June 9, 1925. 1,541,290

F. J. STREIT

SHORE

Filed May 5, 1923

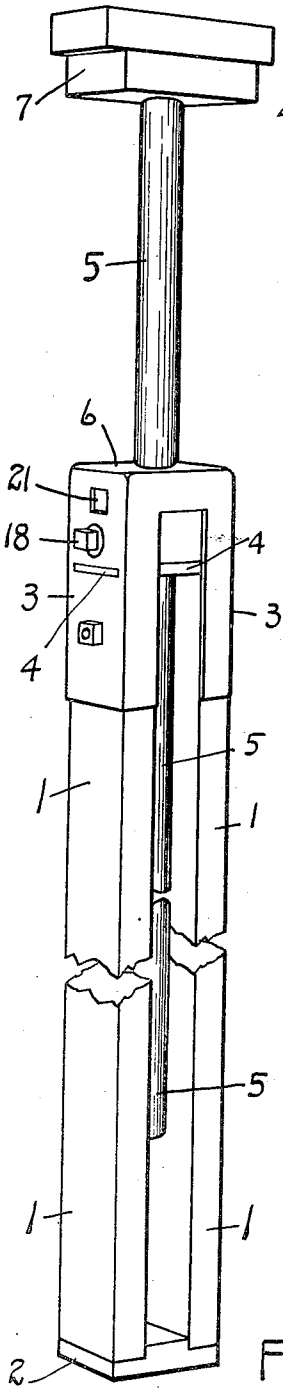


FIG. 1.

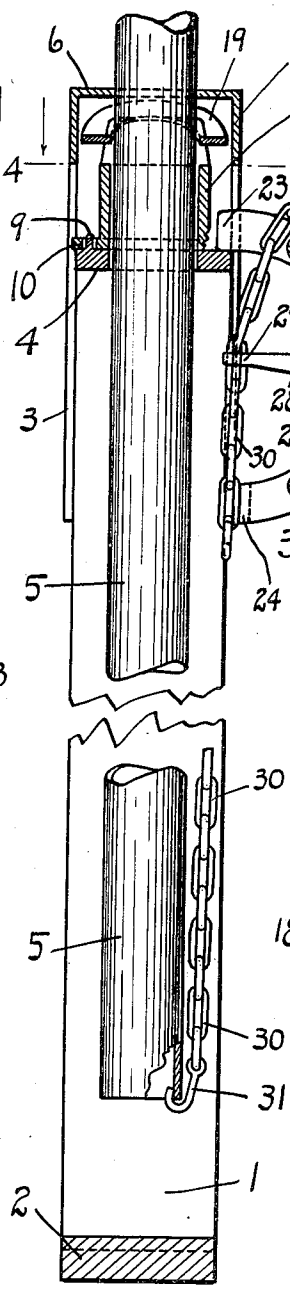


FIG. 2.

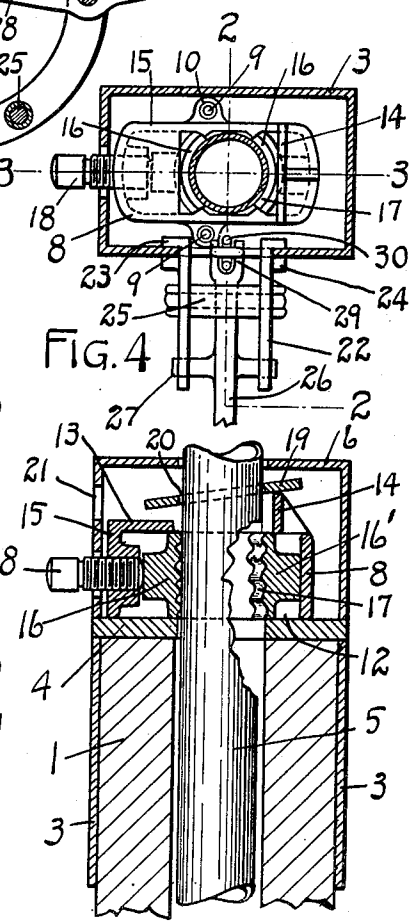


FIG. 3.

FIG. 4.

INVENTOR

Frank J. Streit

By John W. Streit

ATTORNEY.

Patented June 9, 1925. 1,541,290

UNITED STATES PATENT OFFICE.

FRANK J. STREIT, OF CINCINNATI, OHIO, ASSIGNOR OF ONE-HALF TO DAVID B. KAUFMANN, OF CINCINNATI, OHIO.

SHORE.

Application filed May 5, 1923. Serial No. 636,989.

To all whom it may concern:

Be it known that I, FRANK J. STREIT, a citizen of the United States, residing at the city of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Shores, of which the following is a specification.

In the construction of buildings, especially those structures and buildings which are made of concrete or a plastic material or of a similar character, the skeleton work which reaches from one pillar to the other, or from one part of the building to another and forms connecting links in the construction, must be supported until the concrete or the like is dry and has set to the form desired, otherwise, the parts would sag, crack, and become misformed, making the structure improper in shape and a false and undesirable construction would result.

In order to properly support such concrete construction, props or what are known as shores are used in large numbers, these shores reach from a base supporting point up to and under the part to be supported and hold said part intact and in proper alignment until the same has set; at which time said shores may be removed. The whole interior of the building construction must be shored in some manner.

It is the object of my invention to produce a shore of this character, which shall be adjustable to different heights, is simple of construction, cheap of manufacture, and highly efficient in use, making it an article of great utility in the line in which it is intended to be used.

It consists essentially of a frame-work or supporting means supported at the bottom by a base, and near the top of said frame-work is placed a supporting plate, which carries a hollow housing, case, or saddle in which are placed two concaved jaws, one permanently held and the other moveable toward and away therefrom, a tilting ring or washer resting upon an upwardly extending wing on said saddle or housing, and a pipe extending upwardly through said housing between the jaws therein and through said ring or washer, carrying at the top a head piece, said pipe capable of upward and downward movement which is fully pointed out in the specification. I also provide manually operated means for raising said pipe upwardly for adjusting purposes.

The pipe may be freely moved upwardly, but any attempt to move it downwardly or stop the upward movement, the tilting ring or washer and automatically becoming cocked on the pipe, thus preventing retrograde action. The jaws may then be tightened to lock the pipe in a fixed locked position.

One of the salient features of this invention consists in providing a ring and connections which allow the free upward movement of the pipe, the ring, however, cocking on the pipe immediately upon an attempt at retrograde movement of said pipe, or in using the pipe in any given position, at which said ring has been cocked, to hold the pipe, and this is the position in which it is desired to hold the pipe and the head at its end against the work, the jaws are forced to grip the pipe so as to hold it in a locked position against any movement.

The various features and advantages of my invention will readily become apparent upon reading the following description thereof:

Fig. 1, is a perspective view of the shore, completely assembled, broken away partly at the middle,

Fig. 2, is a vertical section on line 2—2 of Fig. 4,

Fig. 3, is an enlarged view in section, on line 3—3 of Fig. 4, and

Fig. 4, is an upper cross section on line 4—4 of Fig. 2.

In carrying out my invention, I provide standards or shores as 1, resting on a base part 2, and at the top of this frame-work I provide a hood or housing 3.

Near the top of the frame-work I place a plate 4, having a hole therein through which the pipe 5 passes and extends and through which said pipe can be moved upwardly and downwardly; the pipe also passing through the top 6 of the hood 3. At its upper extremity the pipe carries a supporting head 7, which presses or impinges against the work to be supported.

On the plate 4 I place a hollow case saddle or housing 8 held in position through the medium of pins 9 which extend up from the plate 4 and pass through the holes 10 in said saddle or housing; the pins being

somewhat less in diameter than the size of the holes, to allow for play or adjustment.

This saddle, case, or housing 8 is open at the bottom as shown at 12, see Fig. 3, and is partially closed at 13 at the top, and at its other or opposite end is provided with an upwardly extending rib or wing 14, which extends upwardly from the top part 15 of said saddle or housing and partially inwardly therefrom. In this housing I provide and place two semi-circular or concave jaws 16 and 16′, provided with ribbed or corrugated inner faces 17; these jaws rest at the bottom on the plate 4 and are held against upward movement by the parts 13 and 14; against downward movement by the ribs 35 on the inside of the case or housing wall. At one end of this housing or case I provide a locking set screw 18 which can be screwed inwardly or outwardly, forcing the jaw section 16 toward or away from the jaw section 16′, to hold the pipe in a locked position against displacement and if moved away from the jaw section 16′ the hold on the pipe will be loosened; the jaw 16 being movable and the jaw section 16′ being stationary.

On the top of the saddle, case, or housing 8, I loosely place the ring or washer 19, the pipe 5 extending through a hole 20 in said washer or ring. This washer is used for automatically holding the pipe 5 in any given position and the hole 21 in the housing 3 is for the purpose of admitting a bar to raise the washer 19 in order to release its hold on the pipe 5 after the jaws 16 and 16′ have loosened their locking hold on said pipe. In order to quickly and readily move and adjust the pipe 5, and its supporting head 7 at its top, against the work to be supported in order that the head 7 may press or impinge against said work, or, to readjust said pipe and head when a further upward movement is desired to move satisfactorily support said work, I provide a lifting or adjusting means which I will now describe.

A frame as 22 is provided which is connected to the housing 3 by ears 23 passing into and through the opening 40 in said housing 3 and hooking therein, at the top, and at the bottom by ears 24 resting against the housing 3 on the outside. This frame-work 22 is held together by the bars and lock nuts 25. In the middle of the frame 22 I place a lever 26 fulcrumed at the point 27, having a forwardly extending arm 28 with a forked end 29 which engages over a link of the chain 30. This chain is fastened at one end to the arm 28 and passes over the upper tie-bar 25, then downwardly to the bottom of pipe 5, where it is provided with a hook 31 which can be engaged at the lower mouth of the pipe; then by operating the lever 26 downwardly the chain 30 is drawn upwardly, forcing the pipe 5 and consequently the head 7, upwardly in contact with the work which is being supported.

The lever 26 can be operated downwardly as many times as desired in order to bring the pipe and its head up to the required position needed. Any other form of lifting device may be employed than the one herein described and set forth.

The device operates as follows: The shore is set under the work which it is intended to support. The lifting apparatus which carries the chain is then set in position and the lever 26 moved downwardly, after the hook 31 has been engaged with the lower mouth of the pipe as shown in Fig. 2; the downward movement of the lever 26 raises the pipe one step at a time as each successive link 30 is engaged until the head 7 rests against the structure to be supported. This upward movement of the pipe does not affect the ring or washer 19, and the pipe can freely be moved upward, when the head 7 is properly supporting the work the frame-work 22 and the chain are removed and there being an immediate tendency for the pipe to move downward, this will immediately cause the washer or ring 19 to become cocked on the pipe 5 and hold it in the proper position. In order to maintain this position against displacement of any kind the lock screw 18 is turned in a proper direction, forcing the jaw 16 over toward the stationary jaw 16′ and under this operation the pipe 5 is gripped by the corrugated faces of said jaws and held in a position against displacement. If it is desired to lower the pipe 5 the lock screw 18 is turned in an opposite direction bringing the jaws 16 away from the pipe 5 and thus the pipe is only held by the cocked washer 19. It is now necessary to disengage this cocked washer 19 and this is done by placing a bar through the hole 21 in the housing 3 and dislodging the same, then the pipe can be lowered.

It will, of course, be understood that when, in the first instance, the pipe and its head 7 has been raised against the work to be supported and the proper pressure against the structure to be supported has been reached, and the parts locked, the frame 22 and connections are removed, but when it is desired to have the head 7 impinge more tightly against the structure to be supported, for any reason, the said lifting means is again put in position and the same operation repeated as before stated.

The frame which supports the shoring element and which operates upwardly and downwardly in connection therewith, may be made of any desired form and need not be a frame-work as shown, but may be changed and altered in any manner to support the shoring element.

The construction herein shown is a pre-

ferred form, but I may alter and change the same to some extent and make same in a modified form.

What I claim as new and my invention and desire to secure by Letters Patent is:

1. A shore including a supporting frame having a head, a pipe slidably mounted in the central portion of said head and having a supporting block at its upper end, a shelf plate arranged in the frame and surrounding the pipe, a stationary jaw arranged on the shelf plate and having a number of corrugations to grip the pipe, a movable corrugated jaw supported by the shelf plate and arranged opposite the stationary jaw, means extending to the exterior of the frame and engageable with the movable jaw to permit the operator to adjust the latter, a ring surrounding said pipe, means for normally holding the ring in canted position, whereby the ring automatically grips the pipe and prevents the latter from moving downwardly, and means detachably connected to the frame and engageable with the pipe for raising the latter.

2. A shore including a frame provided with an apertured head, a plate arranged in the frame and provided with an aperture, a pipe slidably arranged in said apertures and provided at one end with a supporting block, a casing arranged in the frame at one side of said plate and surrounding the pipe, a stationary corrugated jaw arranged in the casing and adapted to grip one side of the pipe, a movable corrugated jaw arranged in the casing and gripping the opposite side of the pipe, means extending through the frame and casing and engaging the movable jaw to permit the operator to actuate the latter from the exterior of the frame, a ring loosely mounted on the pipe, means for canting the ring to cause the latter to automatically grip the pipe and prevent the latter from moving downwardly, said ring being accessible from the exterior of the frame to permit the operator to move the ring into a position at right angles to the axis of the pipe, a bracket detachably connected to the frame, a lever pivotally mounted in the bracket, and a chain detachably connected with the lower end of the pipe and engageable with the lever to permit the latter to raise the pipe when force is exerted on the lever.

In testimony whereof, I affix my signature at Cincinnati, Ohio, this 24th day of April, 1923.

FRANK J. STREIT.