

No. 706,137.

Patented Aug. 5, 1902.

J. WEIGEL.
CLAMP FOR TANK OR LIKE HOOPS.

(Application filed Mar. 20, 1902.)

(No Model.)

Fig. 1.

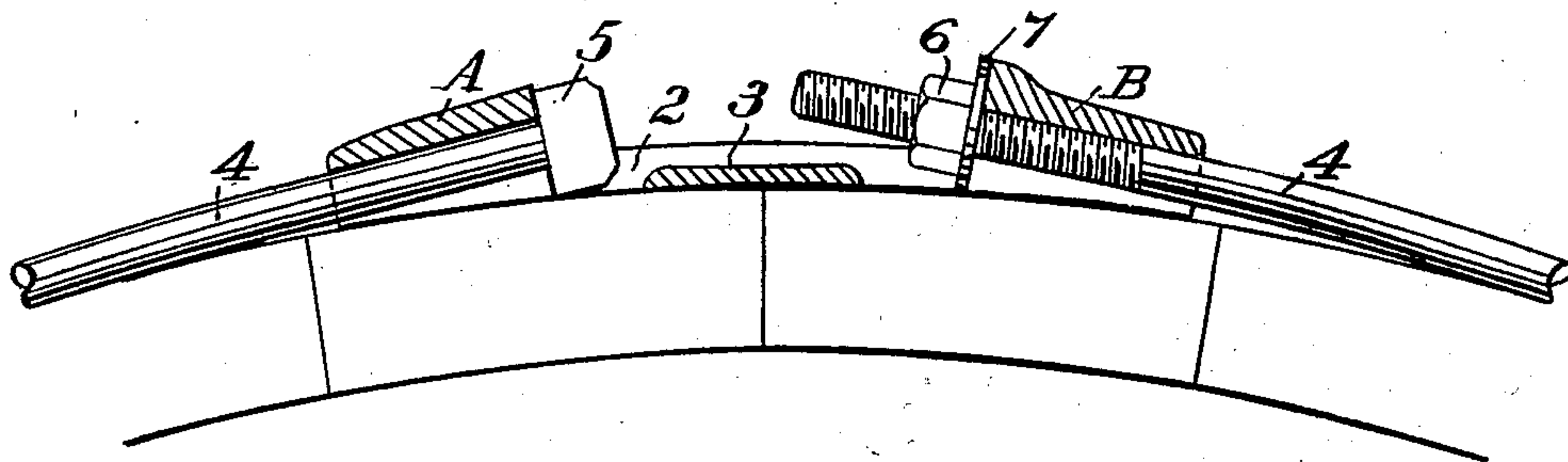


Fig. 2.

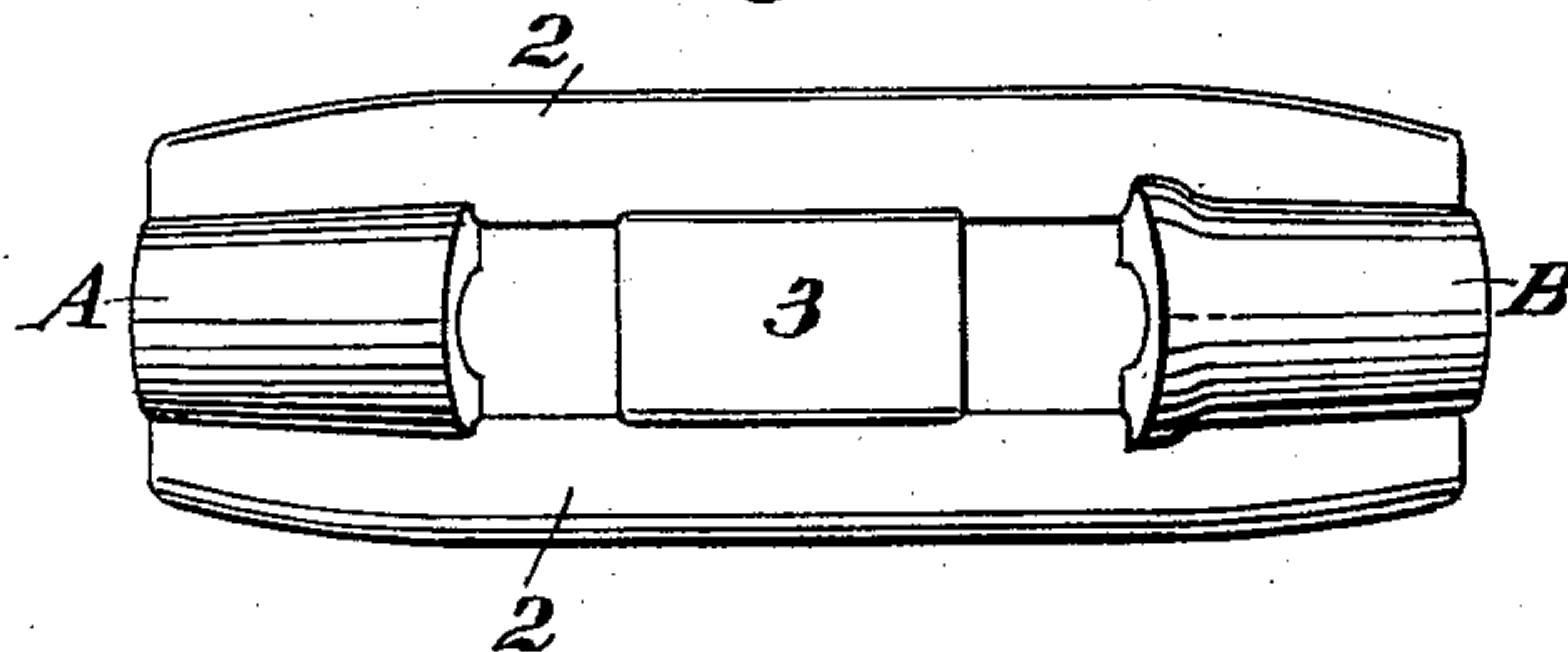
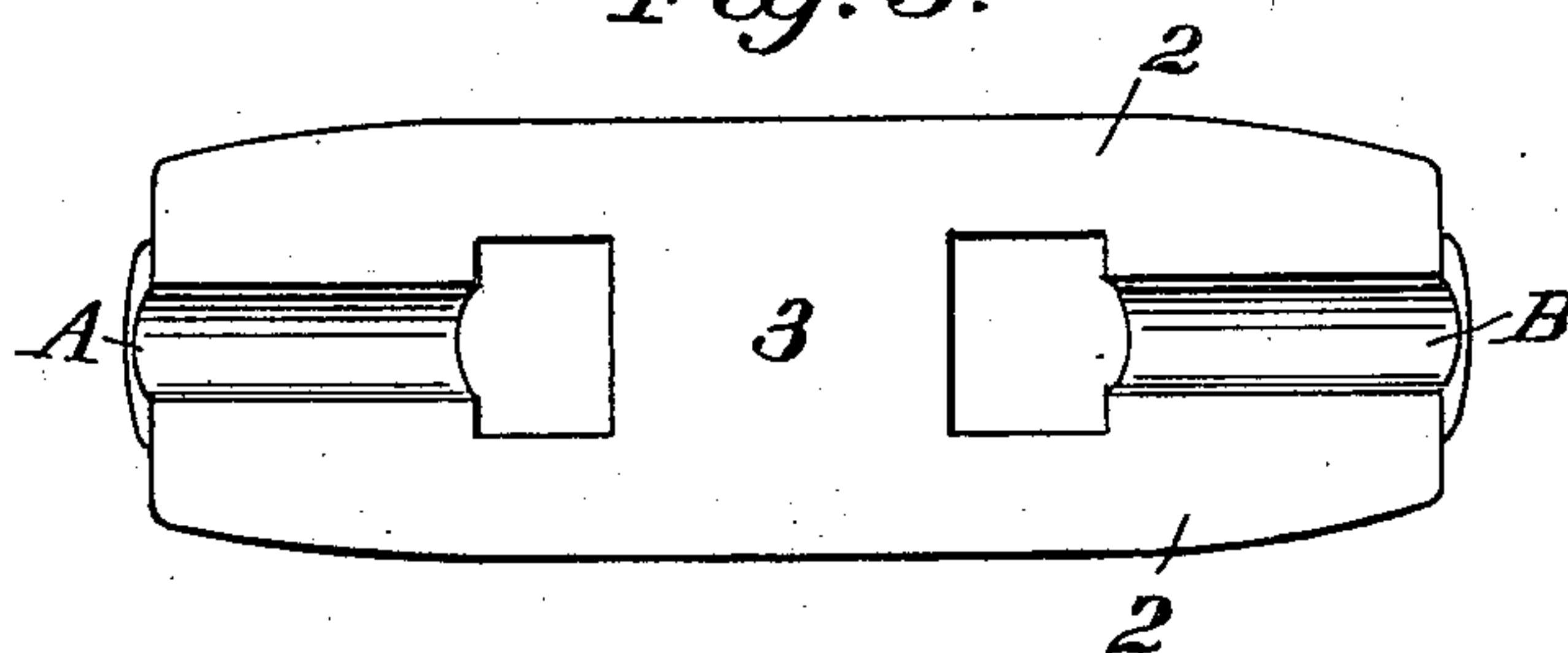


Fig. 3.



Witnesses,
Ed. Brandau,
J. H. Morse

Inventor,
J. Weigel,
Dwight Strong, atty.

UNITED STATES PATENT OFFICE.

JOEL WEIGEL, OF SAN FRANCISCO, CALIFORNIA.

CLAMP FOR TANK OR LIKE HOOPS.

SPECIFICATION forming part of Letters Patent No. 706,137, dated August 5, 1902.

Application filed March 20, 1902. Serial No. 99,224. (No model.)

To all whom it may concern:

Be it known that I, JOEL WEIGEL, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Clamps for Tank or Like Hoops; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a clamping device which is especially designed to unite the ends of hoops, such as are employed to hold staves together in the construction of tanks, wooden pipe, or like structures that can be so united.

It consists of lugs having slots or channels opening inwardly from the bottom or part which contacts with the staves, so that the head on one end of the hoop-rod can be inserted from below to engage one of the lugs and the opposite screw-threaded end of the rod can in a similar manner be inserted from below. These lugs are connected by a low sufficiently flexible uniting-rib, so that the clamp may be cast in malleable metal or otherwise formed without reference to the curvature of the tank or other part which it is to subsequently fit, the malleability of the connecting-rib being such that it can be fitted by hammering or pressure wherever it is desired to employ it. The ends of the hoop-rods being thus introduced from below lie flat upon the body of the tank and stand in line with each other, so that there is no side pull or twist upon the clamp.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a longitudinal section through a clamp, showing the application of my invention. Fig. 2 is a plan of the clamp. Fig. 3 is a bottom view of the same.

Many forms of clamps for the connection and tightening of the ends of hoops have been made; but these clamps are mostly fitted when formed so that their inner faces have a curvature to fit the particular tube or tank upon which they are to be employed. The lugs against which the nuts abut and which allow the hoop to be drawn tight are often of such height as to carry the hoop-rod a considerable distance out of contact with the surface about which it passes.

It is the object of my invention to so form the clamp that the ends of the hoop-rod en-

ter it from below and from opposite ends, so that the rod is practically continuous with the clamp, lying flat against the surface of the tank or part about which it passes, and to so connect the lugs against which the head and nut of the hoop abut that there will be sufficient flexibility to allow the clamp to be instantaneously fitted to any curvature upon which it may be desired to use it.

As herein illustrated, A and B are two lugs which are preferably made semitubular, having their open sides adapted to contact with the surface about which the hoop is to pass. These lugs are connected by thin ribs 2 upon each side. These ribs are here shown as being in the form of flat segments in transverse section, and are of such length that the lugs A and B are at such a distance apart to allow for the convenient insertion of the headed end and the screw-threaded end of the hoop-rod after the latter, previously cut to the proper length, has been passed around the tank. Intermediate between these lugs A and B the ribs 2 are here shown as connected transversely by a thin flat plate, as at 3. The ribs and plate are of such thinness that when made of malleable metal, of which I prefer to cast these clamps, they may be made without reference to the curvature of the pipe or tank to which they are to be subsequently applied, since their length and comparative flexibility are such that when the hoop has been connected and the nut turned tight upon the screw-threaded end the tension will in many cases be sufficient to fit the clamp at once to the surface, and in any event a blow or two with a hammer will be sufficient to complete the fitting, which is an important feature, since the clamps can thus be used upon any size or shape to which it is desirable to apply the hoops. The hoops 4 are connected after being bent around the tank or pipe by first introducing the head 5, which may be permanently formed upon one end of the hoop-rod, into the channel or slot so that the head lies between the ribs 2 and abutting against the lug A, the head lies between this lug and the transverse diaphragm 3. The other end of the hoop-rod is in like manner inserted from the lower surface of the lug B, and the nut 6, with a suitable intermediate washer 7, if desired, is screwed upon the

threaded end of the hoop-rod until it abuts against the face of the lug B. The slots or channels in the under surfaces of the lugs are of only such depth as will receive the diameter of the rod, which thus lies practically flat against the surface of the tank or other part and forms a continuation at either end in the line of curvature with the clamp itself, so that the rods and the clamp practically form a continuous contact with the surface of the tank. The low ribs 2 do not in any way interfere with the application of any ordinary wrench to turn the nut 6, and as there is an open space left between the lug 6 and the diaphragm the nut is allowed to turn as close to the surface of the tube or tank embraced as its exterior diameter will allow. By this construction the ends of the hoop-rod are essentially in the same plane of curvature instead of being located one above or at one side of the other, and thus any side or torsional strain or twist upon the lug which would occur if the ends of the hoop-rod were out of line is avoided.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A clamp for tank-hoops and the like consisting of a flat malleable plate having side ribs, lugs formed upon opposite ends thereof between said ribs said lugs having slots or channels made in their inner faces to receive the opposite ends of the hoop-rod, said lugs

having adjacent surfaces adapted to form contact-faces for the head at one end and the nut upon the other end of the hoop whereby the hoop and clamp form an essentially continuous surface to contact with the tank.

2. A clamp for tank and like hoops consisting of parallel bendable ribs, lugs formed at each end between said ribs having slots or channels made in their inner surfaces to receive the ends of the hoop-rod and retain them in close proximity with the surface enclosed, a thin diaphragm connecting the ribs intermediate between the lugs and open spaces formed between said diaphragm and the lugs to receive the head and nut respectively of the hoop.

3. A clamp for tank-hoops and the like consisting of a malleable plate having one flat surface adapted to fit the curvature of the object to which it is applied and openings made through it intermediate of the ends, slots or channels extending from said openings to the ends, and raised lugs upon the outer surface of the plate into which said slots extend, said lugs having faces of contact against which the head and nut respectively of the hoop are supported.

In witness whereof I have hereunto set my hand.

JOEL WEIGEL.

Witnesses:

S. H. NOURSE,
JESSIE C. BRODIE.