May 29, 1928. 1,671,936

O. P. RIEGER

STETHOSCOPE

Filed Jan. 29, 1927

FIG. I.

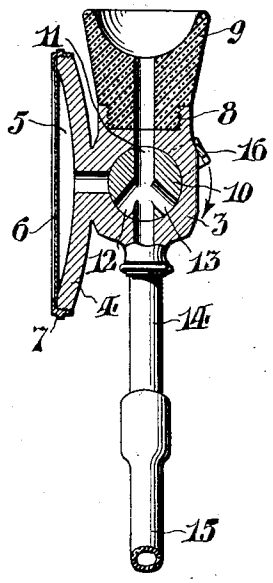
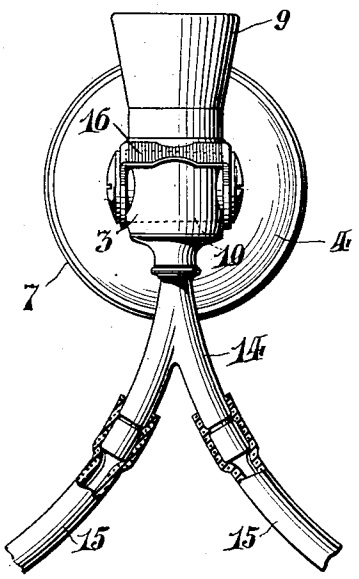


FIG. II.



WITNESSES

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UNITED STATES PATENT OFFICE.

OTTO P. RIEGER, OF ERIE, PENNSYLVANIA, ASSIGNOR TO THE GEORGE P. PILLING & SON COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

STETHOSCOPE.

Application filed January 29, 1927. Serial No. 164,586.

This invention relates to stethoscopes more particularly useful in making cardiac examinations and it has for an object the provision of a device whereby such examinations are made easier and more rapid.

The invention consists essentially of the combination in a stethoscope of a bell and a diaphragm device with a common control whereby selective use of either device is effected without dismantling any part or parts; or the removal of the aurals from the ears.

The accompanying drawings typically illustrate my invention.

Fig. I is a longitudinal sectional view of a stethoscope embodying my improvements; and,

Fig. II is an elevational view looking to the left of Fig. I.

Referring more in detail to the drawings my novel stethoscope comprises a valve casing 3, having an integral concavo-convex portion 4 providing the diaphragm chamber 5, which is closed by a flexible diaphragm 6 held in place by the screwed collar 7. At right angles to the portion 4 the casing 3 is counter-bored at 8 to receive the shouldered applicator tip or sound receiving bell 9.

Within the body casing 3 is mounted a rotary plug valve 10 of the three-way type having connecting ports 11, 12 and 13 adapted to, respectively establish communication from the bell 9 or diaphragm chamber 5 with the usual fork 14, to which the aural tubes 15 are conventionally attached. The plug valve 10 is shifted by means of a yoke lever 16, and it will be seen that by working said lever in the direction of the arrow on Fig. I, communication from the bell 9 to the aural tubes 15 will be cut off, and that to the diaphragm chamber 5 opened.

From the foregoing it will be clear that by simply turning the valve 10, either the diaphragm or bell pieces 4, 9 respectively, is connected to the binaurals, while the other is shut off, thereby precluding any loss of sound through said shut off piece; as well as preventing disturbance by extraneous noise.

Furthermore, particular attention is directed to the fact that the respective stethoscopic devices 4, 9 are positioned to occupy the same positions relative to the aural fork connection 14 which they hold in the generality of known stethoscopes. In other words the bell 9 is in direct axial alignment with the fork 14 and the diaphragm 6 at right angles thereto.

Having thus described my invention, I claim:—

1. The combination, in a stethoscope, of a diaphragm chamber and a bell sound receiving member at substantially right angles thereto with a common control operative to open or close communication from either device relative to the binaurals.

2. In a stethoscope, the combination of a valve casing having an integral diaphragm chamber and an attached bell sound receiving member at substantially right angles thereto, and a three-way plug valve in said casing controlling sound transmission from either the diaphragm chamber or the bell member to the binaurals.

3. A stethoscope embodying a vibratory and a non-vibratory sound receiving means at substantially right angles to one another and under control of a three-way valve whereby either of said means are individually usable.

In testimony whereof, I have hereunto signed my name at St. Petersburg, Fla., this 26th day of January, 1927.

OTTO P. RIEGER.