

No. 832,099.

PATENTED OCT. 2, 1906.

C. M. THOMPSON.  
HOSE CLAMP.

APPLICATION FILED DEC. 27, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

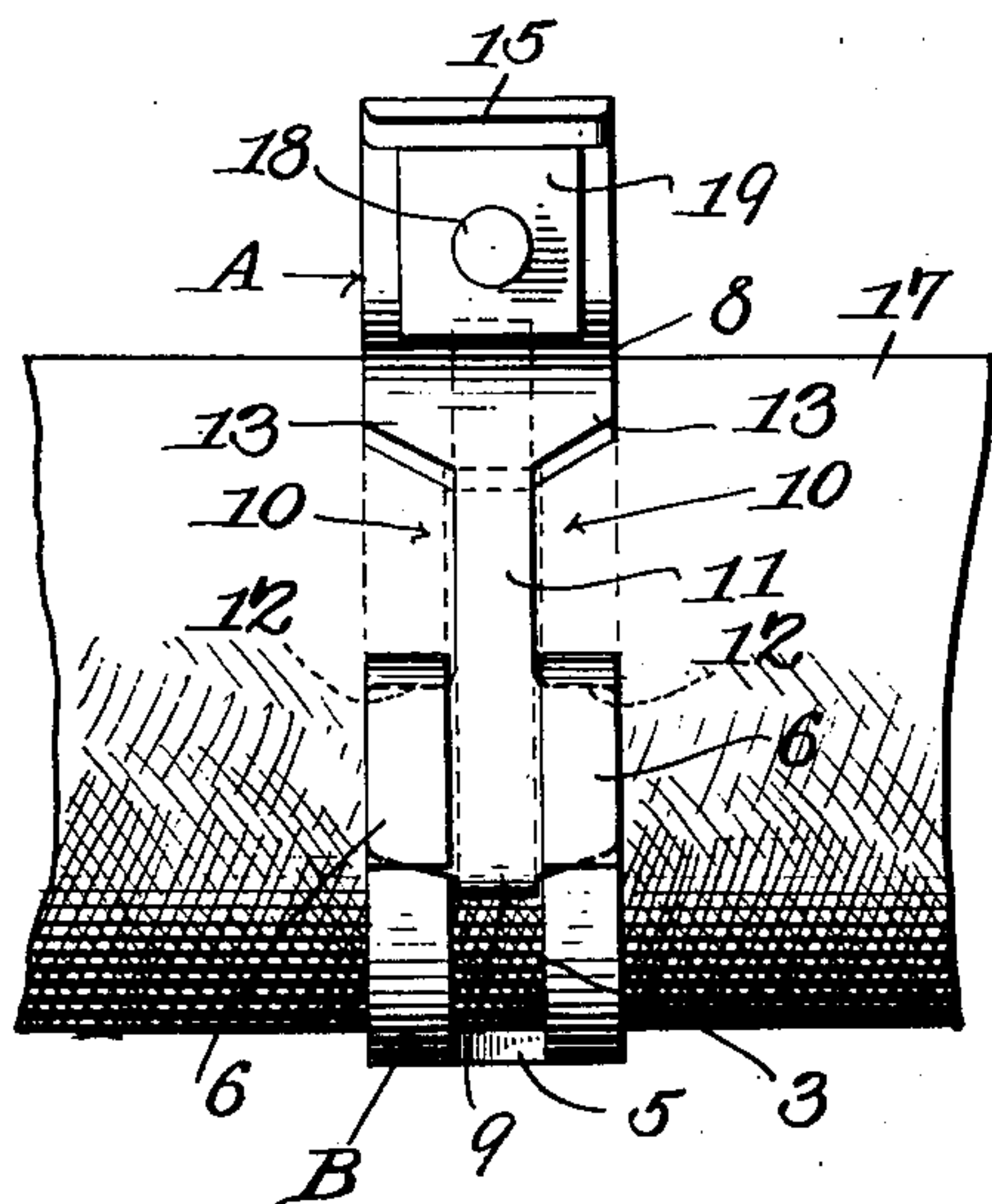


Fig. 2.

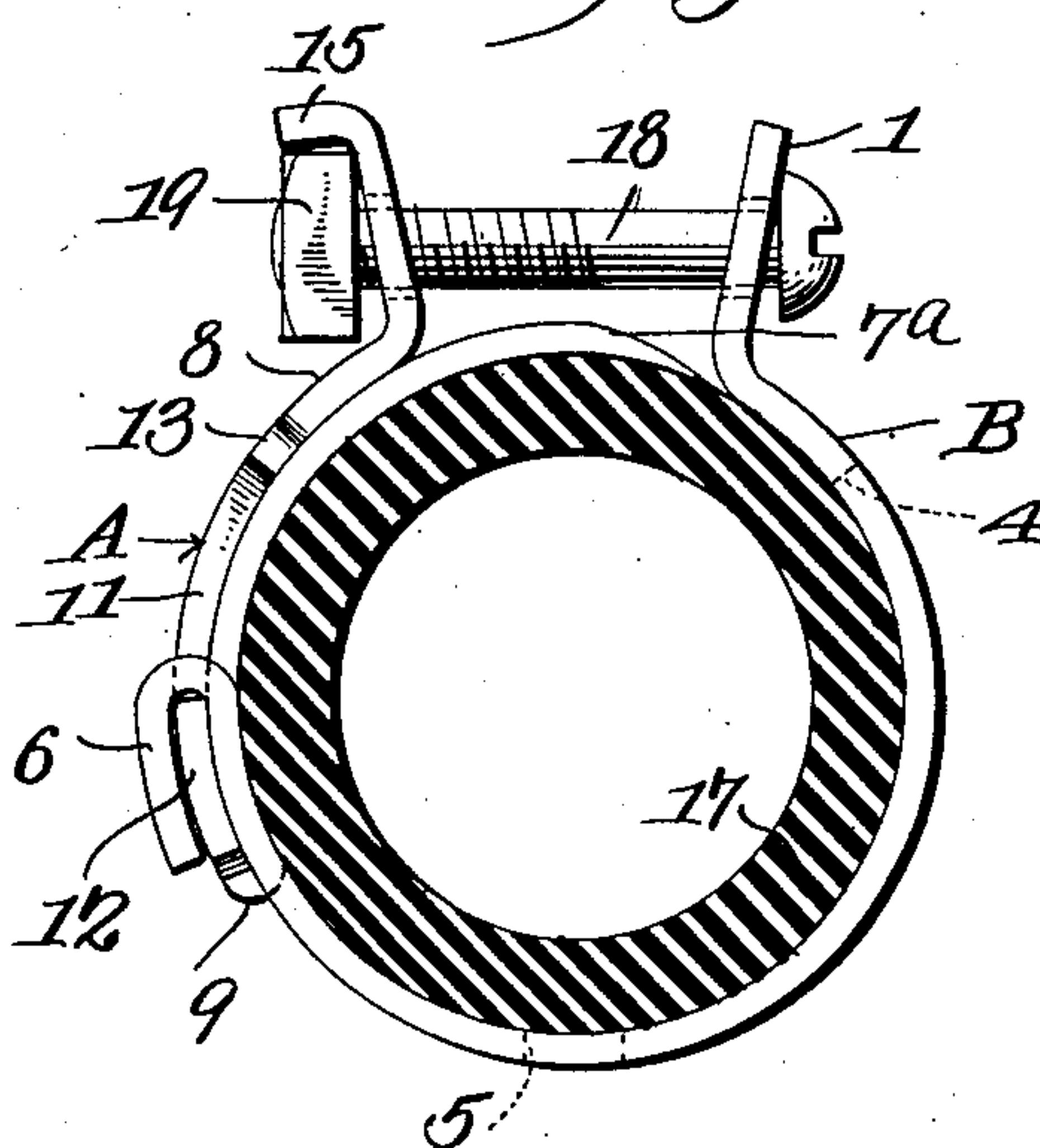
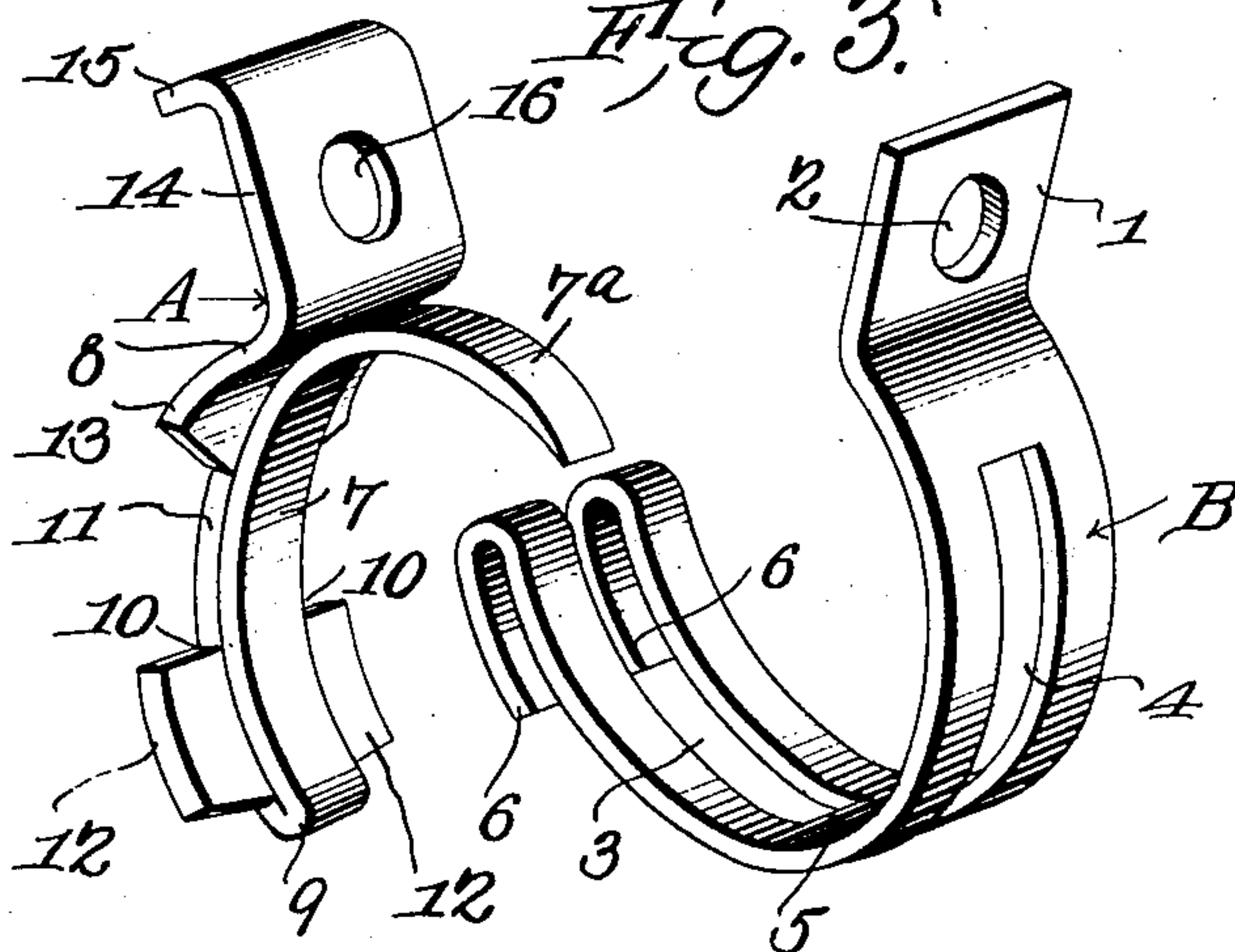


Fig. 3.



WITNESSES:

*E. J. Stewart*  
*H. D. Shepard*

*Channing M. Thompson,*  
INVENTOR.

By *C. A. Snow & Co.*  
ATTORNEYS

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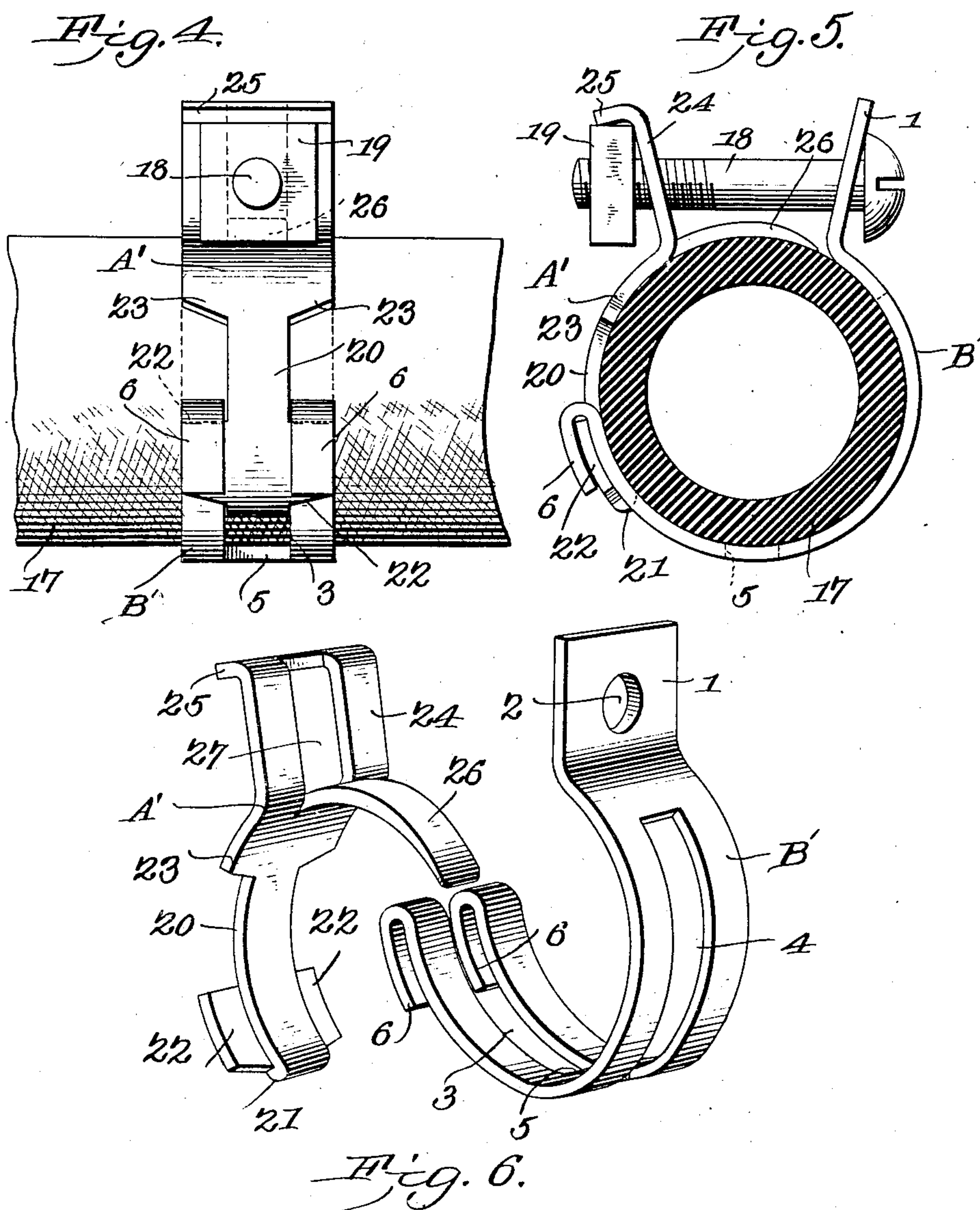
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# UNITED STATES PATENT OFFICE.

CHANNING M. THOMPSON, OF NEWARK, OHIO.

## HOSE-CLAMP.

No. 832,099.

Specification of Letters Patent.

Patented Oct. 2, 1906.

Application filed December 27, 1905. Serial No. 293,501.

*To all whom it may concern:*

Be it known that I, CHANNING M. THOMPSON, a citizen of the United States, residing at Newark, in the county of Licking and State of Ohio, have invented a new and useful Hose-Clamp, of which the following is a specification.

This invention relates to clamps, and is primarily designed for use as a hose-clamp for clamping hose-pipes to the metal fittings thereof.

It is an important object of the present invention to materially simplify the clamp and to facilitate the application and removal thereof without liability of injury to the clamp and the hose in order that the device may be repeatedly used.

Another object of the invention is to insure the snug contact of the clamp through the periphery of the hose, thereby to prevent buckling of the hose by the action of the clamp and to maintain continuous contact between the hose and its fittings.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a side elevation of a hose-clamp of the present invention applied to a hose. Fig. 2 is a face view of Fig. 1. Fig. 3 is a perspective view with the members of the clamp detached. Fig. 4 is a view similar to Fig. 1, showing a somewhat simplified embodiment of the invention. Fig. 5 is a face view of Fig. 4. Fig. 6 is a perspective view of the members of the simplified form of the invention.

Similar characters of reference designate corresponding parts in all of the figures of the drawings.

As embodied in Figs. 1 to 3, inclusive, the present invention includes two members, (designated in general A and B,) each of which is formed from a strip of plate-metal. The member B is bent to approximate a semi-circle and preferably slightly exceeds a semi-circle. One end of this member is bent outwardly into an approximately radial ear 1, which is pierced by an opening 2 in the na-

ture of a slot or elongated opening extending longitudinally of the ear. The other end portion of the clamp member is provided with a slot, as at 3, which is preferably a bifurcation, said bifurcation extending slightly less than one-half the length of the member, there being another longitudinal slot 4 between the slot 3 and the member 1 with a cross-bar or web 5 between the two slots. While the slot 3 has a mechanical function, as will be hereinafter described, the slot 4 is primarily intended to reduce the weight of the device and also to increase the flexibility of the clamp member, while the web or cross-bar 5 is intended to connect and thereby brace the longitudinal sections into which the clamp member is divided by the bifurcation and the slot. What will be termed the "inner" end of the clamp member has its sides or sections bent back upon the exterior thereof to form duplicate parallel hooks 6.

The clamp member A is folded intermediate of its ends to produce inner and outer portions 7 and 8, the bend 9 constituting what will be termed the "inner" end of the member. The outer portion of this member is notched or cut away in its opposite edges, as indicated at 10, and the inner portion 7 is reduced in width to approximate the width of the portion 11, which lies between the two notches 10. Below the notches the outer section of the member retains its full width, and thereby produces lugs or projections 12, which extend upwardly a suitable distance from the inner end 9. Above the notches 10 the member has its full width, as at 13, and is then bent outwardly to form an ear 14, having its extremity bent backwardly and outwardly, so as to form an overhanging flange 15, there being an opening 16 formed centrally through the ear 14. It will of course be understood that the two clamp members are bent to form arcs of the same circle, and the reduced portion 7 is extended beyond the ear 14 to form a tongue 7<sup>a</sup>, which is reduced or beveled upon its outer side and at its free extremity, so as to constitute a wedge.

In assembling the present device to clamp a hose, such as shown at 17, upon a fitting the member B is forced sidewise around a hose, and then the member A is assembled therewith by engaging the lugs or projections 12 with the hooks 6 and forcing the member inwardly, so as to embrace the portion 7 upon the hose. It will here be explained that the



portion 7 is of a width to fit in the slot or bifurcation 3 between the hooks 6 and is of a length to substantially span the space between the ears 1 and 14. A bolt 18 is then thrust through the openings in the ears 1 and 14, first through the opening 2 and then through the opening 16, a nut 19 having been previously placed against the outer side of the ear 14 and into which the bolt 18 is screwed by means of a screw-driver or the like engaged with the slotted head of the bolt. It will here be explained that the overhanging flange 15 engages the adjacent edge of the nut and forms a lock therefor to facilitate the engagement of the bolt with the nut and to prevent turning of the latter after the clamp has been assembled. The desired tightness of the clamp upon the hose is obtained by adjusting the bolt 18 so as to draw inwardly the free ends of the clamp members. As clearly indicated in Fig. 2 of the drawings, it will be noted that the inner reduced portion 7 of the clamp member A forms a continuation of the clamp member B, wherefore the clamp is in contact with the hose throughout its entire external periphery, whereby a snug clamping of the hose is insured and buckling of the hose upon the fitting is prevented. By having the extremity of the tongue portion 7 beveled or wedge-shaped it is designed to enter between the hose and the clamp member B under the tightening action of the bolt 18, whereby that portion of the hose which lies between the ears 1 and 14 is embraced by the clamp, and when the part 7<sup>a</sup> is forced in between the member B and the hose there will be a wedging action to more snugly grip the clamp upon the hose without drawing any portion of the clamp out of engagement with the hose. The clamps can be very readily removed by first removing the bolt 18, then removing the member A by moving the latter downwardly, so as to disengage the lugs or projections 12 from the hooks 6, whereupon the two clamp members can be withdrawn from the hose without damage to the latter or to the clamp members.

The embodiment of the invention as disclosed in Figs. 4, 5, and 6 of the drawings includes two members A' B, the member B' being a duplicate of the member B shown in Figs. 1, 2, and 3 and hereinbefore described. The member A' has a shank portion 20 of a width to fit the bifurcation 3 of the member B', its inner end being bent back, as at 21, and of a width exceeding that of the shank 20, so as to produce wings or projections 22, extending at opposite edges of the shank and lying in a plane at the outer side thereof. The outer end portion of the shank is increased in width, as at 23, and is bent outwardly to form an ear 24, which has its extremity bent back to form a transverse flange 25, corresponding to the flange 15 of the first-described form of the invention. A tongue 26

is cleft from the ear 24, so as to produce an opening 27, the tongue being bent inwardly to form a continuation of the arc of the shank 20, with its free extremity beveled.

The simplified form of the invention is assembled in the manner hereinbefore described for the form shown in Figs. 1, 2, and 3, the ears 1 and 24 being connected by a bolt 18 and a nut 19, so as to clamp the members firmly upon the hose, which has been shown at 17.

The advantage of the simplified form of the invention resides in the fact that it requires about half as much material for the member A' as is required for the member A, while at the same time it has all of the functions of the member A.

Having thus described the invention, what is claimed is—

1. A hose-clamp comprising two arcuate members, one of said members having outwardly-directed hooks at one end and an ear at the other end, the other of said members having an outer portion formed at one end with projections to engage the hooks and at the other end with an ear, said other member also having an inner portion located between the outer portion and the hose and forming a tongue extending across the space between the ears.
2. A hose-clamp comprising two arcuate members, one of the members having one of its ends hooked and bifurcated, the other member being bent back upon itself to form inner and outer portions, the outer portion being provided with lateral projections to engage the hooks and the inner portion being of a width to be received within the bifurcation and having its inner end extending in an arc to span the space between the other ends of the clamp members, and means to draw together said other ends of the clamp members.
3. A hose-clamp comprising two arcuate members, one of the members having one of its ends hooked and bifurcated, the other member being bent back upon itself to form inner and outer portions, the outer portion being provided with lateral projections to engage the hooks and the inner portion being of a width to be received within the bifurcation and having its inner end extending in an arc to span the space between the other ends of the clamp members and beveled upon its outer side to engage between a hose and the first-mentioned clamp member, and means to draw together said other ends of the clamp member.
4. A hose-clamp comprising two arcuate members, one member having one end provided with an outwardly-directed ear pierced with an opening, the other end hooked and bifurcated, the other member having one end of a width to fit within the bifurcation and provided with lateral projections or lugs to engage the hooks, and the other end of this



member provided with an outwardly-directed  
ear having its extremity bent back to form  
a flange to prevent rotation of a nut, the ear  
pierced by an elongated opening and provided  
5 with a wedge-shaped extension forming a  
continuation of the arc portion of the mem-  
ber, and means to draw together the free ends  
of the two members.

In testimony that I claim the foregoing as  
my own I have hereto affixed my signature 10  
in the presence of two witnesses.

CHANNING M. THOMPSON.

Witnesses:

HARRY SCOTT,  
C. C. McGRUDER.