July 20, 1965 R. P. VILLANDRY 3,195,189

STRUT FOUNDATION FOR BUILDING

Filed Sept. 18, 1957 2 Sheets-Sheet 1

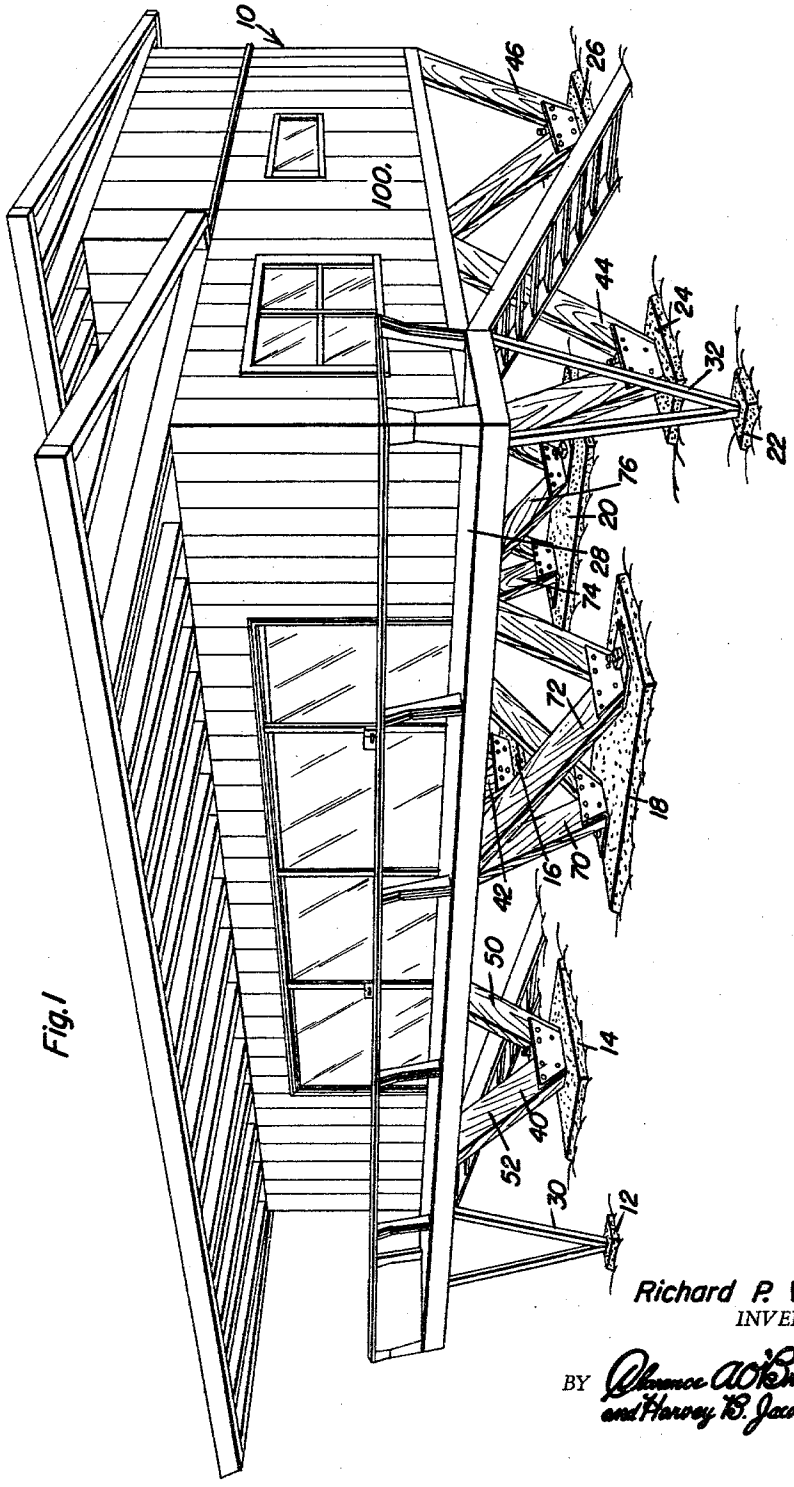


Fig. 1

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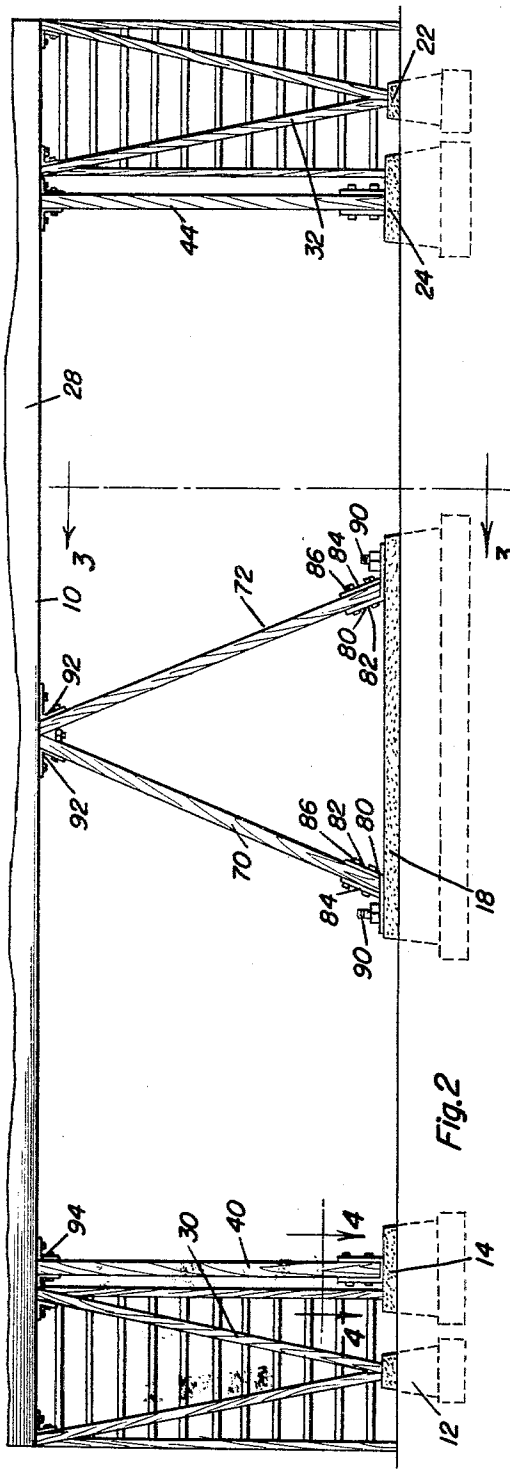


Fig. 2

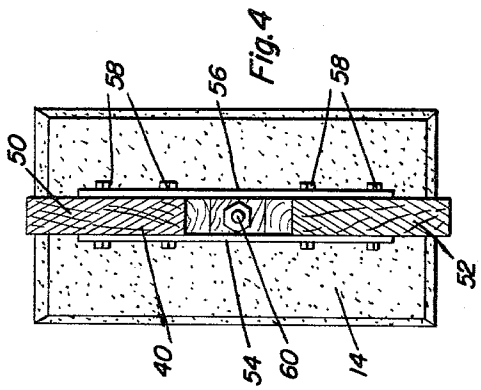


Fig. 4

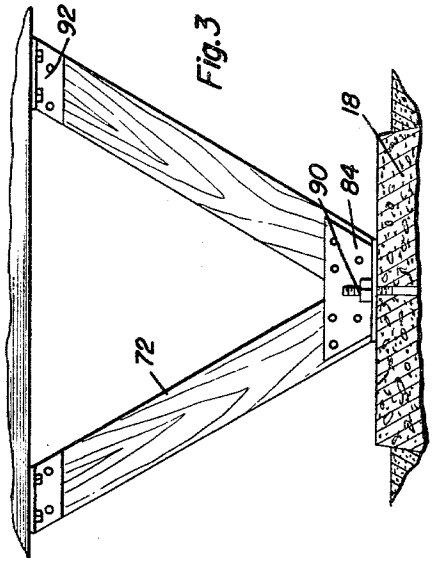


Fig. 3

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United States Patent Office 3,195,189 Patented July 20, 1965

3,195,189

STRUT FOUNDATION FOR BUILDING

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1 Claim. (Cl. 20—1)

This invention relates to building construction and more particularly to a novel foundation for various types of buildings.

The primary object of the present invention resides in the provision of a foundation for a building which is designed to support a building above normal ground level and which has the specific purpose of eliminating damages received from high tides and hurricane force winds.

In carrying out the present invention the customary concrete foundation normally used to elevate houses above high tide levels are dispensed with and in lieu thereof separate footings are employed which have struts rising therefrom which struts support the building while permitting free passage of any abnormal high tides.

A further object of the present invention resides in the provision of a foundation for a housing which will offer little or substantially no resistance against waves and rough waters and yet which is strong enough to hold the house against hurricane force winds.

A further object of the present invention resides in the provision of a V-strut type foundation which eliminates substantially all of the usual bracing and cross bracing that is applied to a stilt-type of foundation leaving these supports separate and distinct so as to eliminate the carrying away of any portion of the foundation by rushing waters due to abnormally high tides or the like yet which permits transfer of stresses from one portion of the strut to another.

The present invention takes full advantage of the tremendous pressure that can be applied to the end of a grain of a piece of timber. In carrying out the invention California redwood is preferred and is capable of withstanding enormous pressures thereby permitting a minimum use of material in supporting a house so that the foundation presents substantially no resistance against rushing waters.

These, together with the various ancillary objects and features of the invention which will become apparent as the following description proceeds, are attained by this foundation for a building, an arrangement in accordance with the concepts of the invention being shown in the accompanying drawings, by way of example only, wherein:

FIGURE 1 is a perspective view of a house erected on a foundation constructed in accordance with the concepts of the present invention;

FIGURE 2 is a front elevational view of the foundation structure;

FIGURE 3 is a vertical sectional view as taken along the plane of line 3—3 in FIGURE 2; and

FIGURE 4 is a sectional detail view as taken along the plane of line 4—4 in FIGURE 2.

With continuing reference to the accompanying drawings wherein like reference numerals designate similar parts throughout the various views, reference numeral **10** generally designate a building of any suitable construction adapted to be supported on the foundation comprising the present invention. It is to be noted that the building may not only be a wooden structure but may be constructed from any desired structural material or materials, such as steel, brick, plastic or the like.

In carrying out the invention, a plurality of separate footings as indicated at **12, 14, 16, 18, 20, 22, 24,** and

26, etc. are employed and these may be cast of concrete or other suitable material. If the building is provided with a porch or walk as indicated at **28,** the relatively light V-shaped struts **30** and **32** may be employed to support this lightweight portion of the house. Pairs of struts of V-shape as indicated at **40** and **42** as well as **44, 46** are employed at the ends of the house and these struts extend in a vertical plane as can be best seen in FIGURE 2.

The V-shaped struts **40, 42, 44** and **46** are substantially similar and their construction can be best seen in FIGURE 4 wherein it will be noted that each of the V-shaped struts includes strut members as at **50** and **52** secured to each other by means of plates **54** and **56** at the bottom of the strut which plates are held in place by means of bolts **58** which extend therethrough and through the strut members **50** and **52.** An anchor bolt **60** anchors the strut **40** to the footing **14** in the obvious manner.

Centrally disposed on the footings **18** and **20** are pairs of V-shaped struts **70, 72** and **74, 76.** Each of the pairs of struts cooperate with each other and are anchored to the footings **18** and **20** and extend angularly with respect to the vertical, it being noted that the struts **40, 42, 44** and **46** extend in a vertical plane. Brackets as at **80** including angle plates **82** and backing plates **84** secured to each other by means of bolts **86** are provided for the lower ends of the struts and anchor bolts **90** are used to anchor the brackets to the footings. As is provided for the struts **40, 42, 44** and **46** and the other brackets, brackets **92** are provided for bolting the struts to the building **10.** The brackets **94** are provided for the struts **40, 42, 44,** and **46.**

The ends of the house rest on the V-struts **40, 42, 44,** and **46.** The stresses follow parallel to the grain of the timbers of the strut members which meet abutting against each other at the bottom and rest on the footings.

When any pressure is applied on the house such as directed normal to the porch **28,** downward pressure will be applied on the strut member **50** and this downward pressure is increased and some of the pressure is transferred upward on strut member **52.** The remaining pressure is applied to the rest of the footing elements. In the area covered by the center of the building, the composite strut arrangements stop any twisting which may take place due to heavy winds. Passing hurricane winds applying for example on the side of the house as indicated at **100** may create a vacuum having a tendency to decrease the weight of the house substantially. It is to be noted that the centrally located angularly disposed struts will satisfactorily support the weight of the building and distribute the force evenly.

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:

The combination of a building and a foundation wherein the foundation comprises a plurality of spaced footings and a plurality of upwardly opening V-shaped struts with legs of equal length anchored to said footings, the central struts being identical and disposed in pairs with the adjacent upper ends of the obliquely positioned legs of each pair being connected, the lower ends of each pair of struts being spaced apart, the end ones of said struts being disposed in a vertical plane, perpendicular to the longitudinal axis of said building.

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