W. T. RUTLEDGE.

HOSE CLAMP.

APPLICATION FILED SEPT. 10, 1920.

1,369,755. Patented Feb. 22, 1921.

Fig. 1.

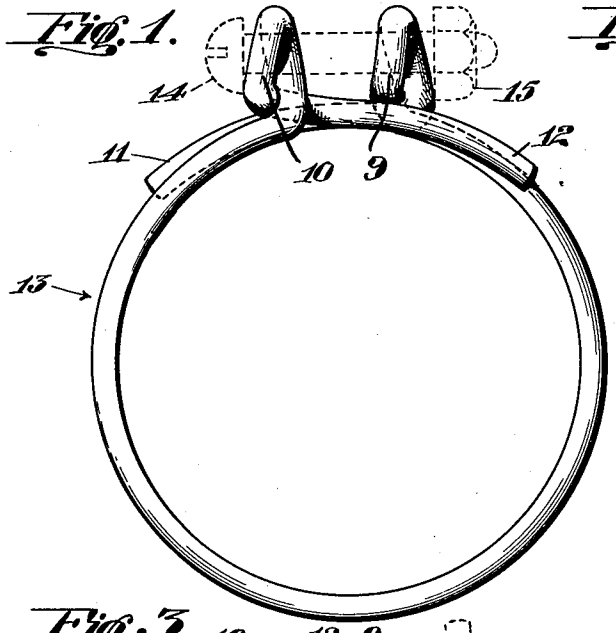


Fig. 2.

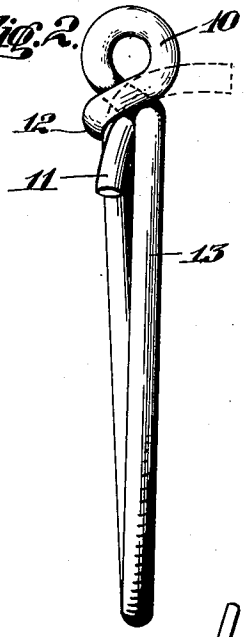


Fig. 3.

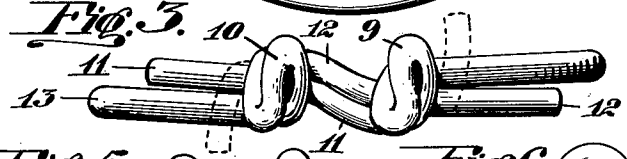


Fig. 4.

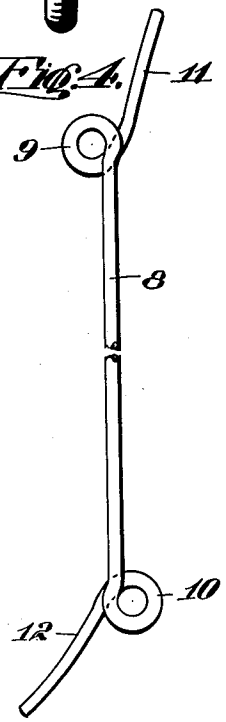


Fig. 5.

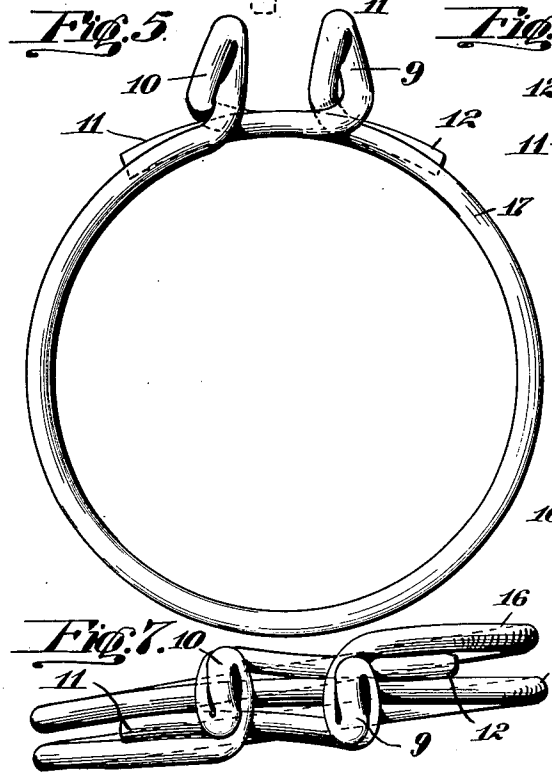


Fig. 6.

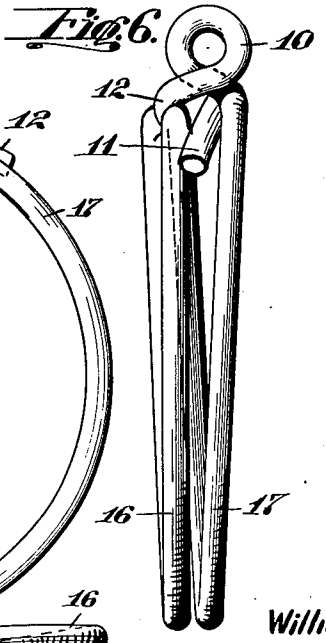


Fig. 7.

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HOSE-CLAMP.

1,369,755. Specification of Letters Patent. Patented Feb. 22, 1921.

Application filed September 10, 1920. Serial No. 409,341.

To all whom it may concern:

Be it known that I, WILLIAM T. RUTLEDGE, a citizen of the United States, residing at Santa Ana, in the county of Orange and State of California, have invented new and useful Improvements in Hose-Clamps, of which the following is a specification.

This invention relates to a hose-clamp and particularly pertains to the class of hose-clamps which are employed in connecting the ends of a hose or tube to nipples in forming a communication between a radiator and the water jacket of an internal combustion engine.

An object of this invention is to provide a clamp of the above character which may be formed of wire, and so constructed as to afford no gaps which would be liable to catch or pinch the hose and interfere with the proper positioning and tightening of the clamp.

Another object is to provide a wire hose-clamp embodying a loop or loops fitted with eyes formed by coiling the wire and in which the coils are so arranged as to obviate any possibility of their being uncoiled in drawing and tightening the clamp on the hose.

Another object is to provide an arrangement in a wire hose-clamp whereby the loops or eyes will be normally held in alinement and the end portions of the wire of which the clamp is formed held against lateral spreading.

A further object provides a construction in the clamp whereby in emergency the clamp may be secured in position on a hose without the use of the bolt and nut with which clamps of this character are ordinarily fitted.

Other objects will appear hereinafter.

The invention is illustrated in the accompanying drawings, in which:

Figure 1 is a view in elevation illustrating the clamp as formed with a single hose engaging ring or annulus.

Fig. 2 is an end view.

Fig. 3 is a plan view.

Fig. 4 is a detail showing the manner of forming the loops or eyes on the clamp.

Fig. 5 is a view in elevation showing the clamp as formed with a double hose engaging ring or annulus.

Figs. 6 and 7 are end views and plan views respectively of the modified form of the clamp shown in Fig. 4.

In carrying out my invention, I employ a single length of wire 8 which is bent at points adjacent its ends to form loops 9 and 10, the loops being spaced from the terminals of the wire to form tongues 11 and 12 which project beyond the loops, as shown in Fig. 4. In forming the loops, the coils thereof are turned in opposite directions with the end portions of the wire extending beneath the intermediate portion of the wire so that when the latter is bent on a circle to form a ring 13, as shown in Fig. 1, and the loops twisted and bent to project upwardly from the ring in alinement with each other the inner portions of the coils will be formed in continuation of the ring and the outer portions of the coils will constitute the tongues 11 and 12. The tongues 11 and 12 are arranged to extend alongside of each other between the loops 9 and 10 and are crossed under the loops so that the end portions of the tongues will be arranged on opposite sides of the ring, as particularly shown in Fig. 3 so as to hold the eyes or loops against lateral spreading and thus normally retain them in alinement. The tongues thus span the gap between the loops in continuation of the ring and extend in opposite directions.

In the operation of the invention, a bolt 14 is inserted through the eyes formed by the loops as indicated in Fig. 1 and a nut 15 screwed thereon; the head of the bolt engaging one of the loops and the nut abutting against the other. On tightening the nut the loops will be drawn toward each other, so as to reduce or contract the ring 13. The end portions or tongues being arranged to form the outer coils of the loops are thereby clamped against the inner coils on tightening the nut on the bolt so as to prevent their slipping and causing the loops to be straightened out by the pull on the tightening bolt.

In the form of the invention shown in Figs. 5, 6, and 7, the wire is turned to form a double ring as indicated at 16 and 17, the loops and tongues being formed and arranged as previously described.

In event it should become necessary to fasten the clamp where a bolt and nut is not available, the clamp may be drawn tight around the hose whereupon the tongues 11 and 12 may be bent in opposite directions around the loops, as indicated in dotted lines in Figs. 2 and 3, thereby engaging the loops in such manner as to fasten them together

securely holding them against spreading apart.

It will be noted that the end portions of the wire extend in opposite directions and are arranged in such position as not to engage the surfaces of the hose encircled by the ring, so that on clamping the ring in place the surfaces of the hose will not be marred or injured by engagement with the wire ends.

I claim:

1. A hose clamp comprising a single length of wire having a twisted loop adjacent to each end thereof, the end portions extending beyond the loops and forming tongues, the intermediate portion of the wire between the loops being bent to form a ring with the loops positioned opposite each other and with the tongues extending in opposite directions and overlapping the gap between the loops.

2. A hose clamp comprising a single length of wire having a twisted loop adjacent to each end thereof, the end portions extending beyond the loops and forming tongues, the intermediate portion of the wire between the loops being bent to form a ring with the loops positioned opposite each other and with the tongues extending in opposite directions and overlapping the gap between the loops, the tongues being arranged side by side between the loops and crossing beneath the loops to extend on opposite sides of the ring.

3. A hose clamp, comprising a wire having a loop formed near each of its ends, each loop being twisted to extend transversely of the wire which is bent intermediate the loops to form a ring with the end portions of the wire overlapping side by side between the loops and crossing beneath the loops to extend on opposite sides of the ring, the loops being so formed that the portions leading from the ring portion will be disposed on the inner adjacent sides of the loop and the portions leading to the ends of the wire will be disposed on the outer sides of the loops.

4. A hose clamp comprising a single length of wire having a twisted loop adjacent to each end thereof, the end portions of the wire extending beyond the loops and forming tongues, the intermediate portion of the wire between the loops being bent to form a ring with the loops disposed opposite each other and with the tongues extending in opposite directions and opening the gap between the loops, the tongues extending beneath the loops and projecting on opposite sides of the ring and adapted to be bent to engage the rings to oppose separation thereof.

WILLIAM T. RUTLEDGE.