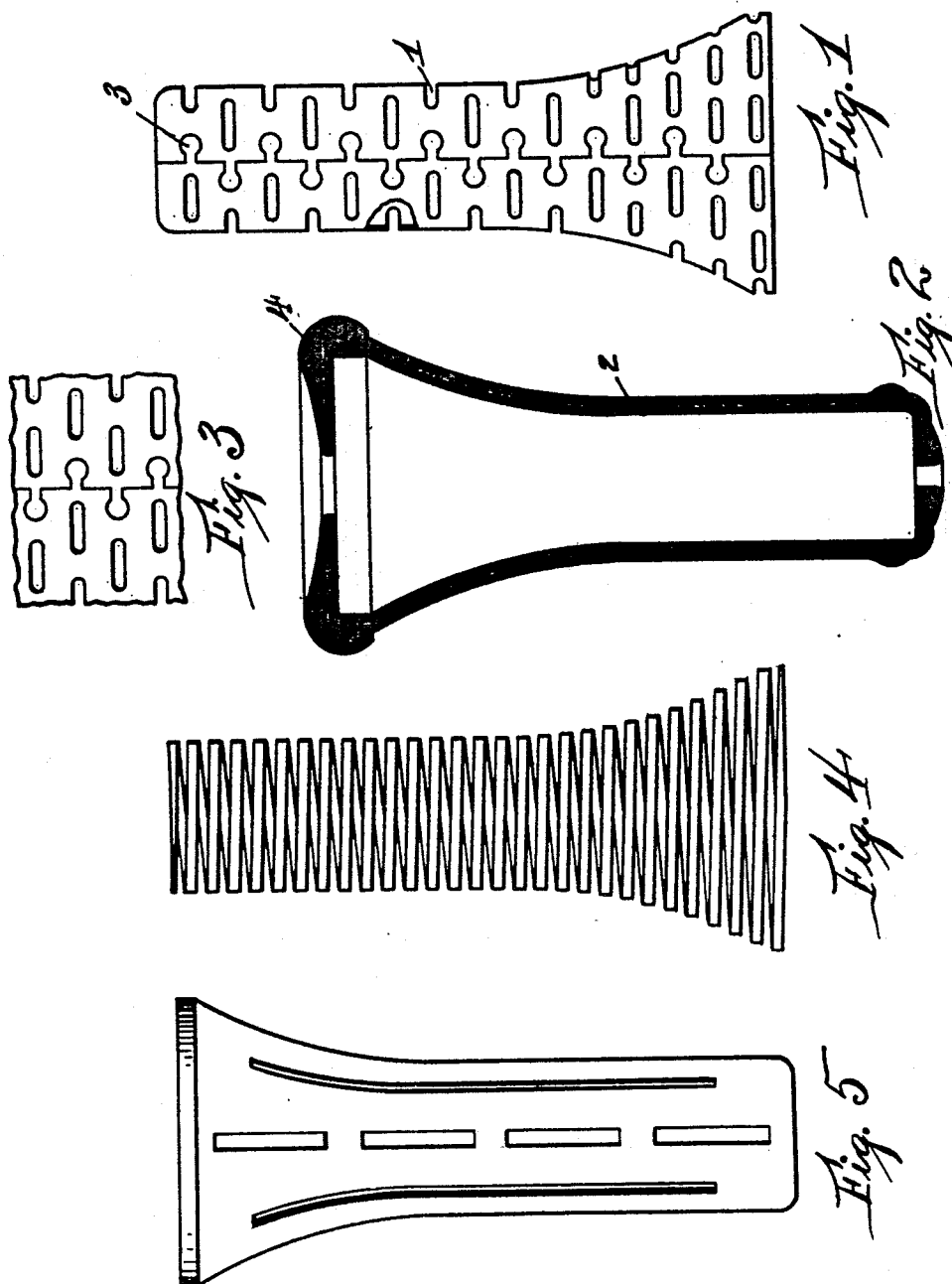


J. B. EDWARDS.
 METHOD OF STRENGTHENING RECEIVER SHELLS.
 APPLICATION FILED MAR. 9, 1910. RENEWED JAN. 3, 1911.

1,115,519. Patented Nov. 3, 1914.



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UNITED STATES PATENT OFFICE.

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METHOD OF STRENGTHENING RECEIVER-SHELLS.

1,115,519.

Specification of Letters Patent.

Patented Nov. 3, 1914.

Application filed March 9, 1910, Serial No. 548,197. Renewed January 3, 1911. Serial No. 600,526.

To all whom it may concern:

Be it known that I, JOSEPH B. EDWARDS, a citizen of the United States, residing in Chicago, county of Cook and State of Illinois, have invented certain new and useful Improvements in Method of Strengthening Receiver-Shell, of which the following is a specification.

My invention relates to means for strengthening articles formed of hard rubber or articles formed from various compositions used as a substitute for hard rubber.

The invention is particularly adapted for use in strengthening telephone receiver shells which are made of insulating material, usually hard rubber, or an insulating compound.

It is important that the receiver shells be light, so as to be easily handled, and that they combine with lightness a high degree of strength, so as to resist breakage from dropping or severe knocks and general rough handling to which any device used by the public is subjected. Hard rubber or the various compositions thereof are demanded for this class of work because of the high insulation of such material and because it is susceptible of a high finish, but such material has the undesirable quality of being fragile, and easily chipped or broken. This is a source of great expense to telephone operating companies having large numbers of telephone receivers in use.

I provide convenient means for manufacturing the receiver shells and ear pieces of hard rubber or composition which has the desirable qualities as to insulation and finish demanded by telephone users without rendering the parts liable to become broken by careless handling and without adding weight to the receiver to obtain this additional strength. This result is accomplished by coating a thin metallic support with a thin layer of the hard rubber or composition that is to constitute the exterior finish of the parts.

I have illustrated the preferred forms of my invention in the accompanying drawing, in which—

Figure 1 is a plan view of one way of constructing the metallic support. Fig. 2 is a sectional view of the modification of Fig. 1 showing the metallic support coated

with hard rubber, and showing the ear cap in section. Fig. 3 is a plan view of the metallic support shown in Fig. 1 before being molded into shape. Figs. 4 and 5 show modifications of the metallic supporting member.

The receiver shown in Figs. 1, 2 and 3 consists of thin sheet metal from which portions are stamped out forming slotted apertures 1, which permit the insulating material 2 to unite from the two sides of the receiver shell and firmly adhere to the metal as shown in Fig. 2. In this form, the metal support is preferably constructed with interlocking bayonet joints 3, the metal being first perforated and formed as desired in a flat sheet. It is then rolled into shape, the bayonet joints locking the joining edges of the metal, and uniting it into a continuous cylindrical form. The composition or hard rubber compound is then applied in a thin layer on both sides of the metal support and vulcanized. In vulcanizing the rubber contained in the compound, it unites through the perforations or other openings in the metal support so as to form a perfectly homogeneous mass completely covering the article and firmly secured thereto at all points through the perforations or openings in the metal support. In receiving an excessively sharp or hard blow the rubber may crack slightly, but will not chip off and mar the appearance of the device. The support for the ear cap is preferably a perforated disk or ring 4.

In the modification shown in Fig. 4 a long metallic band or ribbon is wound upon a suitable form and secured at its ends. This spiral form or ribbon is then coated with the rubber insulating material, which firmly unites from the two sides, and adheres thereto through the helica of the coil.

In Fig. 5, I have shown a single piece of tubing having apertures cut or blocked out therein as a support for the insulating rubber compound of the receiver.

What I claim as new and desire to secure by Letters Patent is:

A telephone receiver shell consisting of a thin strip or strips of sheet metal containing perforations, suitable means arranged along the longitudinal edges of said strips of metal for securing said edges when the

strip or strips of sheet metal are rounded into cylindrical form, and a coating of hard rubber or insulating compound disposed upon the exterior of the cylindrical shell
5 thus formed, the perforations in said metal assisting to secure said insulating compound securely in position thereon.

Signed by me at Chicago, county of Cook, and State of Illinois, in the presence of two witnesses.

JOSEPH B. EDWARDS.

Witnesses:

GEORGE E. MUELLER,
BESSIE O'BRIEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."