May 24, 1949. L. GAZDIK 2,471,209

PROTECTOR FOR PIPES

Filed April 18, 1944

FIG. 1.

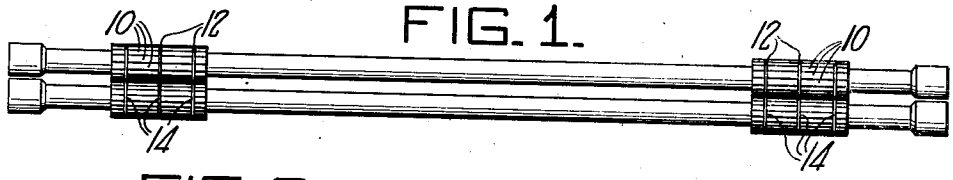


FIG. 2.

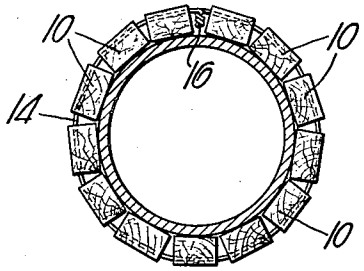


FIG. 3.

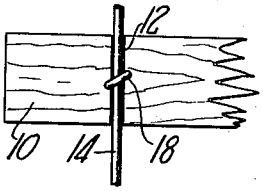


FIG. 4.

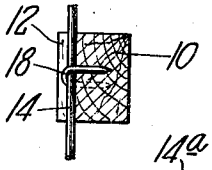


FIG. 5.

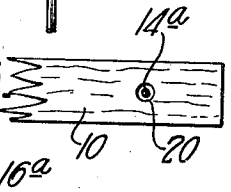


FIG. 6.

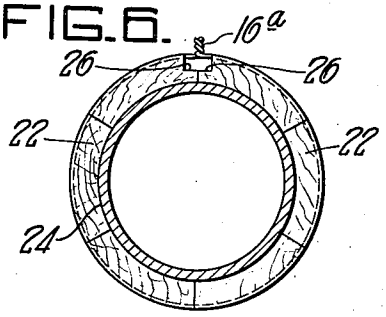


FIG. 7.

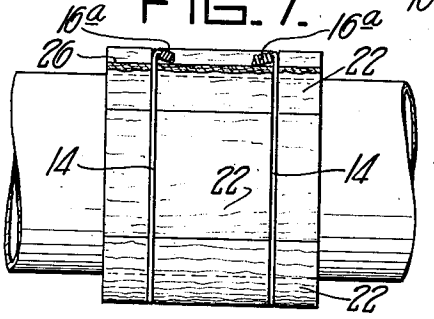


FIG. 8.

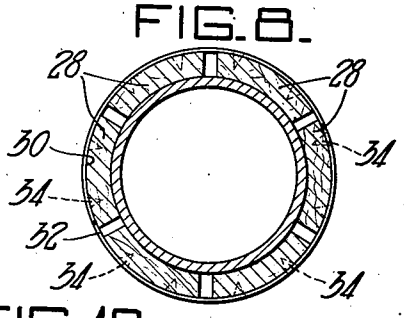


FIG. 9.

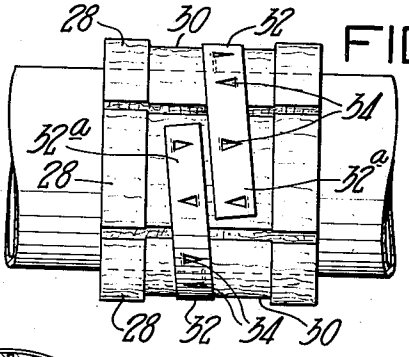
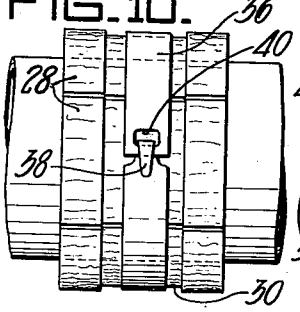


FIG. 10.



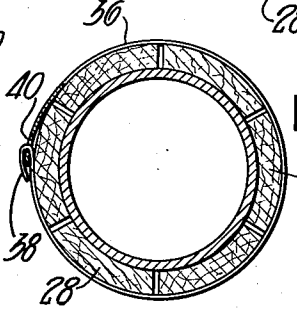


FIG. 11.

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PROTECTOR FOR PIPES

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Application April 18, 1944, Serial No. 531,667

3 Claims. (Cl. 138—25)

1

This invention relates to a spacer collar for pipes and has for its object the provision of an extremely simple and inexpensive protector for pipes having at least one end upset or enlarged. The various novel features which characterize the invention will be apparent from consideration of the following detailed disclosure, the accompanying drawings, and the appended claims.

In the drawings:

Figure 1 is an elevation showing a plurality of juxtaposed pipes protected in accordance with the invention.

Figure 2 is a cross section of a pipe equipped with the preferred form of protector embodying the invention.

Figure 3 is a detail plan view showing the component parts of the protector.

Figure 4 is a cross section of Figure 3.

Figure 5 is a detail of a protector block of modified form.

Figure 6 is a view similar to Figure 2, illustrating a modification in which the protector is jointly formed of a plurality of segmental blocks.

Figure 7 is an elevation of Figure 6 with a portion broken away in the interest of clarity.

Figure 8 is a view similar to Figure 6 showing a further modification.

Figure 9 is an elevation of Figure 8, illustrating an alternative form of tie member.

Figure 10 is a view similar to Figure 9, illustrating a further modification of the tie member.

Figure 11 is a cross section of the device shown in Figure 10.

Wrought steel pipes much as those required in the drilling of oil wells and building of boiler plants and like equipment, are frequently formed with external enlargements or upset ends. For example, enlargements used on oil well drill pipes may amount to two inches over the outside diameter of the normal pipe body. Such pipes are commonly transferred in lifts or bundles by overhead cranes, as they are moved from station to station on a mill floor or are transported to different points on freight cars. As the pipes are lifted by the crane, they array themselves within the cables of the crane sling in a bundle of approximately circular cross-section. The upset ends of the pipes frequently contact upset ends of juxtaposed pipes or the body portions of other pipe. Thus, as the load settles in the cables of

2

the crane sling, one or more of the pipe lengths frequently bear the full load, with the result that there is sufficient deflection in the pipe to cause a permanent set to take place, thus producing distorted or crooked pipe which must be straightened before shipment to the customer.

I have invented means to avoid damage to pipes of the type above mentioned. To this end, as an incident to the formation of the pipe at the start of the upsetting operation, I apply a protector which may take the various forms shown in the accompanying drawings, and said protector remains upon the pipe during the upsetting operation and until the pipe arrives at its final destination.

The simplest, least expensive, and therefore the preferred form of the invention, is that illustrated in Figures 1 to 4 inclusive. The protector there illustrated merely constitutes a multiplicity of wooden billets or elongated blocks **10** each having a groove or saw kerf **12** in the exterior surface thereof, there being a sufficient number of billets to substantially encircle or enclose a short length of the pipe near each end thereof. Flexible tie members, such as wires **14**, are seated in the grooves **12** with the ends thereof twisted together as at **16**, thus holding the protective sleeve formed jointly by the plurality of billets in proper assembled relation about the exterior of the pipe. In some cases staples **18**, as indicated in Figures 3 and 4, will be driven into the sticks, to hold the tie wires in position prior to the assemblage about the pipe. As shown in Figure 5, it is contemplated that instead of grooving the exterior of the billets, in some cases holes **20** may be formed therein for reception of the tie wire as shown at **14a**.

In the modification of Figures 6 and 7, instead of using substantially plain rectangular billets such as shown in Figure 2, I provide a plurality of substantially arcuate blocks **22**, the inner arcuate faces **24** of which are of a radius to fit the particular pipe to which the protector is to be secured. Certain of the segmental blocks **22** may be provided with a recess **26** adapted to receive the twisted ends **16a** of the tie wire, which are adapted to be bent down into the recess, as suggested in Figure 7.

In the modification of Figures 8 and 9, segmental blocks **28** are of arcuate form and are

recessed on their exterior, as shown at **30** in Figure 9, to accommodate a wide metal tie strip **32** adapted to be helically wrapped around the several segmental blocks so that the ends **32a** thereof pass one another, as also shown in Figure 9. In this modified form of tie member, prongs **34** are stamped out of the metal of the band and adapted to be driven into or otherwise embedded in the blocks.

Figures 10 and 11 illustrate a construction much the same as that shown in Figures 6 and 8, except that the tie member **36** in this modification is a simple flat band having a tongue **38** at one end adapted to be passed through an eye or perforation **40** at the opposite end and bent over in the manner shown so as to hold the segmental blocks in place. The blocks are preferably, although not necessarily, made of hard wood, for the reason that mixed hard woods can be obtained more cheaply than soft woods. Oak, while usable for some purposes, is not as suitable as other wood, since it contains tannic acid which promotes corrosion when brought into contact with steel. It is also within the scope of the invention to use segmental blocks or billets made of synthetic substances such as hardened thermoplastic materials, pressed wood or the like, having a base of sawdust, shavings, and excelsior, with a suitable binder to give it toughness.

Various modifications may be resorted to without departure from the invention as defined in the appended claims.

I claim:

1. A bearing collar for a pipe length having an enlargement and serving to space juxtaposed lengths apart to prevent interference between their enlarged ends, said collar comprising a series of blocks extending longitudinally of a pipe length and disposed side by side around the circumference thereof, said blocks being recessed on the exterior from a point adjacent one end thereof to a point adjacent the other end, thereby leaving a raised shoulder at each end and a securing band extending around said blocks between said shoulders.

2. In a method of protecting the enlarged ends of pipe from contact with each other when pipe lengths are handled in bundles by a sling, the steps including laying on each pipe length adjacent the enlarged end but inwardly thereof, a plurality of bearing members extending longitudinally of the length and covering substantially the entire circumference thereof and securing a tension bond about said members.

3. The combination with a pipe length including a barrel of uniform diameter and an enlarged muzzle at one end, of a spacer collar encircling the barrel adjacent said muzzle but disposed inwardly thereof, composed of a plurality of bearing blocks extending longitudinally of the length and disposed side-by-side around the circumference thereof and a tension bond about said blocks.

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