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2,374,582

RIVET OR BOLT HOLDER

Filed Nov. 9, 1944

2 Sheets-Sheet 1

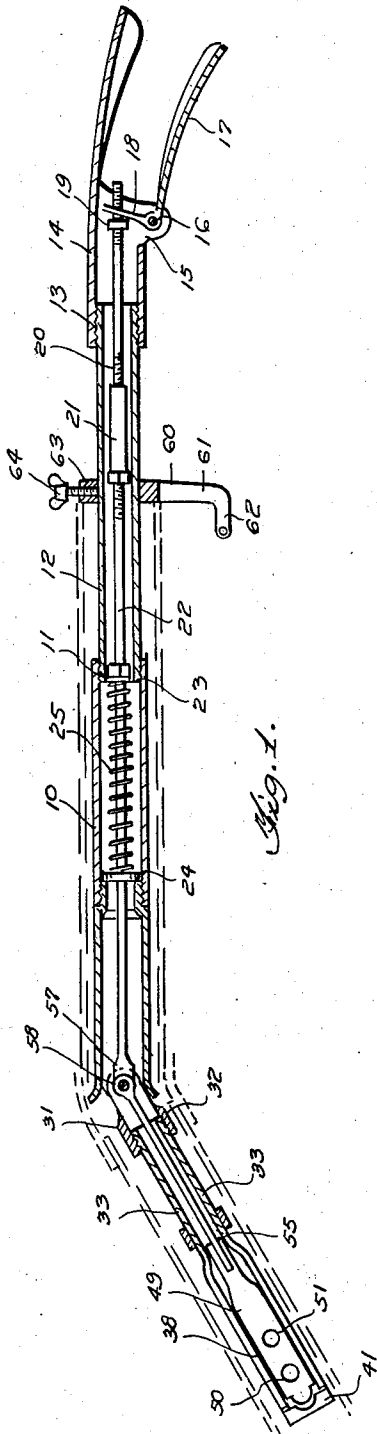


Fig. 1.

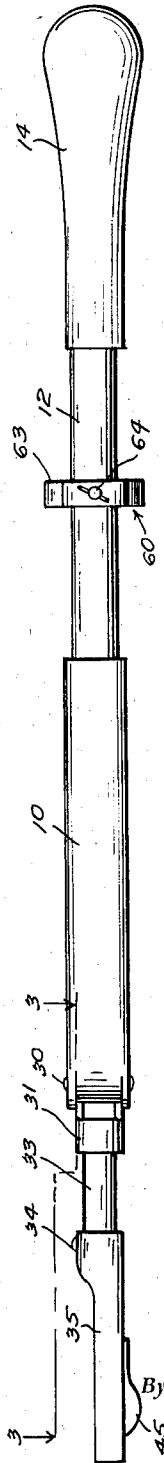


Fig. 2.

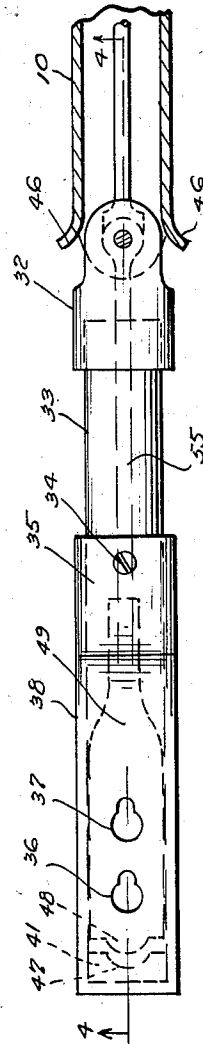


Fig. 3.

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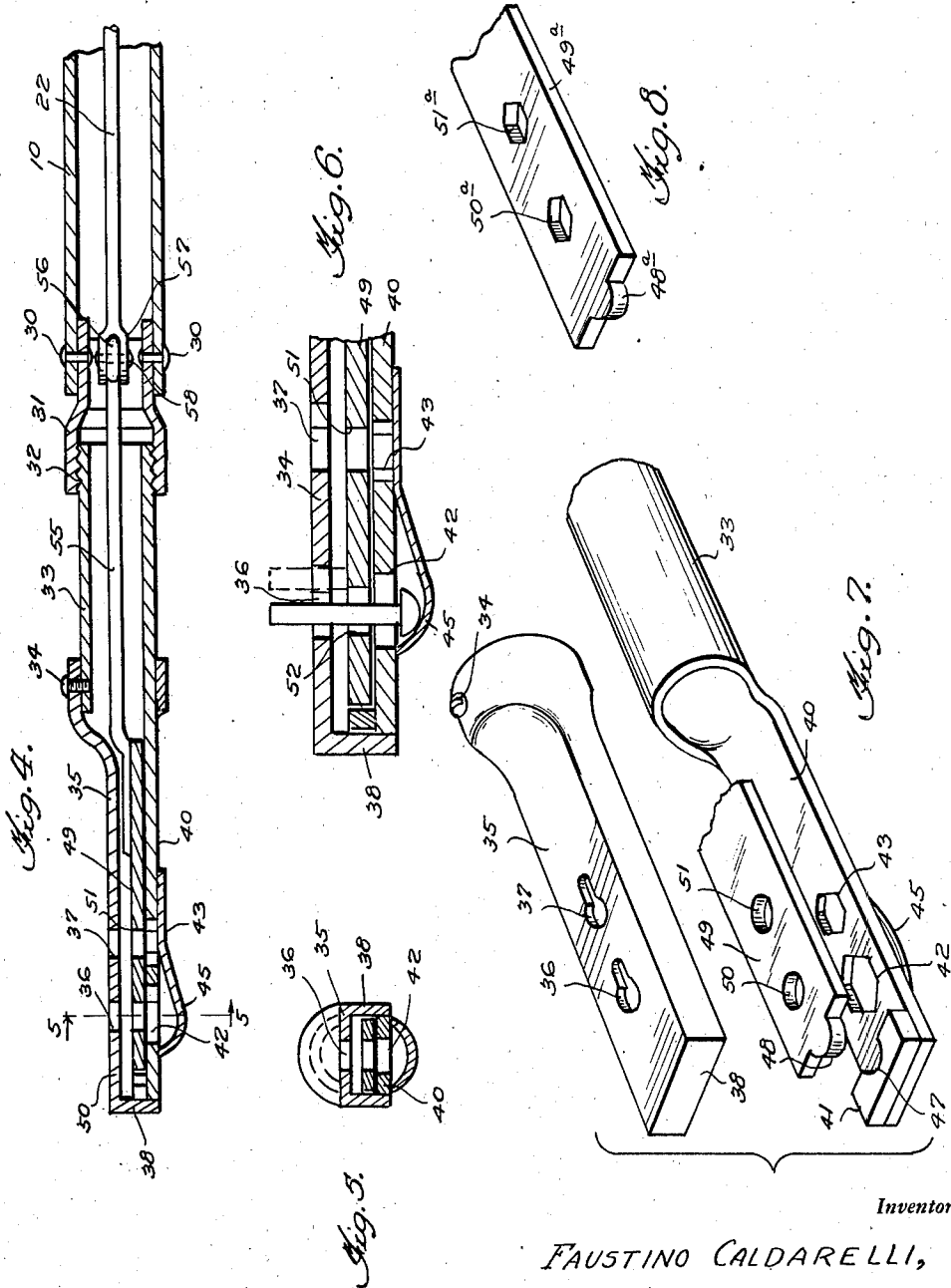
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UNITED STATES PATENT OFFICE

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RIVET OR BOLT HOLDER

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7 Claims. (Cl. 294-1)

This invention relates to a rivet or bolt holder, and more particularly to such a device adapted for the holding and placing in position of rivets or bolts or the like.

The primary object of this invention is the provision of an improved rivet or bolt holder adapted for the positioning of such articles in comparatively inaccessible locations, as, for example, the interior of pipes, or the like.

An additional object is the provision of such a device provided with means whereby rivets or bolts or the like may be placed in inaccessible positions in curved or bent tubes or pipes.

Still another object is the provision of such a device which will firmly hold the rivet or bolt until such time as a riveting block, or similar article, is positioned adjacent thereto, and then readily release the same.

Other objects reside in the combination of elements; arrangement of parts; and features of construction, all as will be more fully pointed out hereinafter and shown in the accompanying drawings, wherein there is disclosed a preferred embodiment of this inventive concept.

In the drawings:

Figure 1 is a side sectional view of one form of device embodying this invention.

Figure 2 is an elevational view of the device shown in Figure 1.

Figure 3 is a sectional view taken substantially along the line 3-3 of Figure 2, as viewed in the direction indicated by the arrows.

Figure 4 is a sectional view taken substantially along the line 4-4 of Figure 3, as viewed in the direction indicated by the arrows.

Figure 5 is a sectional view taken substantially along the line 5-5 of Figure 4, as viewed in the direction indicated by the arrows.

Figure 6 is an enlarged sectional view of certain constructional elements, showing a rivet, or the like, associated therewith.

Figure 7 is an exploded perspective view of certain additional constructional elements, and

Figure 8 is a perspective view of a modified form of one constructional detail.

Like reference numerals refer to like parts throughout the several views of the drawings.

Having reference now to the drawings, there is generally indicated at 10 a sleeve having a female threaded portion 11 at one extremity to which is threadedly secured a second sleeve 12, the opposite end of which is threadedly engaged with a female thread 13 of handle member 14 provided with extending lugs 15, to which is pivotally secured, as on a pivot pin 16, a second handle member 17.

Member 17 is provided with an inwardly extending lug 18 adapted to engage a nut 19 on the threaded end of a rod 20, the opposite end of which is engaged in a sleeve 21 from which extends a second operating rod 22, comprising, in effect, a continuation of rod 20.

Rod 22 has a nut 23 positioned thereon, between which and a collar 24 threadedly engaged with a suitable threaded portion within sleeve 10, is positioned a compression spring 25.

As best shown in Figure 4, sleeve 10 has pivotally secured thereto, as by a pivot 30, a cylindrical member 31 threaded, as at 32, adapted to hold a continuing sleeve 33, to the end of which is secured, as by a screw 34, a flat member 35 provided with a pair of spaced keyhole-shaped apertures 36 and 37. Member 35 is provided with a depending flange 38. The lower portion of sleeve member 33 is flattened to form a portion 40, having a block 41 at its extremity, and adapted to be positioned within the flange 38 of member 35, being spaced therefrom by the block 41 to leave a recess or gap between the members or plates 35 and 40. Apertures 42 and 43, in alignment with apertures 36 and 37, respectively, are formed in member 40.

A guard member 45 is positioned on the rear of portion 40, and formed with a cup-shaped depression extending outwardly over aperture 42, and a flat portion adapted to close the open end of aperture 43. As best shown in Figures 1 and 3, the extremities of sleeve 10 are outwardly flared, as at 46, to permit pivotal movement of the segment 32 and its associated members with respect thereto.

Block 41 has cut thereinto a semi-circular recess 47 adapted to be engaged by a semi-circular projection 48 carried by a flat member 49, slidably positioned in the recess between members 35 and 40. Member 49 has a pair of holes 50 and 51 cut therethrough, normally aligned with holes 36 and 37 and 42 and 43. Secured to the inner end of member 49 in any desired suitable manner, is a rod 55, the extremity 56 of which is formed in a loop adapted to be positioned between bifurcations 57 formed at the extremity of rod 22, a pivot 58 being passed through suitable aligned apertures in the bifurcations 57 and the loop in the extremity 56, in alignment, normally, with pivot 30.

A slightly modified form of construction is disclosed in Figure 8, wherein a member 49a, adapted to be substituted for member 49, is similarly provided with a semi-circular extending portion 48a adapted to engage in the recess 47, and provided

with hexagonal apertures 50a and 51a, instead of the circular holes or apertures of the member 49.

A stop member, or spacer, 60 comprised of an extending portion 61 having a right angularly disposed lug 62 thereon, and a cylindrical portion 63, is adapted to be positioned about sleeve 12 and held in position, as by a set screw 64 passed through a suitable threaded bore therein.

From the foregoing, the operation of the device should be readily understandable. When it is desired to seat a rivet or bolt in an inaccessible location, as, for example, within a pipe, or the like, bent at an angle, the member 33 is adjusted with respect to the sleeve 10 about pivot 30 until the desired angular relationship, in conformity to the configuration of the pipe is achieved. A bolt is then positioned either through apertures 36, 50 and 42, or apertures 37, 51 and 43, it here being pointed out that the first set of apertures is adapted to be utilized for bolts or rivets having heads, the head being adapted to fit within the cup-shaped portion of member 45, and the second set of apertures adapted particularly for the use of flat-headed rivets or bolts, or the like. After the bolt has been seated, the handle member 17 is compressed with respect to the handle member 14, such movement causing inward movement of the rods 20, 22 and 55, thus moving the member 49 and disaligning apertures 50 and 51 with respect to apertures 36 and 37, and 42 and 43, and effectively clamping the rivet or bolt in position within the recesses, until such time as it is suitably located in the desired position. In the event a rivet is used, after the riveting block has been positioned therebehind, or in the event a bolt is used, after a nut has been secured thereon, the handle member 17 is released, and the spring 25, abutting nut 23, forces the parts back into position, thus realigning the apertures 50 and 51 and the apertures 36 and 37, and 42 and 43, whereupon the instrument may be readily removed from the positioned bolt and withdrawn for reuse.

Now, from the foregoing, it will be seen that there is herein provided a device which is sturdy and durable in construction, reliable and efficient in operation, and relatively simple and inexpensive to manufacture and operate, which accomplishes all of the objects of this invention and others, including many advantages of great practical utility and commercial importance.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiment hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative and not in a limiting sense.

I claim:

1. In a device of the character described, in combination, a sleeve, two spaced plates having aligned apertures therein secured to said sleeve, a plate having apertures therein positioned between said first-mentioned plates, and means extending through said sleeve for moving said last-mentioned plate to disalign said apertures.

2. In a device of the character described, in combination, a sleeve, two spaced plates having aligned apertures therein secured to said sleeve,

a plate having apertures therein positioned between said first-mentioned plates, and means extending through said sleeve for moving said last-mentioned plate to disalign said apertures, said last-mentioned means including a rod terminating in a handle member at the extremity of said sleeve.

3. In a device of the character described, in combination, a sleeve, two spaced plates having aligned apertures therein secured to said sleeve, a plate having apertures therein positioned between said first-mentioned plates, means extending through said sleeve for moving said last-mentioned plate to disalign said apertures, said last-mentioned means including a rod terminating in a handle member at the extremity of said sleeve, and resilient means for returning said plate to position to align said apertures.

4. In a device of the character described, in combination, a sleeve, a second sleeve pivotally secured thereto, two spaced plates having apertures therein secured to said second sleeve, a plate having apertures therein positioned between said first-mentioned plates, and means extending through said sleeves for moving said last-mentioned plate to disalign said apertures.

5. In a device of the character described, in combination, a sleeve, a second sleeve pivotally secured thereto, two spaced plates having apertures therein secured to said second sleeve, a plate having apertures therein positioned between said first-mentioned plates, means extending through said sleeves for moving said last-mentioned plate to disalign said apertures, and resilient means for returning said plate to position to align said apertures.

6. In a device of the character described, in combination, a sleeve, a second sleeve pivotally secured thereto, two spaced plates having apertures therein secured to said second sleeve, a plate having apertures therein positioned between said first-mentioned plates, and means extending through said sleeves for moving said last-mentioned plate to disalign said apertures, said last-mentioned means including two rods pivoted together at a point adjacent said pivotal connection between said sleeves, one of said rods being connected to a handle member exterior of the extremity of said first-mentioned sleeve.

7. In a device of the character described, in combination, a sleeve, a second sleeve pivotally secured thereto, two spaced plates having apertures therein secured to said second sleeve, a plate having apertures therein positioned between said first-mentioned plates, means extending through said sleeves for moving said last-mentioned plate to disalign said apertures, said last-mentioned means including two rods pivoted together at a point adjacent said pivotal connection between said sleeves, one of said rods being connected to a handle member exterior of the extremity of said first-mentioned sleeve, and a compression spring positioned about one of said rods, within one of said sleeves, adapted to bias said plate toward a position in which said apertures are aligned.

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