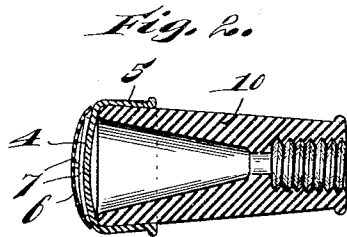
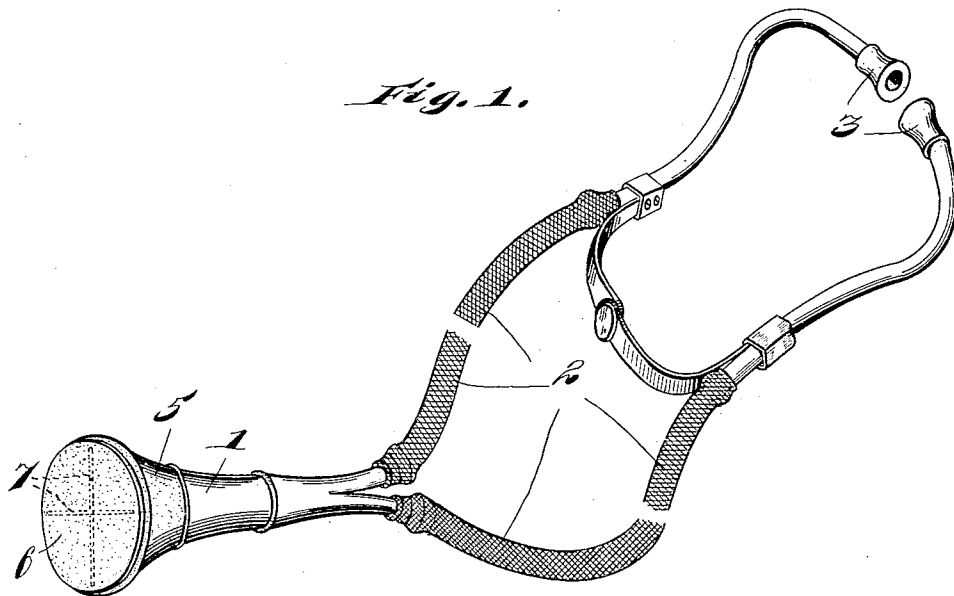


O. H. SHEPPARD.  
STETHOSCOPE.  
APPLICATION FILED JAN. 24, 1914.

1,157,428.

Patented Oct. 19, 1915.



*Witnesses:*

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# UNITED STATES PATENT OFFICE.

OSBORNE H. SHEPPARD, OF CHICAGO, ILLINOIS.

## STETHOSCOPE.

1,157,428.

Specification of Letters Patent.

Patented Oct. 19, 1915.

Application filed January 24, 1914. Serial No. 814,130.

*To all whom it may concern:*

Be it known that I, OSBORNE H. SHEPPARD, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Stethoscopes, of which the following is a specification.

My invention relates to improvements in stethoscopes, and has for its object the provision of an improved stethoscope by means of which the sounds within a human body may be distinctly heard.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawing forming a part of this specification, and in which,

Figure 1 is a perspective view of a stethoscope embodying my invention, Fig. 2, a section taken through a modified form of air chamber, and Fig. 3, a perspective view of a metallic muffler plate employed in the construction.

The preferred form of construction as illustrated in the drawing comprises an ordinary stethoscope air chamber 1 which may be of any usual or desired form, and is provided with the usual rubber tubes 2 and ear piece 3 for detecting sounds made by the beating of the heart or breathing of the lungs, as will be readily understood. The end of chamber 1 is closed air-tight by means of an outwardly bulging rubber cap 4 which has elastic edges 5 tightly fitting over the mouth of chamber 1. In order to reinforce cap 4 and to better maintain the same in an outwardly bulging condition, a reinforcing piece of rubber 6 is placed over the outer side of cap 4 and crossed spring wires 7 are arranged between piece 6 and cap 4. A stethoscope constructed, as above, will be found to be very sensitive to the noises which it is desired to hear. In fact, for some examinations of the heart, the noises heard through the stethoscope will

be found too loud for accurate diagnosis. For such cases, I provide a thin metallic plate 8 provided with spring clips 9 adapted to engage over the sides of air chamber 1 and hold said plate in close contact with said cap. With the plate 8 adjusted in position certain sounds of the heart can be heard better, due to the muffling effect thereof. The form of air chamber 10 illustrated in Fig. 2 is slightly different in shape from air chamber 1, but otherwise the two constructions are identical.

While I have illustrated and described the preferred forms of construction for carrying my invention into effect, these are capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having described my invention what I claim as new and desire to secure by Letters Patent is:

1. A stethoscope comprising an air chamber; an outwardly bulging flexible diaphragm fitted over the mouth end of said chamber; and reinforcing wires secured to said diaphragm through their length and arranged to hold said cap in outwardly bulging form, substantially as described.

2. A stethoscope comprising an air chamber; an outwardly bulging rubber cap fitted over the mouth end of said chamber; a reinforcing piece secured to the bulging portion of said cap; and reinforcing wires arranged between said piece and said cap to hold said cap in outwardly bulging form, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

OSBORNE H. SHEPPARD.

Witnesses:

JOSHUA R. H. POTTS,  
HELEN F. LILLIS.