

(No Model.)

C. RICHTMANN.
STOPPER FOR RUBBER TUBES.

No. 307,871.

Patented Nov. 11, 1884.

fig. 1.

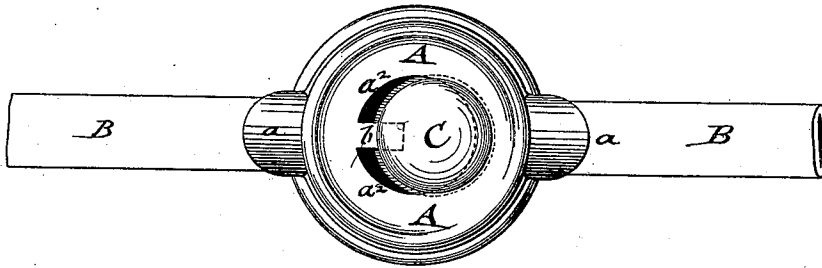


fig. 2.

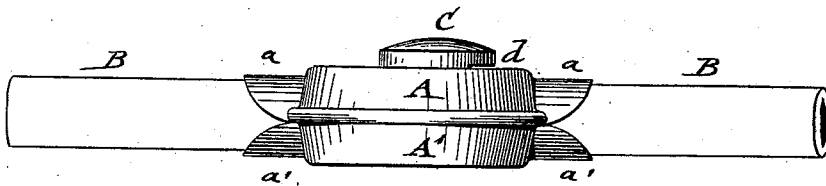


fig. 3.

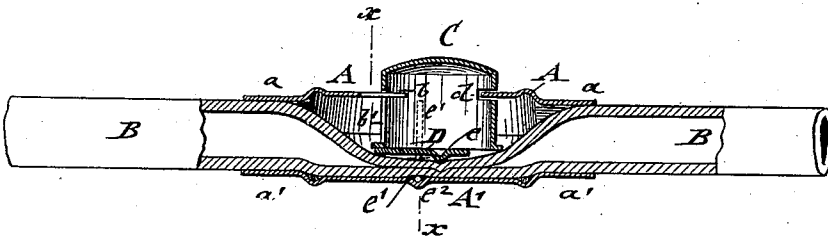
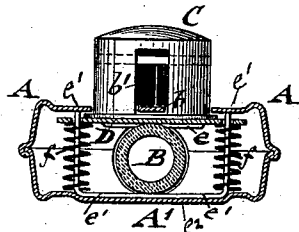


fig. 4.



WITNESSES:

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CHARLES RICHTMANN, OF NEWARK, NEW JERSEY.

STOPPER FOR RUBBER TUBES.

SPECIFICATION forming part of Letters Patent No. 307,871, dated November 11, 1884.

Application filed May 27, 1884. (No model.)

To all whom it may concern:

Be it known that I, CHARLES RICHTMANN, of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Stoppers for Rubber Tubes, of which the following is a specification.

This invention relates to an improved stopper for rubber tubes of all kinds used for conveying liquids through the same; and the invention consists of a stopper for rubber tubes made of two circular sections, and of a cylindrical cap that is guided in a central opening of one of said sections and adapted to be locked by a slit to said sections. Below the cap is a guided and spring-actuated plate or washer that is pressed by the cap on the tube or released therefrom, so as to close or open the tube, as required.

In the accompanying drawings, Figure 1 represents a top view, Fig. 2 a side view, Fig. 3 a vertical longitudinal section, and Fig. 4 a vertical transverse section on line *x x*, Fig. 3, of my improved stopper for rubber tubes.

Similar letters of reference indicate corresponding parts.

A A' in the drawings represent two circular sections of sheet metal, which are united at their edges by overlapping portions, and provided at diametrically-opposite ends with semi-circular portions *a a'*, that form guide-sockets for the rubber tube B. The section A is provided with a central opening, *a²*, and with a tongue, *b*, that extends into said opening parallel to the axis of the tube B, and into a slot, *b'*, of a cylindrical cap, C. The cap C is provided at its upper part with a slit, *d*, that extends around a part of the circumference of the cap C, and which admits the pushing of the cap C over the edge of the section A, after the cap C has been pressed inwardly into the case formed by the sections A A'. The cap C is thereby locked in depressed position on the section A, as shown in Figs. 2 and 3.

Below the cap C is arranged a transverse washer-plate, D, that is provided with a rib, *e*, said plate being guided on the legs of a U-shaped wire, *e'*, the transverse portion of which is placed in a depression, *e²*, of the bottom of the section A', as shown clearly in Figs. 3 and

4. Spiral springs *f f* are placed around the legs of the U-shaped wire *e'*, between the washer-plate D and the bottom of the section A'. The spiral springs *f f* force the plate D upward, and raise thereby the cap C, when the latter has been released from the section A.

For closing a rubber tube the cap C is first depressed, and then pushed by its slit *d* over the top section, A, during which motion the cap is guided by the tongue *b*. By the downward motion of the cap the washer-plate D is pressed tightly on the rubber tube, so as to compress the same, as shown in Fig. 3. By releasing the cap C from the section A, which is accomplished by pulling back the cap, the spiral springs *f f* raise the washer-plate D and the cap C, so that the latter projects above the top section, A, as shown in Fig. 4. The tube is thereby released and admits the passage of liquid through the same.

The advantage of my improved stopper over the spring-clamps and similar devices heretofore in use is that my stopper entirely closes the tube and all the operating parts, which are all inside of the casing and protected by the same.

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

1. A stopper for rubber tubes composed of two circular sections, a cylindrical cap guided by one of said sections, means for locking the cap to one of said sections, and a transverse spring-actuated washer-plate interposed between the bottom of the cap and the rubber tube to be compressed, substantially as set forth.

2. The combination of two circular sections, A A', having end sockets, *a a'*, a cap, C, guided along a tongue, *b*, of the section A, and having a slit, *d*, and a transverse spring-actuated washer-plate, D, interposed between the bottom of the cap and the rubber tube, substantially as set forth.

3. The combination of the section A, having a central opening, *a²*, and a tongue, *b*, a section, A', having a transverse bottom depression, a cylindrical cap, C, having a guide-slot, *b'*, and a locking-slit, *d*, a transverse washer-plate, D, interposed between the bottom of the cap and the rubber tube, a U-shaped wire, *e'*, seated in a transverse depression, *e²*, of the section A', and spiral springs *f f* interposed between the plate D and the bottom of the section A', substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

Witnesses: CHARLES RICHTMANN.

CARL KARP,
SIDNEY MANN.