

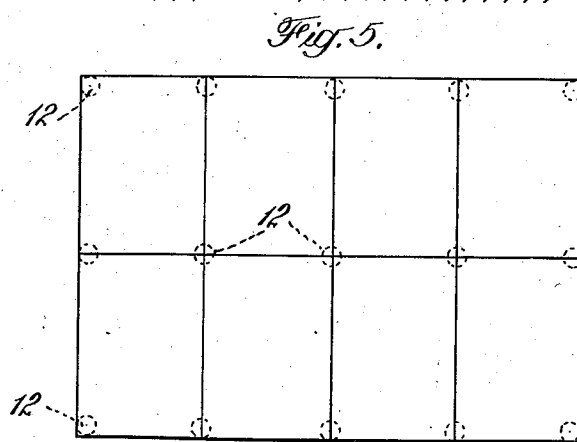
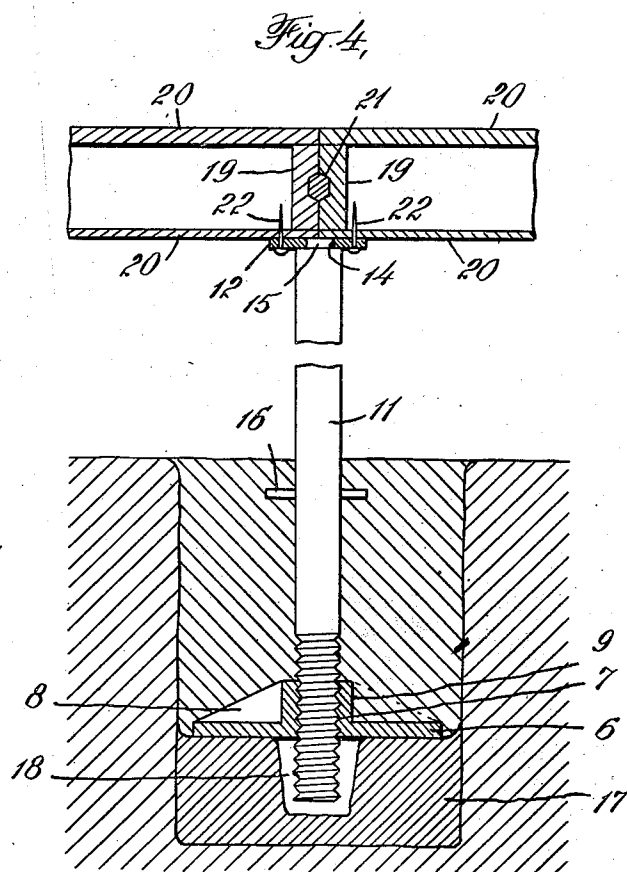
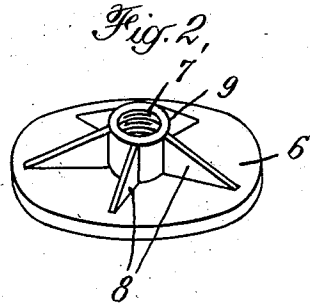
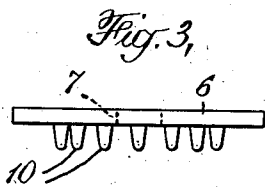
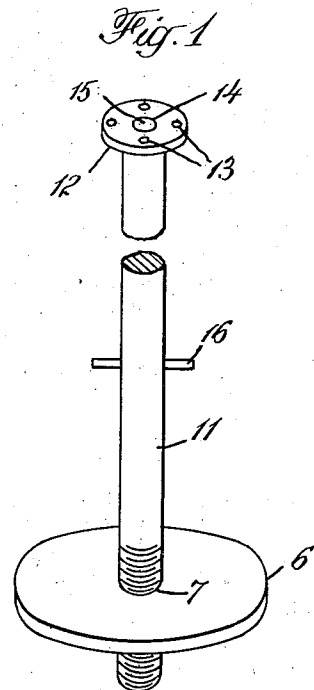
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F. GUNNISON

2,380,692

ADJUSTABLE BUILDING FOUNDATION

Filed June 22, 1942



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2,380,692

ADJUSTABLE BUILDING FOUNDATION

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2 Claims. (Cl. 72-77)

This invention relates to building foundations and, more particularly, to adjustable building foundations. The invention has for its principal object the provision of an adjustable foundation particularly adapted for use with prefabricated or portable buildings and capable of ready installation and salvage.

In the construction and setting up of prefabricated or portable buildings, and particularly of such buildings having their floors and walls composed of a plurality of prefabricated panels, it is general practice to do away with cellars or basements and to provide such buildings merely with a foundation of sufficient height to separate the floor of the building from the ground. Such foundations are generally of concrete or of rock and concrete set up in appropriate trenches. Not only is considerable labor involved in digging these trenches but a considerable care and skill is required in making the foundation level. Settling of the foundation subsequent to erection of the building generally entails substantial expense in correction. Moreover, the materials which go into the foundation are not removable or salvageable and hence represent a complete loss if the building is subsequently dismantled or moved.

I have now devised a novel building foundation free from these objectionable features of conventional foundations and characterized by many salient advantages. The novel building foundation of my invention does not require the digging of an extensive trench, requires no special skill in leveling, and can be leveled at any time subsequent to its installation. Furthermore, the adjustable building foundation of my invention may be removed when the building it supports is dismantled or removed and is thus not only salvageable but may be reused. It will be seen, therefore, that my adjustable building foundation is particularly adapted for use in the present war industry housing developments wherein many portable or prefabricated buildings are being set up for only temporary use or may be removed to other locations at a later time.

The adjustable building foundation of my invention comprises a foundation plate and a supporting shaft extending through the foundation plate in threaded engagement therewith. The foundation plate may be provided with advantage with vertical projections to insure substantially non-slipping engagement between the plate and the ground. The vertical projections may be disposed on the lower surface of the foundation plate, or the vertical projections may advantageously be in the form of vertically disposed webs projecting radially outwardly from a hub. The supporting shaft is provided with means associated therewith adapted to permit manual

rotation of the shaft with respect to the foundation plate so as to effect vertical movement of the shaft relative to the foundation plate. Such means may comprise with advantage a bar or rod extending through the shaft. In a portable building construction having its floor composed of a plurality of prefabricated panels, the adjustable foundations of my invention are placed adjacent the corners of each panel and thus support the entire building.

These and other features of the adjustable building foundation of my invention will be further understood by reference to the accompanying drawing in which—

Fig. 1 is a perspective view of an adjustable building foundation of my invention;

Fig. 2 shows a modified form of foundation plate;

Fig. 3 shows another modified form of foundation plate;

Fig. 4 is a side view partly in cross-section showing the adjustable building foundation installed in the ground for support of a building; and

Fig. 5 is a plan view of a building having its floor composed of a plurality of prefabricated panels and showing the positioning of the adjustable foundation units for support of the building.

The adjustable building foundation illustrated in Fig. 1 comprises a foundation plate 6 provided with a threaded opening 7 disposed substantially centrally of the plate. Although a circular plate, as shown in the drawing, has been found to be particularly useful, the foundation plate may be of any desired shape. Where the plate is of irregular shape, such as oval, square, hexagonal, etc., this irregularity will facilitate holding the plate stationary while the supporting shaft is rotated provided that the plate is inserted in a hole in the ground corresponding closely to the shape of the plate. However, the foundation plate may be provided with suitable projections which insure against turning of the foundation plate. In the modified form of foundation plate shown in Fig. 2 such projections are provided in the form of the webs 8 extending radially from a hub 9 coaxially aligned with the threaded opening 7 and provided with similar threads so as to present an extended threaded opening through the foundation plate. Although the form of foundation plate shown in Fig. 2 is advantageously used with the webs 8 on the top of the plate, it should be noted that the plate may be reversed so that the webs 8 are disposed below the foundation plate. In the modified form of foundation plate shown in Fig. 3 the projections are provided in the form of the downwardly projecting teeth or lugs 10. The thickness of the foundation plate 6 depends largely upon the

material of which it is constructed, the only criterion being that it must be sufficiently thick to bear the weight of the building which it supports. The modified form of foundation plate shown in Fig. 2 gains reinforcement from the webs 8 so that a relatively thin light foundation plate may be used.

The supporting shaft 11 is provided along one end portion thereof with threads adapted to engage with the threaded opening 7 in the foundation plate. The threaded end portion of the supporting shaft is screwed into the threaded opening in the foundation plate and extends therethrough. The other end of the supporting shaft is provided with a suitable supporting surface such as the circular flange 12 provided with appropriate openings 13 through which screws, bolts or nails may be inserted. The central portion of the flange 12 is provided with an opening 14 of appropriate size to accommodate the pin 15 on the upper end of the supporting shaft, thereby providing a swivel joint between the supporting shaft and the flange 12. The supporting shaft is further provided with suitable means for permitting manual rotation of the shaft with respect to the foundation plate, this means comprising with particular advantage the hand bar or rod 16 extending through the shaft 11. The position of the hand bar 16 with respect to the end of the supporting shaft is preferably such that it is disposed a short distance below the surface of the ground when the adjustable foundation is installed, as shown in Fig. 4.

In installing the adjustable foundation of my invention, as illustrated in Fig. 4, a hole is first dug in the ground at the point at which the foundation is to give support to a building to be erected. The hole should be sufficiently wide to accommodate the foundation plate 6. I have found it to be advantageous to dig the hole somewhat deeper than the depth of the foundation unit and to fill it up a short distance with rock or with a mixture of rock and earth, as indicated at 17, leaving a central depression 18 adapted to accommodate the lower end of the supporting shaft projecting below the foundation plate 6. Where the earth is sufficiently firm to support the foundation plate, filling of the hole with rock, etc. may be eliminated and the foundation plate 6 may rest on the bottom of the hole with the lower end of the supporting shaft projecting into an appropriate central depression 18.

The floor section of a building, such as a floor section comprising a panel having frame members 19 bonded to layers of plywood 20 with adjacent panels joined by means of a spline 21 as described in my Patent No. 2,218,465, is placed upon the supporting flange 12. A single adjustable foundation is placed advantageously at each corner of the building with a single adjustable foundation at the adjoining corners of adjoining floor panels, as indicated by the position of the supporting flanges 12 in Fig. 5 showing the floor plan of a building composed of eight individual panels. After the floor panels are laid and are appropriately fastened together, the supporting shaft 11 of each adjustable foundation is rotated by means of the hand bar 16 until the floor is level. The hole in which each adjustable foundation is installed is then back-filled with earth in any appropriate manner. It will be observed that when each hole is filled the hand bar 16 will be covered and is thus concealed so that it can not be tampered with. If subsequent adjustment of the level of the building becomes

necessary due to settling of the foundation in the ground, the top layer of earth need only be removed and the supporting shaft rotated by the hand bar 16 until the desired leveling is effected, after which the earth is replaced to cover the hand bar 16. The supporting flange 12 is held in position under each portion of the building floor which it supports by means of screws, bolts or nails 22, as shown in Fig. 4.

It will be seen, therefore, that the novel adjustable building foundation of my invention may be readily installed without requiring the digging of extensive trenches. Each such foundation is adjustable not only when first installed but at any subsequent time so that the floor of a building supported by such a foundation may at all times be kept level. The adjustable building foundation is not dependent upon the use of critical metals which are needed at present in the national war effort and may be constructed in whole or in part of concrete or of any other appropriately strong material although it may be constructed of iron or steel. The adjustable building foundations of my invention may also be removed readily when a building supported by them is dismantled or is removed to another location and thus are not only salvageable but may be reused indefinitely.

I claim:

1. An adjustable building foundation for supporting a building above the surface of the ground comprising a foundation plate constructed to be deposited within the ground a substantial distance below the surface thereof, said plate having a threaded opening extending therethrough, a supporting shaft extending through said plate in threaded engagement with the opening therein, the threads on said shaft extending beyond both sides of the plate, said shaft being of such length as to have its upper end extend above the surface of the ground a substantial distance and having a portion to be engaged to rotate the shaft, the plate having projections extending therefrom to engage the surrounding ground to prevent rotation of the plate when the shaft is rotated, a plate at the upper end of the shaft adapted to bear against the underside of the building to be supported, and a swivel connection between the upper end of the shaft and the plate.

2. An adjustable building foundation for supporting a building above the surface of the ground comprising a foundation plate constructed to be deposited within the ground a substantial distance below the surface thereof, said plate having a threaded opening extending therethrough, a supporting shaft extending through said plate in threaded engagement with the opening therein, the threads on said shaft extending beyond both sides of the plate, said shaft being of such length as to have its upper end extend above the surface of the ground a substantial distance and having a portion to be engaged to rotate the shaft, the plate having projections extending therefrom to engage the surrounding ground to prevent rotation of the plate when the shaft is rotated, and a flat plate having an opening therein at the upper end of the shaft adapted to bear against the underside of the building to be supported, the shaft at its upper end having a reduced portion received within the opening in the plate to form a swivel connection therewith, with the end of the shaft surrounding the reduced portion bearing against the underside of the plate.

FOSTER GUNNISON.