Nov. 9, 1926. 1,606,341

B. BROWNSTEIN

PIPE THREAD PROTECTOR

Filed Jan. 30, 1926

Fig. 1.

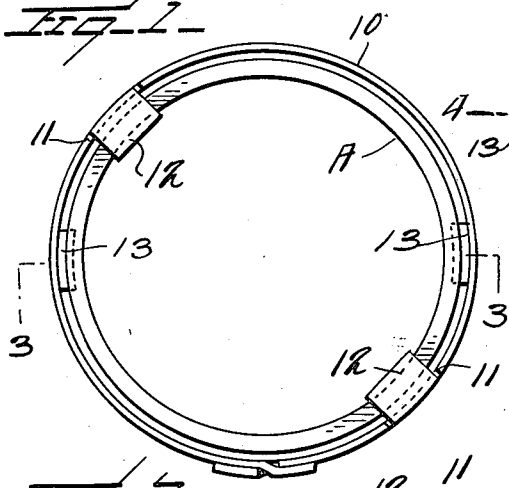


Fig. 3.

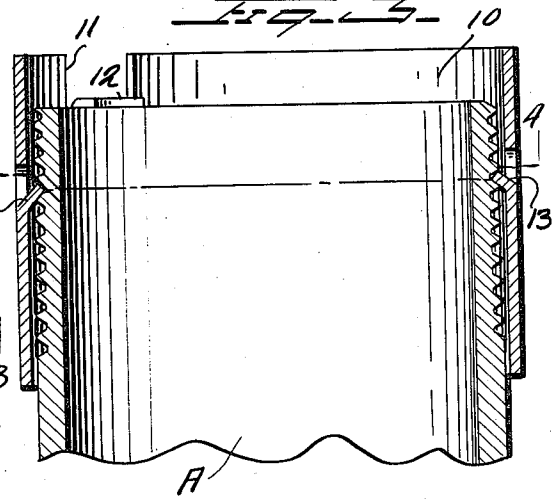


Fig. 2.

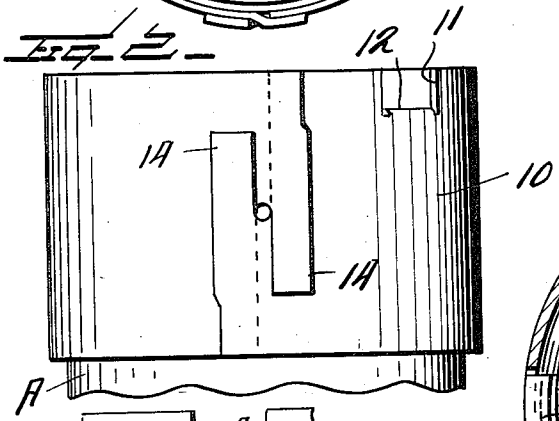
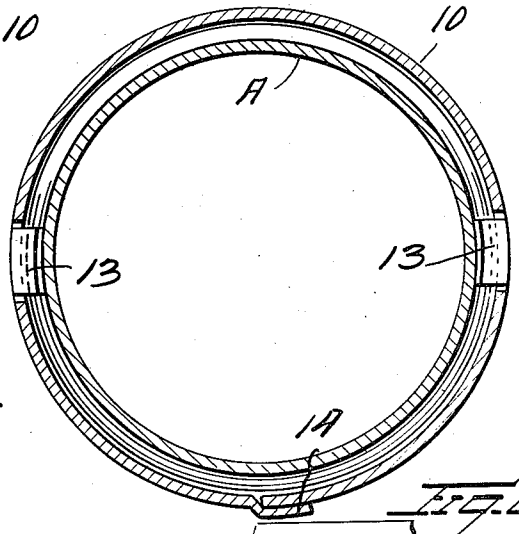


Fig. 4.



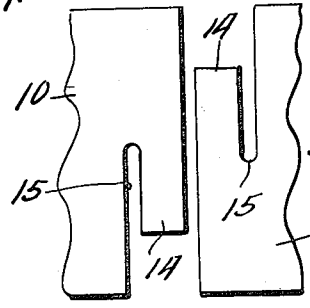


Fig. 5.

Fig. 6.

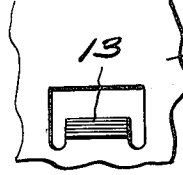


Fig. 8.

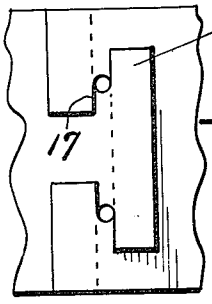
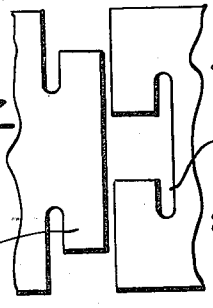


Fig. 7.



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UNITED STATES PATENT OFFICE.

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PIPE-THREAD PROTECTOR.

Application filed January 30, 1926. Serial No. 84,983.

This invention relates to thread protectors for pipes. Every pipe that is made is furnished with one coupling which is screwed on one end of the pipe and which protects the screw threads at one end of the pipe. The opposite end of the pipe, however, is sent out with a thread protector thereon, these thread protectors being cheaper than couplings.

The reason thread protectors are provided is to prevent the threads from being damaged in handling and shipping, this being necessary because the joints in pipe depend upon perfect threads, and when pipe is used in steam lines, water lines, oil and gas lines, it is important to have good threads so that perfect joints can be made.

Since one coupling is always used on one end of each joint the couplings or protectors which are used at the other end of the pipe for protecting the threads cannot be used and are wasted. Obviously these protectors cannot be used inasmuch as they are thrown away by the users, therefore, manufacturers are seeking as far as possible a cheap thread protector which shall fulfill the requirements of the case and not be expensive.

The general object of my invention is to provide a thread protector which fulfills the above requirements due to the fact that it is made from sheet metal in punch presses in a few operations and eliminates the most expensive operation, namely, that of threading. Another object is to provide a construction which will eliminate heating of the skelp, welding and, when the protectors are made from plates, the many drawing operations that are required to produce a cylinder ready for the threading operation.

A further object is to form a protector which will fit any taper or number of threads of a given size and can be easily screwed on or off without any trouble and without any special wrench.

My invention is illustrated in the accompanying drawings wherein:—

Figure 1 is a top plan view of my thread protector in applied position upon a pipe;

Figure 2 is an elevation of the thread protector and pipe shown in Figure 1;

Figure 3 is a section on the line 3—3 of Figure 1;

Figure 4 is a section on the line 4—4 of Figure 3;

Figure 5 is a fragmentary elevation of the two ends of the protector shown in Figure 1;

Figure 6 is a fragmentary elevation showing the manner in which the lugs 13 are formed;

Figure 7 is a fragmentary elevation showing another form of interlock; and

Figure 8 is a view showing the two ends of the thread protector separated.

Referring to these drawings it will be seen that my improved thread protector is formed of a sheet metal blank which is bent into a circle and this protecting sleeve so formed being designated 10. The upper end of the blank is cut away at a plurality of points, as at 11, forming vertical slots and the metal between these slots is turned angularly inward to form a stop 12. Preferably there are two of these stops disposed in opposite relation, as illustrated in Figure 1. For the purpose of causing the protector to engage with the screw threads of the pipe upon which it is placed, and hold the protector in place against displacement, I form the sheet metal blank below the stops, with inwardly extending tongues 13, these tongues being formed by cutting an approximately U-shaped slot through the metal and striking inward the tongue defined by said slot so that this tongue will be disposed at an angle to the body of the blank less than a right angle. This construction permits the protector to be screwed downward upon the screw threads or unscrewed when it is desired to remove the protector.

For the purpose of engaging the ends of the blank with each other I may form the blank with the tongues 14 which extend at right angles to the length of the blank and extend inward from the middle line of the blank, the remainder of the blank beyond this tongue being cut away and the tongue being separated from the body of the blank by the relatively wide slit 15. The tongue 14 on one end of the blank extends in the reverse direction to the tongue 14 on the opposite end of the blank and thus it will be seen that these two tongues may be interlocked to thus hold the ends of the blank closed. This joining of the ends of the blank may be very quickly accomplished. After the blank is punched out the thread engaging projections 13 are bent to their proper inclination and the joint interlock-

ing tongues 14 are bent at right angles to the body of the blank. The blank is then formed into a ring and the joint interlocking tongues are engaged with each other and then flattened out which completes the protector. It will be noted that the recesses 11 formed in the upper edge of the protector by pressing the stop lugs 12 inward, constitute means whereby a rod or shank may be engaged with the protector to screw it down upon the pipe A or to unscrew it therefrom without the necessity of using any special wrench. While I have illustrated two stops it will be obvious that more stops might be used and the same is true of the number of thread engaging lugs 13.

In Figure 7 I have illustrated another means for interlocking the ends of the blank which consists in forming upon one end of the blank a relatively wide tongue 16 and forming the other end of the blank with a slot 17 through which this tongue projects, this slot being relatively narrow so that when the blank is expanded the head 16 will be drawn against the wall of the slot and the parts will be interlocked with each other.

I claim:—

1. A pipe thread protector of the character described comprising a protecting sleeve made of thin metal, the sleeve having tongues struck downwardly and inwardly at the upper end of the sleeve to constitute stops, the openings thus left constituting means whereby a shank may be applied to rotate the protector, and the protector being formed with inwardly projecting lugs adapted to engage the screw threads of a pipe.

2. As an article of manufacture a pipe protector of the character described embodying a sleeve, the sleeve at its upper margin being formed with inwardly projected stops struck from the body of the sleeve to thereby leave slots above the stops, said slots constituting means whereby a shank may be applied to the protector to rotate it, the protector below said stops being formed with integral inwardly projecting tongues struck from the body of the protector and adapted to engage the screw threads of a pipe.

3. A pipe thread protector of the character described comprising a protecting sleeve made of thin metal, the sleeve having tongues struck downwardly and inwardly adjacent the upper end of the sleeve to constitute stops, the openings thus left constituting means whereby an implement may be applied to rotate the protector, the protector being formed with integral inwardly projecting tongues extending toward the upper end of the sleeve, the last mentioned tongues being resilient and adapted to engage the screw-threads of a pipe.

In testimony whereof I hereunto affix my signature.

BENJAMIN BROWNSTEIN.