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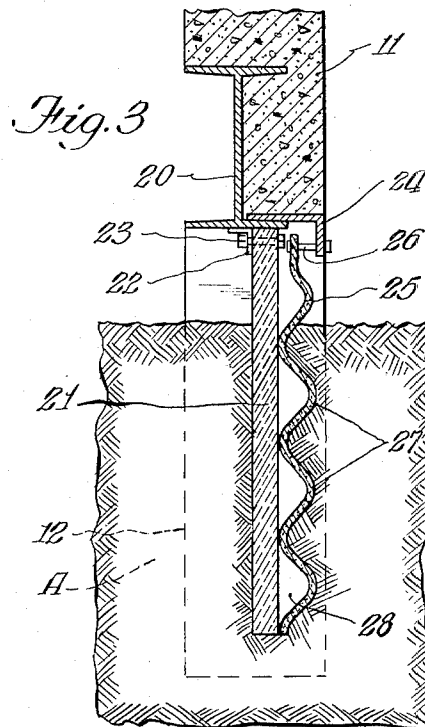
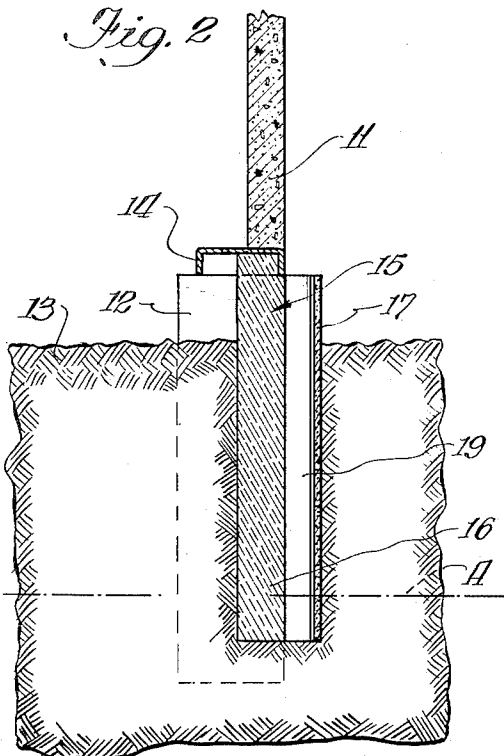
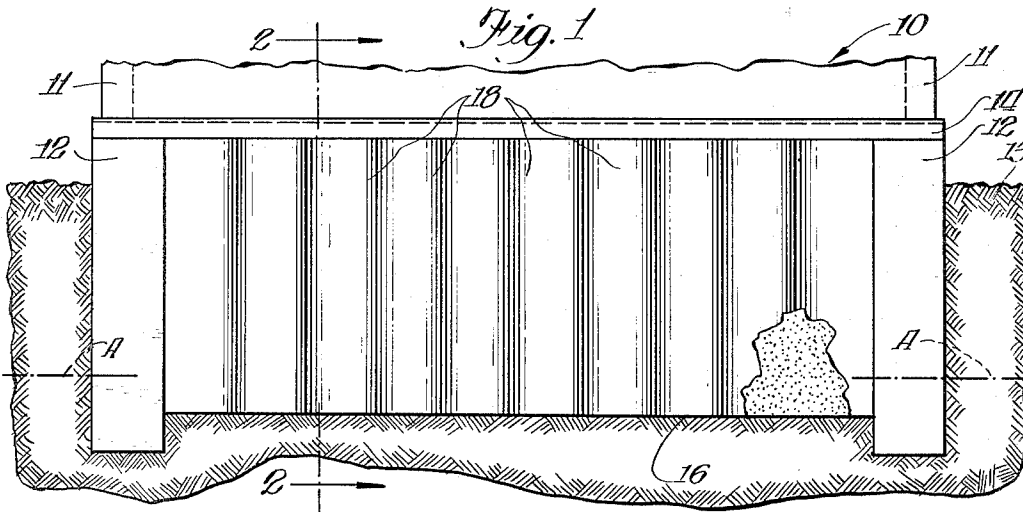
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2,743,602

INSULATED FOUNDATION CONSTRUCTION

Filed June 24, 1950

2 Sheets-Sheet 1



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Fig. 4

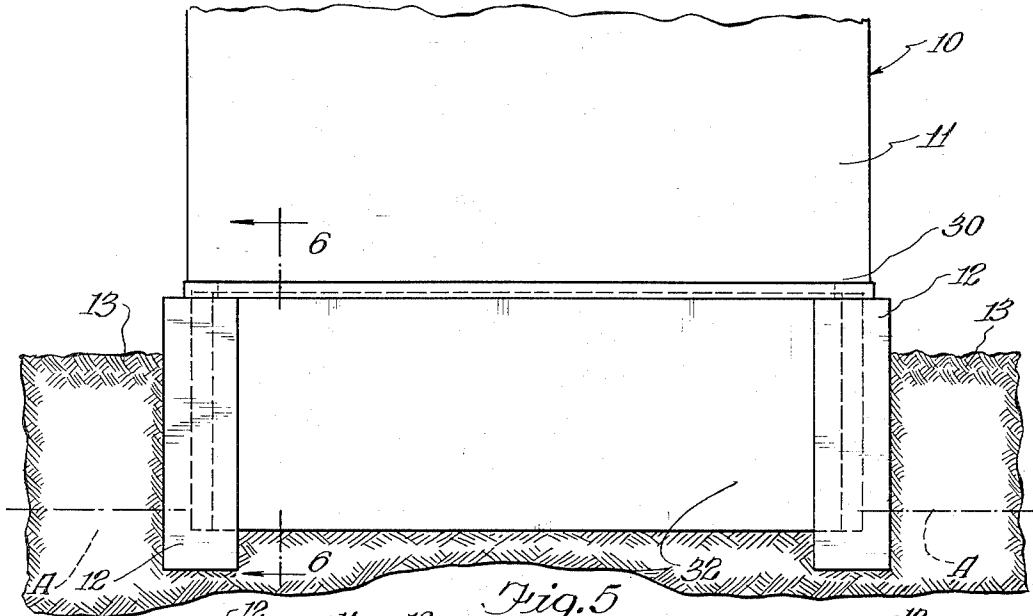


Fig. 5

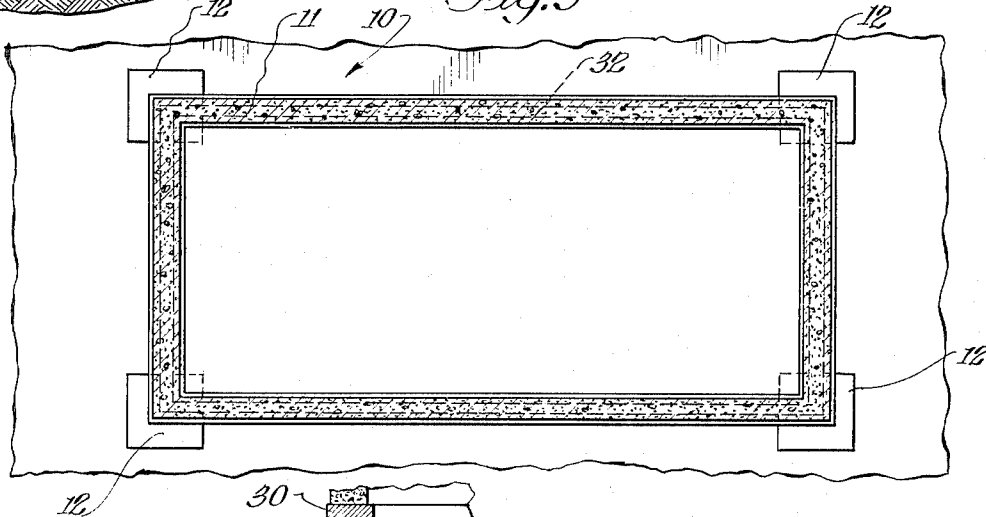
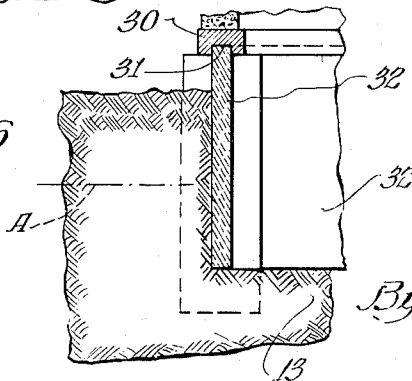


Fig. 6



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INSULATED FOUNDATION CONSTRUCTION

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2 Claims. (Cl. 72-77)

This invention relates to an improvement in building foundation constructions. More specifically the invention relates to a building foundation having an improved heat insulating construction.

The conventional type of foundation for buildings consists of a concrete foundation forming an enclosure, the concrete foundation being supported within the ground to a point below the frost line. The concrete foundation provides a supporting means upon which the walls of the building may rest. The concrete foundation also acts as an insulator in order to keep the extreme cold from entering into and underneath the enclosure formed by the foundation. This type of construction is found necessary in cold climates where extreme cold weather occurs. Without the utilization of some form of insulating panel construction it is extremely difficult to heat the building and the floor of the building is found to be generally cold and damp.

It is applicant's prime object to provide an improved heat insulating construction which will eliminate the use of the conventional costly concrete foundation.

Still another object is to provide a foundation construction comprising a plurality of insulating panels, the panels being of non-supporting design and forming a heat retaining means whereby the underneath enclosure of a building may be properly insulated from the extreme colds existing outside of the enclosure.

A still further object is to provide an improved heat insulating barrier for a building construction, the barrier comprising a plurality of fibrous panels which depend from the supporting structure of a building and project downwardly into the ground below the frost line.

A further object is to provide an improved insulating construction for a foundation, the foundation consisting of a plurality of spaced piers extending into the ground, the piers being arranged to support longitudinal beams positioned to form an enclosure.

A still further object is to provide an insulating foundation arrangement, the arrangement consisting of a plurality of heat insulating panels which project downwardly into the ground, the panels being arranged to form an enclosure and having a plurality of vertically extending corrugated sheets positioned adjacent the panels to form insulated air pockets between the panels and the sheets.

These and other objects will become more readily apparent upon a reading of the specification when examined in connection with the accompanying sheets of drawings.

In the drawings, Fig. 1 is a side elevational view of a foundation construction showing the preferred embodiment of the invention.

Fig. 2 is a cross-sectional view through the foundation construction shown in Fig. 1, the view being taken substantially along the line 2-2 of Fig. 1.

Fig. 3 is a cross-sectional view through a foundation construction, the view disclosing a modified insulating arrangement for a foundation construction.

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Fig. 4 is a side elevational view of a foundation construction, the view disclosing a modified form of the invention.

Fig. 5 is a plan view of an enclosure embodying the improved heat insulating construction for a foundation, the view showing portions of a wall structure in section.

Fig. 6 is a view of a modified foundation construction, the view being taken substantially along the line 6-6 of Fig. 4.

Referring particularly to Figs. 1 and 5, a building structure is generally designated by the reference character 10. The structure 10 is provided with walls 11 which may be of suitable masonry or concrete construction. A plurality of rectangularly disposed piers 12 are positioned in the ground 13, the piers being of sufficient length to project downwardly beyond the frost line which in the various views is designated as A. A plurality of longitudinally disposed beams 14 are supported on the piers 12, the beams also being positioned to form an enclosure on which the walls 11 are securely supported. In the preferred embodiment and in the modifications the arrangement of the disclosure is substantially the same, the modifications varying only in the shape of the supporting beams and in the type of insulating panels.

Referring now to Figs. 1 and 2, an insulating barrier construction is generally designated by the reference character 15. The barrier 15 comprises a plurality of vertically positioned panels 16, these panels extending completely across the space between the spaced piers 12. The panels 15 may be made of a suitable fibrous insulating material such as rock wool, fiber glass, or any other inexpensive insulating material having high insulating properties. Depending on the locality of their use, these panels may be suitably treated to render them moisture resistant. As shown in Figs. 1 and 2, the panels 15 have their upper edges positioned in substantial contiguous relation to the beams 14, the panels extending into the ground below the frost line A.

A plurality of corrugated sheets 17 are positioned adjacent the panels 15, corrugations 18 as shown in Figs. 1 and 2 running in a vertical direction, alternate corrugations being contiguous to the panel 16 in a manner whereupon alternate corrugations 18 also form air insulating pockets 19. The corrugated sheeting may consist of a suitable material such as asbestos sheeting. In this construction it can be seen that the underneath portion of the building will be completely insulated from the extreme cold temperatures which might exist in the ground adjacent the building. Thus the barrier 15 forms a suitable heat insulating means whereby radiant heat underneath the building may be maintained from being conducted into the ground adjacent the foundation.

The beam construction 14 shown in Figs. 1 and 2 is of channel shaped design. In Fig. 3 a beam 20 is indicated as being of an I-beam construction. This beam 20 is arranged to suitably support the wall 11. The heat insulating barrier in this modification is formed of a plurality of panels 21 (only one of which is shown), it being understood that the panels also are disposed to form an enclosure similar to the preferred embodiment shown in Figs. 1 and 5. The panels 21 are suitably supported and depend from the I-beam 20 by means of longitudinally extending angle irons 22. The angle irons 22 may be welded or suitably fastened to the underneath surface of the I-beam 20. Bolt and nut securing members 23 suitably connect the panels 21 to the I-beams 20. An angle beam 24 is so arranged as to be secured to the I-beam 20 and to project outwardly with respect thereto. The angle beam 24 suitably supports a plurality of vertically extending corrugated sheets 25, the sheets being supported on the angle beam 24 by means of suitable fasteners 26. The corrugated sheets may be made of any suitable insulating

material such as asbestos sheeting. In the modification shown in Fig. 3 the corrugated sheet 25 is shown to include a plurality of horizontally extending corrugations 27, the corrugations being disposed in a serpentine manner against the outer face of the panels 21 whereby a plurality of air or insulating pockets 28 are formed.

In Figs. 4 and 6 another modification is disclosed. In these figures the piers 12 support a plurality of concrete beams which extend longitudinally in a manner to form an enclosure similar to that shown in Fig. 5. Each of the concrete beams is provided with a longitudinally extending groove 31 formed in the underneath side of the beam 30. A plurality of heat insulating panels 32 depend downwardly from the beam 30, the panels 32 having their upper edges inserted in telescoping clamped relation with respect to the grooves 31. In this manner the panels 32 are securely supported from the beams 30. The panels 32 may be formed of similar material as the panels 21 and 16 disclosed in the previously described forms of the invention. It will be noted that the panel 32, like the other panels, extend downwardly into the ground 13 below its frost line A.

The function of the panels or heat insulating barriers is identical in all the modifications. The vertical panels 16, 21 and 32 extend downwardly into the ground below the frost line. The panels are so positioned as to completely span the space between the spaced piers. They are all positioned with respect to the various types of beams disclosed in non-supporting or non-structural relation since the walls 11 are all suitably supported on the beams and the spaced piers. In this manner the ground within the enclosure or underneath the building is suitably insulated from the adjacent ground. Thus any heat which may radiate from the building is effectively prevented from being conducted into the adjacent ground. Thus the ground outside the enclosure may freeze and yet the ground within the enclosure may be maintained at a much higher temperature thus diminishing the heating problems normally found in cold climates. The building structure is adequately supported on the piers and the expense of a complete concrete foundation is avoided.

It is believed that applicant has disclosed a novel heat insulating construction for a foundation, the construction being inexpensive and providing an effective heat barrier between the interior of an enclosure and the surrounding earth. It must be understood that changes and further modifications may be made which do not depart from the

spirit of the invention as disclosed nor the scope thereof as defined in the claims.

What is claimed is:

1. A building foundation construction comprising a plurality of spaced piers extending into the ground below the frost line, a plurality of horizontal load supporting beams carried on said piers, the beams being disposed to form a horizontal enclosure, means for insulating the ground underneath said enclosure from the adjacent ground comprising an insulating barrier coextensive with said enclosure, said barrier including a plurality of vertically disposed fibrous insulating panels having lower portions extending into the ground below the frost line, upper portions on said panels, means connecting said upper portions of said panels to said supporting beams, said panels including laterally spaced vertical edge portions in contiguous relation with said piers, a plurality of corrugated insulating sheets disposed outwardly of the enclosure, adjacent to and substantially coextensive with the panels, said corrugated sheets forming air pockets between the sheets and said panels, and means connecting said sheets to said horizontal beams for supporting said sheets in an upright position.

2. A building foundation as defined in claim 1 wherein said corrugated sheets are composed of fibrous materials.

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