March 24, 1931. H. C. MARTIN 1,797,616

SHORE

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Fig. 1. Fig. 2.

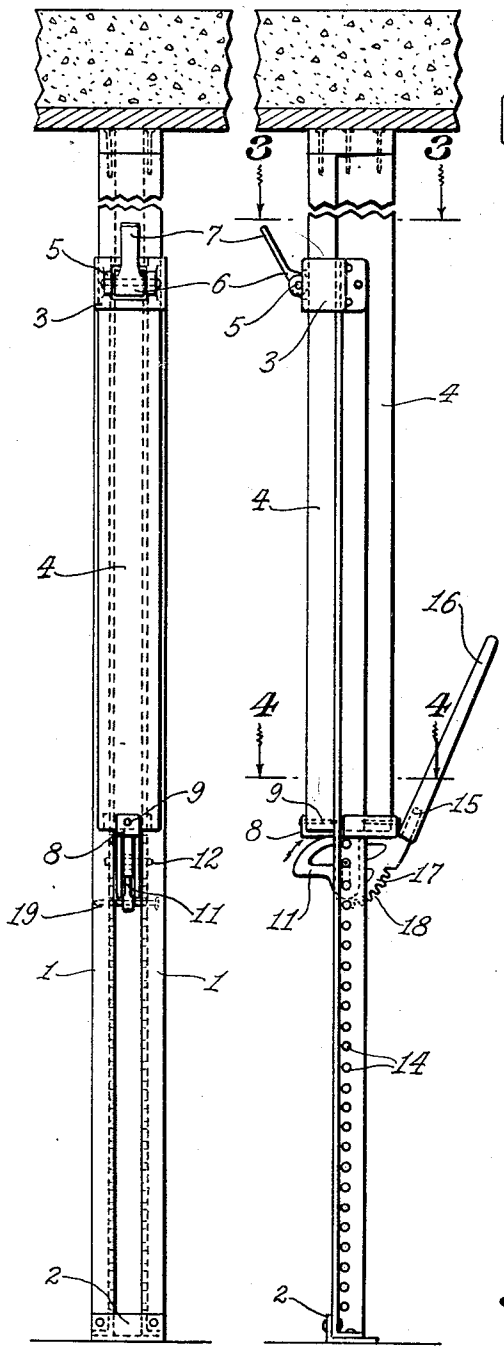


Fig. 3.

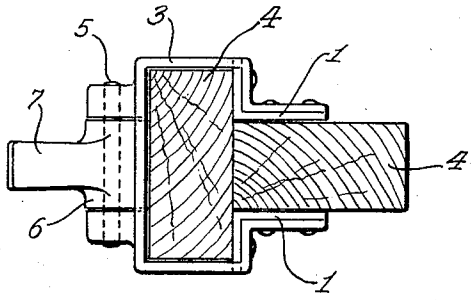


Fig. 4.

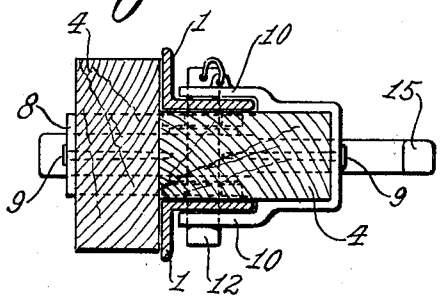
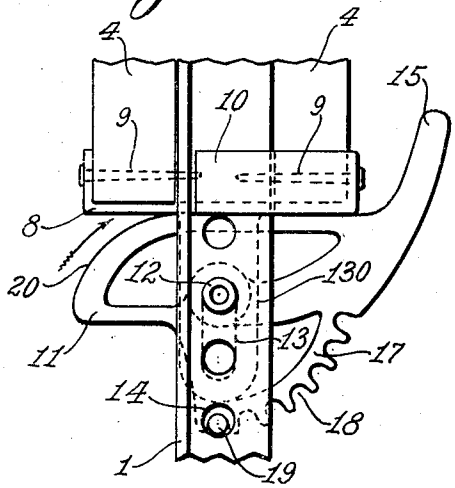


Fig. 5.



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Fig. 6.

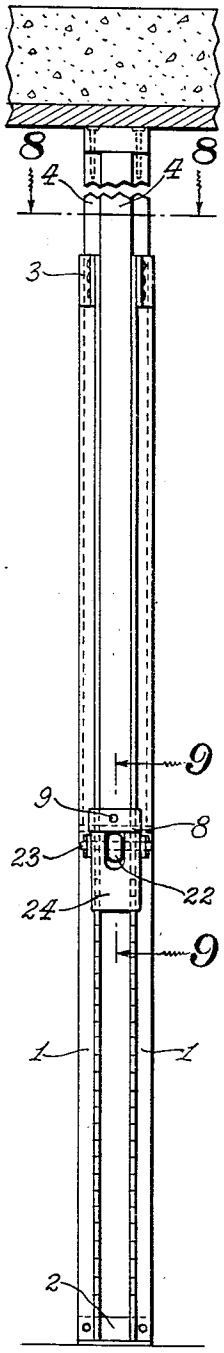


Fig. 7.

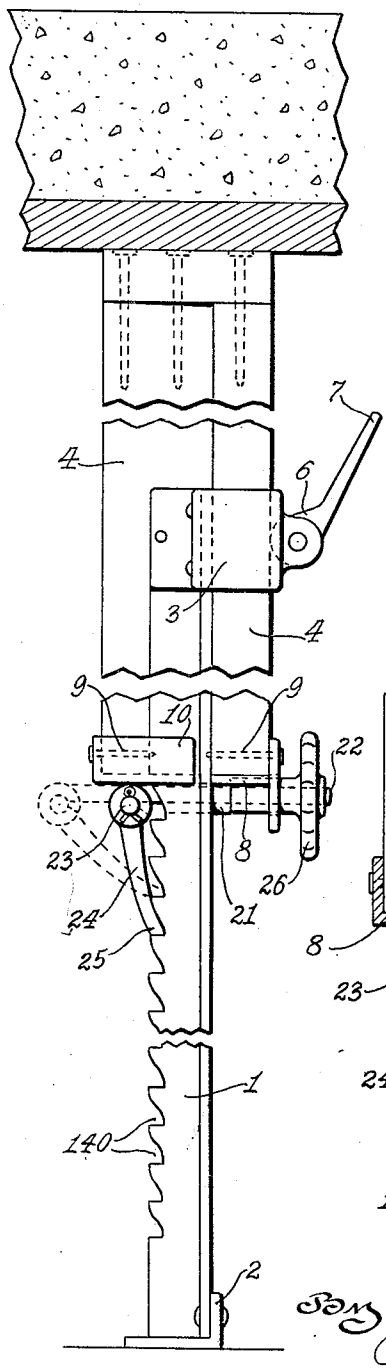


Fig. 8.

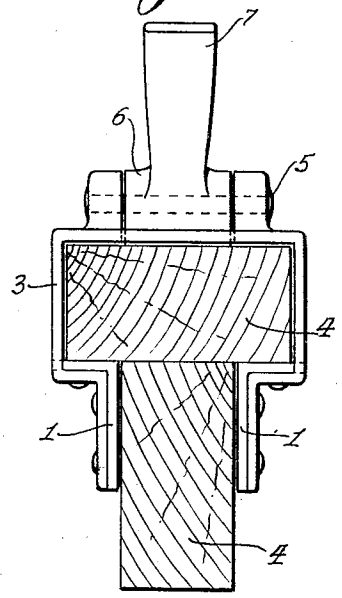
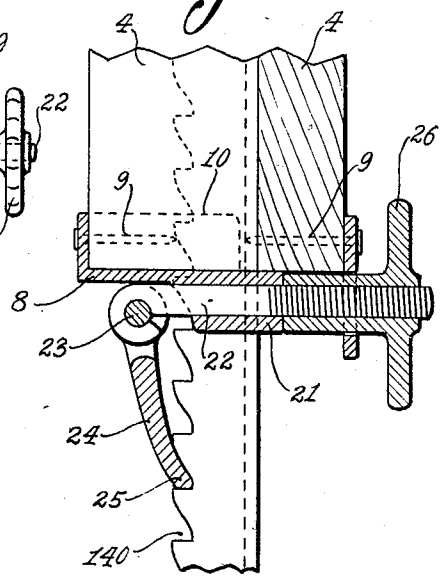


Fig. 9.



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UNITED STATES PATENT OFFICE

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SHORE

Application filed January 15, 1927. Serial No. 161,272.

This invention pertains to shores, such as are used to support concrete forms and the like in building construction and similar operations.

One of the objects of this invention is to provide a shore which may be quickly set up and easily adjusted to the work.

Another object is to provide a shore which may not only be adjusted to any height but which may be adjusted under the load which it has to bear.

Another object is to provide a shore having as few as possible special parts and which may be applied to standard structural elements to make a shore of any desired height.

Another object is to provide a shore which is simple and cheap to manufacture and durable in service.

Further objects will appear from the following description, taken in connection with the accompanying drawing, in which—

Figure 1 is a front view, in elevation, of a shore embodying this invention;

Figure 2 is a side view of the same;

Figure 3 is a section on line 3—3 of Figure 2;

Figure 4 is a section on line 4—4 of Figure 2;

Figure 5 is an enlarged detail of Figure 2;

Figure 6 is a front view, in elevation, of a shore showing another embodiment of this invention;

Figure 7 is an enlarged side view of Figure 6;

Figure 8 is an enlarged section on line 8—8 of Figure 6; and

Figure 9 is an enlarged section on line 9—9 of Figure 6.

Referring now to the drawing and more particularly to Figures 1 to 5 inclusive, a standard is provided comprising a pair of angles 1, joined together at their base by a suitable foot-plate 2 and at the top by a bracket 3. These parts may be constructed of any suitable material, ordinary structural iron being preferable. The angles 1 are mounted so that their webs face each other so as to provide therebetween a guide for a post 4. The post 4 is T-shaped, as shown in Figures 3 and 4, and may be conveniently constructed of two timbers, such as are commonly known as 2 x 4's, spiked together in the position shown. The bracket 3 is constructed to surround one member of the T-shaped post, as illustrated in Figure 3, and has hinged thereto at 5 an eccentric clamping element 6, having a handle 7. By turning the handle 7 up, the clamping element 6 may be forced against the post 4 so as to clamp the same in the bracket 3.

A base 8 of cast steel or other suitable material is provided for the post 4. This base is provided with upstanding flanges adapted to embrace the foot of the post and to be secured thereto by spikes or other fastening elements 9. These flanges are also formed so as to embrace the facing webs of the angles 1, as shown at 10 in Figure 4. These flange extensions 10, together with the cross member of the post 4, serve to guide the base for up and down movement along the standard.

A cam element 11 is provided, having a perforation 13 therein adapted to receive a loose pivot pin 12 which also engages one pair of a series of oppositely spaced notches or perforations 14 in the facing webs of the angles 1 and a downward extension 130 on the base 8. The cam member 11 is provided with a tail 15 adapted for engagement in a socket in the end of an operating handle 16. This cam element is further provided with an arc 17, provided with a series of notches 18 through which a locking pin 19 may be passed, said pin passing through the perforations 14 in the angles 1 and one of the notches 18, so as to lock the cam element in adjusted position.

In using this device, the operator sets up the standard below the object to be supported and raises the post by sliding the same through the standard until said post engages the underside of the object to be supported. The pivot pin 12 is then inserted through an appropriate notch 14 and the cam element is held in the position shown in Figure 5, against the bottom of the base 8 and the pivot pin is inserted. The handle 16 may then be engaged with the tail 15 of the cam element. by pressing downwardly on the handle 16, the operator may then rotate the cam element

about the pin 12 so that its cam face operates on the lower face of the base 8 to raise the same and the post 4. When the post has been raised the desired amount, the cam may be locked in adjusted position by inserting the pin 19 through the perforations 14 and the notch 18, which may stand opposite thereto. If it is desired to lift the supported object higher than can be done by one rotation of the cam element, the clamp 6 is turned into engagement with the post, so as to lock the same, after which the cam element 11 may be released and moved to engagement with another pair of holes 14, after which the above described operation may be repeated, after loosening the clamp 6, until the shore has been adjusted to the desired height.

In the embodiment illustrated in Figures 6 to 9 inclusive, the angles 1 of the standard are provided with notches 140, corresponding to the perforations 14. In this embodiment, the base 8 is provided with a socket 21 adapted to receive and guide a clamping screw 22, pivoted at 23 to a toggle element 24, having a tip 25 adapted to engage in a pair of the notches 140 in the angles 1. The adjusting screw 22 is provided with an adjusting nut, having a hand wheel 26 for manipulating the same. The head of the toggle element 24 is adapted to bear against the underside of the base 8.

In the use of this embodiment of the invention, the operator loosens the nut 26 and slides the screw 22 to the left, Figures 7 and 9. He then raises the shore under the work as high as it will go and then engages the tip 25 in a pair of the notches 140. With the tip so engaged, by screwing up on the nut 26, the screw 22 will be drawn inwardly or to the right, Figures 7 and 9, so as to move the toggle element from the dotted line position of 7 to the full line position, thereby raising the base 8 and the post 4 a distance between successive notches. This operation may be repeated by clamping the post in raised position by means of the clamp 6 and then loosening the toggle element and moving the same to the next higher notch.

It will be seen that this invention provides a shore which is so simple to operate that it may be put in position and adjusted by a single operator. The arrangement is such that the load upon the shore may be adequately supported at all times and the shore may be adjusted so as to raise the load any desired amount. All of these operations may be performed, without assistance, by one man. The device is constructed of standard structural elements, such as standard angle irons and 2 x 4 wooden beams. A contractor need supply himself as permanent equipment only the metal part of the standard, and he may therewith construct a shore of any desired height by simply nailing together a pair of 2 x 4's of the proper length. Such wooden elements may be obtained as a part of the lumber provided for almost any building job, and after the completion of the work for which the shores are used, these 2 x 4's may be salvaged for other service. They are not, therefore, a part of the permanent equipment.

Since the device is constructed mostly of standard structural parts and very few special parts are required, the same can be made up very cheaply, without sacrificing ruggedness or durability.

It is obvious that various changes may be made in the details of construction without departing from the spirit of this invention; it is to be understood, therefore, that this invention is not limited to the specific details shown and described.

Having thus described the invention, what is claimed is:

1. A shore, comprising, a standard adapted to receive and guide a post, a base for the post guided for movement along said standard, a cam having a notch therein mounted on said standard for adjustment therealong and engaging said base, means for moving said cam to lift said base and the post thereon, and a locking element adapted to engage said notch to lock said cam.

2. A shore, comprising, a standard adapted to receive and guide a post, a base for the post guided for movement along said standard, a cam having a notch therein mounted on said standard for adjustment therealong and engaging said base, means on said cam adapted for the attachment of a manipulative element for moving said cam to lift said base and the post thereon, and a locking element adapted to engage said notch to lock said cam.

3. A shore, comprising, a standard adapted to receive and guide a post, a base for the post guided for movement along said standard, a cam mounted on said standard for adjustment therealong and engaging said base, said cam having an arcuate portion provided with notches, means for moving said cam to lift said base and the post thereon, and a locking element adapted to engage one of said notches to lock said cam in adjusted position.

4. A shore, comprising, a standard adapted to receive and guide a post and having a series of openings therealong, a base for the post guided for movement along said standard, a cam having a notch therein and engageable with said base, a pivot for said cam engageable with an opening in said standard, means for moving said cam to lift said base and the post thereon, and a locking element engageable in said notch and an opening in said standard to lock said cam.

5. A shore, comprising, a pair of uprights uniformly spaced from one another adapted to provide a standard having an open slot therealong, a T-shaped strut mounted for movement in said slot between and along said uprights and guided thereby, and lifting

means adjustable along said standard and supporting said strut.

6. A shore, comprising, a pair of upright angle members having their web portions facing and uniformly spaced from one another adapted to provide a standard, a T-shaped strut mounted for movement between and along said uprights and guided thereby, and lifting means adjustable along said standard and supporting said strut.

7. A shore, comprising, a pair of uprights uniformly spaced from one another and having guiding faces angularly disposed to each other adapted to provide a standard, a T-shaped strut mounted for longitudinal movement between said uprights and fitting said angular faces to be guided thereby, and lifting means adjustable along said standard with said strut and pivotally adjustable to lift said strut.

8. A shore, comprising, a pair of uprights uniformly spaced from one another, and having guiding faces angularly disposed to each other adapted to provide a standard, a T-shaped strut mounted for longitudinal movement between said uprights and fitting said angular faces to be guided thereby, and lifting means adjustable along said standard with said strut and including a cam pivotally adjustable to lift said strut.

9. A shore comprising, a standard adapted to receive and guide a post, a base adapted to receive the post and guided for movement along said standard, a cam mounted on said standard for adjustment therealong and engaging said base, means for rotating said cam to lift said base and the post thereon, said cam having a recess, and means engaging said recess adapted to lock said cam in adjusted position.

10. A shore, comprising, a pair of uprights uniformly spaced from one another adapted to provide a standard, a T-shaped strut mounted for movement between and along said uprights and guided thereby, a base adapted to receive said strut and guided for movement along said standard, a cam having a recess therein mounted on said standard for adjustment therealong and engaging said base, means for moving said cam to lift said base and the strut thereon, and means engaging said recess to lock said cam.

In testimony whereof I affix my signature this 8th day of Jan., 1927.

HOWARD C. MARTIN.