

[54] **PACKING EXTRACTOR**

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30/164.5; 29/278; 294/61

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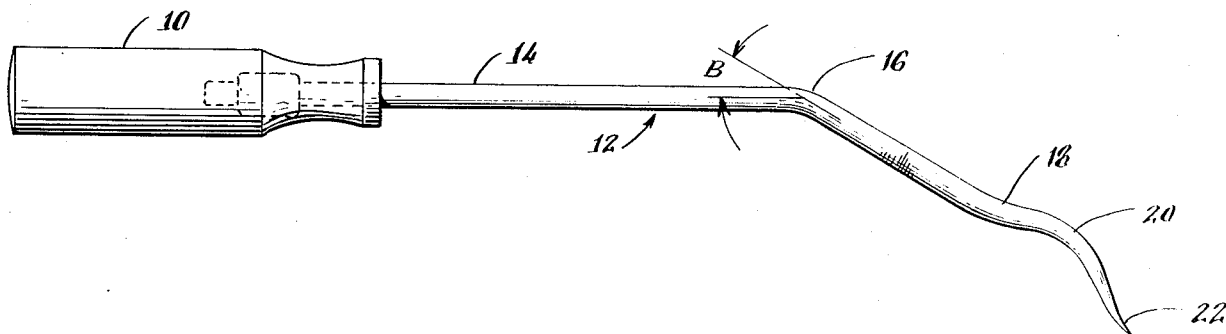
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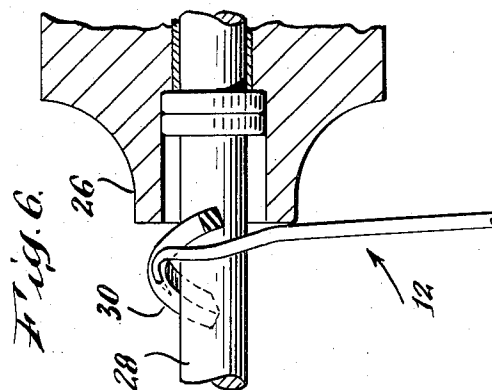
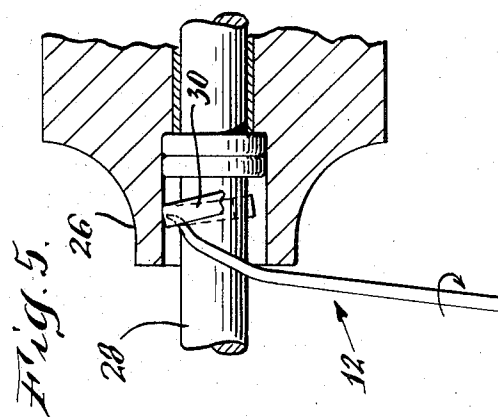
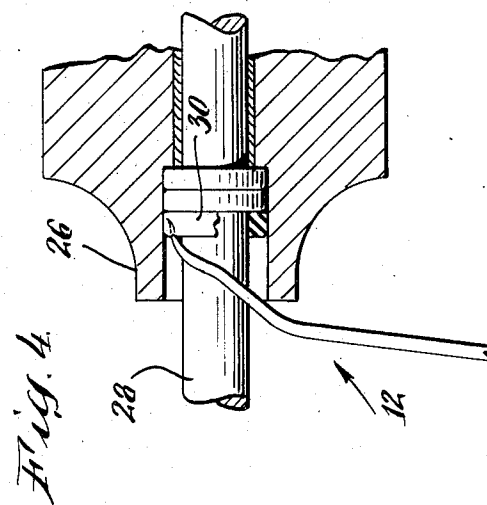
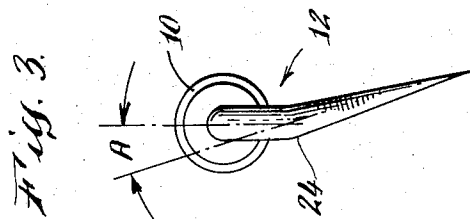
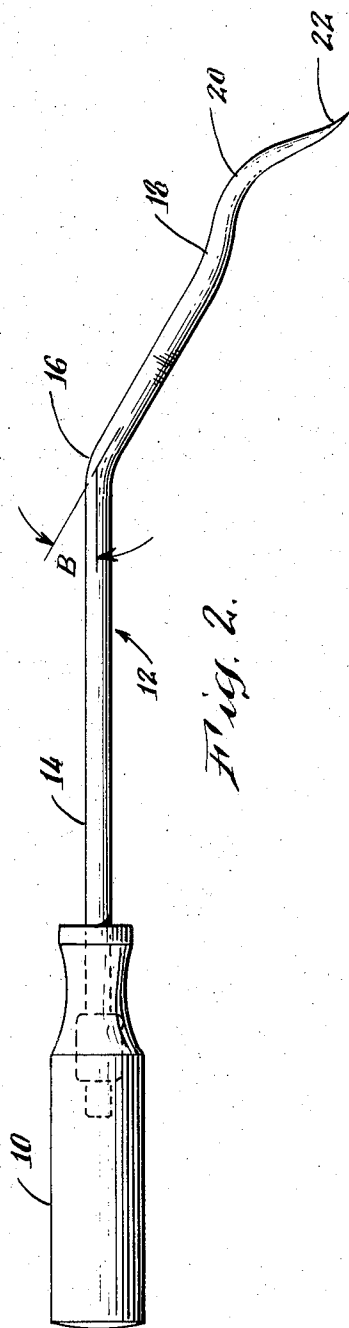
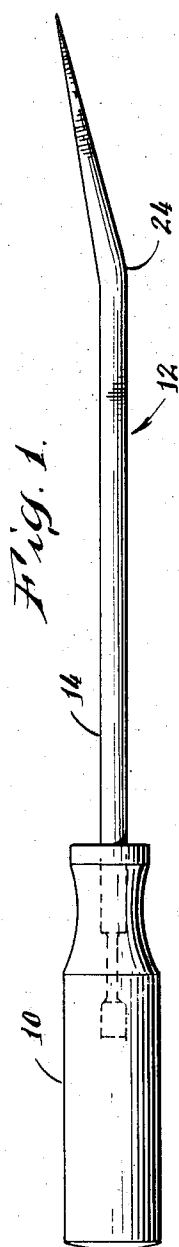
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[57] **ABSTRACT**

A tool for extracting packing from a gland which comprises a handle with a pointed rod extending therefrom. The rod is curved in such a manner as to overlie a shaft and has an angular offset permitting the point to be more easily driven into the packing.

2 Claims, 6 Drawing Figures





PACKING EXTRACTOR

BACKGROUND OF THE INVENTION

The packing in a stuffing box must be changed at periodic intervals as leakage occurs around the shaft. A number of tools have been devised for removing the old packing. Many of these tools employ a spiral or worm construction to engage the packing. Tools of this type are illustrated in U.S. Pat. Nos. 118,823 of Smade, 919,808 of Bales, 931,718 of Bales, and 1,858,176 of Webb. Other types of tools employ a simple pick at the end of a straight shaft. Tools of this general type are disclosed in U.S. Pat. Nos. 118,823 of Smade, 532,557 of Hoffman, and 2,207,661 of Dugan. Many of the tools in accordance with the prior art are relatively complex and are somewhat difficult to use. One reason for this is that the space around the shaft is limited and difficult to enter. Accordingly, it is a primary object of the present invention to provide a packing extractor of simplified construction which can be easily manipulated by one hand of the user.

SUMMARY OF THE INVENTION

In accordance with the present invention, there is provided a tool for removing packing from a packing gland which comprises a handle and an elongated rod extending from the handle. The rod terminates in a point. It has a straight portion adjacent the handle, a first downward curve at the end of the straight portion, an upward second curve spaced from the first curve, and a third downward curve adjacent the point. The rod also has an offset angle intermediate the first and third curves.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a top view of a tool constructed in accordance with the present invention;

FIG. 2 is a side view of the tool of FIG. 1;

FIG. 3 is an end view of the tool of FIG. 2;

FIGS. 4-6 form a sequence illustrating the use of the tool in removing packing.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The tool of this invention is illustrated in FIGS. 1-3. It comprises a handle 10, similar to that used in a common screwdriver, and a pointed rod 12 extending therefrom. The rod is curved in such a fashion as to be easily inserted into a packing gland around a shaft to readily engage the packing and, by a simple twisting motion, to remove the packing from the gland.

The rod 12 includes a straight portion 14 adjacent the handle and a first downward curve 16 at the end of

the straight portion. Referring to FIG. 2, it will be noted that a second upward curve 18 is provided further along the rod, followed by a third downward curve 20 adjacent the point. In the illustrated version, the point itself defines an upward curve 22. This final curve, however, is optional and is not required in all tools. Finally, an important feature of the tool of this invention is the offset angle 24 shown in FIGS. 1 and 3. The angle A formed by the offset 24 and illustrated in FIG. 3 may be varied somewhat, however, the preferred angle is 15°.

The use of the tool of this invention is best illustrated in FIGS. 4-6, which illustrate a packing gland 26, a shaft 28, and packing 30. The tool is first inserted into the gland as illustrated in FIG. 4. Due to the uniquely curved shape of the rod 12, it can be inserted from the side of the gland while readily encircling shaft 28. Furthermore, the offset 24 causes the point of the tool to lie at an angle to the packing 30. As a result, the user can thrust the point into the packing by a simple forward motion of the hand. After so engaging the packing, the handle is simply twisted as illustrated in FIG. 5 and the curvature of the point carries the packing along the shaft until it emerges from the gland as shown in FIG. 6.

It will be understood by those skilled in the art that various modifications may be made in this invention. However, as an illustrative example of a tool constructed in accordance therewith, in one embodiment, the straight portion 14 has a length from the end of the handle of approximately 4 inches and the angle B at 16 is 30°. The upward curve at 18 has a 2 inches radius and the downward curve 20 has a 3/8 inch radius. The final optional upward curve 22 has a 3 inches radius. Other variations and modifications will be apparent to those skilled in the art. Accordingly, the foregoing description is to be construed as illustrative only, rather than limiting. This invention is limited only by the scope of the following claims.

I claim:

1. A tool for removing packing from a packing gland which comprises: a handle; and an elongated rod extending from said handle and terminating in a point, said rod having a straight portion adjacent said handle, a first downward curve at the end of said straight portion, an upward second curve spaced from said first curve, a third downward curve adjacent said point, an upward fourth curve defined by said point, and an offset angle intermediate said first and third curves.

2. The tool of claim 1 wherein said offset angle is substantially 15° from the plane of said first curve.

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