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2,319,003

BUCKING BAR

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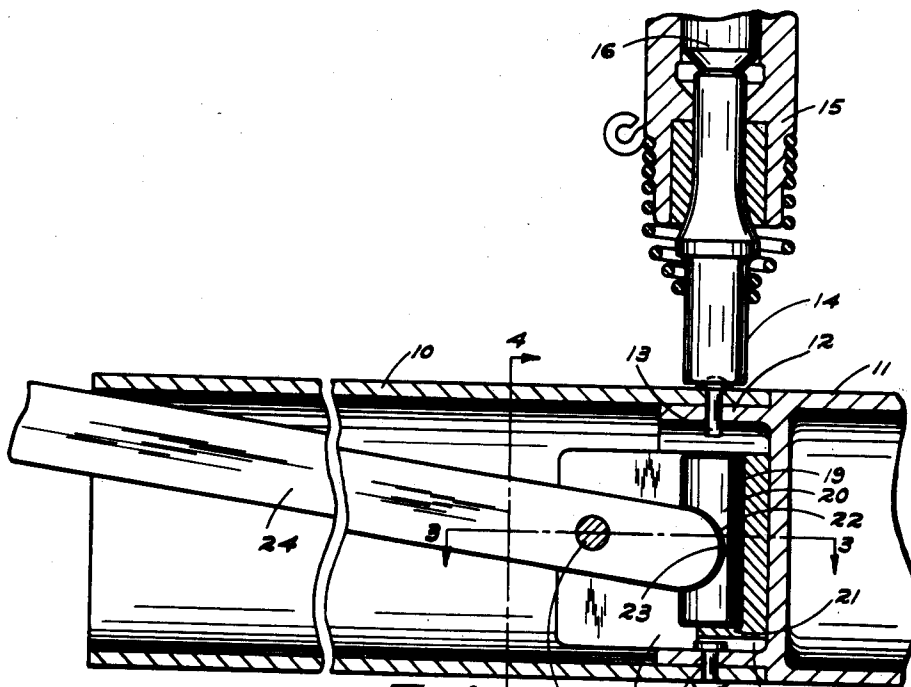


Fig. 1

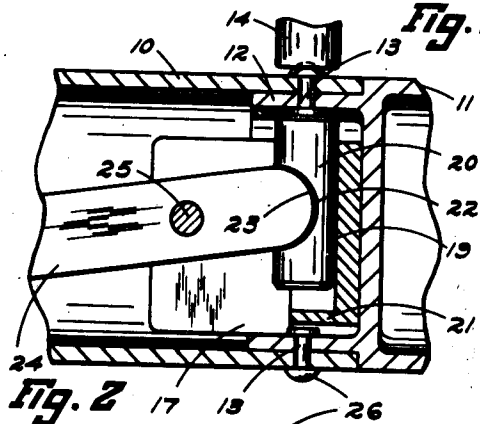


Fig. 2

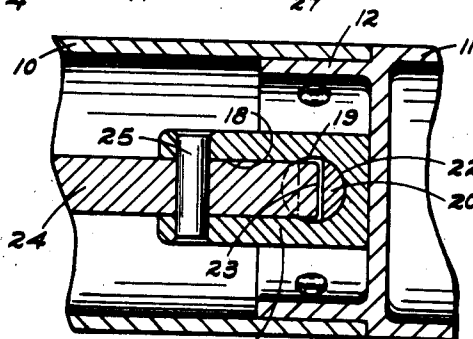


Fig. 3

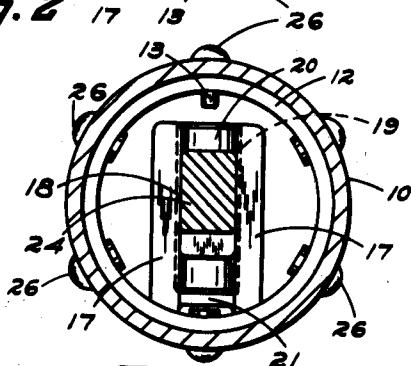


Fig. 4

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BUCKING BAR

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4 Claims. (Cl. 78—53.5)

This invention relates broadly to riveting devices and particularly to an improved bucking bar assembly for use in conjunction therewith.

One object of this invention is to produce an improved bucking bar which may be inserted within otherwise inaccessible interiors of hollow structures such as tubes to facilitate the riveting thereof.

Another object of this invention is to produce an improved bucking bar which will reduce to a minimum the effort required to locate and hold it against a rivet during the upsetting thereof.

Another object of this invention is to produce an improved bucking bar capable of applying high pressure to a rivet end with relatively little pressure exerted by the operator.

Other objects and advantages more or less ancillary to the foregoing reside in the specific construction and aggroupment of the elements peculiar to this structure, as will become apparent from a more complete examination of this invention.

In the drawing:

Fig. 1 is a longitudinal sectional view of an improved bucking bar within two tubular members about to be riveted. Also shown in this figure is the front end of a riveting hammer applied on the rivet adapted to be backed up by the improved bucking bar.

Fig. 2 is a view similar to Fig. 1 but illustrating parts of the improved bucking bar in another position.

Fig. 3 is a longitudinal sectional view taken in a plane indicated by line 3—3 in Fig. 1.

Fig. 4 is a cross sectional view taken in a plane indicated by line 4—4 in Fig. 1.

Referring to the drawing, for purposes of illustration, there are shown two tubular members 10 and 11, the member 11 being formed with a reduced portion 12 fitted within the member 10 and adapted to be riveted thereto. In Fig. 1 a rivet 13 is shown to extend radially through members 10 and 12, which rivet is engaged by a rivet set 14 slidably mounted within the front end 15 of a regular riveting hammer which, as is well-known in this art, has a reciprocable hammer 16 delivering impacts in rapid succession to the rivet set 14 for upsetting the rivet 13.

Referring now more particularly to the invention, the improved bucking bar includes a substantially rectangular block or casing 17 adapted to be inserted into the tubular members intended to be riveted. The block 17 is provided with a slot 18 extending vertically from one to the other

end of the block and longitudinally a predetermined depth to form at the bottom thereof a partly cylindrical vertical guideway 19 in which is free to slide a plunger or bucking bar 20. In order to limit downward movement of the plunger relative to the block 17, the guideway 19 is provided with a bottom wall 21 on which normally rests the plunger 20.

Intermediate its ends, the bucking bar 20 is provided with a partly cylindrical recess 22 extending laterally thereof and adapted to pivotally receive the rounded end 23 of a lever 24, which extends into the slot 18 of the casing 17 where it is pivotally connected by a cross pin 25. In practice the lever 24 is made long enough to extend outside of the tubular member 10 where it is accessible to the operator. In order to clear the upset ends of other rivets 26 in Fig. 1, the slot 18 of the casing 17 may extend below the bottom 21 of the guideway 19, as at 27.

In the operation when the rivet 13 is about to be upset, the bucking bar assembly may be positioned into the tube 10 as shown in Fig. 1 and downward pressure applied on the lever 24 by the operator, thus causing upward movement of the plunger 20 toward the rivet 13. Impacts delivered by the riveting hammer 15 on the rivet 13 will of course cause its free end to be gradually upset against the bucking bar in the usual manner until it finally reaches the final shape shown in Fig. 2. In operative position, the block 17 rests firmly on the bottom of the tube 10 or more specifically on the bottom of the extension 12 of the tube 11 while the plunger 20 is urged against the rivet 13 by relatively slight manual pressure exerted on the free end of the lever 24 protruding from the tube 10. When the upsetting of the rivet 13 is completed, the bucking bar assembly may be removed from the tube 10 sufficiently to clear the already upset rivet 26 and then again be positioned for engagement with the next rivet intended to be upset.

From the foregoing, it will be understood that the simple and compact improved bucking bar above described will make it possible to reach rivets in cases heretofore inaccessible by the usual bucking bar and that through the lever 24 pressure against the rivet may be materially increased without fatigue to the operator.

Although the foregoing description is necessarily of a detailed character, in order to completely set forth the invention, it is to be understood that the specific terminology is not intended to be restrictive or confining and it is to be further understood that various rearrange-

ments of parts and modifications of structural detail may be resorted to without departing from the scope or spirit of the invention as herein claimed.

I claim:

1. A device for holding rivets while riveting comprising, a block, a plunger slidable in said block for engagement with a rivet, a lever pivoted intermediate its ends to said block, and a recess formed intermediate the ends of said plunger adapted to pivotally receive one end of said lever, whereby the pivotal movement of said lever effects the slidable movement of said plunger into engagement with a rivet being set.

2. A device for holding rivets while riveting comprising, a block, a plunger slidable in said block for engagement with a rivet, a lever pivoted intermediate its ends to said block, one end of said lever having a rounded surface, and a semi-cylindrical shaped recess formed intermediate the ends of said plunger adapted to pivotally receive the rounded end of said lever, whereby the pivotal movement of said lever effects the slidable movement of said plunger into engagement with a rivet being set.

3. A device for holding rivets while riveting

comprising, a block, said block being formed with a slot extending vertically from one end to the other and longitudinally a predetermined depth to form a vertical cylindrical guideway, a plunger slidable in said guideway, a lever pivotally connected within said slot, and connecting means between said plunger and lever, whereby the pivotal movement of the lever in one direction effects the slidable movement of said plunger into engagement with a rivet being set.

4. A device for holding rivets while riveting comprising, a substantially rectangular shaped block, said block being formed with a slot extending vertically from one end to the other and longitudinally a predetermined depth to form a vertical cylindrical guideway, a plunger slidable in said guideway, a lever pivotally connected within said slot, one end of said lever having a rounded surface, and a semi-cylindrical shaped recess formed intermediate the ends of said plunger adapted to pivotally receive the rounded end of said lever, whereby the pivotal movement of said lever effects the slidable movement of said plunger into engagement with a rivet being set.

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