No. 611,038. Patented Sept. 20, 1898.

# B. H. LOHMAN.

## SURGICAL INJECTOR CLAMP.

(Application filed Apr. 16, 1898.)

(No Model.)

Fig. 1.

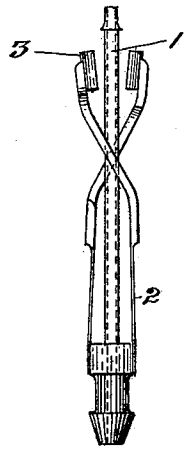



Fig. 2.

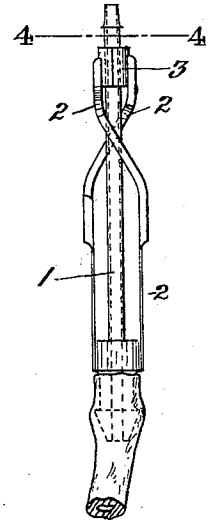



Fig. 3.

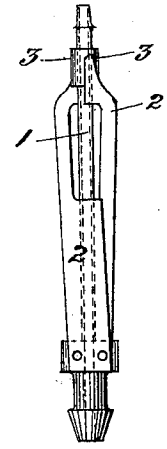



Fig. 5.

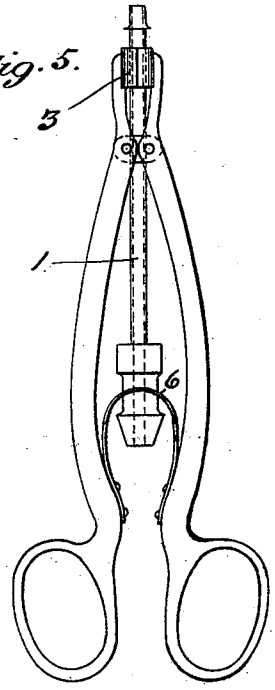



Fig. 6.

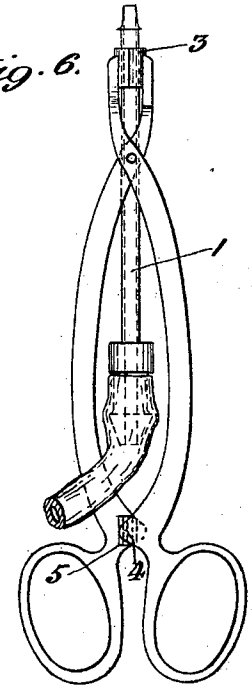



Fig. 4.



WITNESSES.

John B. Rens.

T. Percy Carr.

INVENTOR

B. H. Lohman,

by Carr & Carr,

Attys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

BENJAMIN H. LOHMAN, OF ST. LOUIS, MISSOURI.

## SURGICAL INJECTOR-CLAMP.

SPECIFICATION forming part of Letters Patent No. 611,038, dated September 20, 1898.

Application filed April 16, 1898. Serial No. 677,790. (No model.)

*To all whom it may concern:*

Be it known that I, BENJAMIN H. LOHMAN, a citizen of the United States of America, and a resident of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Injector-Clamp, of which the following is a specification.

My invention relates to devices for injecting fluids into arteries and veins, and has for its principal object to facilitate binding the vein or artery around the tube to prevent leakage of the liquid.

It consists principally in a clamp mounted on the tube and arranged to be easily manipulated.

It further consists in the arrangements of parts and in the details of construction hereinafter described and claimed.

In the accompanying drawings, which form part of this specification, Figure 1 is a view of the preferred form of my device with the spring-jaws open. Fig. 2 is a view thereof with the jaws closed. Fig. 3 is a view of the same on a plane at right angles to that of Figs. 1 and 2. Fig. 4 is a sectional view on the line 4 4 of Fig. 2. Fig. 5 is a view of a modification of my device wherein the spring 6 operates on the handles which carry the jaws, and Fig. 6 is another modification wherein the handles are locked in position.

Like symbols refer to like parts in the several views.

The tube 1 of my device is an ordinary artery-tube—that is, a rigid tube adapted for attachment to a soft-rubber hose connected to an injector-pump and constituting a nozzle for insertion into the artery or vein—the outer diameter of the tube being nearly the inner diameter of the artery or vein. It is sometimes desirable to provide a raised rib near the end to aid in preventing leakage.

Two arms 2, constituting a pair, are mounted upon opposite sides of the tube. At one end of each arm is a semicylindrical jaw 3 of such curvature that when the two jaws meet they inclose the tube, with a slight annular clearance between them and the tube.

Usually the operator has only one hand free to insert the tube and clamp the artery or vein around it. For this reason the arms of my device are arranged to be manipulated by the same hand which inserts the tube in the artery or vein. The preferable arrangement is that shown in Fig. 1, wherein the arms are fastened at one end and are themselves resilient. The spring-arms are arranged crosswise and with their forces acting toward each other. In this arrangement the cross-arms may constitute the only finger-grip necessary for manipulating the tube. When the tube is to be inserted, the cross-arms are pressed between the thumb and finger, which operation separates the clamping-jaws. When the tube is in proper position, the pressure is released, and the jaws automatically clamp the vein or artery around the tube.

Obviously divers other changes may be made in the arrangements which permit the instrument to be manipulated with one hand. For instance, instead of making the cross-arms resilient rigid pivotal arms may be used and supplementary springs provided to accomplish the same operation. In the case of rigid pivotal arms it is desirable for some reasons to extend the arms backwardly to constitute handles. In the modification shown in Fig. 4 the arms are not crossed, but the jaws are kept closed by springs applied to the handles.

In the modification shown in Fig. 6 the arms are crossed at the pivot, and the handle of one has a ratchet tooth or series of teeth 4, and the handle of the other has a beveled tooth 5, arranged in the same plane and adapted to ride over and engage the ratchet-teeth 4. In this last case there should be sufficient resiliency to the handles to permit the movement described, which permits any desired degree of force to be applied to the clamp and automatically fastens the clamp thus adjusted.

While my device is specially designed for use with an injecting-pump, it is obviously capable of use with an aspirator, and I do not wish to be limited to its use with an injector. Obviously, also, the instrument is equally applicable for operation on living and dead bodies, its operation being the same when used for injecting an embalming fluid into the arteries of a dead body as the operation of injecting a liquid into the veins of a living body.

What I claim is—

1. An injector-clamp comprising an injector-tube, movable arms mounted thereon, and carrying clamping-jaws embracing said tube, said arms having finger-grips constituting means for manipulating the instrument, substantially as and for the purpose set forth.

2. An injector-clamp comprising an injector-tube, spring-actuated arms mounted thereon and carrying clamping-jaws embracing said tube said springs being arranged to maintain said arms in normal position, substantially as and for the purpose set forth.

3. An injector-clamp comprising an injector-tube and spring-arms mounted thereon, said arms being crossed and carrying at their free ends clamping-jaws embracing said tube, substantially as and for the purpose set forth.

4. An injector-clamp comprising an injector-tube and crossed spring-arms mounted thereon, said arms carrying at their free ends clamping-jaws embracing said tube, and having finger-grips near their fixed ends, substantially as and for the purpose set forth.

5. An injector-clamp comprising an injector-tube and pivotal arms mounted thereon and carrying clamping-jaws at one end and having their other ends formed into handles for manipulating the instrument, substantially as and for the purpose set forth.

6. An injector-clamp comprising an injector-tube and pivotal arms mounted thereon and carrying clamping-jaws at one end and having their other ends formed into handles for manipulating the instrument, said handle ends carrying coöperating ratchet-teeth and being sufficiently resilient to permit of such operation, substantially as and for the purpose set forth.

BENJ. H. LOHMAN.

Witnesses:
JAMES A. CARR,
JOHN B. RENO.