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2,700,166

CAM OPERATED ADJUSTABLE THREAD RECONDITIONER

Filed June 4, 1951

Fig. 1

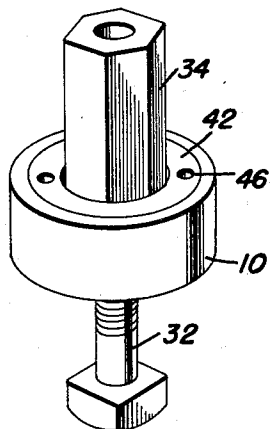


Fig. 2

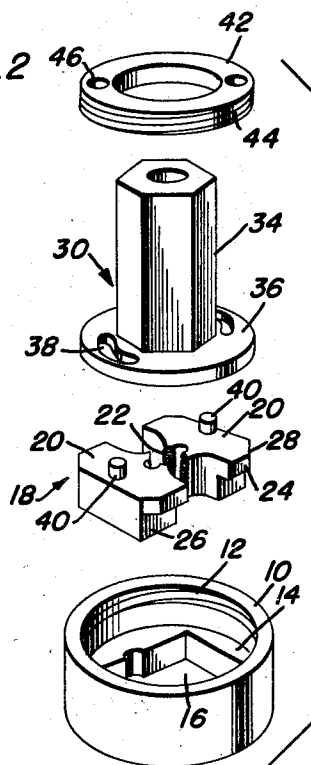


Fig. 3

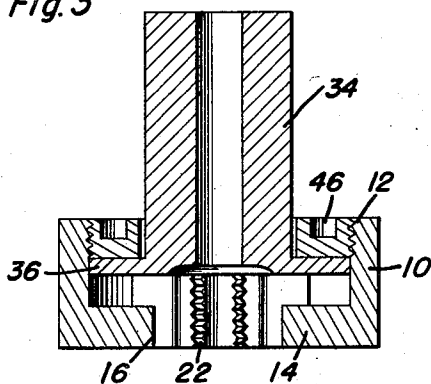


Fig. 4

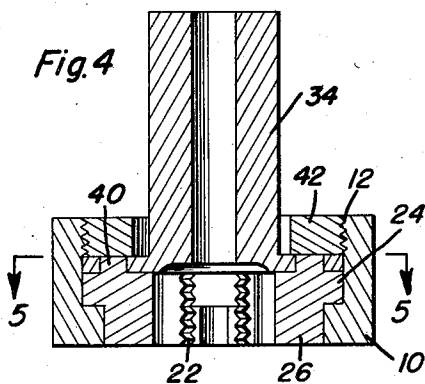
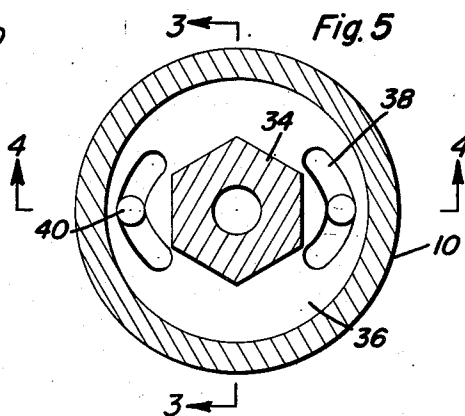


Fig. 5



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CAM OPERATED ADJUSTABLE THREAD RECONDITIONER

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Application June 4, 1951, Serial No. 229,769

1 Claim. (Cl. 10—1)

This invention relates to a device for quickly, easily and efficiently reconditioning injured or worn threads on bolts, screws, and similar threaded elements.

An important object of the invention is to provide a thread reconditioner which is easy to assemble upon a bolt, which can be adjusted to accommodate bolts of varying diameters, and which accomplishes the rethreading by backing the device off or turning it on the bolt as the case may warrant.

These, together with various ancillary objects and features of the invention which will later become apparent as the following description proceeds, are attained by the device, a preferred embodiment of which has been illustrated, by way of example only, in the accompanying drawings, wherein:

Figure 1 is a perspective view of the device shown mounted on a bolt to be reconditioned;

Figure 2 is a group perspective view of the device;

Figure 3 is a sectional view taken on the line 3—3 of Figure 5;

Figure 4 is a sectional view taken on the line 4—4 of Figure 5; and

Figure 5 is a sectional view taken on the line 5—5 of Figure 4.

Specific reference is now made to the drawings. In the several views in the accompanying drawings and in the following specification reference characters indicate corresponding elements throughout.

The embodiment of the present invention which has been illustrated comprises a substantially cup-shaped die holder 10 comprising an internally threaded upper portion 12. The holder 10 further includes an integral bottom 14 having a substantially rectangular opening 16.

A die assembly 18 is provided having two spaced dies or jaw members 20 having opposed, semi-circular, cooperating thread cutting teeth 22. The jaws include lateral flanges 24 adapted to rest upon the bottom 14 of the housing or holder and reduced portions 26 received in the rectangular opening 16 of the holder. The edges of the flanges 24 are cut off as at 28 to allow for a proper fit of the jaw members in the holder.

A means 30 is provided for spreading the jaw members so that they can easily slip on a threaded bolt 32 requiring reconditioning and this means includes a hex-

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agonally shaped shank 34 having an annular flange 36 at its lower end, the flange including diametrically opposed, circumferentially extending, substantially U-shaped cam slots 38. These cam slots receive upstanding lugs 40 carried by the jaw members 20.

To secure the jaw spreading means 30 on the holder 10, a retainer ring 42 is provided having an external thread 44 engaged in the thread 12 of the holder, the ring including diametrically spaced recesses 46 for receiving a forked operating handle or tool (not shown).

In use, the device is assembled in the manner clearly suggested in Figures 1 and 2. By rotating the shank 34 into a neutral position, the cam slots 38 engaging the jaw lugs 40 will cause the jaws to spread so that the device can readily slip on the bolt 32. Rotation of shank 34 in either direction will cause the jaws to close about and grip the bolt. By applying a socket or tool to shank 34 and turning the whole device either off or on the bolt, the bolt will be automatically reconditioned or rethreaded.

In view of the foregoing description taken in conjunction with the accompanying drawings, it is believed that a clear understanding of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention, the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claim.

Having described the invention, what is claimed as new is:

A rethreading tool comprising, a substantially cup-shaped holder including a bottom having a rectangular opening, a pair of opposed complementary dies operable longitudinally in the opening and comprising lateral supporting flanges slidable on the bottom, said dies further including upstanding lugs, a polygonal tubular shank rotatable in the holder and rising thereabove for engagement by a turning tool, a flange on the lower end of said shank rotatable on the dies and having substantially U-shaped cam slots accommodating the lugs for operatively connecting the dies to the shank for closing thereby upon rotation of said shank in either direction, the legs of the cam slots being closer to the center of the die opening than the bight portion of said cam slots and a retaining ring threadedly mounted in the upper portion of the holder and engaged with the flange.

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