No. 717,898. PATENTED JAN. 6, 1903.

R. P. McCULLY.

STETHOSCOPE OR THE LIKE.

APPLICATION FILED JUNE 13, 1902.

NO MODEL.

Fig. 1.



Fig. 3.

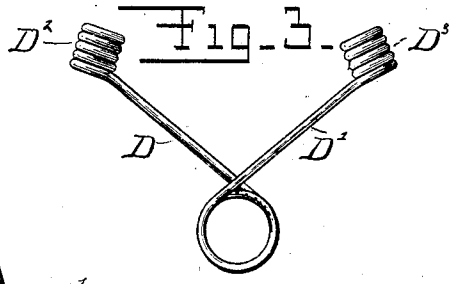
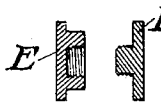


Fig. 4.



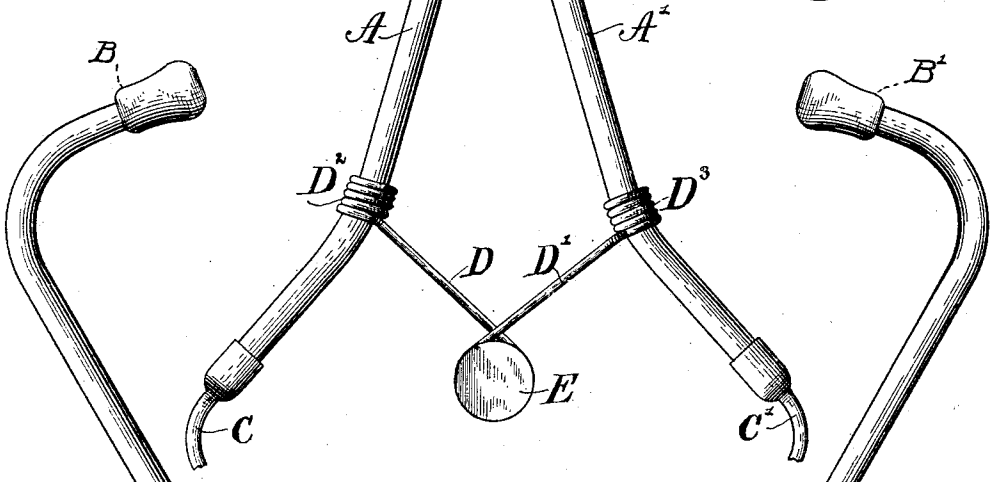
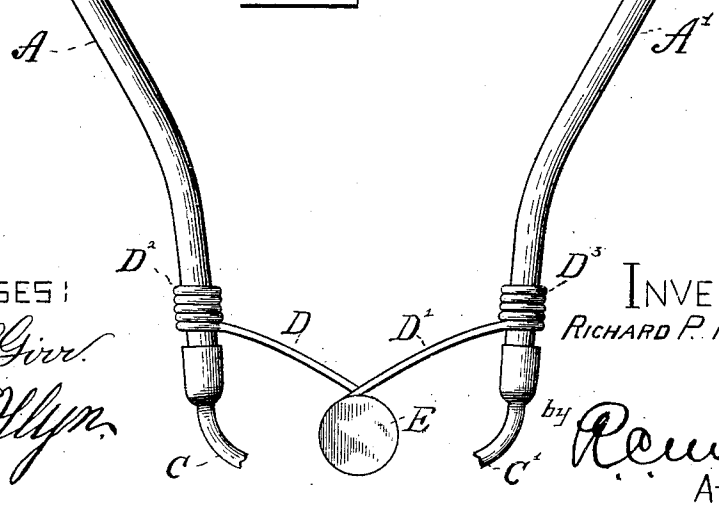


Fig. 2.



Witnesses:

J. B. McGirr.

Thos. L. Shlyn.

Inventor

Richard P. McCully.

by R. Mitchell

Attorney.

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

UNITED STATES PATENT OFFICE.

RICHARD P. McCULLY, OF BROOKLYN, NEW YORK.

STETHOSCOPE OR THE LIKE.

SPECIFICATION forming part of Letters Patent No. 717,898, dated January 6, 1903.

Application filed June 13, 1902. Serial No. 111,459. (No model.)

To all whom it may concern:

Be it known that I, RICHARD P. McCULLY, a citizen of the United States, residing at Brooklyn, in the county of Kings, State of New York, have invented certain new and useful Improvements in Stethoscopes or the Like, of which the following is a full, clear, and exact description.

This invention relates to surgical instruments, and particularly to stethoscopes.

The object of my invention is to improve the construction of stethoscopes in certain mechanical features hereinafter more fully pointed out.

In the drawings, Figure 1 is a projection of those parts of a stethoscope to which my invention relates. Fig. 2 is a similar view, the parts being shown in a different position. Fig. 3 is a view of a detail of construction. Fig. 4 is a sectional view of other details of construction.

A A′ are tubes, preferably formed of metal and having at their free ends bulbous devices B B′, which are adapted to protect the ends of the tubes A A′, respectively, and to fit into the ear of the person desiring to use the same. At the other ends of the tubes A A′ flexible pipes or tubes C C′ are provided leading off to a sound-box. (Not shown.) The use of any suitable form of sound-box is permissible, the construction of which is no part of this invention.

D D′ are wire arms, preferably bent in the middle and encircling a bushing E. The bushing is formed of two parts E E′, one of which, E, is in the form of a disk having a shouldered enlargement at one edge and a central screw-threaded perforation or recess adapted to receive a screw-threaded projection on the other plate E′, which plate is approximately the same size as the enlargement on the disk E. The wire D is preferably formed in two coils and wound around the bushing twice, so that by screwing the member E′ into the member E the coils in the wire may be clamped together to secure the proper tension and stability. At the outer end of each of the arms D D′ the wire is coiled several times to form a bushing or bearing to receive the ear-tubes A A′ and frictionally retain them in any desired position. It will be seen that the wire arms D D′ form a connection for the ear-tubes A A′ and will not mar or scratch the same when adjustment is being effected or in any ordinary use. Furthermore, by the use of wire the ear-tubes may be adjusted in any direction to readily accommodate their position, so as fit the head of any one. In stethoscopes the ear-tubes may be curved at or near the point where the intermediate connection is made, as shown in the drawings, and to facilitate the adjustment of the parts it is desirable that the bushings be flexible, so they will readily adapt themselves in shape to any part of the ear-tube, whether curved or straight. For example, in Fig. 1 the bushings D^2 D^3 are shown adjacent to the bend in the ear-tubes A A′, and it will be seen that the bushings have assumed a shape corresponding to the curve of the tube. In Fig. 2 the bushings are shown upon straight portions of the tube, and it will be seen that they have assumed a form to correspond. This is due to the flexibility of the coiled bushing, which constitutes practically a flexible tube capable of adapting itself to any shape or curve of the ear-tube. This is a feature of great importance, since it permits of the manufacture of a stethoscope of one size instead of various sizes having a capacity of fitting the head of any wearer. By curving the tubes A A′, adjacent the point at which the bushing is to be normally located, the bushing may be adjusted up and down on said tube, and thereby the operative tension of the air-tubes may be varied to a much greater extent than would be possible if the air-tubes A A′ were straight at this portion. By providing the disks E E′ the coils D D′ at the bushing are held in place and distortion prevented. The disks E E′ also cause a convenient means for grasping and adjusting the position of the tubes when placed in the ears in one hand instead of two.

Obviously this invention is not limited to stethoscopes, but may be used in connection with other tubes employed for conveying sounds to the ears—such as, for example, the tubes leading from phonographs or telephones.

What I claim is—

1. In a device of the character described, tubes connected together by a wire, said wire being curved near its central portion and a bushing surrounded thereby, said bushing

being formed of two parts having disks adapted to be drawn toward each other and clamp said wire, substantially as described.

2. In a device of the character described, tubes connected together by a wire, said wire being curved near its central portion and a bushing carried thereby, said bushing being formed of two parts adapted to be screwed the one into the other and having disks for clamping said wire, substantially as described.

3. In a device of the character described, a pair of tubes, a wire having bushings carried at its ends adapted to adjustably engage said tubes, the said wire near its central portion being curved and a bushing E surrounded thereby.

4. In a device of the character described, a pair of tubes, wire connecting the same by means of bushings carried at ends of said wire and adapted to adjustably engage said tubes, the said wire near its central portion being coiled to a bushing E surrounded thereby, said bushing E having two disks adapted to be secured together.

5. In a device of the character described, a pair of tubes, a wire coiled at each end to form flexible bushings adapted to frictionally engage said tubes, said wire near its central portion being coiled and a bushing composed of two parts separably connected.

6. A stethoscope comprising a pair of metallic tubes, ear-pieces at one end of each of said tubes, each tube being curved near its other end outwardly from the direction of the ear-pieces, a wire connection for said tubes each end of said wire terminating in a coiled bushing adapted to surround and adjustably and slidably engage the said tubes at said curved portion and above or below the same, the ends of said tubes beyond the said coiled bushing being adapted to be engaged by the ends of flexible tubing.

Signed at New York, N. Y., this 12th day of June, 1902.

RICHARD P. McCULLY.

Witnesses:
ROBT. S. ALLYN,
L. VREELAND.