E. S. ASTIN.

HOLDER FOR DRILLING AND RIVETING TOOLS.

APPLICATION FILED AUG. 14, 1919.

1,348,074.

Patented July 27, 1920.

2 SHEETS—SHEET 1.

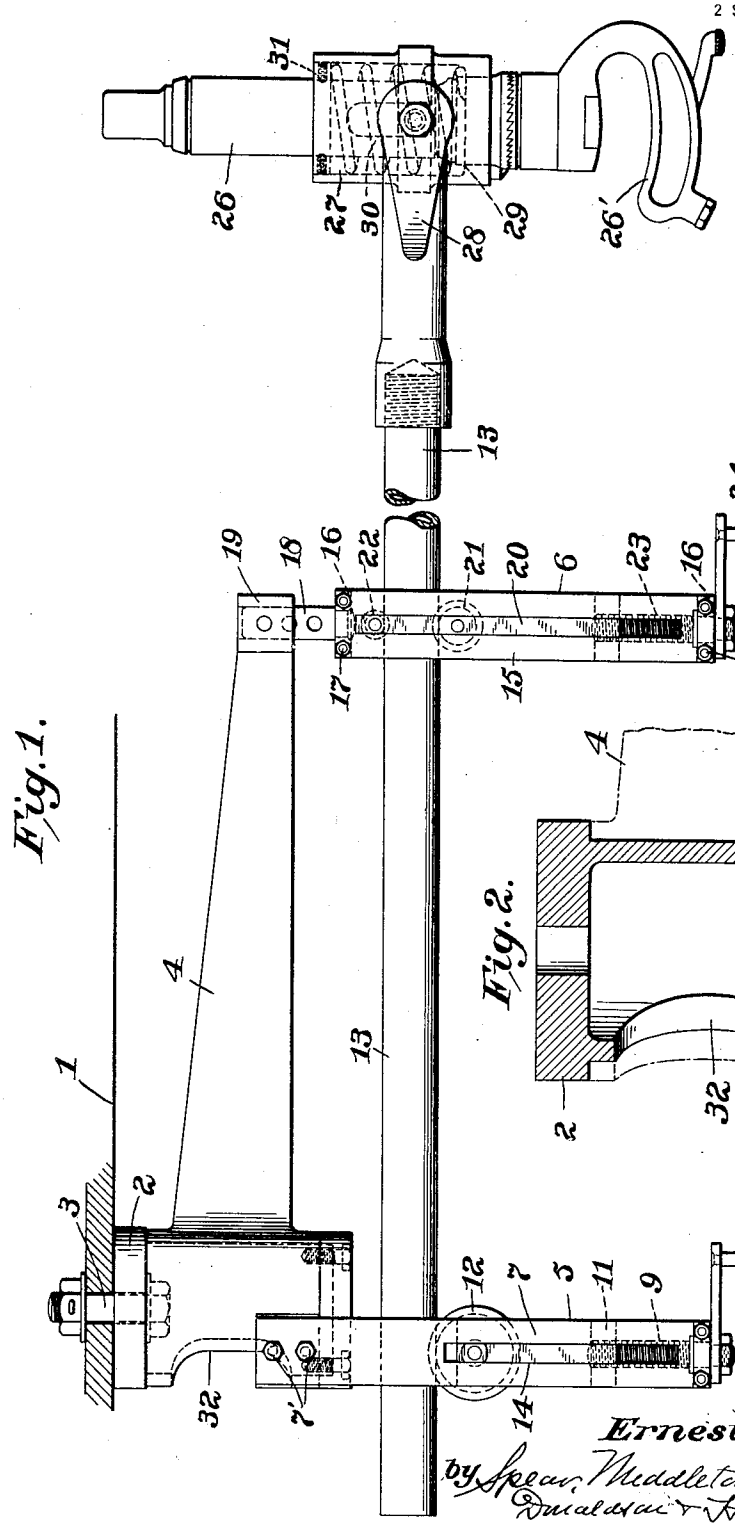

31
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12
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9
10
32
2'
14

Fig. 1.

Fig. 2.

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2 SHEETS—SHEET 2.

Fig. 3.

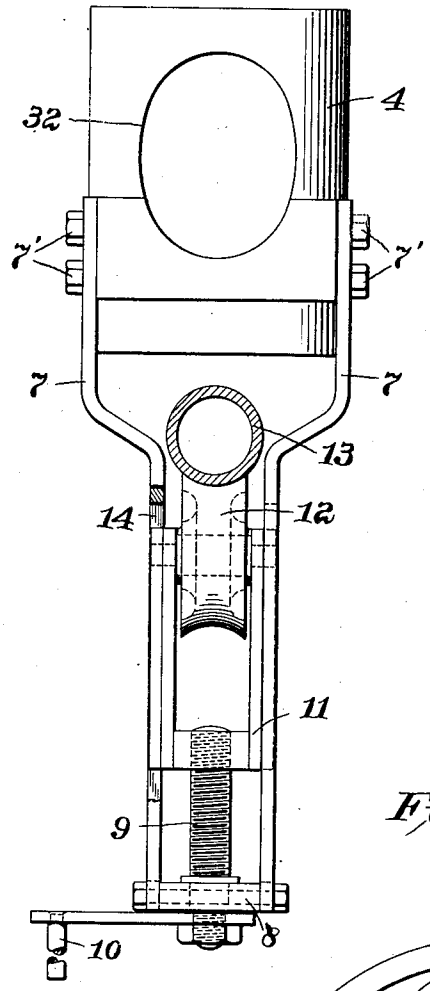


Fig. 4.

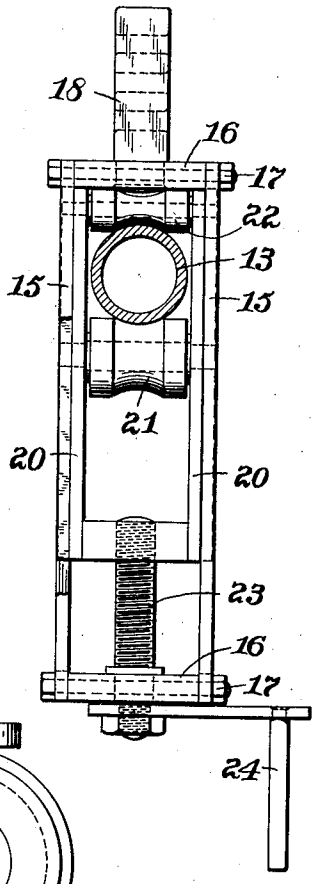
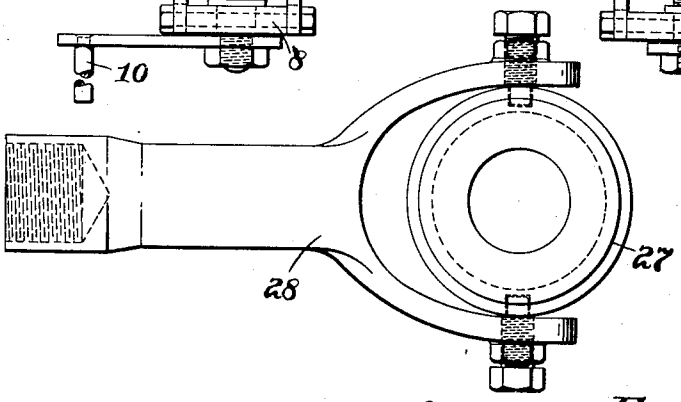


Fig. 5.



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UNITED STATES PATENT OFFICE.

ERNEST SHERWOOD ASTIN, OF BALTIMORE, MARYLAND, ASSIGNOR TO THE LIBERTY TOOL COMPANY, OF BALTIMORE, MARYLAND, A CORPORATION OF MARYLAND.

HOLDER FOR DRILLING AND RIVETING TOOLS.

1,348,074. Specification of Letters Patent. Patented July 27, 1920.

Application filed August 14, 1919. Serial No. 317,593.

To all whom it may concern:

Be it known that I, ERNEST S. ASTIN, a citizen of the United States, and resident of Baltimore, Maryland, have invented certain new and useful Improvements in Holders for Drilling and Riveting Tools, of which the following is a specification.

My invention relates to apparatus for use in riveting the bottoms of ships, boilers, or other structures and one object of the invention is to relieve the operator of the weight of the riveting hammer and to enable him to set the tool at different points around a center at which the apparatus is hung, or to adjust the tool to points at different distances from this center.

The invention consists in the features and combinations and arrangements of parts hereinafter described and particularly pointed out in the appended claims.

In the accompanying drawings the Figure 1 is a side elevation of the complete apparatus.

Fig. 2 is a sectional view of the head-piece or bracket support.

Fig. 3 is a front view of the hanger.

Fig. 4 is a front view of the supplemental hanger.

Fig. 5 is a plan view of the fork and sleeve for supporting the hammer.

In these drawings 1 indicates the bottom line of a ship, boiler, or other structure in which the rivets are to be set.

2 indicates a head-piece or bracket which is secured to the bottom of the ship or boiler by a bolt 3 which is set in one of the openings designed to receive the rivets.

This head 2 supports an arm 4 which is adapted to turn on the head, the latter being of general cylindrical form for this purpose. The bracket or arm 4 extends laterally from the head and it carries a main hanger 5 and a supplemental hanger 6. The main hanger is made up of side arms 7 secured to flat portions of the bracket 4 by bolts 7′. The sides of this hanger at their lower ends carry between them a cross-piece 8 in which is rotatably mounted a screw 9 which is operated by a handle 10. This screw engages a slide member 11 which carries at its upper end a roller 12 upon which is supported a rod 13, the roller having a curved periphery, the bar 13 being of cylindrical form.

The slide 11 is guided by a portion thereof entering slots 14 in the hanger sides 7. It will be seen that by adjusting slide 11 up or down by means of the screw shaft 9, the roller 12 with the bar 13 will also be adjusted vertically.

At the outer end of the bracket or arm 4 a supplemental hanger 6 is provided, this consisting of sides 15 connected at the top and bottom by cross-piece 16 and bolts 17, the upper end of the hanger having a shank 18 adapted to fit in a square socket 19 at the outer end of the bracket or arm 4, wherein the said shank may be adjusted vertically and held in any desired position by means of a suitable pin.

The supplemental hanger also carries a vertically adjustable slide 20 which is guided in slots in the sides 15 and this slide carries a roller 21 having a curved periphery which supports the bar 13. There is also a top guide roller 22 to engage bar 13. This slide 20 is adjusted vertically by a screw shaft 23 mounted in the cross-piece of the supplemental hanger and operated by a handle 24.

The bar 13 is of cylindrical form and therefore can be turned about its axis so that the hammer carried by its outer end can be directed at various angles to suit the character of the work being done. The bar can also be moved longitudinally so that the riveting hammer can be adjusted to different distances from the center about which the apparatus is turned and further the bar can be adjusted to different elevations by operating the vertically movable slides carrying the rollers upon which the bar is supported.

The riveting hammer is of substantially ordinary form being shown generally at 26. The handle of ordinary form is shown at 26′. This hammer is supported in a bracket of the form of a sleeve 27 which is pivotally mounted in the fork at the outer end of the bar 13, this fork being shown at 28. The sleeve or barrel 27 has a seat 29 having a spiral spring 30 which at its upper end furnishes a yielding support for a ring or flange 31 which is fixed to the hammer barrel so that the hammer can have yielding movement or adjustment by this spring which in turn is supported by the sleeve. The hammer can be turned to various inclinations in relation to the axis of the supporting bar 13 and this together with the fact that the bar 13 can be turned about its own

axis, provides substantially a universal joint mounting for the hammer so that it can be inclined at various angles and in various directions.

In order to enable the apparatus to be attached to the bottom of the ship, boiler, or other structure, the main supporting member or bracket is provided with an opening at 32 so that the holding bolt can be introduced into the interior of the bracket and thus placed in the opening provided therefor at the top of this main supporting member.

What I claim is:

1. A holder for riveting tools comprising a main supporting member with means for attaching the same to the structure to be riveted, an arm turnable about said main supporting member, a hanger depending from the arm adjacent the main supporting member, a supplemental hanger depending from the outer end of the arm, a slide in each of the said hangers, a rod supported by the said slides, means at the outer end of the rod for supporting the riveting hammer and means mounted on each hanger and engaging the slide thereof for positively raising or lowering the said slide and for positively holding it in adjusted position, substantially as described.

2. In combination a main supporting member an arm turnable about the said member, hangers extending down from the arm each composed of two side members having parallel portions, vertically adjustable slides carried by the hangers and guided in between said sides, said slides having rollers mounted thereon, a bar supported on the rollers and adapted to be moved longitudinally thereon or to turn about its axis and a riveting hammer supported by the bar, substantially as described.

3. In combination a main supporting member an arm turnable about said member and having hangers depending therefrom, a slide guided in each hanger, a screw shaft supported in each hanger and engaging the slide thereon to adjust the same vertically, rollers carried by the slides, a bar of cylindrical form supported on the rollers and adjustable longitudinally and also rotatively, said bar having a fork at its outer end, a sleeve mounted pivotally in the fork and a riveting hammer supported in the sleeve substantially as described.

4. In combination with a main supporting member having an opening in one side a bolt on which said member is suspended, a supporting arm swiveled on said supporting member and having an opening to aline with the opening first mentioned, a hanger secured to the outer side of the supporting arm and consisting of two side members fixed to the sides of said arm and depending therefrom and having parallel portions secured together at their lower ends, a slide mounted between the parallel portions, a roller carried by the slide, a second hanger supported at the free end of the supporting arm and composed of two sides, a slide movable between the two sides of the last named hanger, a roller carried by the last mentioned slide, a rod mounted on the rollers and a hammer carried by the said rod, substantially as described.

5. In combination, a main supporting member, an arm turnable about said member, hangers extending down from the arm, one hanger being at the outer end of said arm and the other adjacent the supported end of said arm, a vertically movable slide in each hanger and guided thereby a rod supported by the slides, means at the end of the rod for holding a tool, screw shafts mounted in the hangers and engaging the slides, said screw shafts being vertically disposed and adapted to move the slides vertically, and means for turning the screw shafts, substantially as described.

In testimony whereof, I affix my signature.

ERNEST SHERWOOD ASTIN.