

Aug. 16, 1938.

C. S. HORNBERGER

2,127,257

PINCH COCK

Filed April 8, 1937

Fig. 1

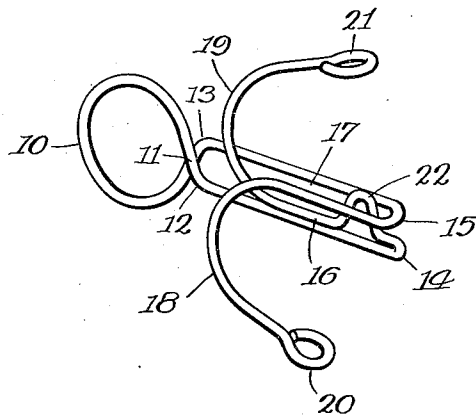


Fig. 2

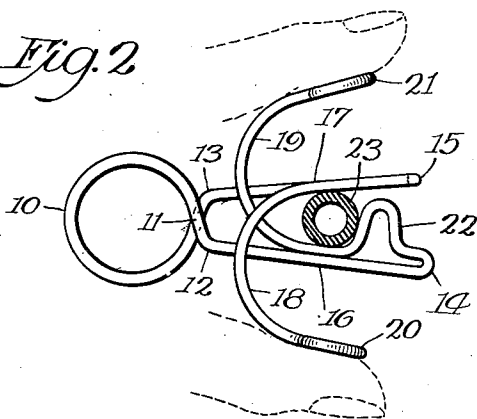
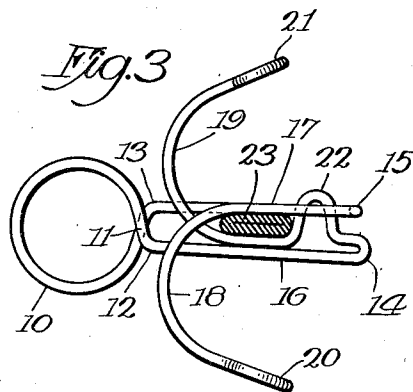


Fig. 3



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UNITED STATES PATENT OFFICE

2,127,257

PINCH-COCK

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Application April 8, 1937, Serial No. 135,733

1 Claim. (Cl. 251—5)

The invention relates to pinch-cocks for controlling flexible tubes used for the intermittent supplying of fluid, as in laboratory work.

As such cocks have heretofore been made, it was necessary, in one type, to thread the tube through between the jaws, and in another, there was danger that it would escape from between them when the jaws were opened to permit the flow of the fluid.

The object of the invention is to provide, in a cock adapted to be applied to a tube laterally, means for positively retaining the tube between the clamping jaws.

The invention is fully hereinafter described and is illustrated in the accompanying drawing in which

Fig. 1 is a view of the cock in perspective;

Fig. 2 is a side elevational view of the cock applied to a tube, the jaws of the cock being spread apart to permit the flow of fluid through the tube; and

Fig. 3 is a similar view, but showing the tube closed by the spring action of the cock.

The cock is formed of a continuous strip or strand of material such as spring wire as shown. The strand is bent, midway of its ends, to form a closed preferably circular loop 10. After being crossed, as at 11, in the formation of the loop, the end portions of the strand are bent, as at 12 and 13, approximately radially as to the loop, and folded back upon themselves, as at 14 and 15, to form a pair of jaws 16 and 17 which may be of substantially equal lengths although the former is slightly longer than the latter in order to form a seat for the jaw 17 when the cock is closed without a tube interposed between the jaws. Adjacent the inner ends of the jaws, the ends of the strand are bent, each across the opposing jaw, and thence forwardly as shown at 18 and 19, and preferably terminating in loops 20, 21, which provide finger seats.

The transverse planes of the two jaws are normal to each other, that of the jaw 16 being perpendicular to the axis of the loop 10. The return or top element of the jaw 16 is formed into a U-shaped retaining loop 22, adjacent the outer end of the jaw, which normally extends between the two members of the jaw 17.

In applying the cock to a tube 23, the jaws are spread apart by thumb and finger pressure upon the loops 20, 21 as shown in Fig. 2, sufficiently to withdraw the retaining loop 22 from the jaw 17, and the tube is slipped past it to the position illustrated. Release of pressure on the members 18 and 19 permits the closing of the jaws together by the tendency of the loop to expand, thus compressing the tube as shown in Fig. 3.

To permit the flow of fluid the jaws are spread apart, the loop or tooth 22, however, preventing the escape of the tube whatever may be its size.

I claim as my invention:

A pinch cock comprising a pair of jaws each having a tube-compressing area intermediate its ends and having an outer free end, a spring portion connecting the inner ends of the jaws urging the jaws together, a tube-retaining projection extending from one jaw toward the other at a point between the free end and the tube-compressing area of the jaw, and a finger seat portion extending away from each jaw at a point between its tube-compressing area and the spring connection whereby said areas of the jaws may be separated to relieve compression on a tube between said areas, the length of each finger seat extension and the length of the tube-retaining projection being so proportioned as to permit a tube to be introduced laterally from the free ends of the jaws, between the projection and the other jaw, and on to the tube-compressing areas when said areas are separated by pressing the free ends of the finger seat portions toward each other.

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