9



Norman A. Anderson
INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

United States Patent Office 3,078,522 Patented Feb. 26, 1963

3,078,522

ROTATABLE STRUCTURE

Norman A. Anderson, 2078 Campbell Ave., Oroville, Calif.

Filed Apr. 1, 1960, Ser. No. 19,208
3 Claims. (Cl. 20—1)

This is a continuation-in-part of my copending application Serial No. 815,399, filed May 25, 1959, now abandoned.

This invention relates generally to building constructions for use as residential homes and more particularly to a residential home construction having a portion thereof adapted to be moved for positioning that portion, as selectively desired, with respect to the sun, wind direction, view, etc.

In recent years, builders have considered the particular positioning of a residential home with respect to various natural factors, for instance, the path of movement of the sun with respect to the home location. That is, buildings have been designed with the thought in mind that it is desirable to have some rooms thereof facing the sun as much as possible. This trend has resulted in several novelly shaped buildings. The suggestion has been made that means be provided for motivating the building in some manner so that it may be selectively positioned to expose it to any natural conditions desired.

Although building arrangements having movable portions have been suggested, as noted, they are often found to be impractical inasmuch as a plurality of different problems with respect to plumbing, electrical distribution, heating, etc., arise. In view of this, it is the principal object of this invention to provide a building construction wherein portions of the building are so mounted so as to enable them to be moved as desired for exposing said portions to any of the natural elements.

It is a more general object of this invention to provide more enjoyable home living to many persons. Home owners sometimes become dissatisfied with the position of their house with respect to the early morning or late evening sun, the wind direction, the view, etc. By providing a portion of the house which is movable in such a manner that its position with respect to the above elements may be varied, the occupant can thereby position the movable house portion to his liking by just pressing the buttons of a control panel. By so doing, the occupant of the house may shift the movable portion therefrom a first position which is satisfactory in the morning but unsatisfactory later in the day to a second position which is satisfactory at the later time. Of course, some people would prefer to limit the position changes to vary with the seasons only.

It is a still more particular object of this invention to provide a novel residential home construction including a stationary central hub having a concentric turntable rotatable thereabout. The turntable is movable by motive means carried thereby which turn driving wheels engaged with concentric tracks about the hub. It is a further contemplation of the invention to provide all plumbing fixtures within the stationary hub portion so as to eliminate the necessity of providing means for coupling stationary and moving plumbing fixtures. Access passages are provided between the hub and the rooms carried by the turntable for allowing persons to pass from one to the other. Also, appropriate ventilating means between the hub and turntable are provided for distributing heat and air conditioning throughout the entire home.

It is a still further object of this invention to provide a novel house construction wherein a turntable portion thereof is rotatable with respect to a hub portion thereof with cooperating means being carried by the movable turntable and some stationary fixtures for selectively locking the turntable, preventing movement thereof, at certain positions. Moreover, electric circuit controls including safety switches are provided for assuring the safe operation of the turntable.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a top plan view, partially broken away, of the invention illustrating the general room relationships of the house and showing the manner in which the turntable is positioned with respect to the hub and carried by concentric tracks;

FIGURE 2 is a vertical sectional view taken substantially along the plane 2—2 of FIGURE 1;

FIGURE 3 is a fragmentary elevational view of the heat and air conditioning distribution system showing the shrouds utilized as a portion thereof in a folded position;

FIGURE 4 is a top plan view of a fireplace construction positioned adjacent the heating and air conditioning distribution means and showing the shroud in a folded or withdrawn position;

FIGURE 5 is an enlarged top plan view of the shroud illustrating the shroud in extended position providing good communication between the heating and air conditioning vents and the turntable portion;

FIGURE 6 is a fragmentary elevational view of a bottom portion of one of the shrouds showing a wheel carried thereby adapted to control a switch forming a portion of the turntable drive circuit and illustrating the general arrangement of the electrical distribution means which enable electricity to be provided to the movable turntable;

FIGURE 7 is an elevational view of the locking means for enabling the turntable to be locked in a particular postion with respect to the fixed track fixtures and showing schematically the electrical wiring for the locking means;

FIGURE 8 is an elevational view of the turntable driving means;

FIGURE 9 is an elevational view of a turntable supporting wheel engaged with the fixed track for facilitating the movement of the turntable on the track;

FIGURE 10 is a fragmentary sectional view illustrating the ceiling means means between the hub and turntable for preventing moisture, insects, etc. from entering between the hub and turntable portions; and

FIGURE 11 is a schematic view illustrating the general circuit wiring of the invention.

With continuing reference to the drawings, initial attention is called to FIGURES 1 and 2. The residential home comprising the invention is generally designated by the numeral 10 and includes principally a stationary circular hub portion 12 and an annular, rotatable outer portion comprising a turntable 14 concentric with said hub portion and adapted to move therearound. Of course, the initial consideration to be determined in the construction of a house of this sort is the center or axis of the house. The radius of the hub 12, turntable 14, and walk-way 16 around the turntable are marked off from the determined axis. Foundation forms 20 are poured first and the electrical conduit, sewer pipes, water lines, etc. are laid in place as indicated by the numerals 22, 24, etc. The provision of the foundation and utilities to this point are substantially conventional. The hub 12 is supported on floor joists 26. The hub 12 is substantially cylindrical in form and defines therein a plurality of rooms, as is noted in FIGURES 1 and 2 which comprise all the rooms requiring plumbing and sewage fixtures. Accordingly, the bathroom, kitchen, wash room, etc., must all be disposed within the hub 12. The hub 12 is

illustrated as being bi-level with a surface 28 separating the two levels. The top level 30 is provided with a series of windows so that a sun deck may be formed. A spiral stairway 32 is formed adjacent the outer edge of the hub for enabling persons to pass from the lower to upper level. The hub is provided with a plurality of access openings, as archways 34, for gaining entrance to the hub interior.

The turntable 14 is to be positioned around the hub 12. Extra depth for footage is necessary to support the concentric rails 38 and 40 about the hub 12. The inner rail or track 38 and outer rail or track 40 are supported as indicated below the level of the floor joists 26 of the hub 12. The walk-way 16 concentric with the hub 12 and positioned outwardly of the tracks 38 and 40 is substantially at the same height as the lower hub level, the floor of the lower hub level being designated by the numeral 29. Preferably, inasmuch as the lower hub level houses the bathroom and kitchen, the entire floor surface 29 is tiled as at 42.

The turntable 14 includes a floor surface 44 and an upstanding inner wall 46 constituting a series of attached straight wall sections. Outer wall sections 48 extend upwardly from the floor surface 44. Turntable rooms are defined between the inner wall 46 and outer walls 48. A ceiling 50 is supported by the walls 46 and 48 and rafters 52 support a roof 54 which overhangs the inner wall 46 adjacent the hub 12.

The hub 12 has a cylindrical outer wall 58 which is disposed immediately adjacent to the fire wall 56. Calling attention to FIGURE 10 momentarily, it will be noted that an angle iron 60 is secured to hub outer wall 58 and a corded rubber seal 62 is supported by bolt 64 carried by the angle iron so as to radially extend the seal 62 over a portion of the roof 54. The roof 54 carries an arcuate metal strip 66 immediately beneath the seal 62.

The turntable floor 44 is carried by a steel turntable frame 68. It is to be appreciated that the turntable construction 14 is substantially of doughnut shape with the hub 12 extending up through the center thereof. In order to enable the turntable 14 to be moved about the hub 12, the concentric tracks 38 and 40 are provided as previously noted. Dependingly supported from the turntable frame 68 are a plurality of spaced ear pairs 70 which support a spindle 72 therebetween. The spindle 72 carries a bearing surface thereon around which idler wheel 74 rotates. The idler wheel 74 rides on track 38. Several idler wheels 74 are dependingly mounted from the turntable frame 68 for engagement with track 38 while several wheels are also provided for rolling engagement with the outer concentric track 40.

In order to drive the turntable 14, drive means 76 are provided (FIGURE 8) including a drive motor 78 coupled through a gear reduction unit 80 to drive wheels 82 engaged with the outer concentric track 40. Bearings 84 and 86 have an axle 88 rotatably journalled therein with the axle 88 being coupled through unit 90 to the output shaft of the gear reduction unit 80. The drive wheel 82 is engaged on the shaft 88 and accordingly, as the motor 78 causes the rotation of shaft 88, the drive wheel 82 will move along the outer concentric track 40 to carry the turntable frame 68 and the entire turntable 14 therewith. The drive wheels 82 are necessarily of a larger size than the idler wheel 74 and the turntable frame 68 must be recessed as at 69 therefore. A pair of drive wheels, as illustrated in FIGURE 1 are provided and they are diametrically opposed with respect to the hub axis. In order to provide access to the drive means 76, a hatch 92 is provided in closets 94 within rooms carried by the turntable 14.

Although control of the drive means 76 allows the turntable 14 to be turned with respect to the hub 12 and stopped at any position desired, it is preferable to provide means which enable the turntable 14 to be locked against movement in case of strong winds or such. For this purpose, holding blocks 96 are secured to the web portion of the outer track 40. A frame 98 having transverse spaced bars 100 and 102 slidably carries jaws 104 and 106 thereon. A reversible motor 108 is coupled through a gear reduction unit 110 to a shaft 112 journalled between frame members 114 and 116. The shaft 112 is oppositely threaded on either end thereof. The jaws 104 and 106 are respectively threaded on the shaft 112 and by rotating the shaft 112 in one direction, as clockwise, the jaws 104 and 106 will move together while if the shaft 112 is rotated counterclockwise, the jaws 104 and 106 will move apart. In order to control the locking components and also the drive means 76, a control panel 120 is provided in the hub 12. A conductor 122 extends from the control panel to a first terminal on a snap switch 124. In the position illustrated in FIGURE 7, a bridging bar 126 connects conductor 122 to conductor 128 connected to motor 108 for driving the motor 108 in a first direction, for example clockwise. A conductor 130 also extends from the control panel 120 and is adapted to be connected to conductor 132 by bridging bar 134 for stopping the motor 108. The bridging bars 126 and 134 are carried by a switch actuator 136 which is spring mounted by spring 138. Another conductor 140 extends from the control panel and is adapted to be bridged by bridging bar 142 which connects it to conductor 144 connected to motor 78. The bridging bar 142 is carried by switch actuator 146 which is spring urged by spring 148. In the operation of the holding means, let us assume that the elements are as indicated in FIGURE 7 with the jaws 104 and 106 locked against the holding blocks 96 for preventing the turntable 14 from moving. By closing a normally open switch on the control panel, the circuit through conductors 122 and 128 is completed for energizing the motor 108 to turn the shaft 112 to move the jaws 104 and 106 apart. A pin 150 carried by jaw 104, after a particular amount of movement, engages the switch actuator 136 moving the spring urged switch actuator past center until the actuator snaps into its alternative position wherein bridging bar 134 bridges conductors 130 and 132. Inasmuch as the control panel button adapted to close conductors 130 and 132 is open, the motor 108 will stop, preventing further movement of the jaws 104 and 106. The pin 152 on jaw 106 engages the spring urged switch actuator 146 to move it past center to allow the bridging bar 142 to bridge conductors 140 and 144 only after the jaws 104 and 106 have moved out of locking engagement with the holding blocks 96. It is only when the bridging bar 142 bridges conductors 140 and 144 that the motor 78 may be energized inasmuch as the conductors 140 and 144 are electrically wire in series with the energizing circuit of motor 78.

As previously noted, means are provided for enabling the distribution of heating and air conditioning effects originating in the hub portion 12 through the turntable portion 14. For this purpose, heating vents 160 and air conditioning vents 162 are recessed slightly from the outer wall 58 of the hub portion 12. If desired, a fireplace 164 may be conveniently positioned adjacent the vents as is especially indicated in FIGURE 3. The inner wall 46 adjacent each of the four sets of vents illustrated, is provided with a set of French doors 166. The French doors 166 include panels 168 slidable with respect to the wall 46 and receivable in recesses or wells 170 in the wall 46. The set of doors 166 is of course carried by the turntable portion 14 and falls immediately in front of the vents 160 and 162 when the turntable portion 14 is locked in conjunction with any of the four sets of holding blocks corresponding to the four permanent turntable positions.

Flexible accordion-like shrouds 172 are terminally secured to the hub outer wall 58 adjacent the vents 160 and 162. Particularly noting FIGURES 3 through 6, it will be appreciated that the shroud 172 may be extended from the position illustrated in FIGURE 4 to the position illustrated in FIGURE 5 by use of the handles 174. Recess area 176 provided in the hub wall 58

normally receives the major portion of the folded shroud 172. Each of the shrouds 172 is provided with rollers 178 rotatably journalled in yoke 180. The rollers facilitate the extension of the shrouds 172 to the position illustrated in FIGURE 5. Rubber corded seals 182 extend from the floor 29 of the hub 12 to the floor 44 of the turntable 14. The clearance between the hub and turntable adjacent the floor is approximately three inches. Extending through an opening in the seal 182 is a safety switch 184 having a switch operator 186 opened by spring 188. A fixed contact 190 is provided. The safety switch 184 is so positioned in the opening formed in the seal 182 that the normally open switch is only closed when the shroud 172 is compressed to the position illustrated in FIGURE 4. When the shroud is extended, the rollers 178 move out of engagement with the operator 186 allowing the switch 184 to open. Inasmuch as the switch 184 is wired in with the electrical circuit to the drive motor 78, it will be appreciated that as long as any of the shrouds are extended, energization of the drive motor 78 will be impossible.

In order to distribute electrical energy to the turntable 14, a plurality of electrical circuits utilizing brushes are provided. Attention is called to FIGURE 6 wherein only five circuits are illustrated, however, it being understood that as many circuits as desired may be utilized. Resilient supports 194 are mounted beneath floor joist overhang of the hub 12. Insulative housings 196 are mounted in the resilient supports 194 and carry therein conductor bars 198. Collector brushes 200 are carried by insulating collector supports 202 mounted on arm 204 which is structurally supported from the turntable frame 68. The electrical means so provided to the turntable portion 14 of the house enables electricity for the various normal house requirements to be fulfilled and also to provide the electrical energy for the drive motor 78 and motor 108 of the locking means.

A rubber corded seal 206 extends from the turntable frame 68 and engages a metal strip 208 formed on the walk 16 formed about the house 10. The rubber corded seal 206 is similar to the seals 62 and 182 previously mentioned. Each of the seals 62, 182 and 206 cooperates with metal strips 66, 183 and 208, respectively, to provide a good, durable, low friction seal.

Attention is now directed to FIGURE 11 wherein a schematic wiring diagram is illustrated. As previously noted, a control panel 120 is provided in the hub section. The control panel 120 is fed from a power supply line through a circuit breaker unit 220. The various service lines for a normal house current extend from the circuit breaker unit to both the hub outlets and through the electrical distribution means noted in FIGURE 6 to the turntable circuit outlets. The drive motor 78 is a reversible motor and accordingly three wires are extended thereto. A conductor 222 extends from the control panel 120 and is serially connected to each of the shroud safety switches 184, there being four shroud switches in all, and is connected to a conductor bar 198 and thence through a conductor brush to the conductor 140 to be conducted to conductor 144 by bridging bar 142. Conductor 144 is connected to junction box 224 and conductors extend from the junction box to each of the drive motors 78. It will be appreciated that a measure of safety is provided at both the shrouds and holding mechanisms. If any of the shroud switches are open as when one of the shrouds is extended, the safety switch associated therewith will be open and neither of the drive motors 78 can be energized. Likewise, if the bridging bar 142 is not connecting conductor 140 to conductor 144, the energizing circuit to the drive motors 78 will be open and the motors cannot be driven. All of the other power wires to the driving motors are strung from the control panel 120 to the respective conductor bars 198. The connection is then made through the collector brushes engaged with the conductor bars and sent through the proper junction boxes to the two drive motors. It will be noted that the three conductors to the holding mechanisms are laid out in similar manners.

In summary, the significant features of the invention are to be appreciated. The applicant has provided a novel residential home construction wherein a turntable portion is rotatably mounted concentric with a hub portion for permitting the turntable portion to be exposed, as desired, to the natural elements. All of the plumbing fixtures, sewer lines, etc., are contained with the hub section eliminating the need for any complex connection joints. Means are provided for selectively driving the turntable and enabling the turntable to be stopped at any position desired with, however, four permanent or locking positions being provided. Shrouds are supported proximate vents in the hub for facilitating the distribution of heat and air conditioning through the turntable rooms. Safety switches are associated with both the holding means and the shroud for eliminating the possibility of accidental energization of the drive motor when the holding means are engaged or the shrouds extended. Further, appropriate weather seal means are included as a portion of the construction for preventing moisture, insects, from entering the interstices of the building.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A residential home comprising a stationary cylindrical hub defining a plurality of rooms therein, plumbing, heating and air conditioning means within said hub, a turntable including a turntable frame having inner and outer walls extending vertically therefrom defining rooms therebetween, means mounting said turntable for concentric rotational movement around said hub, drive means carried by said turntable and means for manually controlling the actuation of said drive means, said mounting means including a pair of spaced tracks concentrically secured around said hub, idler wheels rotatably supported from said turntable in engagement with one of said tracks, said drive means including a pair of diametrically opposed drive wheels engaged with one of said tracks, and a drive motor drivingly engaged with each of said drive wheels, said hub defining a cylindrical outer wall, vents in communication with said heating and air conditioning means defined in said outer wall, means for exposing said turntable rooms to said vents, an accordion-like shroud terminally secured to said outer hub wall and extensible therefrom, said shroud secured to said outer hub wall around said defined vents, means for opening portions of said inner turntable wall for extending a shroud therethrough, a normally open safety switch, said shroud engageable with said normally open safety switch closing said switch when in a retracted position and allowing said switch to open when in an extended position, said safety switch serially connected to said drive motor preventing energization thereof when said shroud is extended, and locking means carried by said turntable engageable with one of said tracks, said locking means including a pair of movable jaws, spaced holding blocks secured to a track web portion, and means for moving said jaws into engagement with said holding blocks preventing relative motion between said turntable and said tracks.

2. A residential home comprising a stationary cylindrical hub defining a plurality of rooms therein, plumbing heating and air conditioning means within said hub, a turntable including a turntable frame having inner and outer walls extending vertically therefrom defining rooms therebetween, means mounting said turntable for concentric rotational movement around said hub, drive means carried by said turntable and means for manually con-

trolling the actuation of said drive means, said mounting means including a pair of spaced tracks concentrically secured around said hub, idler wheels rotatably supported from said turntable in engagement with one of said tracks, said drive means including a pair of diametrically opposed drive wheels engaged with one of said tracks, and a drive motor drivingly engaged with each of said drive wheels, said hub defining a cylindrical outer wall, vents in communication with said heating and air conditioning means defined in said outer wall, means for exposing said turntable rooms to said vents, an accordion-like shroud terminally secured to said outer hub wall and extensible therefrom, said shroud secured to said outer hub wall around said defined vents, means for opening portions of said inner turntable wall for extending a shroud therethrough, a normaly open safety switch, said shroud engageable with said normally open safety switch closing said switch when in a retracted position and allowing said switch to open when in an extended position, said safety switch serially connected to said drive motor preventing energization thereof when said shroud is extended, locking means carried by said turntable engageable with one of said tracks, said locking means including a pair of movable jaws, spaced holding blocks secured to a track web portion, and means for moving said jaws into engagement with said holding blocks preventing relative motion between said turntable and said tracks, and locking switch means operated by said locking means held in open position when said jaws are locked to said track, said locking switch means serially connected to said drive motor.

3. The combination of claim 2, said inner turntable wall having an opening therein and further having lateral wells therein communicating with said opening, said opening means comprising closure panels for the opening slidable on the inner turntable wall and received in the wells when in open position.

References Cited in the file of this patent

UNITED STATES PATENTS

895,176	Gaynor	Aug. 4, 1908
932,714	Milke	Aug. 31, 1909
948,796	Saphore	Feb. 8, 1910
1,210,288	Farr	Dec. 26, 1916
2,778,674	Attendu	Jan. 22, 1957

FOREIGN PATENTS

587,734	Germany	Nov. 8, 1933