Jan. 16, 1923. 1,442,209.

I. G. YODERS ET AL.

HOSE CLAMP.

FILED MAR. 9, 1922.

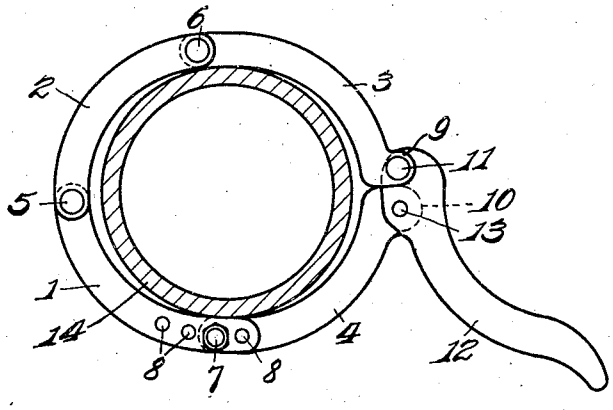


FIG 1

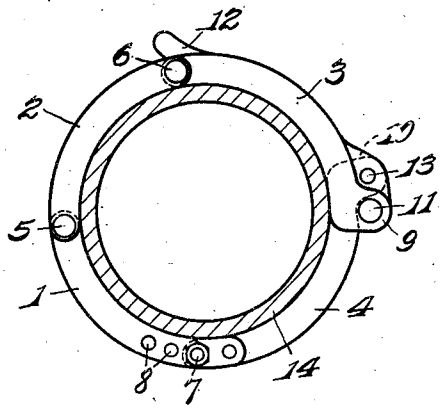


FIG 2

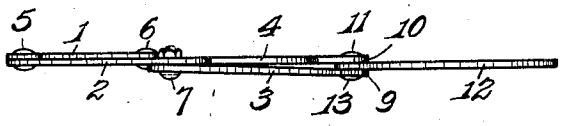


FIG 3

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UNITED STATES PATENT OFFICE.

IRVIN G. YODERS AND JAMES C. FILBY, OF WASHINGTON, PENNSYLVANIA.

HOSE CLAMP.

Application filed March 9, 1922. Serial No. 542,427.

To all whom it may concern:

Be it known that we, IRVIN G. YODERS and JAMES C. FILBY, citizens of the United States of America, and residents of Washington, county of Washington, and State of Pennsylvania, have invented certain new and useful Improvements in Hose Clamps, of which the following is a specification.

This invention relates to hose clamps, and it has for its primary object to provide a simple, inexpensive and efficient clamp whereby rubber hose may be drawn into and secured in closely embracing relation to a nipple, coupling sleeve, pipe, or other tubular object introduced within an end of said hose.

A further object is to provide a device of the character mentioned which may be readily slipped into position upon the hose and may thereafter be contracted by hand into tight-gripping clamping relation to the latter by a mere forward swinging movement of a therein-embodied lever, which will be securely maintained in said position against chance dislodgment, and which may be released, as for removal, by the mere act of swinging said lever in a reverse, or outward, direction.

With these and other objects in view, the invention resides in the features of construction hereinafter described, reference being had to the accompanying drawings, in which—

Figure 1 is a face view of the clamp, showing it in open position and slipped over a tubular hose;

Figure 2 is a similar view showing the clamp closed upon the hose; and—

Figure 3 is an upper edge view of the clamp with its parts disposed in the positions shown in Fig. 1.

Referring to the drawings, the clamp comprises a clamping ring composed of arcuately curved link-like members or segments 1, 2, 3 and 4 stamped from sheet metal. The meeting ends of segments 1 and 2 are disposed in overlapping relation and are connected by a pivot-pin 5, while their opposite ends are pivotally connected to the adjacent ends of the links 3 and 4, respectively, by pins or bolts 6 and 7. As herein shown, the pivotal connection 7 is in the form of a removable bolt which may be introduced in any one of a plurality of holes 8 provided in the segment 1 for increasing or decreasing the capacity of the clamp.

The ring segments 3 and 4 have outwardly extending wings or lugs 9 and 10 formed, respectively, upon their meeting ends. Connected to the lug 9 of the segment 3 by means of a pivot-pin 11 is an end of a curved lever 12, and pivoted to said lever rearward of and at a spaced distance from the pivot pin 11 is the lug 10 of the segment 4, said lug 10 being mounted upon a pivot pin 13 and said lugs 9 and 10 being located on opposite sides of the lever.

When the lever 2 occupies its outwardly swung position, as shown in Fig. 1, the segments 3 and 4 are thereby held in relatively separated positions in which their adjacent ends barely meet, thus opening the clamping ring to its full capacity. To contract said ring, as upon a hose 14 received within its embrace, the lever 12 is swung to the closed position shown in Fig. 2, in which it lies closely against the segment 3. In moving to said position, due to the eccentric location of the pivot-pin 13 with respect to that of the pin 11, the adjacent or lug carrying ends of the segments 3 and 4, are carried past each other, thus producing a material contraction of the ring which results in the embraced hose being tightly compressed or clamped upon a pipe or other tubular member of the required size received from said hose.

Chance opening of the clamping ring is prevented due to the fact that in the closed position thereof the eccentrically disposed pivot-pin 13 is located in or slightly inward of the line of compressing force—that is, on or slightly past the dead center of closing movement. The outer end of the lever has a slight outward curvature providing means whereby it may be conveniently grasped for effecting outward movement thereof when such is desired.

What is claimed is—

1. A hose clamp comprising a ring composed of a plurality of ring segments, said segments being pivotally connected end to end except at the meeting ends of two thereof, and a lever having one of said meeting ends permanently pivoted to an end thereof and having the other meeting end

pivotally attached thereto on the opposite side thereof at a point located outward of the first-mentioned pivotal attachment, said lever being adapted for movement to carry the thereto attached segment ends forward and back past each other for contracting and expanding said ring.

2. A hose clamp comprising a ring composed of a plurality of ring segments, said segments being pivotally connected end to end except at the meeting ends of two thereof, and a lever having one of said meeting ends permanently pivoted to an end thereof and having the other meeting end pivotally attached thereto on the opposite side thereof at a point located outward of the first-mentioned pivotal attachment, said lever being curved to substantially correspond to the general curvature of the ring segments and being adapted for movement to and from close-seating relation to the first mentioned of the thereto-attached segments in a position lateral with respect to said segments, whereby the said meeting ends of the latter are carried forward and back past each other for effecting, respectively, contraction and expansion of the ring.

3. A hose clamp comprising a ring composed of a plurality of ring segments, said segments being pivotally connected end to end except at the meeting ends of two thereof, each of said meeting ends having an outwardly directed lug, a lever having one of said lugs pivotally attached to an end thereof and having the other lug pivotally attached thereto on the opposite side thereof and rearward of the point of attachment of the first-mentioned lug, said lever being adapted for movement to and from a seated position adjacent to a side of the segment which carries said first-mentioned lug, whereby the said meeting ends are carried past each other to and from ring-contracting position.

In testimony whereof we affix our signatures in presence of a witness.

IRVIN G. YODERS.
JAMES C. FILBY.

Witness:
M. T. MANION.