April 12, 1932. H. A. UNKE 1,853,945

THREAD PROTECTOR

Filed Sept. 9, 1930

Fig. 1

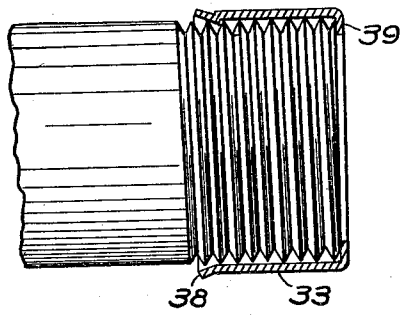


Fig. 2

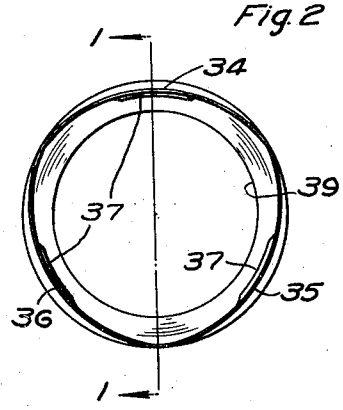


Fig. 3

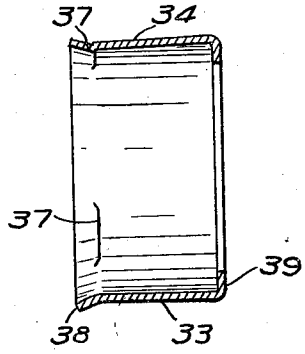
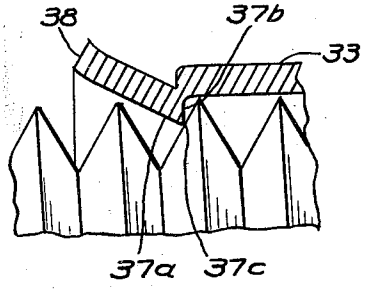


Fig. 4



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UNITED STATES PATENT OFFICE

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THREAD PROTECTOR

Application filed September 9, 1930. Serial No. 480,743.

This invention relates in general to devices for protecting the threads of pipes and other threaded products during handling and shipment, and has reference more particularly to certain new and useful improvements in the thread protector shown and described in my Patent No. 1,783,892, granted December 2, 1930.

In my aforesaid patent, I have shown and described a thread protector that is very low in cost and which is adapted to be readily placed in position over the threads and is not likely to become displaced while the pipe is being handled.

It is a primary object of the present invention to provide a thread protector which is somewhat similar to the protector shown in the aforesaid patent, but which is so formed that it may be made of lighter gauge sheet metal, more easily forced to its proper position over the threads and more easily removed from the pipe or other threaded product than said protector.

Other objects of the invention and the features of novelty will be apparent from the following description taken in connection with the accompanying drawings, wherein

Fig. 1 is an elevation of the end of a piece of pipe on which is shown one form of thread protector, embodying my invention, the protector being shown in section on line 1—1 of Fig. 2;

Fig. 2 is an elevation of the left hand end of the protector shown in Fig. 1;

Fig. 3 is an axial section through the protector, and

Fig. 4 is a portion of Fig. 1 on an enlarged scale.

Referring now to the drawings in detail, the thread protector comprises a cup shaped sleeve 33, the internal diameter of which is slightly larger than the external diameter of the threads, and one end of which is slightly flattened at a plurality of points, as shown at 34, 35 and 36 in Fig. 2. While I have shown in the drawings a protector having three such flattened portions, it will be understood that the sleeve may be formed with any desired number of flattened portions. The flattened portions 34, 35 and 36 are provided with inwardly projecting lugs 37, which are of triangular cross-section and have a gently sloping side 37*a* and a vertical side 37*b*, which meet at an edge 37*c*. The protector is further provided with an outwardly flaring mouth 38, which facilitates positioning the protector on the pipe, and with an end flange 39, which engages the end of the pipe.

When the sleeve is forced over the threads, the latter tend to spring the end of the sleeve having the flattened portions 34, 35 and 36 into annular form, but the resiliency of the metal of the sleeve causes the lugs 37 to spring into the space between two threads and thereby hold the sleeve in position. The gently sloping sides 37*a* of the lugs permit the protector to be easily forced over the threads of the pipe, while the vertical sides 37*b* of the lugs prevent the protector from being pulled off of the pipe by straight axial movement, but permits it to be readily unscrewed therefrom.

While the flattened end of the sleeve and the flange 39 do not make tight joints with the pipe, these connections are sufficiently tight to permit this form of protector to be used for protecting the threads in such coating operations as galvanizing. A slight amount of the galvanizing material will work into the space between the threads and the protector, but experience has shown that the amount of the coating material that adheres to the threads is relatively small, but is sufficient to prevent rusting during the time that the pipe is normally held in storage, or is in transit.

As shown in my aforesaid patent, the sleeve of the protector is provided with a continuous bead of substantially semi-circular cross-section. This bead makes the sleeve of the protector relatively rigid and inflexible, with the result that an undue amount of force must be exerted to push the protector to its proper position over the threads, or to remove it from the pipe by either straight axial movement or by unscrewing it therefrom. The absence of the continuous bead and the novel lug construction makes the sleeve of the present thread protector much more flexible than that of the protector described in the

aforesaid patent, and therefore permits it to be more easily forced to its proper position over the threads and more readily unscrewed from the pipe than said protector.

While I have shown and described the preferred form of my invention, it will, of course, be understood that I do not regard my invention as limited to the particular embodiment disclosed, since various changes may be made therein without departing from the spirit of the invention and the scope of the appended claims.

Claims

1. In combination with a threaded element, a thread protector comprising a metal sleeve having at one end thereof an end wall engaging the end of the threaded element, the other end of said sleeve having spaced portions which are pressed radially inwardly, said spaced portions only being provided with inwardly projecting lugs for engaging the threads of said element.

2. A combination as set forth in claim 1, in which the lugs are of substantially triangular cross-section.

3. A protector for threaded elements comprising a metal sleeve having a laterally extending wall portion at one end thereof, the other end of said sleeve having spaced portions which are pressed radially inwardly, said spaced portions only being provided with inwardly projecting lugs for engagement with the threads of said element.

4. A protector as defined in claim 3, in which the lugs are of substantially triangular cross-section.

5. A protector for a threaded element, comprising a metal sleeve having a laterally extending wall portion at one end thereof, and at its other end said sleeve having spaced radially flexible inwardly pressed portions, said spaced portions only being provided with inwardly projecting lugs for engagement with the threads of said element.

6. A protector as defined in claim 5, in which the lugs are of substantially triangular cross-section.

7. A protector for a threaded element, comprising a metal sleeve having means at one end thereof for engagement with the end of said element, and at its other end spaced portions lying at a shorter radial distance from the axis of said sleeve than the portions of said end intermediate said spaced portions, said spaced portions only having inwardly projecting lugs.

8. A protector as defined in claim 7, in which the lugs are of substantially triangular cross-section.

In testimony whereof I affix my signature.

HERMAN A. UNKE.