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J. DEZORZE
RIGID JAW, ENCLOSED WRENCH HAVING MANUALLY
CONTROLLED NUT EJECTOR
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2,543,444

Fig. 1.

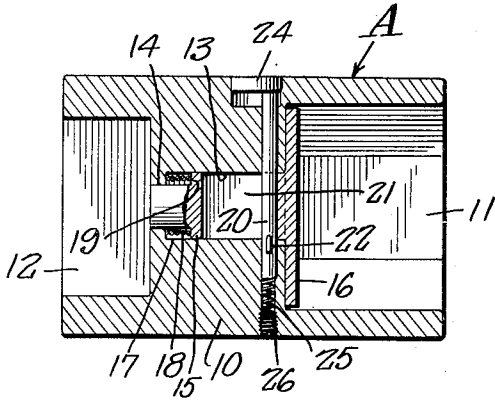


Fig. 2.

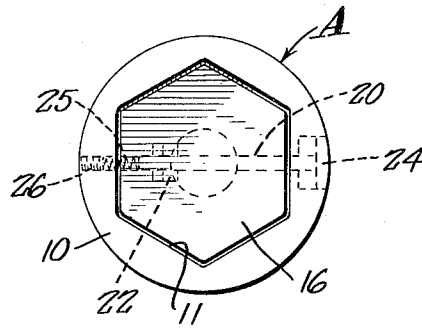


Fig. 3.

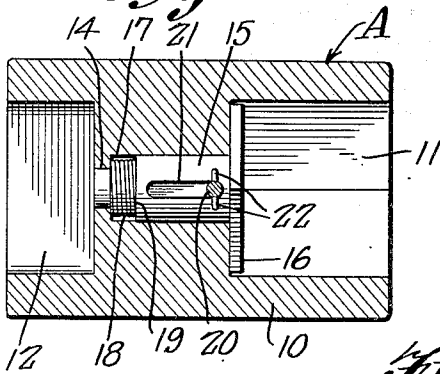


Fig. 4.

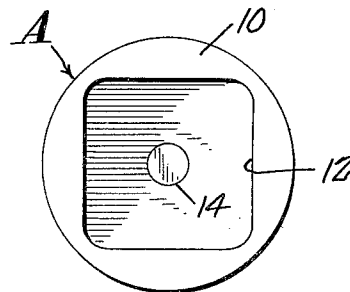


Fig. 5.

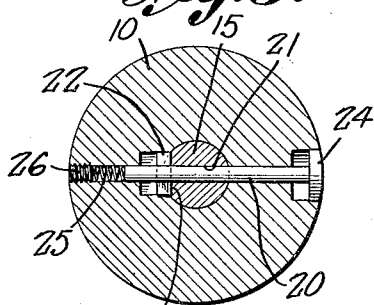


Fig. 6.

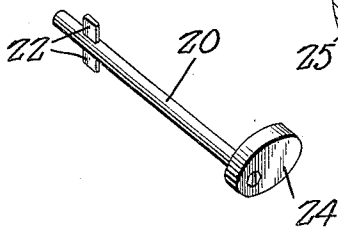
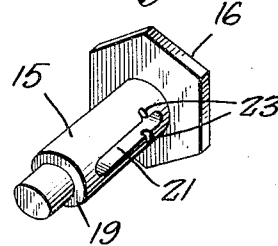


Fig. 7.



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UNITED STATES PATENT OFFICE

2,543,444

RIGID JAW, ENCLOSED WRENCH HAVING MANUALLY CONTROLLED NUT EJECTOR

Joseph Dezorze, Caspian, Mich.

Application February 20, 1945, Serial No. 578,908

1 Claim. (Cl. 81—124.1)

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The invention relates to a socket tool, and more especially to a wrench expeller socket device.

The primary object of the invention is the provision of a device of this character, wherein a piece of work firmly socketed within the tool can be expelled therefrom with ease and dispatch, without requiring the operator of the tool hammering or otherwise tapping the said tool for effecting its release from the work, particularly in congested places or restricted areas, thereby saving considerable time and trouble on the part of a workman or mechanic.

Another object of the invention is the provision of a device of this character, wherein its construction is unique and novel, and is a time saver to a mechanic or workman when desiring to release a wrench of the socket type from a part worked upon thereby.

A further object of the invention is the provision of a device of this character, wherein all parts thereof are well confined with the socket area of the wrench, and the device is manually controlled for releasing the wrench from the work, without inconvenience to a workman or mechanic.

A still further object of the invention is the provision of a device of this character, which is simple in construction, thoroughly reliable and efficient in operation, strong, durable, readily and easily handled, compact, positive in the functioning thereof, and inexpensive to manufacturer and install.

With these and other objects in view, the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawing, which discloses the preferred embodiment of the invention, and pointed out in the claims hereunto appended.

In the accompanying drawing:

Figure 1 is a vertical longitudinal sectional view through a socket member for a wrench, showing the device constructed in accordance with the invention applied.

Figure 2 is an end view.

Figure 3 is a view similar to Figure 1 but taken at substantially right angles thereto.

Figure 4 is a view similar to Figure 2 looking at the opposite end of the socket member.

Figure 5 is a sectional view taken on the line 5—5 of Figure 1 looking in the direction of the arrows.

Figure 6 is a perspective view of the trigger.

Figure 7 is a perspective view of the expeller plunger.

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Similar reference characters indicate corresponding parts throughout the several views in the drawing.

Referring to the drawing in detail, A designates generally a socket member for a wrench, and is in the form of a cylindrical body 10, of the usual well-known construction, having in one end thereof a substantially squared flat-faced socket 12 for the interfitting with this body of a turning handle not shown, which is of any conventional type. The other end of the body 10 has in this instance the hexagonal shaped socket 11 for accommodating a nut or other piece of work not shown to be operated on in the use of the wrench in the ordinary manner.

The sockets 11 and 12 are separated from each other by a dividing wall integral with the body 10, and centrally of this wall is formed a stepped bore, its larger diameter 13 opening into the socket 11, while the smaller diameter 14 opens into the socket 12, respectively. Slidably fitting the bore is the stem 15 of an expeller plunger having the expeller head 16 operating within the socket 11 and is of a size to clear the walls of the said socket in the operation of the plunger.

The end of the stem 15 remote from the head 16 fits the smaller portion of the bore, while the remaining portion of the stems fits the larger portion 13 of the said bore, the stepping of latter creates a shoulder 17 therein against which contacts a coiled expansion spring 18, while the shaping of the stem to this bore creates a shoulder 19 for this spring so that the latter will force the head 16 outwardly of the socket 12 to expel a nut or piece of work engaged therein, when the plunger is released for this purpose.

Slidably fitted within a suitable clearance in the body 10 is a pin trigger 20, which extends transversely through an elongated slot 21 formed longitudinally in the plunger, and this trigger 20 is provided with latching nibs 22 for engaging in keeper notches 23 in the plunger stem 15 to maintain the expeller head 16 retrieved within the socket 12 and against expelling action. The trigger 20 is provided with a push button terminal 24, which is accessible for finger operation, exteriorly of the body 10. The trigger 20 is tensioned by a spring 25 confined within the clearance therefor by a plug 26, which is removable.

Should the piece of work engaged in the socket 12 resist release therefrom, a punch can be used to tap the smaller end of the plunger for disengagement of the work from such socket. Ordinarily, the trigger 20 is operated to free the

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plunger so that its head 16 will expel the work from the socket 12 in the body 10 of the member A.

What is claimed is:

In a wrench expeller socket having a cylindrical body provided with a work gripping end having formed therein a hexagonal shaped socket, a dividing wall in the body inwardly of said socket having a bore therein and an expeller head in the socket having a stem thereon receivable in the bore and a coiled spring on the stem within the bore to urge the head outwardly of the socket, and said stem having an elongated slot therein, the improvement comprising, a locking means for said stem including, a pin mounted transversely of the body within the slot in the stem, latching nibs on said pin and keeper notches in the body communicating with the slot and adapted to be engaged by the nibs on the pin to hold the expeller head retracted, a push button terminal on said pin accessible for

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manual operation of the pin exteriorly of the body to release said expeller head and a spring carried by the body and engageable with the pin to urge the nibs on the pin into engagement with the keeper notches.

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