Dec. 26, 1950 W. H. KENNEY ET AL 2,535,141

ADJUSTABLE SHORE

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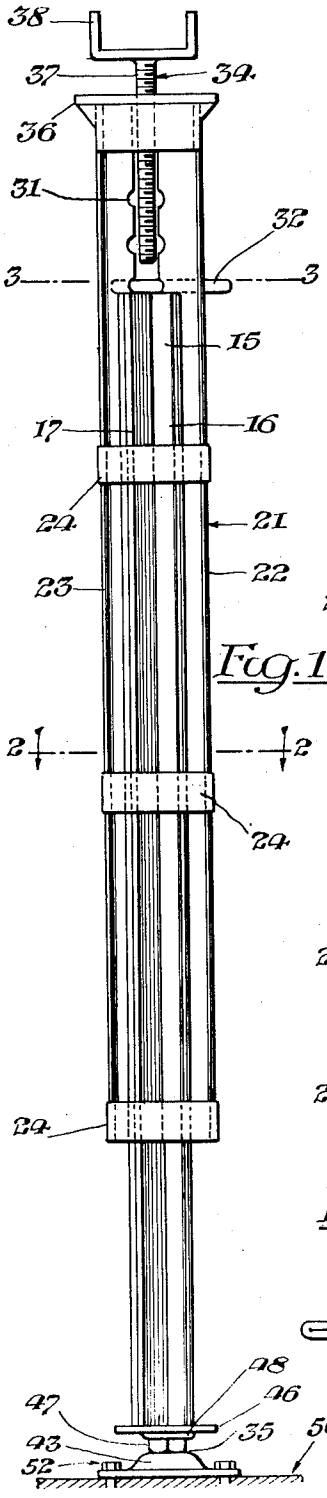


Fig. 1.

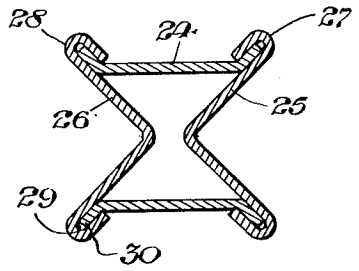


Fig. 6.

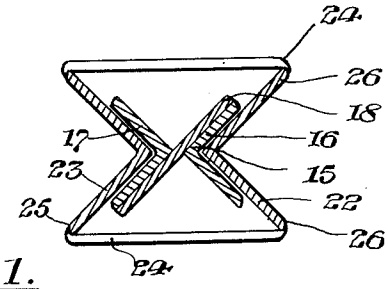


Fig. 2.

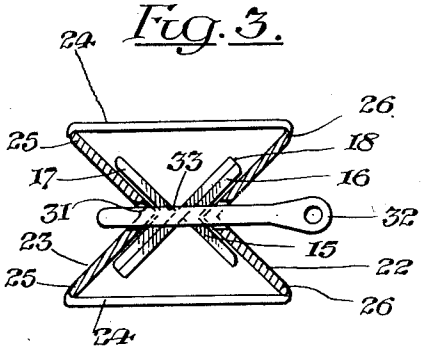


Fig. 3.

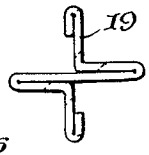


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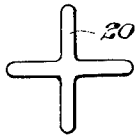


Fig. 5.

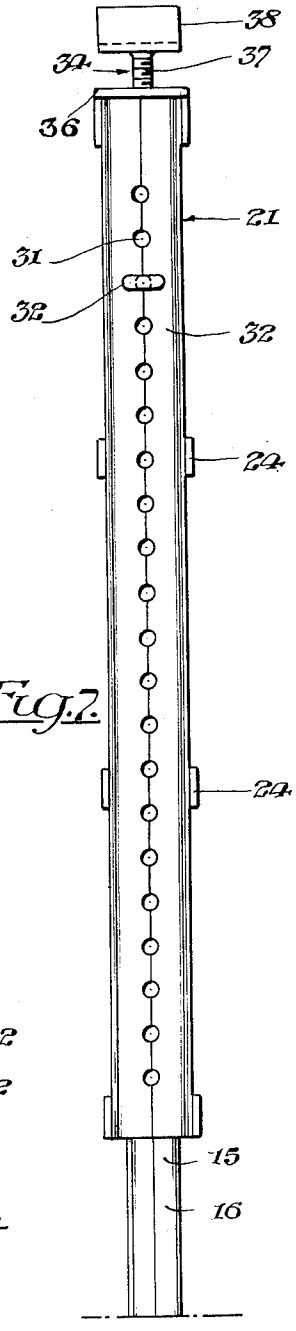


Fig. 7.

INVENTORS,
William H. Kenney
Forrest C. Newburg
BY
Cousins & Cousins
ATTORNEYS.

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Fig. 11.

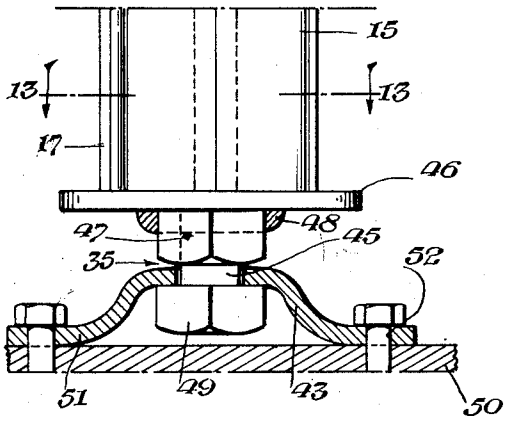


Fig. 12.

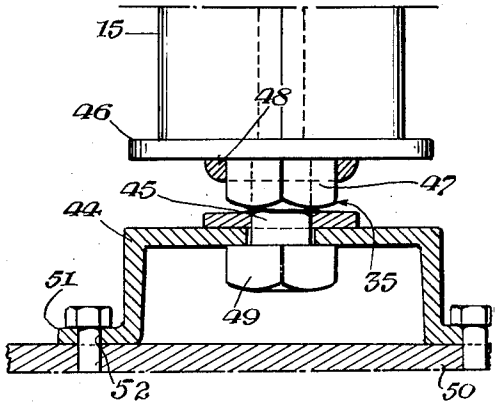


Fig. 13.

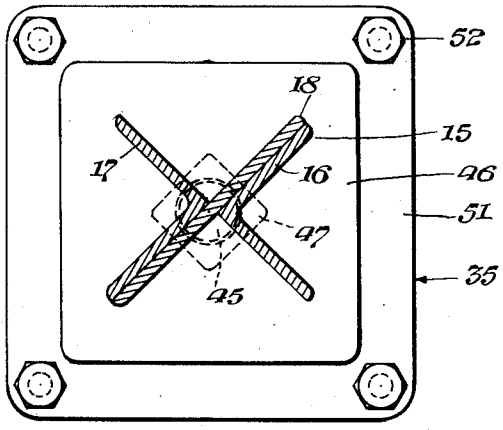


Fig. 8.

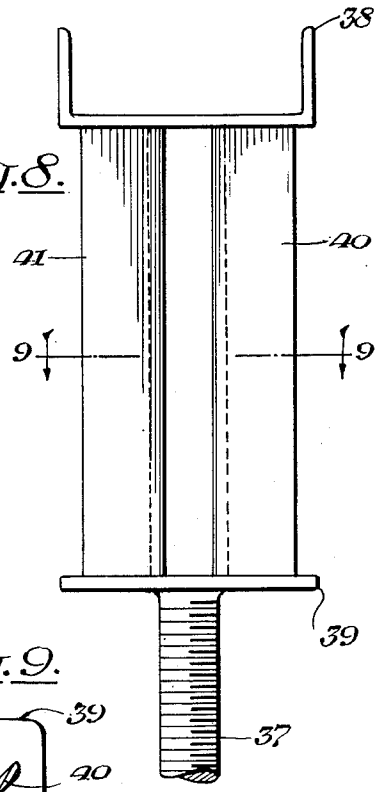


Fig. 10.

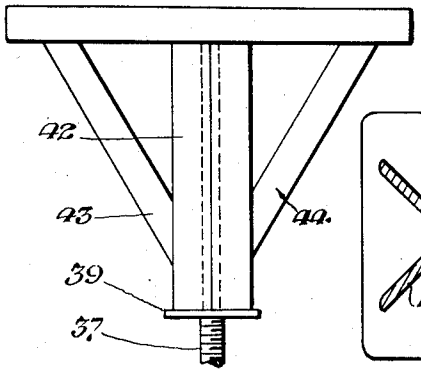
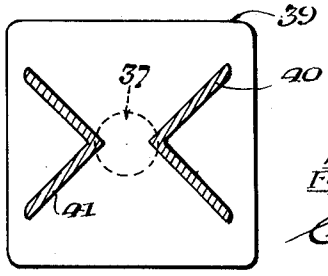


Fig. 9.



INVENTORS,
William H. Kenney
Forrest C. Newburg
BY
Cousins & Cousins
ATTORNEYS.

Patented Dec. 26, 1950 2,535,141

UNITED STATES PATENT OFFICE

2,535,141

ADJUSTABLE SHORE

William H. Kenney and Forrest C. Newburg,
Teaneck, N. J.

Application November 20, 1946, Serial No. 711,088

1 Claim. (Cl. 248—354)

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This invention relates to adjustable shores such as are used in construction operations. Shores, such as are herein considered, are used in the building trade to support horizontal and vertical forms for the pouring of concrete and for other purposes where a temporary or permanent adjustable support is desired.

The primary object of this invention, therefore, is to provide a shore having a simple construction which shall be capable of sustaining great weights.

Another object of this invention is to provide a shore which will stand up under rough handling because of its novel construction.

A further object of this invention is to provide a shore having a favorable weight-to-strength ratio.

A feature of this invention is its telescopic construction which permits of easy adjustment to various heights.

Another feature is a novel jacking device which permits of small adjustments of the shore.

A feature of this invention is its internal construction which protects the moving parts of the shore from damage and from becoming clogged with cement or refuse.

Another feature of this invention is a novel base plate which co-operates to operate the shore jacking device.

A further feature of this invention is the simplicity of its construction.

The invention consists of the construction, combination and arrangement of parts, as herein illustrated, described and claimed.

In the accompanying drawings, forming a part hereof, are illustrated several forms of embodiment of the invention, in which drawings similar reference characters designate corresponding parts, and in which:

Figure 1 is a front elevation of a complete embodiment of one form of this invention.

Figure 2 is a cross-section of the shore, taken on line 2—2 of Figure 1.

Figure 3 is a cross-section of the shore, taken on line 3—3 of Figure 1.

Figure 4 is a cross-section of a central support member, according to this invention.

Figure 5 is a cross-section of another form of central support member.

Figure 6 is a cross-sectional view of an alternate form of top support member.

Figure 7 is a side elevation of the shore shown in Figure 1.

Figure 8 is a front elevation of a top extension and jacking member.

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Figure 9 is a cross-sectional view of the extension member, shown in Figure 8, taken on line 9—9, looking in the direction indicated by the arrows.

Figure 10 is an alternate form of extension member hereinafter called a T head extension.

Figure 11 is a portion of the shore showing the base plate and swivel construction, with the base plate cut away to show its construction.

Figure 12 is an alternative form of base plate within the concept of this invention.

Figure 13 is a cross-sectional view of the shore shown in Figure 11, taken on line 13—13, looking in the direction indicated by the arrows.

Referring to the drawings, and particularly to Figures 1 to 5, 15 indicates a central support member having a somewhat X shaped cross-section. The support member 15 may be formed from two strips of angle shaped metal 16, 17 attached to opposite sides of a central strip 18, as shown in Figures 2 and 3. An alternative form of support member 19 is shown in Figure 4. This form of support member comprises a single strip of metal 19 bent upon itself in such manner as to conform to the substantially X shaped cross-section of the support member 15.

It is possible to extrude the support member 15 as a single piece of metal 20, as shown in Figure 5, without departing from the spirit of this invention. The support member 15 is pierced at one or more intervals along the junction of its outwardly extending flanges, for a herein-disclosed purpose, said holes being designated 33.

A top member 21 is slidably mounted upon the central support member 15. The top member 21 comprises two spaced angle shaped strips 22, 23, arranged so as to engage the inner surfaces of the flanges of the angle iron strips 16, 17 of the support member 15. A large bearing surface is thus provided for the moving parts of the adjustable shore, as shown in Figures 2 and 3. The two strips 22, 23 are firmly held in their spaced relationship by suitably placed horizontal strips 24. These strips 24 are attached, as by welding, to the edges of the outwardly extending flanges 25, 26 of the strips 22, 23.

The top member 21 may be formed, as shown in Figure 6, with its flanges 25, 26 bent back upon themselves as at 27, 28. In this form the straps 24 would be grasped within the recess 29, thus formed. The strips 24 would preferably be flared at each end, as indicated at 30, to conform to the shape of the recess 29.

Referring to Figure 7, it will be seen that the

top member 21 is pierced at regular intervals along its vertical axis. The holes 31 thus formed are in register so that a pin 32, shown in Figure 3, thrust through one of the strips 22, will pass through the hole in the opposite strip 23. If the pin 32 is also passed through one of the previously mentioned holes 33 in the central support member 15, it will serve to lock the shore at that adjustment. It thus becomes possible by selecting different holes 31 on the top member, and bringing them into register with a hole 33 in the support member, to adjust the shore rapidly to any desired height within its telescopic range.

Adjustments of the shore intermediate the holes 31 is made by a novel jacking device 34, shown in Figures 1 and 7. This jacking device 34 cooperates with the base plate swivel unit 35, shown in Figures 1, 11, 12 and 13, to provide an easy adjustment of the said jacking device, as hereinafter described.

The jacking device 34 comprises a plate 36 attached as by welding to the top of the strips 22, 23, of the top member 21. The plate 36 is centrally bored and internally threaded to receive a worm 37. The upper portion of the jacking worm 37 may have attached thereto any one of several convenient support devices without departing from the spirit of this invention.

Figures 1 and 7 show a channel shaped member 38 attached to the worm 37, such as might be used to grasp an overhead beam. Figure 8 is a variation of the construction shown in Figures 1 and 7.

In Figure 8 the worm 37 is secured at its top to a plate 39, shown in plan in Figure 9. Two short lengths of angle iron 40, 41 are attached as by welding, to this plate 37. The channel shaped member 38, previously described, is secured to the top of the angle irons 40, 41. This construction conveniently adds length to the adjustable shore, and may be used where odd sized spans are required.

Figure 10 shows another form of support device 42 in the form of a T head extension on the worm 37. The bracing strips 43, 44 lend additional strength to this construction.

Referring to Figures 1, 11, 12 and 13, and particularly to Figure 11, there is shown the base plate 43 of the shore swivel unit 35. This plate 43 may be dome shaped, as shown in Figures 1 and 11, or channel shaped as shown in Figure 12. Both types of plate 43, 44 are centrally pierced to receive a stud 45. This stud 45 is attached to a horizontal plate 46 secured to the bottom of the central support member.

A nut 47, having a somewhat crowned surface, is threaded upon the stud and welded to the plate 46, as shown at 48. A second nut 49 is employed to hold the base plate 43 or 44 to the stud 45. In this manner the body of the shore is able to swivel upon the base plate 43, 44.

When the shore is being used the telescopic action of the central support member 15 and the top member 21, is employed to extend it to the length nearest that which is desired. This will be governed by the position of the holes 31, 33. The pin 32 is then thrust through the said holes 31, 33 to prevent further sliding. The support head 36 of the jacking device may then be placed against the member to be supported and the entire shore rotated until the base plate 43, 44 comes to bear upon the floor or timber 50, upon which it is to rest. The shore body may be further rotated, thereafter until the proper amount of jacking is accomplished. This jacking action is possible because of the swivel construction of the base plate 43, 44, and greatly simplifies the use of the shore.

The base plates 43, 44 are provided with suitable flanges 51 which are pierced as at 52 for securing the foot of the shore to a floor or support member 53, as shown in Figures 1, 12, and 13.

Having thus fully described the invention, what is claimed as new and desired to be secured by Letters Patent of the United States, is:

In an adjustable shore, in combination, a substantially X-shaped central support member, a swivel unit thereunder, a top member comprising two spaced angle irons joined at suitable intervals by horizontal straps, said member substantially conforming to and slidably mounted upon the support member and a jacking device comprising a plate, an internally threaded bore therein, a worm receivable within the bore and a support device secured to the said worm attached to the said top member.

WILLIAM H. KENNEY.
FORREST C. NEWBURG.

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