May 12, 1931. J. W. LESLIE 1,804,472

PIPE HANGER

Filed Aug. 16, 1926

Fig. 1.

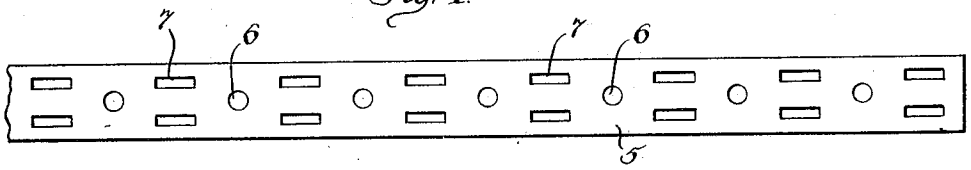


Fig. 2.

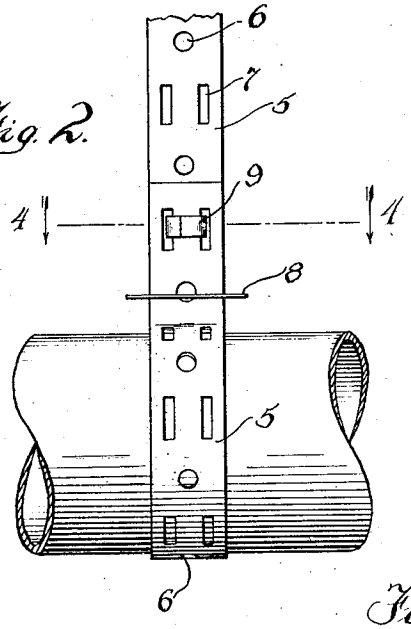


Fig. 3.

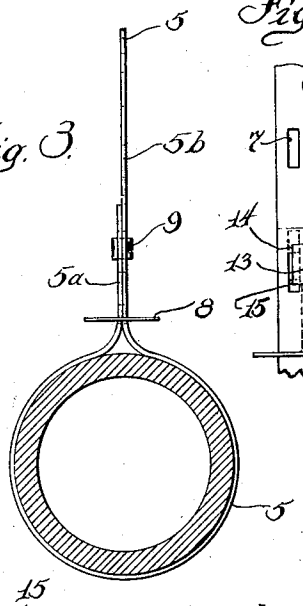


Fig. 7.

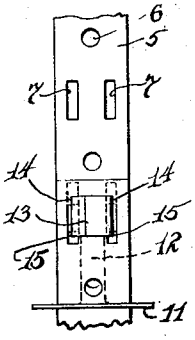


Fig. 5.

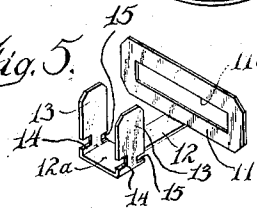


Fig. 4.

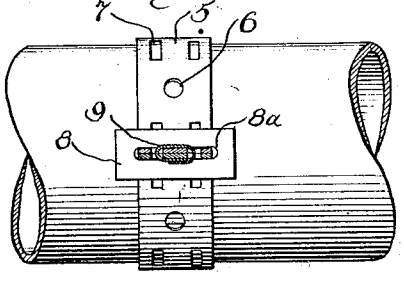
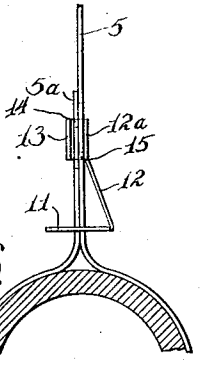


Fig. 6.



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UNITED STATES PATENT OFFICE

JOHN W. LESLIE, OF EVANSTON, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO SIGNODE STEEL STRAPPING COMPANY, A CORPORATION OF DELAWARE

PIPE HANGER

Application filed August 16, 1926. Serial No. 129,332.

My invention relates to hangers for pipes, cables, etc.

It is an object of my invention to provide a hanger which is simple in construction, can be cheaply manufactured and which is readily adjustable to support pipes of different sizes.

A further object of this invention is to furnish a pipe hanger of material thin enough to be coiled and be easily carried in a plumbers or steamfitters kit and at the same time furnish a strong enough joint so that there will be a sufficient factor of safety.

A further object is to provide an improved pipe hanger which may be readily attached to the pipe being supported, and which does not require special tools for securing it in position.

Other objects will appear from the following description, reference being had to the accompanying drawings, in which

Figure 1 is a plan view of a strip of perforated and slotted metal used in the hanger;

Figure 2 is a side elevation of the hanger shown as secured to a pipe;

Figure 3 is an end elevation of the hanger as shown in Figure 2, the pipe being shown in cross-sections;

Figure 4 is a horizontal cross-sectional view taken on the line 4—4 of Figure 2;

Figure 5 is a perspective view of modified form of buckle and clasp; and

Figure 6 is a view showing the pipe in section and a portion of the hanger in elevation, illustrating the use of the modified form of buckle and clasp.

Figure 7 is a side elevation of the modification shown in Figure 6.

Pipe hangers of the general type disclosed herein have been in use for some time. However, when the strips are made of a gauge of metal sufficiently heavy to support the desired weight, they are not pliable enough to be easily wound in a coil, and, therefore, are usually furnished in relatively short strips. In cutting these strips into the proper length for actual use, a short unusable piece is frequently left over, and wasted. On the other hand, in the type in which the strip is made of a strip of metal which is thin enough to be readily coiled, the fastening means available are not of sufficient strength to support the required weight.

The pipe hanger strip of my invention overcomes the difficulties of each of these gauges of pipe hanger stock, in that the strip which I use is of sufficiently heavy gauge metal to easily support the required weight and is made flexible by perforations so that it can be easily coiled and carried with the workman's tool kit.

The strip 5 is perforated with spaced perforations 6 along its center line and pairs of slots or holes 7 interposed between these perporations. The slots or holes and perforations are preferably spaced at rather short intervals so that the hanger will be readily adjustable to various sized pipes.

As shown in Figures 2 and 3, the hanger is bent around the pipe or cable being supported, and its free end 5*a* bent upwardly so as to lie flat against the vertical supporting portion 5*b*.

A buckle or collar 8, which is a flat plate of metal which has a central longitudinal slot 8*a*, is passed over the portions 5*a* and 5*b* and preferably forced downwardly so as to be frictionally held in the position as shown in Figure 8. This collar 8 takes up the spreading stresses.

A strip of relatively ductile metal 9 is passed through the registering slots 7 in the portions 5*a* and 5*b* and bent over as best shown in Figure 4 so as to bind these portions together and prevent relative sliding movement between them.

The perforations 6 not only form suitable apertures through which bolts, screws or nails may be passed to fasten the hanger to the supporting member (not shown), but also make it easy for the workmen to bend the strip in a smooth curve around the pipe or cable.

It will be seen that the operation of securing the hanger to a pipe is very simple. The workman need only bend the strip about the pipe, pass the collar over the two portions and insert the ductile clasps in the slots, which can be readily done with the use of a pair of pliers.

In Figures 5, 6 and 7 I have shown a modi-

fication of the fasteing means in which the collar and clasp are formed of one piece. A T-shaped projection 12 formed integral with the plate or collar and extending perpendicular thereto at the mid portion of one of its longer sides, has a pair of lugs 13 extending at right angles from the ends of the head 12*a*. The lugs 13 are adapted to pass through pairs of slots 7 in the strip 5, the slot 11*a* in the collar 11 being adapted to fit around a plurality of strips to prevent them from spreading. As shown in Figure 6, the T-shaped projection 12 forms a rigid connecting link between the clasp and the collar and thus maintains the collar in the desired position relative to the clasp. The fastener may also be provided with the grooves 14, 14 in the upper side of the lugs 13, of a width equal to the thickness of the strip 5, and located in said lugs, spaced from the head 12*a* a distance equal to the thickness of the strip 5, and with grooves 15 in the lower edge of the lug 13 adjacent the head 12*a*, for a purpose further to be described.

In the use of the fastener shown in Figures 5 and 6 the collar is first passed over the strip 5 and, after the strip has been passed around the pipe or other object being supported, is again threaded through the slot 11*a* of the collar 11 and adjusted so that a pair of slots in the end portion 5*a* lie in register with a similar pair of slots in the portion 5. The lugs 13 may then be inserted through the registering slots in the two adjacent portions of the strip 5 and 5*a* and when the weight of the pipe is supported by the hanger the end 5*a* will tend to slide down (as shown in Figure 6) relative to strip 5, until the upper edge of the holes or slots 7 in the strip 5*a* rest on the lugs 13 in the grooves 14, as shown in Figures 6 and 7. The rear strap 5 will likewise tend to slide upward relative to the strap 5*a* and the lower edge of the slots or holes in the strap 5 will bear against the lower surface of the lugs 13 in the grooves 15 as shown in Figures 6 and 7. By disposing the grooves 15 immediately adjacent the head 12*a* and the grooves 14 spaced a distance from the head 12*a* equal to the thickness of the strap 5, these grooves are so located as to be adapted to receive the edges of holes in the different straps which bear against them.

The clasp will then be retained in place by the shoulders of the grooves 14 and grooves 15 engaging with their respective straps 5*a* and 5, without bending the lugs 13 laterally to meet each other against the strip 5*a* but for further security and a permanent fastening the lugs 13 may be bent over as well to securely clasp these portions together, and at the same time form an anchor for the collar plate 11. This construction has advantages over that above described in that the workman need handle fewer parts, and in addition in that the positive positioning of the collar plate 11 over the strap portions results in a firmer joint.

While I have shown and described my invention in its preferred forms, it will be apparent that it is capable of variation within equivalent limits, and I contemplate such variation as may be desirable or useful in the particular adaptation of the invention shown, or in its adaptation for other uses. I do not restrict myself in any unessential particulars, but what I claim and desire to secure by Letters Patent is:

1. A hanger comprising a strip of sheet metal having pairs of slots and perforations therein, said strip being adapted to be formed in a loop about an object to be supported so that an end of said strip may be positioned adjacent the middle portion of the strip with a pair of slots in the end portion in register with a pair of slots in the middle portion, a collar surrounding said portions to prevent their separation, and a piece of relatively ductile metal independent of said strip threaded through said registering slots and bent over so as to be secured thereto to prevent relative sliding movement of said portions of the strip.

2. A pipe hanger comprising a metal strip having regularly spaced slots therein, and being adapted to be bent around a pipe so as to bring the two end portions flat against each other and to bring their slots in register with one another, a collar fitting over said portions to prevent separation thereof, and a clasp independent of said strip threaded through said registering slots to secure said portions against relative sliding movement.

3. A hanger comprising a slotted metallic strip adapted to be passed around a pipe or the like and means independent of said strip for joining portions of said strip comprising a collar adapted to fit over said portions having a lug formed integral therewith, said lug being adapted to pass through the slots in said strip portions and be bent over to fasten the portions together.

4. In a device of the class described, the combination of a metallic strip adapted to be passed around an object to be supported, means for fastening the end of said strip to an intermediate portion thereof comprising a metallic clasp independent of said strip adapted to be passed through said portions of the strip and deformed, and a collar forming a part of said clasp, said collar fitting over said portions of the strip to prevent spreading movement thereof.

5. A pipe hanger comprising a metallic strip having a pair of spaced apertures therein, said strip adapted to be bent around a member to be supported so as to bring two portions in overlapping relation and to bring the apertures in registration, and a fastener having a lower transverse slotted portion adapted to be threaded over the overlapping

strip to prevent spreading thereof and a clasp portion adapted to be extended through the apertures to arrest sliding movement between the overlapping strip and between the strip and fastener.

6. In a pipe hanger, a pipe hanger strap adapted to be bent around an article and then overlapped, comprising a collar adapted to encircle the overlapped portion of the strap, a T-shaped projection integral with the collar and extending perpendicular thereto, and a pair of lugs on the T-shaped projection adapted to clasp the overlapped strap portion together and furnish an anchor plate for the collar.

7. A pipe hanger comprising a slotted strap bent to form a loop about a pipe or the like and overlapping about the loop with slots in register, fastening means comprising a metallic clasp independent of the strap adapted to be passed through registering slots in the contacting strap portions, said clasp being further formed with grooves in that portion extending through the slots to form an interlock between the contacting strap portions and the clasp upon relative sliding movement between said strap portions, and a collar for encompassing the contacting strap portions between the clasp and the supported object.

8. A pipe hanger comprising a metallic strip having a pair of spaced apertures therein, said strip being adapted to be bent around a member to be supported so as to bring two portions into overlapping relation and to bring the apertures into registration, and a fastener having a lower portion adapted to be threaded over the overlapping strip portions to prevent spreading thereof, and a clasp connected to the fastener and adapted to be extended through registering apertures to arrest sliding movement between the overlapping strip portions and between the strip and fastener.

In witness whereof, I hereunto subscribe my name this 13 day of August, 1926.

JOHN W. LESLIE.