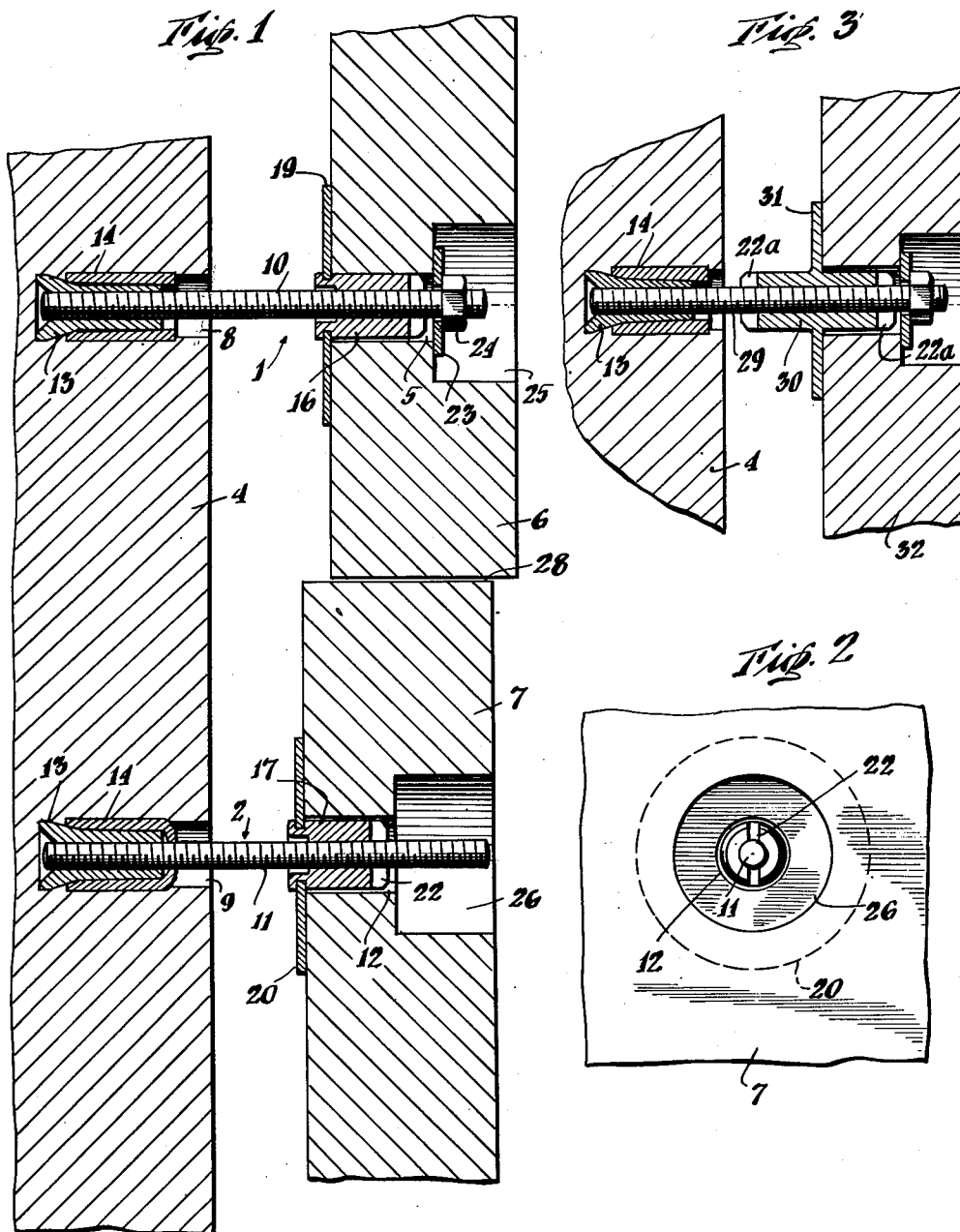


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J. A. DONDERO
BUILDING CONSTRUCTION

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INVENTOR.
John A. Dondero
BY
Norman T. Holland
ATTORNEY

UNITED STATES PATENT OFFICE

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BUILDING CONSTRUCTION

John A. Dondero, New York, N. Y.

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The present invention relates to a building construction and to means adapted to be utilized for maintaining such as walls, ceilings and the like in position.

In the construction of walls and ceilings of buildings it has been general practice to first erect some sort of foundation or base structure to thereafter apply a plaster retaining lath over the foundation or base, and to finally apply various coatings of plaster to the retaining wood or wire lath. Such constructions and methods are time consuming, laborious and expensive.

Attempts have been made to facilitate erection of walls, ceilings and the like by utilizing relatively large preformed panels of plaster board, sheet rock and the like; such materials are manufactured in relatively large panels and may be nailed to previously attached supporting strips to quickly cover or "finish off" relatively large areas.

One difficulty with this latter method of construction, however, has been the need of first carefully aligning the various supporting surfaces or foundation strips prior to attachment of the wall panels or sheets thereto. If the portions of foundation structure are irregular or out of alignment the problem is complicated due to the desirability of "trueing up" the foundation strips or structure prior to securing the panels thereto; if this is not done the subsequently attached panels will be out of alignment, uneven, wavy, etc. Various shims, wedges and washers have been utilized in order to line up supporting strips or wall panels to provide a wall surface having all the attached panels in alignment at their inner or exposed surface. The various leveling or trueing steps necessary in connection with such previous methods of construction have necessitated the utilization of levels, plum bobs and various accurate measurements, all of which are time consuming, laborious and which result in considerably increasing the production costs. In many instances after the wall panels or sheets have been installed they have been discovered to be out of alignment, uneven, buckled, etc.; the only really satisfactory manner of overcoming such defects has been to remove the material from its fastenings and to make additional adjustments in the underlying areas or points of contact. Previous methods of construction have included no means or method for quickly and conveniently adjusting a panel or the like subsequent to its installation or mounting upon a supporting wall or other structure; it has been practically impossible to adjust the various points or areas of support after the panel or other object is mounted in place.

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The present invention aims to overcome the above and other difficulties or disadvantages by providing a building construction and wall supporting or positioning means which may be readily and rapidly installed at relatively low cost and which facilitates ready adjustment of wall panels or other structures subsequent to placing them in position to form a wall surface.

An object of the present invention is to provide a new and improved building construction.

Another object of the invention is to provide new and improved means adapted to be utilized for positioning or supporting structures such as wall panels, ceiling panels and the like.

Another object is to provide a new and improved positioning and supporting device which may be readily adjusted to desired position.

Another object of the invention is to provide a new and improved supporting or locating device which may be readily adjusted after a member such as a wall panel is assembled therewith.

Still another object is to provide a positioning device which embodies new and improved means adapted to assist in locating members such as wall panels.

Other and further objects of the invention will be obvious upon an understanding of the illustrative embodiment about to be described, or will be indicated in the appended claims, and various advantages not referred to herein will occur to one skilled in the art upon employment of the invention in practice.

A preferred embodiment of the invention has been chosen for purposes of illustration and description and is shown in the accompanying drawings, forming a part of the specification, wherein:

Fig. 1 is a sectional view illustrating the present device embodied in a building construction;

Fig. 2 is a fragmentary elevational view illustrating a portion of the structure shown in Fig. 1; and

Fig. 3 is a fragmentary sectional view illustrating another form of the invention.

For purposes of convenience and brevity the term "wall" is used herein to indicate and include upright wall members, ceiling members, floor members, or the like, without regard to the exact form, size, position or location thereof.

A preferred form of the present invention is illustrated more particularly in Figs. 1 and 2 of the drawings. The present locating devices 1 and 2 are disclosed projecting outwardly from an upright wall 4 and serving to locate wall panels or members 6 and 7, which may be relatively large sheets or panels of some wall-forming material.

In these two figures upright wall 4 is provided

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at suitably spaced intervals with apertures or recesses 8 and 9, into which extend elongate or rod-like members 10 and 11, the elongate members being securely held or gripped by some suitable anchoring means. The particular anchoring means shown comprises a substantially conical inner member 13 around which extends an outer tubular member 14; these "anchors" are commercially available. In operation an elongate member, with an inner conical member 13 and an outer tubular member 14 thereon adjacent one end is inserted into a recess in the wall and thereafter the outer tubular member 14 is forced toward the bottom of the recess so that its inner end portions ride upwardly or outwardly along the inclined surfaces of the inner conical member 13. The effect is to force the outer tubular member 14, which is preferably of some relatively soft metal such as lead, firmly into engagement with adjacent walls of the recesses, thus providing an internally threaded socket that is firmly engaged with the walls of the recess. If desired the outer tubular member 14 of the anchoring means may be forced toward the bottom of the particular recess sufficiently to cause the outwardly disposed end thereof to move inwardly into contact with the centrally disposed elongate member 11 (note the lower part of Fig. 1). The particular anchoring means 13, 14 illustrated is merely illustrative as any other appropriate means may be utilized for retaining the elongate or rod-like members 10, 11 in position with respect to a wall 4.

As shown in Fig. 1 the elongate members 10 and 11 project outwardly from the foundation wall 4 at substantially right angles thereto but the recesses 8 and 9 may be provided at any desired angle in order to facilitate obtaining a desired angular position of an elongate member with respect to the surface of the foundation wall 4; in most instances it will be desired to have the elongate members extend outwardly substantially perpendicular to the foundation wall 4.

Each of the elongate members 10 and 11 is provided with a screw threaded outer surface, over which is fitted an internally screw threaded sleeve-like or tube-like member, 16 and 17, respectively. Projections 19, 20 extend laterally from the sleeve-like members 16, 17 and provide locating or supporting seats for the wall panels or members 6, 7.

Rotation of a sleeve-like member effects movement of it along an elongate member and correspondingly shifts the position of the flange, seat, or collar 19, 20. The wall panels or members 6 and 7 are provided with openings or apertures 5 and 12 adapted to receive the sleeve-like members 16 and 17 and rest at their inwardly disposed surfaces against the seating projections 19, 20, the seating projections serving to locate or position the wall panels. While the locating devices 1 and 2 are shown in Fig. 1 adjacent the free edges of wall panels 6 and 7, it will be clear that they will in actual usage extend into apertures suitably spaced over the area to be covered by a section of wall material, e. g., at the corners and at other positions within the borders of the wall panel so as to suitably support the wall panels.

The length of a sleeve-like member 16, 17 is preferably less than the thickness of the particular wall member to be positioned or supported so that the devices may be concealed from view when embodied in a finished wall, as will be hereinafter described. The sleeve-like members project into the apertures 5, 12, of the wall members 6, 7, and the outwardly facing surfaces of the

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seating projections 19, 20 serve to locate the wall members 6, 7. The side edges of the apertures 5, 12 through the wall members 6, 7 preferably do not rest against the screw threaded surfaces of elongate members 10 and 11 but instead rest against the outer surfaces of the sleeve-like members 16, 17. This facilitates movement and positioning of the wall members as the side edges of the apertures 5, 12 through the latter members are held out of contact with the elongate screw threaded members themselves, which otherwise would tend to dig into the edges of the wall panels and interfere with movement of them along the elongate members. The smooth exterior surfaces of the sleeve-like members 16, 17 facilitate positioning of the wall panels 6, 7 into position against the outwardly disposed surfaces of the collars or seating projections 19, 20 carried thereby.

After a wall member or panel 6, 7 has been placed in position over the locating sleeve members, and against the seating projections carried thereby, the sleeve members may be rotated to shift the positions of the seating projections and wall member along the elongate members and toward or away from the underlying supporting wall. Rotation of the sleeves and seating projections is facilitated by providing, at or adjacent the outwardly disposed ends of the sleeve-like members, means adapted to cooperate with a wrench or other tool. In Figs. 1 and 2 the outer end of the sleeve member is provided with recesses or slots adapted to receive complementary portions of an adjusting tool. When a wall panel has been initially positioned against a seating projection the particular adjusting tool may be fitted into the slot 22 (note the lower part of Fig. 1) and the tool rotated to correspondingly turn the sleeve and shift the position of the seating projection. As shown in Fig. 1 the lower wall panel may be moved outwardly into alignment with the upper wall panel 6 by rotating the sleeve member 17 and moving the supporting seat 20, together with the seated wall panel 7, outwardly along the elongate member 11.

When a particular adjustment or alignment has been obtained the wall panel or other member 7 may be secured in position by applying a washer 23 and nut 24 to the elongate member. The washer 23 and nut 24 preferably are positioned within a countersunk recess 25, 26 of the wall panel or wall member 6, 7 so that some filling material such as plaster or cement may be placed in the countersunk openings 25, 26 to conceal the washers and nuts from view and provide a smooth unbroken exposed wall surface. Cracks or spaces 28 intermediate adjacent wall members may be filled with plaster or filling material.

For purposes of illustration the wall panel 7 illustrated in Fig. 1 has been shown at a different level than that of the wall panel 6; in most instances the wall panels or members 6, 7 will be moved into alignment with each other to provide an unbroken surface. In some instances it may be desired to provide countersunk panel effects and this may be readily provided by appropriately positioning the locating sleeves and seating projections.

In operation the locating or supporting devices may be assembled by first placing the elongate rods and anchors in desired positions in recesses of a foundation or supporting wall, the recesses 8, 9 being drilled or formed at appropriate intervals over the surface of the supporting or foundation wall 4. The rod-like members 10 and 11 may be secured in position by any appropriate

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anchoring means. Thereafter the sleeve-like members and their seating projections may be threaded onto the elongate members until the seating projections are positioned in approximately the desired plane of the wall panels. A wall panel or other section of material to be supported may then be mounted upon the spaced supporting and positioning means so that the sleeve members fit into openings or apertures in the wall panels. The various sleeves and seating projections may then be adjusted by means of a key wrench or other tool, (not shown) inserted into the adjusting slots 22, the sleeve and seating projection being adjusted to place the exposed or outwardly disposed surface of the wall panel in a desired plane or alignment. The particular alignment or positioning of the wall panels or other members 6 and 7 may be determined by spirit level, plumb bob line measurement or the like. After a desired position has been obtained the washers 23 and securing nuts 24 may be applied in the countersunk openings to fasten the panels or material firmly into position. Thereafter the countersunk openings 25 and 26 may be filled with plaster to form an unbroken wall surface.

Where the invention is utilized in connection with supporting wall panels to form a ceiling, the sleeve members and their outwardly extending seating projections may be reversed from normal position of use so that the seating projections are positioned at the outwardly disposed side of the wall panel and serve to support its weight on the elongate or rod-like supporting members. In most instances, however, the washers 23 and nut 24 will be utilized to secure wall panels or other members in position.

In Fig. 3 there is illustrated a modified form of the invention which differs from the embodiment of Figs. 1 and 2, in that the sleeve-like member 30 is somewhat longer and is provided with adjustment means or slots 22a adjacent each end thereof, the seating projection 31 being positioned intermediate the ends and substantially at the mid portion of the sleeve-like member 30. In some cases it may be desirable to facilitate adjustment of the seating projection from either the outwardly or inwardly disposed surface of the wall panel 32 and the provision of adjustment-facilitating means at each end of the hollow 30 facilitates this. Another advantage of the modified form shown in Fig. 3 is that the hollow member 30 may be applied to the elongate member 29 in either direction; there is no possibility of inadvertently applying the hollow member so that the adjusting means 22a is concealed behind a wall panel 32.

It will be seen that the present invention provides a new and improved building construction and device for facilitating the erection and positioning of wall panels, boards or other members. The device facilitates the positioning of walls and the like subsequent to initial erection; it is not necessary to remove a wall member subsequent to its installation in order to remedy an inaccuracy or to make a desired adjustment. The present devices may be positioned to locate wall panels or other members in approximately the desired plane and subsequent adjustments to an exactly correct position may be easily made after the wall panel has been initially installed to some roughly correct position. The wall panels or members are supported on the sleeve-like members for ready and convenient adjustment and may be securely maintained in position by

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retaining washers and nuts; the retaining washers and nuts may be thereafter concealed from view by filling countersunk openings to provide a smooth and unbroken wall. The resulting building construction and the devices themselves are rugged or sturdy and well adapted to withstand rough usage to which they may be subjected.

As various changes may be made in the form, construction and arrangement of the parts herein without departing from the spirit and scope of the invention and without sacrificing any of its advantages, it is to be understood that all matter herein is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim:

1. The combination with a foundation wall having a threaded rod secured thereto adjacent an inner end thereof and provided with an outer end spaced from the wall, said rod being of substantially uniform diameter from the outer end thereof along the major portion of its length, of an interiorly threaded generally tubular member threaded on said rod having an exterior surface to locate a panel laterally of said rod and having a flange fixed to and projecting laterally therefrom at a location spaced inwardly from the outer end of the tubular member and rod so that a portion of the rod extends outwardly beyond said tubular member, a panel having an aperture therein defined by surface portions lying in close proximity to exterior surfaces of said tubular member and being laterally located thereby, said tubular member being adjustable along the rod for varying the spacing of the flange from the foundation wall, and means carried by the outwardly extending portion of the rod clamping said panel against said flange.

2. A combination as claimed in claim 1, in which said tubular member and rod terminate at a location spaced inwardly of an exposed surface of the panel.

3. In combination with a foundation wall and an apertured wall member extending generally along a face of the foundation wall, a threaded rod having inner and outer ends, foundation wall anchoring means carried by the rod adjacent its inner end to hold the rod in protruding relationship with respect to said foundation wall face, an interiorly threaded generally tubular member threaded on said rod having an exterior surface to contact surface portions forming said aperture and locate the wall member laterally of said rod and having its opposite end portions intermediate and spaced from said inner and outer rod ends, a wall member supporting flange secured to the tubular member and projecting laterally therefrom at a location spaced inwardly from an outwardly disposed end of the tubular member and rod, a shoulder on said tubular member adjacent its outer end engageable by a tool to facilitate rotation of the tubular member and adjustment of tubular member and flange in either direction along the rod so as to vary the spacing of the flange and wall member from the foundation wall, and means in threaded engagement with the outwardly extending portion of the rod and adjustable therealong to hold the wall member firmly against said flange.

4. A combination as claimed in claim 3, in which said laterally projecting flange is carried by the tubular member at a location about midway between opposite ends of the tubular member.

5. A device to maintain a wall member spaced from a foundation wall and adjustably position the wall member with respect to the face of the foundation wall comprising the combination of a threaded rod having inner and outer ends, means carried by the threaded rod adjacent its inner end for fixedly securing the rod to the foundation wall, an interiorly threaded generally tubular member threaded on said rod having its opposite end portions intermediate and spaced from said inner and outer rod ends and having a flange secured to the tubular member and projecting therefrom at a location spaced from an outwardly disposed end of the tubular member, a slot in said tubular member for facilitating movement thereof with said flange along the rod so as to vary the spacing of the flange from a foundation wall, and means in engagement with the outwardly extending portion of the rod

and adjustable therealong to clamp a wall member against said flange.

JOHN A. DONDERO.

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