Dec. 6, 1960 H. J. FERGUSON 2,963,257

ADJUSTABLE LEG ATTACHMENT FOR A SHORING PANEL

Filed Nov. 20, 1959

FIG. 1

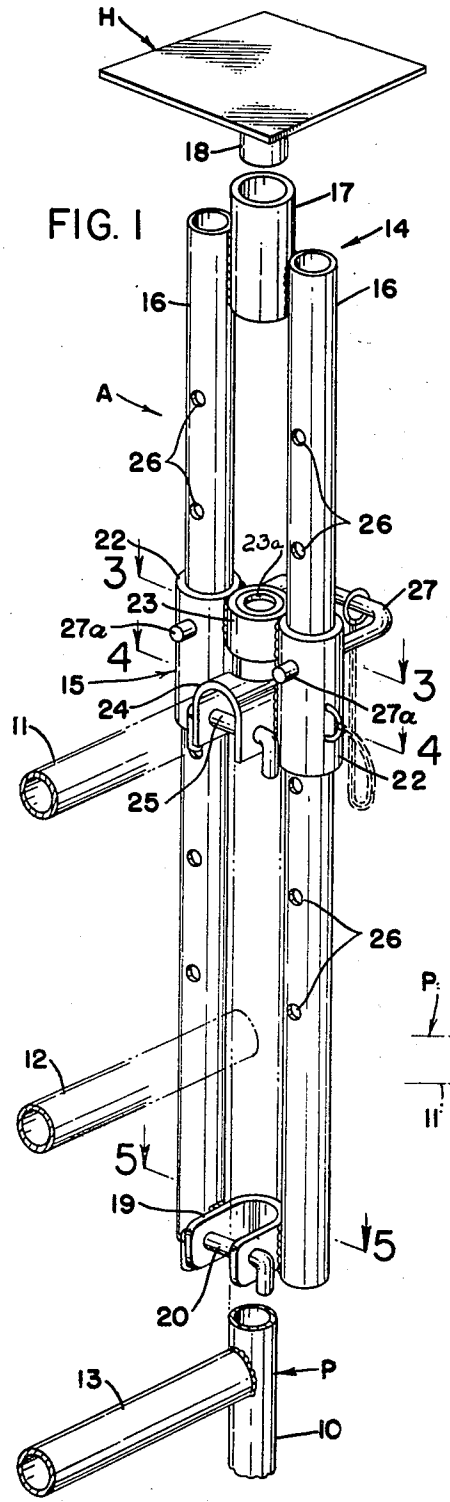


FIG. 2

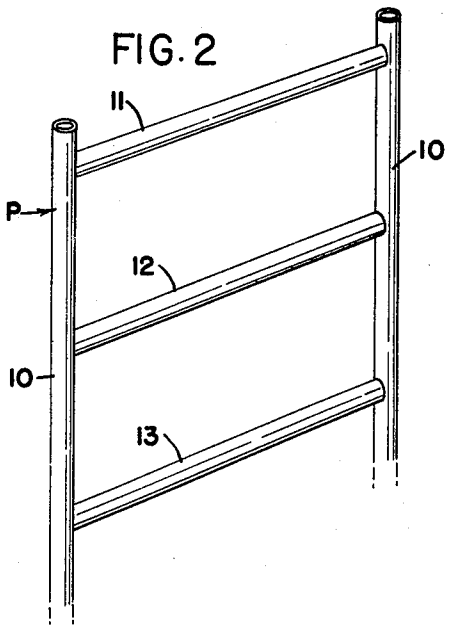


FIG. 3

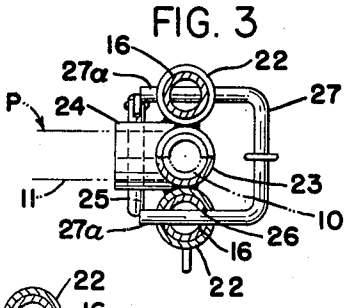


FIG. 4

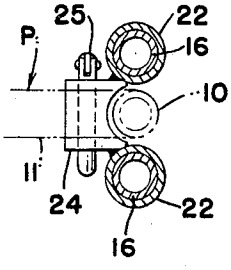
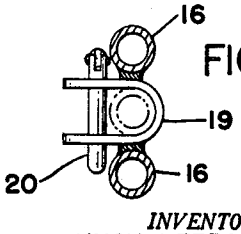


FIG. 5



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ADJUSTABLE LEG ATTACHMENT FOR A SHORING PANEL

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6 Claims. (Cl. 248—354)

The present invention is concerned with an adjustable leg for shoring panels, scaffolding frames or the like, and specifically with an adjustable leg attachment readily applied to and removed from a structure with which it cooperates. The invention will be described in terms of shoring structures.

Shoring systems and the like, adapted to the needs of modern construction methods—particularly concrete construction where quite extensive areas of forms often are erected and supported for concrete pouring operations—demand flexibility in application to many quite diverse overall shapes of the shored forms and local topography of the shore supporting base areas.

It is highly desirable not only that shoring systems be rugged—to withstand the wear and tear of repeated assembly and dismantling as well as intended loading, adaptable to the variety of locations and types of structures to be shored, and quickly erected and disassembled; but also that as few as possible components be involved in the system, and that these be inexpensive while attaining other desired functional features for the system. Basic among the components of modern systems are shore panels, generally welded tubular steel frames, comprised of spaced parallel vertical legs joined by horizontal rungs and ledgers. Such panels are tiered one upon another with aligned legs secured by suitable connectors to extend shoring vertically; and erected in horizontally spaced locations with suitable cross bracing to provide load support at as many points as are required.

To accommodate load elevations which are incommensurable with, that is not multiples, of a standard panel height, and also to accommodate differences in elevations of various points to be supported or of the base area, particularly by a given panel adjacent the load, it is desirable that a simple means be available to vary the effective panel leg lengths.

It is an object of the present invention to provide a rugged yet inexpensive means for adjusting the effective height of shoring, scaffolding or the like. Another object is to provide an adjustable leg attachment for a shore panel or the like. A still further object is to provide a device of the character described which is rugged, quickly attached to and removed from a cooperative combination of selected height with a shore panel or the like.

Other objects and advantages of the invention will appear from the drawings wherein:

Fig. 1 is a perspective view of an adjustable leg for a shore panel, with parts of the latter appearing in fragmentary or phantom form to show the cooperative relationship of the panel and adjustable leg;

Fig. 2 represents a typical shore panel with which the device of Fig. 1 may be used;

Figs. 3, 4 and 5 are transverse sectional views taken respectively as indicated by the lines 3—3, 4—4 and 5—5 in Fig. 1.

In the drawings, the device A is one form of an attachment according to the present invention for providing an adjustable leg height or upward leg extension in a shoring

panel P, such as that appearing in Fig. 2, a welded tubular steel unit including a spaced parallel pair of legs 10, rigidly connected by transverse tubular members, namely a top or load bearing ledger 11, a middle rung 12 and a bottom ledger 13. The adjustable attachment comprises two principal assemblies, a slide assembly 14 vertically adjustable relative to a slideway or mounting member 15, which is removably secured to the top ledger 11 and a leg 10 of the panel.

In the slide assembly 14, a pair of like elongated tubular members 16, 16 are secured in rigidly spaced parallel relation, at the top by an interposed short tubular piece 17 welded therebetween and projecting vertically thereabove to form a vertical socket for the stud 18 of a changeable work engaging head H; and at the bottom by a horizontally disposed or laterally open intervening U-shaped guide saddle 19, slidably embracing the leg 10, as here shown at a location between the rung 12 and lower ledger 13. Through the legs of the U-piece 19 extending inward beyond the leg, a removable lock pin 20 is passed to close and retain the same in engagement with the leg and to stabilize the slide.

The mount or slideway assembly 14 includes the pair of sleeves or short tubes 22, 22 as slideways held in spaced parallel relation at the upper end by the interposed collar or ring 23, and below by the inverted U-shaped saddle piece 24 providing a ledger receiving recess, all welded into a rigid unit. A downwardly facing stop shoulder engaging the end surface of the panel leg 10 is formed by a ring 23*a* welded in the top end of collar 23. The saddle 24 is of course entirely outside of the panel leg receiving space.

Since ring 23 is received over the upper end of and to bear on the panel leg 10 projecting beyond the top ledger, and the saddle 24 embracing the ledger 11 has a removable locking pin 25 extended therethrough to enclose the ledger, pin 25 serves to secure the entire mounting assembly in position on the panel. The members 16 of the slide accordingly are in generally parallel coplanar relation with and immediately on each side of the leg, in a plane generally perpendicular to the plane of the panel.

Pairs of diametric apertures located on parallel respective diameters in members 22, and correspondingly placed series of longitudinally spaced apertures 26 through the slide members 16, are selectively alignable to receive the parallel legs 27*a* of a U-shaped twinned pin 27, conveniently attached to the mounting assembly by a chain.

The disclosed structure is quickly attached to a shore panel by removing the saddle locking pins 20 and 25, and conveniently with the mounting assembly 15 near the top of the slide, dropping the entire attachment into place over the top of the panel leg. Pin 25 is then replaced, and so also pin 20 if the lower or guide saddle 19 falls between such rung and ledger members as permits contemplated vertical adjustment. A shore head with or without an interposed adjusting screw for length adjustments within the adjustable leg increments, is applied as needed, and after the slide height is adjusted by bringing selected apertures 26 into alignment with the apertures of the slideways, the dual pin 27 is inserted therethrough to hold the slide position. Pin 20 is of course removed and replaced as the guide saddle 19 is brought past a rung in any adjustment. Where an adjusting screw device is applied to the socket 17, say as part of a head arrangement, the use of a centrally apertured stop means as provided by ring 23*a* conveniently permits a screw element of such device to be retracted into or received in a tubular panel leg. The adjustable leg may of course be likewise used inverted at the bottom of a panel.

The attachment as here disclosed has the further advantages that it is easily fabricated at relatively low cost

and in rugged form from tubular steel and simply formed of plate or bar steel stock.

I claim:

1. An adjustable leg attachment for a shore panel or like structure having a leg and a laterally extending ledger element rigidly secured thereto at a location spaced from one end of the leg, comprising: a slide assembly and a slideway assembly for mounting the slide assembly on said structure; said slideway assembly including a pair of spaced parallel slideways, means interposed between said slideways and adapted to receive and circumferentially confine the said end of the leg, and means spaced from and providing a recess opening away from the first said means adapted to embrace said laterally extending element; said slide assembly including a pair of rigidly spaced parallel slide elements extending through and slidable in respective said slideways, and bottom guide means secured between the slide elements adapted to receive said leg therein in slidable relation; said slide elements having respective series of longitudinally spaced apertures therethrough; each said slideway member having an aperture therethrough and associated locking pin means whereby the slide assembly may be held at selected position by the pin means extending through the slideway members and slide elements.

2. An attachment as described in claim 1 wherein: said slideway assembly includes locking means for retaining said laterally extending element in said recess; and said bottom guide means includes a laterally open recess for receiving said leg therein and removable means for closing said recess to retain the leg in guided slidable relation.

3. An adjustable leg attachment for a shore panel or like structure having a leg and a laterally extending ledger element rigidly secured thereto at a location spaced from one end of the leg, comprising: a slide assembly and a slideway assembly for mounting the slide assembly on said structure; said slideway assembly including a pair of spaced parallel tubular slideway members, an interposed connecting member adapted to be received over and circumferentially confine the said end of the leg, a saddle adapted to embrace said laterally extending element, and a removable pin through the saddle for retaining said element therein; said slide assembly including a pair of rigidly spaced slide elements extending through and slidable in respective slideway members, laterally open bottom guide means secured between the slide elements adapted to receive said leg therein and means for retaining the said guide means in slidable relation about said leg; each said slideway member having an aperture therethrough, and said slide elements having therethrough respective series of longitudinally spaced apertures alignable with the apertures of respective slideway members; and locking pin means whereby the slide assembly may be held at selected position by the pin means extending through the slideway members and slide elements.

4. An attachment as described in claim 3 including means carried on said slide assembly for mounting a work engaging head.

5. An adjustable leg attachment for a shore panel having legs rigidly connected in spaced relation by a ledger secured thereto at locations adjacent but spaced inward from one end of the respective legs; said attachment comprising: a slide assembly including a pair of rigidly spaced parallel slide elements and a mounting assembly for mounting the slide assembly in longitudinally slidable adjustable relation to the panel leg with the slide elements on opposite sides of the panel; said mounting assembly including a pair of spaced parallel tubular slideways guiding respective slide elements extending therethrough, an annular spacer and a laterally projecting saddle secured between said slideways, and adapted to receive respectively the said one end of a panel leg and the adjacent ledger, and removable pin means adapted to retain said ledger within said saddle for locking the mounting assembly on a panel; said slide elements having secured therebetween at an outboard end means for mounting a load engaging head, and at an inboard end saddle-like guide means adapted to embrace said panel leg; releasable locking pin means for maintaining the leg in slidable relation with said saddle element; said slide elements having similarly longitudinally spaced series of parallel apertures therethrough, said slideways having a parallel pair of respective apertures alignable with selected apertures of said series; and a dual locking pin unit adapted for insertion through aligned slideway and slide apertures.

6. An adjustable leg attachment for a shore panel, scaffolding frame or like structure having a leg and a laterally extending ledger element rigidly secured thereto at a location spaced from one end of the leg, comprising: a slide assembly and a slideway assembly for mounting the slide assembly on said structure; said slideway assembly including a pair of spaced parallel tubular slideway members, an interposed connecting collar adapted to be received over the said end of and having stop means for endwise engagement with the leg, a saddle adapted to embrace said laterally extending element, and a removable pin through the saddle for retaining said element therein; said slide assembly including a pair of rigidly spaced slide elements extending through and slidable in respective slideway members, laterally open bottom guide means secured between the slide elements adapted to receive said leg therein, and means for retaining the said guide means in slidable relation about said leg; each said slideway member having an aperture therethrough, and said slide elements having therethrough respective series of longitudinally spaced apertures alignable with the respective apertures of the slideway members; and locking pin means whereby the slide assembly may be held at selected position by the pin means extending through the slideway members and slide elements.

No references cited.