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ADJUSTABLE DETENT WRENCH FOR SCREW CALKS

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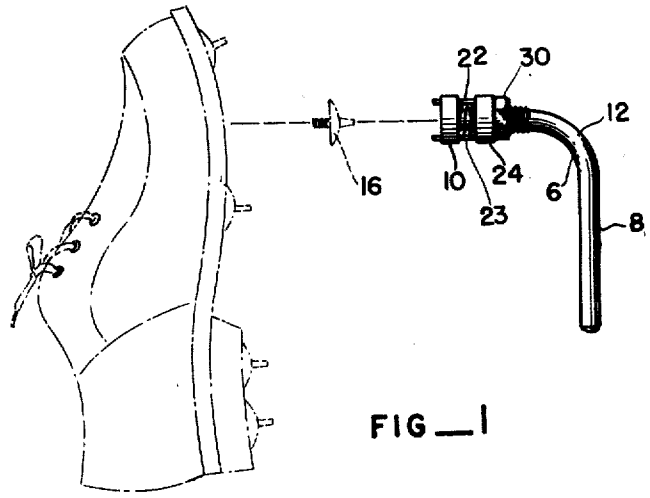


FIG_1

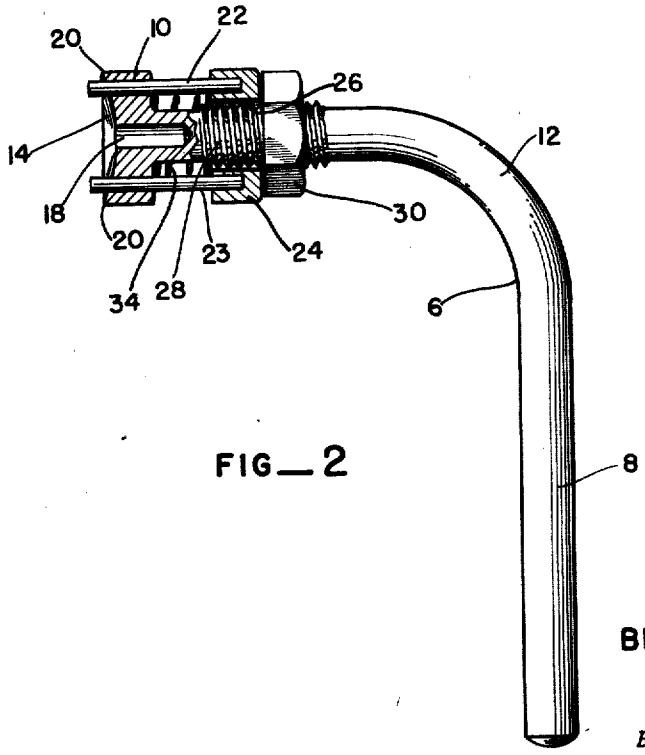


FIG_2

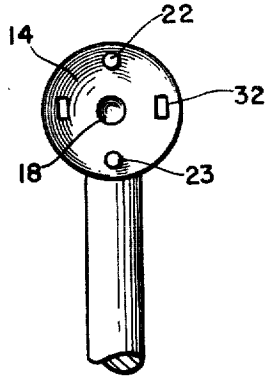


FIG_3

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ADJUSTABLE DETENT WRENCH FOR SCREW CALKS

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3 Claims. (Cl. 81—90)

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My present invention relates to the general art of detent wrenches, and more particularly to an adjustable detent wrench for screw calks.

There are many sports and commercial activities which require the participant to wear calks in their shoes, and for many of these activities it is desirable to use what is known as a screw calk, or a calk having a pointed portion and a disk-like base portion, and a screw, like a wood screw in part, for the engagement of the sole of the shoe. Probably one of the greatest uses for such equipment is in golfer's shoes. However, in the industrial field, a great number of screw calks are used by loggers and other persons who must insure their footing against slipping. Many outdoors people, surveyors, mountain climbers, hunters and others, have this type of equipment.

In the past, screw calks have normally been furnished together with a detent wrench of inexpensive construction so that the initial setting of the calks can be achieved. In actual use, however, it is often desirable to reduce the number of calks or to change the location of the same, in case through injury, the leather or composition sole material has been deformed so that it no longer securely engages the calk. It is for this broader group that my calk wrench is specifically designed. My wrench, which should be accurately and carefully made, is provided with a replaceable unit which carries a plurality of detents of the cross-section desired and which may be fed through the head of the wrench so that engagement of the proper depth can be achieved. Then, as the detents may become damaged or worn through use, the same can be redressed to provide a new accurate engaging portion, and with each of the various detents engaging to the same desired amount.

There are other fields in which my detent wrench may be applied if made on a larger scale, such as for the handling of tank filling, deck fittings on boats, for instance; or for the filling plates used so commonly in the handling of fuel oils and the like in commercial establishments and especially in the home, where an outside filler is normally employed to fill the main storage tanks with fuel oil.

The principle object, therefore, of my invention is to provide a detent wrench having a plurality of detents in an easily replaceable unit, so that the shape or character of the detents can be likened to the job at hand.

A further object of my invention is to provide a detent wrench wherein the detent can be accurately fitted to the work to be undertaken as to spacing.

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A further object of my invention is to provide a detent wrench in which the detents themselves may be accurately dressed for the purpose intended, or may be redressed after use or damage.

A further object of my present invention is to provide a detent wrench in which the working length of the detents can be varied to fit the will of the user, or the job at hand.

A further object of my present invention is to provide a detent wrench which is characterized by simplicity of construction to the end that it may be economically made and will have but few parts that can become deranged to the extent of putting the wrench out of order for the work intended.

Further objects, advantages and capabilities will be apparent from the description and disclosure in the drawings, or may be comprehended or are inherent in the device.

In the drawings:

Figure 1 is a general view showing my wrench in its final assembled form in the normal relationship with a screw calk and a shoe in which the calk is to be set;

Figure 2 is a general view of my wrench with certain parts in sections so as to better illustrate the construction thereof;

Figure 3 is a fragmentary view showing the face plate of my wrench, with the handle broken away.

Referring more particularly to the disclosure of the drawings, my device is constructed substantially as an L-shaped member having the handle portion 8, to one end of which is secured a head 10 of disc form and having a diameter sufficiently larger than the handle 8 so that the various parts associated with the head can be disposed in an operable arrangement. The handle has an intermediate bend at 12, so that the axes of the two end portions are substantially at right angles to each other, thus forming an effective crank or wrench. The head portion 10 is provided with a configured face 14. The shape of the work engaging face 14 should conform strictly to the job the wrench has to work on. In the drawings I have illustrated it as being concave or saucerlike, so that it may more easily engage a typical screw calk flange, illustrated in dashed lines at 16. It is believed it will be apparent that certain uses might require this to be convex or flat or otherwise, conforming to the surface to which it is applied.

It is further desirable to provide some starting or centering means for engaging surface 14. In

the illustration, because it fits over a spike member, I have provided an axial bore 18, which is adapted to fit over the spike of a calk and to center surface 14 on the flange of the screw calk. In certain other instances, particularly for deck flanges and the like, it is many times necessary to use the sharp corners found at the outer periphery of surface 14, as at 20, as a guide means, and have them machined to fit a concentric circle on the flange or fitting. In any event, it is necessary that guide means be provided in order that the detents, as 22 and 23, can quickly find their respective openings. Without this guiding means the placement of the two spaced detents in their detent holes is a laborious one, and one difficult to accomplish except under ideal conditions.

Detents 22 and 23 as shown are fixedly secured within an annular detent base ring 24. Ring 24 assures the parallel spacing of detents 22 and 23, which is essential for the operation of this device. Detent ring 24 is provided with a bore 26 of sufficient diameter so that it will snugly engage the points of the threads 28, which are formed on the crank of my device near the head. Disposed around handle 6 and between head 10 and ring 24 is a compression spring 34 which serves to withdraw the detents until ring 24 seats in its adjusted position against nut 30.

It is desired that it be clearly understood that threads 28 formed on the crank proper should be of substantially increased diameter over the diameter of the body of the crank. Generally, this adds to the strength of the device in that if this enlargement did not take place the threaded portion would be the natural point of weakness; but a more important object of this enlargement is to provide for the easy replacement of ring 24 and its positioning or adjusting nut 30. It will be noted from, particularly, Figure 2 of the drawings, that with the increased diameter as shown the root diameter of threads 28 is greater than the diameter of handle 8 and nut 30 and ring 24 can be removed off end 8 of the wrench proper and will easily pass around the bend at 12.

In Figure 2 I have illustrated the detents 22 and 23 as being cylindrical. It is to be noted in Figure 3, however, that rectangular openings 32 are provided, and it naturally follows, it is believed, that any cross-section of detents might be employed, and two or three different size detents or of different cross-section could be employed in a single tool, merely by changing ring 24 with its attached detents.

It will be clearly apparent, it is believed, from the above description and the disclosure in the drawings that the invention comprehends a novel construction of a detent wrench which is simple and positive in operation and which permits flexibility in maintenance and adaptation to various uses.

Having thus disclosed the invention, I claim:

1. A screw calk wrench consisting of a handle bent to form a crank; a head formed as part of said handle and having a greater diameter than said handle; a screw thread of greater diameter than said handle disposed on said handle adjacent said head; a plurality of detent openings passing through said head; a plurality of detents disposed for reciprocation in said detent openings; an annular detent ring to which said detents are secured in parallel relationship and mounted to slide on said screw thread; and a positioning nut operable on said thread to position said annular detent ring.

2. A screw calk wrench consisting of a handle bent to form a crank; a head formed as part of said handle and having a greater diameter than said handle; a screw thread on said handle adjacent said head, the root diameter of said screw thread being greater than the diameter of said handle; a plurality of detent openings passing through said head parallel to the horizontal axis of said screw thread; an engaging surface on the outer face of said head having means for centering said wrench; a plurality of detents disposed for reciprocation in said detent openings; an annular detent ring to which said detents are secured in parallel relationship and to slidably engage said screw thread; a positioning nut operable on said thread to position said base ring and means urging said annular detent ring against said nut.

3. A screw calk wrench consisting of a handle having a straight head end, a straight handle end portion and a right angle bend intermediate said ends; a head formed as part of said handle and having a greater diameter than said handle; a screw thread of greater diameter than said handle disposed on said handle adjacent said head; a plurality of detent openings passing through said head parallel to the horizontal axis of said screw thread; an engaging surface on the outer face of said head having means for centering said wrench; a plurality of detents disposed for reciprocation in said detent openings; an annular detent ring to which said detents are secured in parallel relationship and to encircle and slidably engage said screw thread; a positioning nut operable on said thread to position said base ring and means urging said annular detent ring against said nut.

BERNARD INGRAM.

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