Aug. 30, 1927. 1,640 970

W. H. WESTERMAN

THREAD PROTECTOR

Filed May 18, 1927

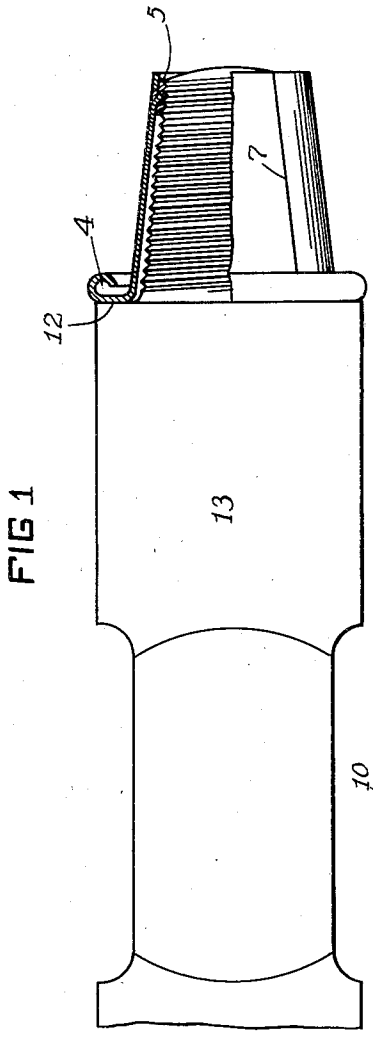


FIG 1

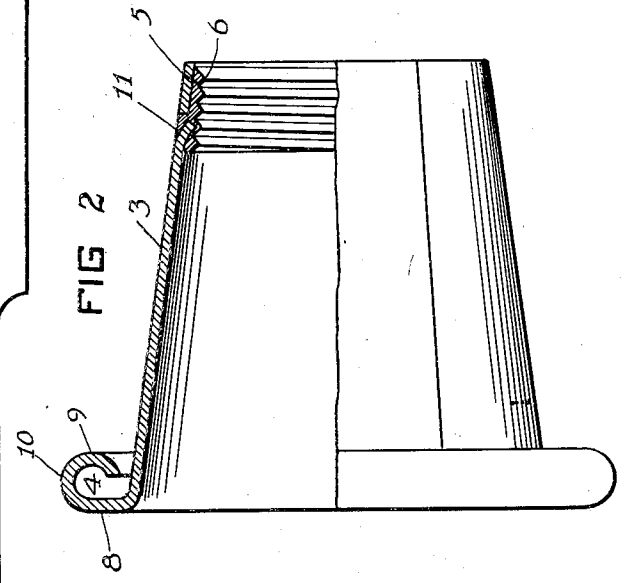


FIG 2

INVENTOR

William H. Westerman

By Green and McCallister

His Attorneys

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UNITED STATES PATENT OFFICE.

WILLIAM H. WESTERMAN, OF MARIETTA, OHIO.

THREAD PROTECTOR.

Application filed May 18, 1927. Serial No. 192,499.

This invention relates to protectors for use in connection with pins of well drilling tools and with other shouldered devices having threaded pin-like extensions.

This application is a continuation in part of an application Serial No. 592,163 filed by me on October 3, 1922, and allowed on January 11, 1927.

One object of this invention is to provide a pin protector which is relatively cheap to manufacture, which is easily applied and which provides effective protection for the pin threads as well as the shoulders of the tool or other device to which the protector is applied.

This, as well as other objects which will be apparent to those skilled in this art, I attain by means of the device described in the specification and illustrated in the single sheet of drawings accompanying and forming part of this application.

In the drawings Figure 1 is a view partially in elevation and partially in section of a protector embodying this invention shown in applied position on a pin forming a part of a well drilling tool, and Fig. 2 is a similar view but on an enlarged scale and more clearly discloses the structure of the protector than does Fig. 1.

The protector comprises an annular body 3 which is tapered from end to end and which at its larger end is provided with an outwardly extending double walled flange 4. At its smaller end the protector is provided with an internal ring 5 of soft metal, preferably lead, having internal threads 6 formed therein.

The body of the protector, as well as the flange, is preferably formed from a single piece of sheet metal cut to proper shape and butt welded together along a longitudinal seam 7.

The double walled flange is formed by curling the metal of the body outwardly and back on itself, thus forming two walls 8 and 9 which are separated one from the other but joined by curved wall 10.

The small end of the body of the protector is provided with wickers or prongs 11 which project inwardly. The threaded ring is cast in place within the portion of the body having the wickers.

When the protector is applied to the pin of a well drilling tool in the manner illustrated in Fig. 1, the double walled flange abuts against the shoulder 12 of the tool 13 and, projecting laterally beyond the surface of the tool, affords effective protection for the shoulder. The small end of the protector projects beyond the end threads of the pin and the soft metal ring, the threads of which are readily made to conform to the threads of the pin, affords effective protection for the pin threads as well as a seal for the same.

The wickers supplement the ring threads and by engaging the pin threads take from the threads of the soft metal ring a portion of the burden.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:—

1. A thread protector comprising a tapered body portion open at both ends, having an outwardly extending double walled flange at its large end and an internal ring of relatively soft metal provided with internal threads at its small end.

2. A thread protector comprising a body portion open at both ends, having internal threads formed in a lead ring secured within and adjacent one end and at its other end terminating in an outwardly extending double walled annular flange.

3. A thread protector comprising an annular body portion open at both ends with an outwardly extending double walled flange at one end and inwardly extending prongs at the other end and a ring of relatively soft metal cast in place within the body portion and engaging said prongs.

4. In a thread protector, a tapered body portion, a threaded ring member formed of lead secured in one end of the body portion, a flange formed at the opposite end of the body portion, said flange extending outwardly and then inwardly to provide an end cushioning member.

5. In a thread protector, an annular body, a threaded ring formed of relatively soft material and secured within one end of the body portion, and a flange formed at the opposite end of the body portion, said flange having double walls to provide an end cushion.

In testimony whereof, I have hereunto subscribed my name this 11th day of July, 1927.

WILLIAM H. WESTERMAN.