Oct. 19, 1971 T. H. CZARNECKI, SR 3,613,322

CABLE SUPPORTED ROOF CONSTRUCTION

Filed March 27, 1970

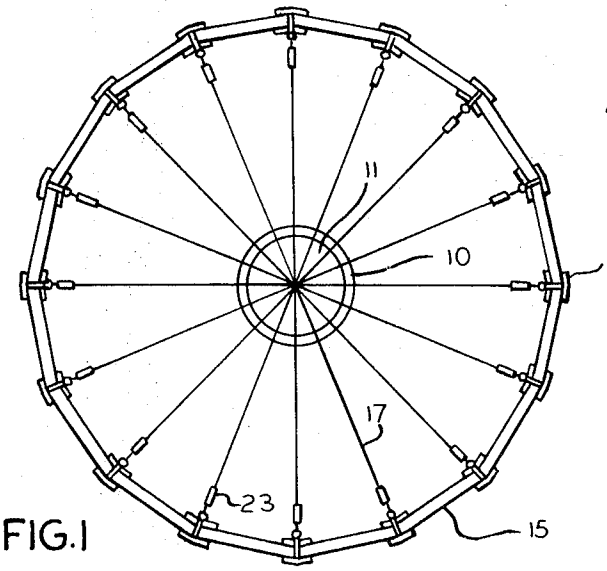


FIG.1

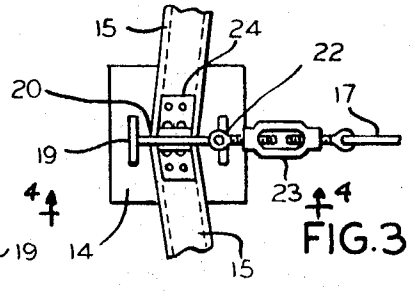


FIG.3

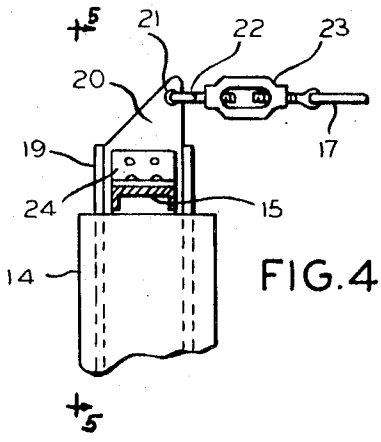


FIG.4

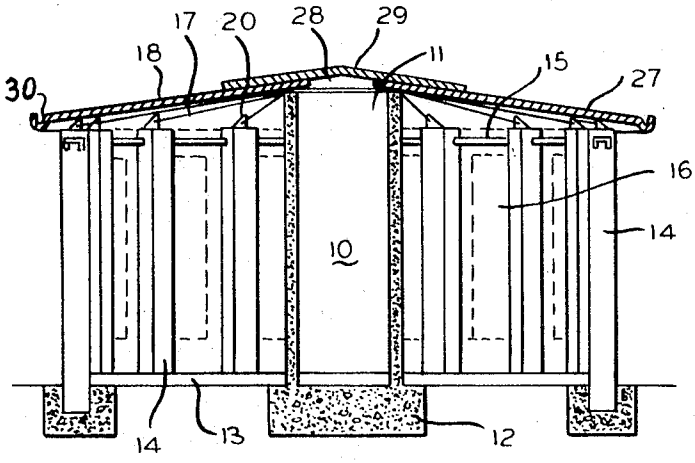


FIG.2

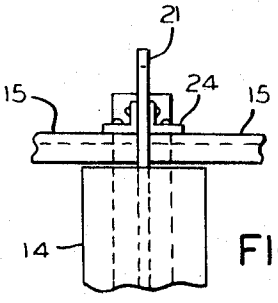


FIG.5

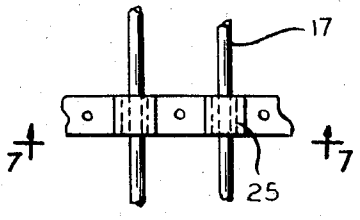


FIG.6

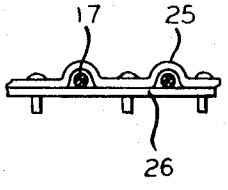


FIG.7

INVENTOR
THOMAS H. CZARNECKI SR.

BY
Alter, Weiss and Whitesel
ATTORNEYS

United States Patent Office 3,613,322 Patented Oct. 19, 1971

3,613,322

CABLE SUPPORTED ROOF CONSTRUCTION

Thomas H. Czarnecki, Sr., 13543 N. Cedarburg Road
64–W, Mequon, Wis. 53092

Filed Mar. 27, 1970, Ser. No. 23,208
Int. Cl. E04b 7/14
U.S. Cl. 52—83 6 Claims

ABSTRACT OF THE DISCLOSURE

A building may be erected in a simple and efficient manner by suspending the roof on cables extending outwardly from a central pillar. The periphery of the roof rests on a cylindrical outer wall. This wall may be constructed as a closed wall, or with windows, doors or the like. A centrally disposed pillar-like portion may be also accessible as a room for use.

My invention relates to a supported roof construction and more particularly to a method of supporting a roof with cables.

The construction costs incident to the erection of a building are rising sharply. Accordingly, there is a rapidly approaching time when somewhat revolutionary techniques will be adopted to reduce costs and the labor content of a structure. One of the most time consuming parts of house construction resides in the trusses and rafters which support the roof. Therefore, there is a substantial advance over the prior art if all trusses and rafters are removed.

Also, most currently used construction techniques require load bearing walls. This, in turn, restricts the flexible use of the area enclosed within the building. There is a great improvement when the number of these load bearing walls is reduced to a minimum. Then movable partitions may be installed wherever it is convenient to place them.

Accordingly, an object of my invention is to provide new and improved means of constructing a building, in an economical manner. In particular, an object is to reduce costs by supporting a roof on such a building by means of wire cables.

Another object of my invention is to provide new and improved means for supporting the roof of a building having a generally cylindrical contour. Here, an object is to eliminate costly inner beams or supports.

A further object of the invention is to provide a building with a maximum amount of unobstructed floor space.

A still further object of my invention, is to provide an economical and simple construction. Here an object is to eliminate all roof support except for vertical outer pillars, a centrally disposed inner support, and cables extending outwardly from the central support.

Still another object of my invention is to provide a simple structure employing reinforced concrete outer pillars.

In keeping with an aspect of the invention, an architectural construction provides low cost residential buildings with the greatest amount of unobstructed floor space, and the least amount of labor required during construction. This is done by hanging a roof from a central pillar by means of a web of cables radiating outwardly from the pillar to the periphery of the roof. Accordingly, the invention illustrated, described, and claimed herein, provides a means of constructing a low cost building of radial design.

Other and further objects of the invention will become more apparent as the description proceeds, when taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a schematic view of the top of a building, showing a vertical outer support, the centralily disposed pillar-like unit, and the cables suspended thereon;

FIG. 2 is a side cross-sectional view of the assembly, showing the roof as suspended by the cables;

FIG. 3 is a fragmentary view of the reinforced top of vertical pillars, showing the cable adjustably mounted thereon;

FIG. 4 is a fragmentary view along line 4—4 of the side of the assembly shown in FIG. 3;

FIG. 5 is another fragmentary view of the structure of FIG. 3 (taken along line 5—5 of FIG. 4) showing the inside view of the structure;

FIG. 6 is a top view looking down at the cable mounting, on the centrally disposed pillar-like portion; and

FIG. 7 is a side view taken along line 7—7 of FIG. 6 and showing the cable mounting.

Similar reference characters indicate corresponding parts throughout the several views.

The reference character **10**, indicates a pillar-like centrally disposed cylindrical portion constructed of reinforced concrete. This portion is open at its upper end **11** and rests upon a concrete foundation **12**. The foundation also forms and supports a part of the floor surface **13**, extending outwardly to a plurality of vertical reinforced concrete wall section pillars **14**. These vertical pillars are here shown as being equally spaced apart (FIG. 1). At their upper ends these vertical pillars are supported by horizontally disposed channels **15**. Obviously, the number of pillars **14** may vary, depending upon the area of the floor surface **13**. The space between the pillars **14**, may be in the form of solid walls, or glass surfaces as shown at **16** in FIG. 2. Also, windows or doors may be placed in these walls, depending on the room arrangement or layout of the building.

In FIGS. 3 to 7 inclusive, I show a preferred embodiment of the upper portion of the pillars **14**. The upper portion of the centrally disposed cylindrical pillar-like portion **10** is made in a similar manner. These drawings show how to support the cable **17** for suspending the roof **18**. The I beams **19** are shown as reinforcing the pillars **14**. In greater detail, each I is provided with an upwardly extending member **20** joined to a forming part of the I beam **19**. The channels **15** are rigidly attached to the beam **20** by means of two angle irons **24**. Each member **20** is equipped with an aperture **21** for receiving a threaded loop **22** of a turn-buckle or a cable **17**.

The cable **17** extends in a somewhat upward horizontal direction from one member **20** on the pillar **14** over the top of the cylindrical center portion **10**, and in a downward horizontal direction to an oppositely disposed member **20** on a pillar **14** on the opposite side of the building. On top of the center member **10**, cable **17** is guided by semi-cylindrical members **25** held in engagement with a flat plate member **26** (see FIGS. 6 and 7). The plate **26** is attached to the top of the center portion **10**. The cables are held taut by means of the turn-buckles or takeups **23**, which may be placed either on both ends or one turnbuckles may be placed on one end of cable **17**.

The roof **27** of the building (see FIG. 2) is open at its center **28**. A central cap member **29** is disposed over the opening **28**. If desired the outer peripheral edge of the roof **27** may be turned up to provide a gutter, shown as **30**.

From the above description, it should be apparent that the pillars **14** may be placed in a circular relationship with respect to one another. Panels hung on or suspended from these pillars form the outer wall of the building. They may reinforce in any particular manner, as shown by the I beams **19**. These wall panels are held in a rigid relationship against one another by the horizontally disposed channels **15**. The space between the pillars **14**, may be

equipped with walls, windows or doors, depending on the room arrangement.

The cylindrical center portion **10** may have any desired diameter. First, it acts as a center support for the cables **17** extending between the pillars **14**. Second, it supports the roof **18**. Third, the center portion may also provide an enclosure that is economical to construct. This permits an arrangement of the partitions, in any desired manner. The construction as shown provides a maximum of floor space, and the cable roof supports from the pillars.

Although I have shown a specific arrangement of the parts and features constituting my invention, various changes may be made without departing from the principles. Therefore, the appended claims are to be constructed as covering all equivalents which do not depart from the spirit and scope of my invention.

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

1. A building comprising a central support element and a plurality of peripherally disposed pillar-like members, a plurality of cables extending from individual ones of said peripheral pillars over the top of said central support to a pillar-like member on the opposite side of said central support, and means associated with each of said cables for taking up slack and holding said cables taut.

2. The building of claim **1** and wall panels supported between said pillar-like members thereby forming cylindrical peripheral areas of said building.

3. The building of claim **2** and a conical roof suspended over said cables and between said central support and said pillars.

4. The building of claim **3** and a cap roof over the apex of said conical roof.

5. The building of claim **4** and I beams extending between said pillars to brace and support them, aperture means associated with said I beams and said pillars for receiving the ends of said cables.

6. The building of claim **1** wherein said central portion comprises a vertical cylindrical room, and means for giving access to the room formed by said central cylindrical portion.

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JAMES R. BOLER, Primary Examiner