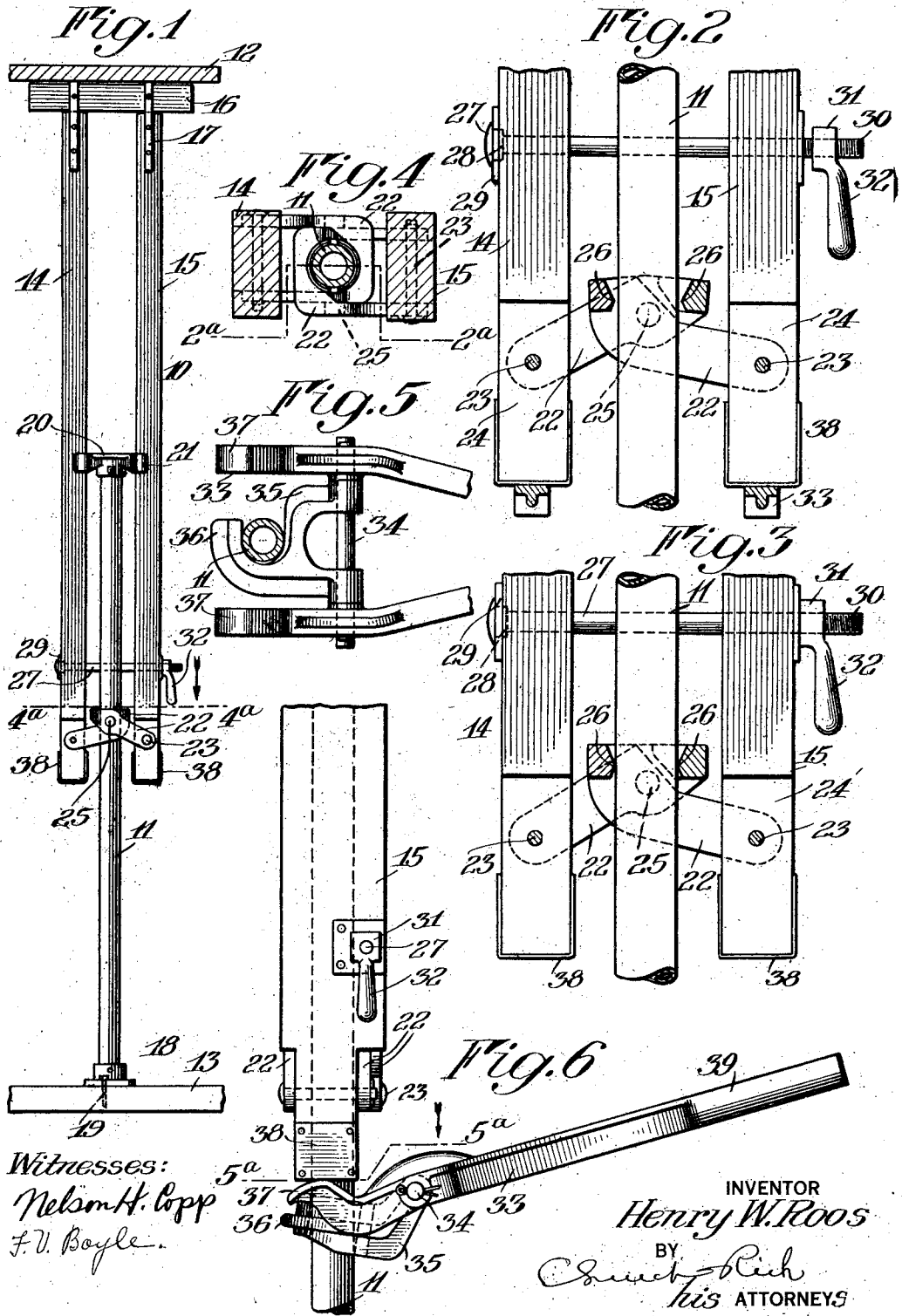


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 ADJUSTABLE SHORE.
 APPLICATION FILED MAR. 14, 1919.

1,368,353.

Patented Feb. 15, 1921.



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Specification of Letters Patent. Patented Feb. 15, 1921.

Application filed March 14, 1919. Serial No. 282,602.

To all whom it may concern:

Be it known that I, HENRY W. Roos, of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Adjustable Shores; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference-numerals marked thereon.

This invention relates to adjustable supports used in the erection of buildings or other structures, and more particularly to adjustable "shores" such as are employed in construction work for temporarily supporting steel or concrete girders, beams and similar forms from the floor below or the ground, while the material of the form is hardening or until the form is secured in place.

One object of the invention is to provide an adjustable shore of simple and strong construction, with but a few parts economical to manufacture, and one which is convenient and reliable in operation. Another object is to provide a shore of this character which is easy to place and adjust, requiring no wrenches or other tools and which can be positively held in adjusted position without danger of yielding of the parts under a load.

To these and other ends the invention consists in certain improvements and combinations of parts all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings:

Figure 1 is a side elevation of a preferred embodiment of the invention showing it in supporting relation to a beam or girder;

Fig. 2 is a vertical section on the line 2^a-2^a of Fig. 4 of a portion of the device illustrating the clamping mechanism in released position;

Fig. 3 is a similar view showing the mechanism in clamped relation;

Fig. 4 is a horizontal sectional view on the line 4^a-4^a of Fig. 1 showing the gripping yokes;

Fig. 5 is a horizontal sectional view on the line 5^a-5^a of Fig. 6 showing the lifting device;

Fig. 6 is an edge elevation showing the lifting device in operative position.

Similar reference characters in the several figures indicate the same parts.

In the present embodiment, or preferred form which is selected merely by way of exemplification of the principles of the invention, there are employed two relatively movable or telescopic members 10 and 11 partially extended to bring the former into supporting relation with a girder or other form 12, and the latter against the floor or other supporting surface 13. The upper member 10 comprises spaced parallel side parts 14 and 15 joined at their tops by a block 16, these parts being preferably constructed of wood and secured together in any convenient manner as by straps 17.

The member 11 is preferably of metal tubing and carries at its lower end a base or foot 18 provided with openings for nailing it to the floor as at 19, if desired, the upper end of the member 11 having fixed thereon a cross head or guide 20, of substantially H-shape, the arms 21 of which embrace the parts 14 and 15 as a guide to maintain the members 11 and 10 in proper relative position during longitudinal adjustment. A device for securely maintaining the members in engagement with each other and relatively immovable in any adjusted position is provided in a pair of substantially U-shaped yokes 22, each of which incloses the member 11 and embraces at its ends one of the parts 14 and 15 of the member 10, being pivotally secured thereto by means of a spindle 23, the parts of member 10 having portions cut away at 24 for the purpose of accommodating the width of the yokes. The latter interlock and are also pivotally connected with each other at 25, and are provided with beveled gripping surfaces conforming in outline to the surface of the member 11.

It will be understood that the gripping yokes 22 act somewhat in the nature of a pair of tongs so that friction between the gripping surfaces 26 and the member 11 will tend to cause the yokes to close and tightly grip the latter member when a load is placed on the upper member 10, the parts 14 and 15 of which have a sufficient movement toward and from each other at their lower ends to allow of this motion of the yokes 22. The latter, of course, have also the function of an additional means for maintaining the members 10 and 11 in proper spaced relation.

A securing or clamping device is provided in a bolt 27 passing through openings in the parts 14 and 15 adjacent the gripping yokes, and having a squared section 28 adjacent its head fitting in a similar opening in a plate 29 pinned or nailed to the part 14 to support the bolt and prevent it from turning. The other end of the bolt is formed with a thread 30 with which is engaged a nut 31 having integral therewith a convenient handle 32 for turning up the nut and thereby forcing parts 14 and 15 toward each other. This clamping action serves to force the gripping yokes into secure engagement with member 11, if not already so engaged, and maintains these parts in such relation, thereby insuring efficient gripping action of the yokes and positively maintaining the members of the shore in adjusted relation.

A lifting device is provided for extending members 10 and 11 relatively to each other against the pressure of the load having a forked member 33 carrying a spindle 34 on which is pivotally supported a member 35 having a hook-like extension 36 formed to embrace and securely engage the lower member 11. The arms of the part 33 are provided with cam surfaces 37 adapted for coöperation with the lower ends of parts 14 and 15 which are preferably protected by metal straps 38. Member 33 has attached thereto an operating handle 39 and it will be apparent from the construction of this device that the hook 36 may be frictionally engaged with the member 11 and the arms of part 33 with the lower ends of parts 14 and 15 of the upper member 10, so that downward actuation of the handle will lift the member 10 and effect a relative longitudinal adjustment of these members into supporting relation with the girder or other load.

In operation, the clamping nut 31 having been loosened, the members 10 and 11 are placed beneath the form to be supported, with the member 11 preferably on the floor, although the latter may be used as the upper member of the device if so desired. By means of the lifting device, members 10 and 11 are longitudinally adjusted, the gripping yokes, with the aid of the clamping device if found necessary, holding the upper member in position at the end of each operation of the lifting device until the latter is moved upwardly on the member 11 for a fresh hold. In this manner the upper bar 16 is made to bear up against the form to be supported and when sufficient pressure has been applied, the nut 31 is turned by means of the handle 32 to clamp the gripping yokes securely in engagement with the member 11. The device may then be left without fear of any slipping between the members 10 and 11, or yielding of the

structure, which is substantial in all its parts. If desired, the bar 16 of member 10 and the foot 18 of member 11 may be temporarily nailed in place, the former to the girder or beam and the latter to the flooring to prevent inadvertent displacement of the shore.

The use of wood material for the member 10 and the arrangement of this member as the top of the shore, according to the form which is preferred although not obligatory, permits the nailing of bracing between it and the girder or other form to be supported. The use of a metal lower member 10 affords an effective and durable surface for coöperation with the gripping yokes. The construction of the latter is such, as will be evident, that the greater the load the more securely will they grip.

The arrangement of the clamping device in engagement with the parts 14 and 15 of the member 10 has the advantage of further strengthening and supporting them while the construction of this device affords the further important features of being easily operated by hand without the use of a wrench or other tool, and of being readily accessible and convenient to the workman setting up the shore.

I claim as my invention:

1. An adjustable shore comprising a pair of relatively movable members, a pair of gripping yokes pivoted to one of said members, said yokes being pivotally connected to each other and adapted to engage opposite sides of the other of said members, and a securing device in engagement with one of said members and arranged to coöperate with said yokes to insure gripping action thereof.

2. An adjustable shore comprising a pair of relatively movable members one of which is provided with parts movable relatively to each other and disposed on opposite sides of the other member, gripping yokes pivoted to said opposite parts, said yokes being pivotally connected to each other and adapted to engage opposite sides of the other of said members, and a securing device for moving said opposite parts relatively to each other and insuring gripping action of said yokes.

3. An adjustable shore comprising a pair of relatively movable members one of which is provided with parts movable relatively to each other and disposed on opposite sides of the other member, gripping yokes pivoted to said opposite parts, said yokes being pivotally connected to each other and adapted to engage opposite sides of the other of said members, a clamping device engaging said opposite parts for moving them relatively to each other and insuring gripping action of said yokes, and an exteriorly disposed handle for operating said clamping device.

4. An adjustable shore comprising spaced parts connected at one end and relatively movable at the other, a member located between said parts parallel therewith and longitudinally movable relatively thereto, guiding means for maintaining the relative positions of said parts and members during relative movement thereof, gripping yokes pivoted to said parts and to each other and adapted to engage said member, and a bolt connecting said parts having a manually operable nut for drawing the latter together to insure gripping action of said yokes on said member.
5. An adjustable shore comprising a pair of members relatively movable longitudinally of each other, a pair of clamping yokes adapted for gripping opposite sides of one of said members, said yokes being pivotally connected to each other and to the other of said members whereby they tend to grip the first mentioned member upon relative longitudinal movement of said members in one direction, and an adjustable locking device for applying additional force to said yokes to turn them positively about their common pivot and insure and maintain said gripping engagement thereof with the first mentioned member.

HENRY W. ROOS.