No. 772,412. PATENTED OCT. 18, 1904.

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SHEET METAL BAND FOR SHOES OF PIPES, TUBES, &c.

APPLICATION FILED DEC. 16, 1903.

NO MODEL.

Fig. 5.

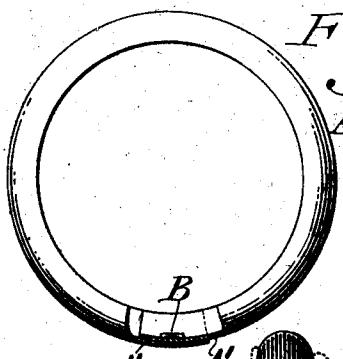


Fig. 1.

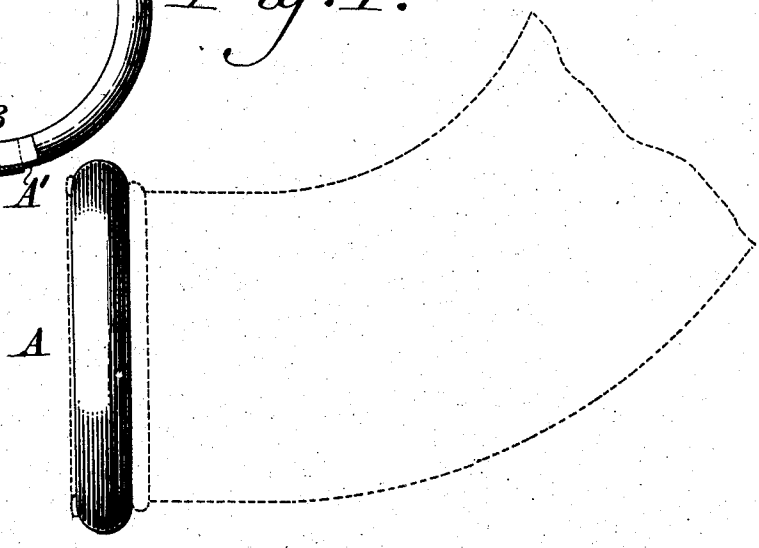


Fig. 2.

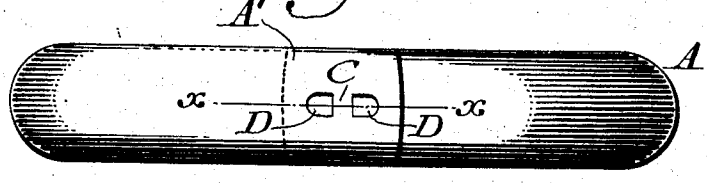


Fig. 3.

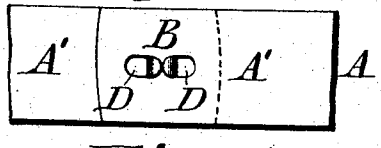
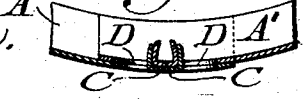


Fig. 4.



Fig. 6.



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No. 772,412. Patented October 18, 1904.

UNITED STATES PATENT OFFICE.

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SHEET-METAL BAND FOR SHOES OF PIPES, TUBES, &c.

SPECIFICATION forming part of Letters Patent No. 772,412, dated October 18, 1904.

Application filed December 16, 1903. Serial No. 185,330. (No model.)

To all whom it may concern:

Be it known that we, GEORGE W. GARRETT and GUSTAVUS F. SCHAFFER, citizens of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Sheet-Metal Bands for Shoes of Pipes, Tubes, &c., of which the following is a specification.

Our invention consists of an improvement in sheet-metal bands which are fitted on the lower ends of the shoes which occupy the lower ends of water-conduits, spouts, pipes, &c., so as to finish and strengthen said ends, where they are liable to be battered or otherwise injured and subjected to the corrosive action of water and ice, the same embodying easily-applied, inexpensive, and reliable means for connecting and fastening the ends of such bands, as will be hereinafter set forth, the novel features of the same being pointed out in the claims.

Figure 1 represents a side elevation of a band embodying our invention. Fig. 2 represents a similar view, on an enlarged scale, taken from another portion of the periphery of said band. Fig. 3 represents a view of the interior of a portion of said band. Fig. 4 represents a section of a portion on line $x\,x$, Fig. 2. Fig. 5 represents a front view of the band shown in Fig. 1, partly broken away. Fig. 6 represents a section showing one of the steps of the operation.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates a sheet-metal band of tubular form adapted for the shoe of a water-conductor, as shown in dotted lines, Fig. 1, said band consisting of a piece of sheet metal bent in circular form with its ends A′ A′ overlapping and secured by the clips B, which are punched or otherwise forced out of the metal of said ends at coincident places, and so are integral with the same, they being suitably bent toward each other and over the necks C, existing in the ends between the openings D, from which the clips have been removed.

In carrying out our invention the clips are punched from the material of the ends of the bands, one of the steps of which is illustrated in Fig. 6, the clips of the outer end passing through the openings of the inner end, after which the clips are properly bent inwardly and over each other, as shown in Fig. 4. By this provision a plurality of clips is presented, and the end of each band has a neck C thereon. Consequently one neck rests upon the other and both sets of clips are clenched on the inner neck, thus uniting the ends of the band in a most durable manner, avoiding the use of rivets, soldering, or separate fastenings, and also reducing the expense in the production of the band, the connection, as is evident, being simple in its nature and being quickly and easily produced. The clips are preferably on the inner periphery of the band, so that the exterior of the latter presents a smooth surface. The band as thus completed is slipped over the shoe and located at the proper place thereon, after which it is soldered or otherwise secured thereto in any suitable manner.

Various changes may be made in the details of construction shown without departing from the general spirit of our invention, and we do not, therefore, desire to be limited in each case to the same.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A sheet-metal tubular band of the character stated, having its ends overlapping and a connection for the ends of the same, consisting of a plurality of clips integral with said band punched out of the same and clenched on each other on the interior of the band.

2. A sheet-metal band of the character stated, having its ends overlapping and a clip integral with one end thereof punched out therefrom and an opening at the side of the same, and a neck on the band adjacent to said opening and a similar clip-opening and neck on the other end of said band, the plurality of clips being passed through the opening of

the inner end of the band and bent over and upon the plurality of necks and upon each other.

3. A sheet-metal band of the character stated, having its ends overlapping and a connection for the ends thereof, consisting of a plurality of clips integral with said ends punched out of the same and openings at the sides of the same and a plurality of necks on said ends intermediate of said openings, said clips being passed through the openings on the inner end of the band and bent over and upon the inner neck and upon each other.

4. A sheet-metal band of the character stated, having its ends overlapping and a connection for the ends thereof, consisting of a plurality of clips integral with said ends punched out of the same and openings at the sides of the same, and necks on said ends intermediate of said openings, said clips passing through the openings of the inner end and being bent over the neck thereof and over each other.

5. A sheet-metal band of the character stated, having its ends overlapping and a plurality of pairs of clips, each pair being integral with an end thereof punched out of the same, and a plurality of coincident necks, one on each end, intermediate of the pair of clips thereon, the plurality of clips being bent over the plurality of necks and over each other.

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