W. O. SMITH.

TANK BOTTOM HOLDER.

APPLICATION FILED NOV. 4, 1913.

1,106,743.

Patented Aug. 11, 1914.

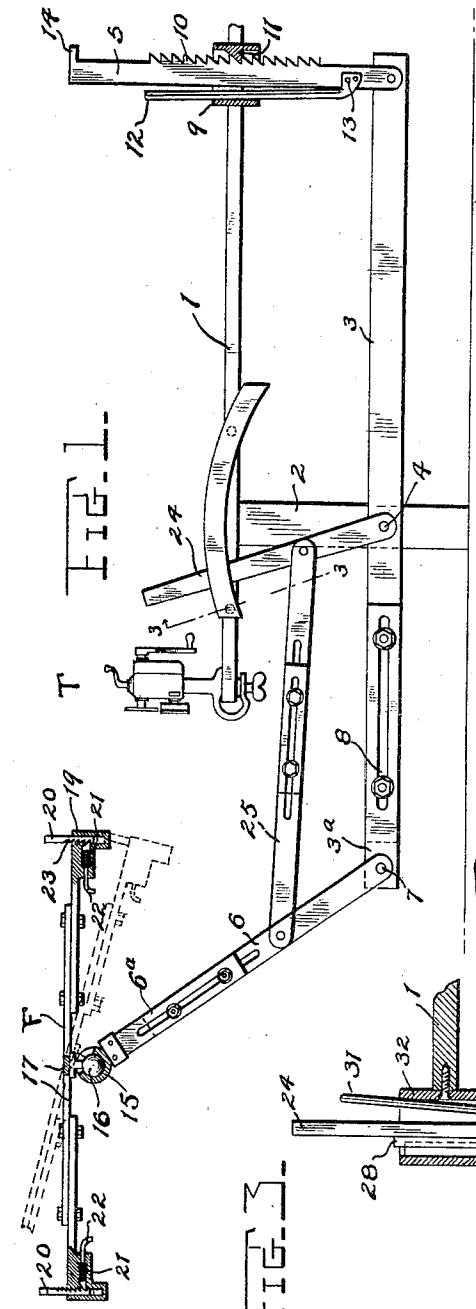


FIG. 1.

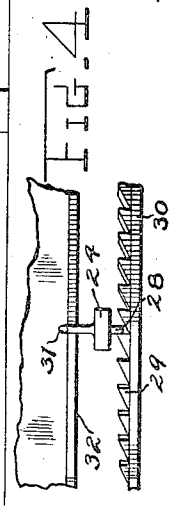


FIG. 4.

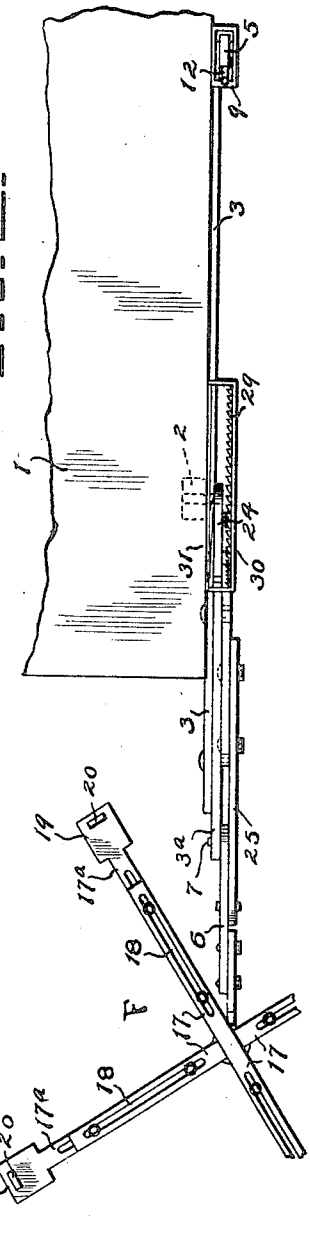


FIG. 2.

FIG. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

WALTER O. SMITH, OF SPUR, TEXAS.

TANK-BOTTOM HOLDER.

1,106,743. Specification of Letters Patent. Patented Aug. 11, 1914.

Application filed November 4, 1913. Serial No. 799,188.

To all whom it may concern:

Be it known that I, WALTER O. SMITH, citizen of the United States, residing at Spur, in the county of Dickens and State of Texas, have invented certain new and useful Improvements in Tank-Bottom Holders, of which the following is a specification.

The present invention relates to a device for holding tank bottoms while turning the edges thereof, the object of the invention being to provide a device of this character which embodies novel features of construction whereby the tank bottom may be securely and accurately maintained in proper coöperative relation to the edge turning tool and readily manipulated in the required manner.

A further object of the invention is to provide a tank bottom holder which is comparatively simple and inexpensive in its construction, which can be readily adjusted to receive various sizes of tank bottoms, which is always under the immediate control of the operator and can be readily manipulated as desired.

With these and other objects in view, the invention consists in certain novel combinations and arrangements of the parts as will more fully appear as the description proceeds, the novel features thereof being pointed out in the appended claims.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawing, in which:—

Figure 1 is a side elevation of a tank bottom holder constructed in accordance with the invention, portions being broken away and shown in section. Fig. 2 is a top plan view of the same, portions being broken away. Fig. 3 is a sectional view on the line 3—3 of Fig. 1, and Fig. 4 is a plan view of the operating lever and a portion of the rack.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing by the same reference characters.

Specifically describing the present embodiment of the invention, the numeral 1 designates a portion of the bench or table, and 2 one of the standards for the same. A substantially horizontal beam 3 is pivotally mounted at an intermediate point in its length upon the standard 2, as at 4. One end of the beam 3 is connected to a plunger 5, while the opposite end of the beam projects beyond the bench where it is provided with an extension 3^a. This extension has a swinging arm 6 pivotally connected thereto at 7, and is adjustably connected to the body portion of the beam 3 by a suitable pin and slot connection 8. By suitably adjusting this pin and slot connection 8 the length of the end of the beam 3 which carries the swinging arm 6 can be adjusted as found necessary.

The plunger 5 is adapted to be moved up and down through a guide sleeve 9 so as to swing the beam 3 about its pivot point 4 and thereby raise and lower the forwardly projecting end 3^a of the beam. One side of the plunger 5 is formed with a rack 10 which is adapted to engage a tooth 11 upon the interior of the sleeve 9 to retain the plunger in an adjusted position. A spring arm 12 is utilized for maintaining the rack 10 yieldably in engagement with the tooth 11, the said spring arm having one end thereof secured to the plunger 5 at 13, while the opposite end thereof is free. This spring arm 12 also passes through the guide sleeve 9 and bears against the interior thereof upon the side of the guide sleeve which is opposed to the tooth 11. It will thus be obvious that the resiliency of the spring arm normally maintains the rack 10 in engagement with the tooth 11, although by grasping the handle 14 at the upper end of the plunger and swinging the same laterally against the action of the spring arm 12, the rack 10 can be disengaged from the tooth 11 preparatory to raising or lowering the plunger within the sleeve 9 to adjust the position of the beam 3.

The upper end of the swinging arm 6 is formed with a socket 15, which receives a ball 16 at the central point of a tank bottom supporting frame F. This frame F is shown as formed of a pair of intersecting and transversely disposed strips 17 having extensions 17^a at the extremities thereof. These extensions 17^a are slidably connected to the ends of the intersecting arms 17 and have pin and slot connections 18 therewith so that they can be moved in and out to regulate the effective size of the frame F. Each of these extensions 17^a is provided at its free end with a head 19 having a vertically slidable detent 20 mounted therein. These detents 20 are adapted to be moved up and down and are normally held in a raised position

by means of the springs 21. Suitable latches 22 may be provided for engagement with teeth 23 of the detents 20 to hold the said detents in an adjusted position.

A lever 24 is pivotally mounted upon the standard 2, being shown in the present instance as mounted upon the pivot pin 4 of the beam 3. This lever 24 is connected by an extensible link 25 to an intermediate portion of the swinging arm 6. The edge turning tool T, which may be of any conventional construction, is mounted upon the bench or tool 1, and by manipulating the lever 24 the swinging arm 6 may be moved to bring the edge of a tank bottom upon the frame F into coöperative relation to the tool T. This link 25 is extensible so that the length thereof can be adjusted as the extension 3^a of the beam 3 is moved in and out. The lever 24 is provided upon one side thereof with a tooth 28 adapted to engage a rack 29 upon the inner face of a rack bar 30. A spring arm 31 which is applied to the opposite side of the lever 24 coöperates with a bearing plate 32 to hold the tooth 28 of the lever in a yielding engagement with the rack 29, although the lever can be readily moved against the action of the spring 31 to disengage the tooth 28 from the rack 29 preparatory to moving the lever to swing the arm 6 and adjust the position of the frame F.

After the tank bottom has been placed upon the frame F and the various parts of the device manipulated to bring the edge thereof into proper coöperative relation with the tool T, the action of the ball 16 within the socket 15 will permit of the frame F being revolved and tilted in order to act upon the same in the quickest and most effective manner.

If found desirable, the swinging arm may be made extensible, as indicated at 6^a, so that the effective length thereof can be regulated as desired.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A holder for tank bottoms and the like including a rigid support, an edge bending tool upon the rigid support, a substantially horizontal beam pivotally mounted upon the rigid support, an upright arm pivoted upon the horizontal beam, a tank bottom holding frame revolubly mounted upon the upright beam, means for swinging the horizontal beam to raise and lower the tank bottom support, and means for swinging the upright arm to move the tank bottom support toward and away from the edge bending tool.

2. A holder for tank bottoms and the like including a rigid support, an edge bending tool upon the rigid support, a substantially horizontal beam pivotally mounted between its ends upon the rigid support, an upright swinging arm pivotally mounted upon one end of the horizontal beam, a plunger engaging the opposite end of the horizontal beam for raising and lowering the swinging arm, a tank bottom supporting frame revolubly mounted upon the upper end of the swinging arm, and means for swinging the said arm toward and away from the edge bending tool.

3. A holder for tank bottoms and the like including a rigid support, an edge bending tool upon the same, a substantially horizontal beam pivotally mounted between its ends upon the rigid support, an upright swinging arm pivotally mounted upon one end of the horizontal beam, a plunger connected to the opposite end of the swinging beam for moving the same to raise and lower the swinging arm, a tank bottom supporting frame revolubly mounted upon the upper end of the swinging arm, a lever, and a link between the lever and swinging arm for moving the swinging arm toward and away from the edge bending tool.

In testimony whereof I affix my signature in presence of two witnesses.

WALTER O. SMITH.

Witnesses:
W. D. WILSON,
J. C. KELLER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."