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L. J. LOEFFLER

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REINFORCEMENT FOR MOLDED ARTICLES

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Fig. 1.

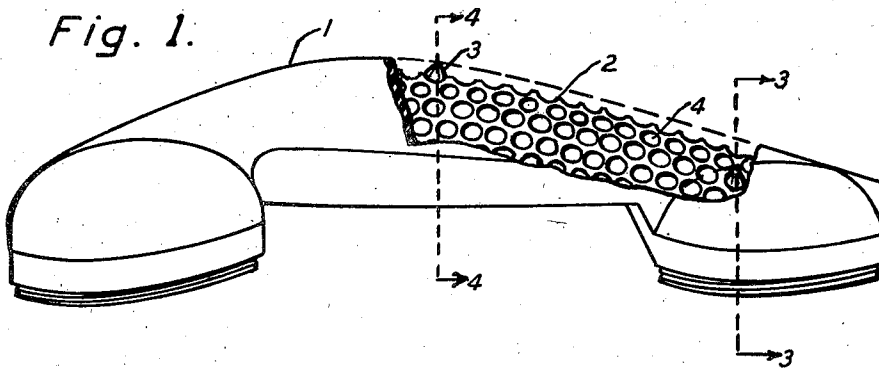


Fig. 2.

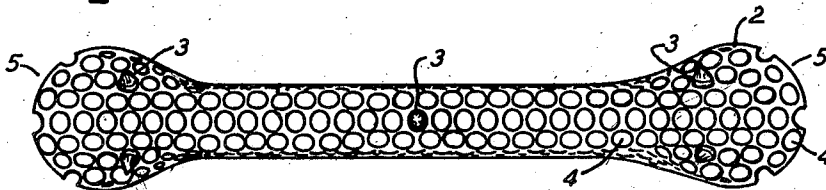


Fig. 3.

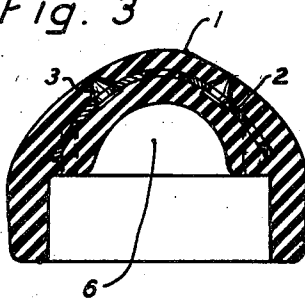
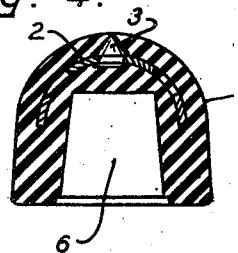


Fig. 4.



INVENTOR
LOUIS J. LOEFFLER

BY *Hariff Warland*
ATTORNEYS.

UNITED STATES PATENT OFFICE

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REENFORCEMENT FOR MOLDED ARTICLES

Louis J. Loeffler, Stapleton, N. Y.

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1 Claim. (Cl. 179—103)

My invention relates to the reenforcement of molded articles and particularly to the reenforcement of one piece telephones known as hand sets or French phones.

The main object of my invention is the provision of a reenforcing element, carrying means for properly locating it in a molded article during the molding stage.

A more particular object of my invention is the provision of the one piece telephone of the type defined above, having a reenforcing element which simulates the shape of the telephone, which is provided with spacing elements for positioning it in the telephone during the molding thereof and which will reenforce all parts of the telephone, without requiring any alteration in the usual design thereof, necessary to accommodate the electrical elements.

Further objects and advantages of my invention will appear from the following detailed description of the accompanying drawing, in which

Fig. 1 is a side elevation of a telephone hand set with a portion broken away to illustrate the position of my novel reenforcing element.

Fig. 2 is a bottom view of my novel reenforcing element.

Fig. 3 is a section taken along the line 3—3 of Fig. 1, and

Fig. 4 is a section taken along the line 4—4 of Fig. 1.

Referring to the drawing in detail, 1 represents a telephone hand set of the usual design, having a reenforcing element 2 which is provided with spacing studs 3 and with perforations 4. The reenforcing element has a shell-shaped portion 5 at each end, corresponding roughly to the shape of the mouth piece and ear phone. Intermediate its ends, the reenforcing element is channel-shaped or U-shaped to conform with the walls of the space 6, in which the wiring of the phone is enclosed.

In molding the telephone the reenforcing element is placed in the mold with its studs resting on the bottom thereof. The molding composition, such as bakelite or any other synthetic resin, rubber with vulcanizing agents, etc., is then poured into the mold. The holes 4 in the reenforcing element not only facilitate the flow of molding composition through and around the reenforcing element, but also detract from the weight of the reenforcing element. The studs 3 hold the reenforcing element a sufficient distance away from the mold to provide a coating of the molding composition of a desired thickness on the bottom of the reenforcing element.

By reason of their tapered shape, the studs make only point contact with the wall of the mold. Consequently, the studs are for all practical purposes completely embedded in the molding composition and do not appear on the surface of the finished article, except upon the minutest inspection. By virtue of the holes 4, the reenforcing element is made an integral part of the molded article and eliminates any possibility of the molded article splitting along the plane of reenforcement.

The reenforcing element can be made of any one of the usual reenforcing metals, such as steel or light, strong aluminum alloys or similar metals. The studs can be made of the same metal as the reenforcing element. It is preferable, however, to make the studs of the composition used for the molding or a different non-metallic composition such as indurated fiber of a color which does not contrast with the color of the molded composition. The studs 3, which are made from the same material as the set itself, are, of course, hard and rigid and are forced into the perforations 4 at a few predetermined points as shown, for instance, in Fig. 2 before the set is molded. When the molding material, such as bakelite, synthetic rosin, or rubber with vulcanizing agents, is poured in a liquid or plastic condition and then hardens, the result is that a finished article is obtained with a rigid reenforcing member which is secured in position by studs of the same material as the completed article and which are invisible from the outside. It is necessary to have a rigid stud 3 due to the fact that, when the plastic material is poured into the mold, heavy pressure is exerted while the composition is drying. If it were not for these studs 3, the pressure would force the metal reenforcing member 2 into the inner wall or bottom of the mold and the metal would show through the finished article. In this way the studs are entirely prevented from showing on the surface of the finished molded article.

While I have specifically illustrated my invention applied to a telephone hand set, it is to be understood that I contemplate its application to all types of molded articles. It is to be also understood that the studs need not be placed exactly as I have shown them in the drawing, but can be arranged in any desired manner, so long as they serve the purpose of spacing the reenforcing element from the walls of the mold. Likewise, while I have illustrated in my preferred embodiment a perforated reenforcing element, it is to be understood that the perfora-

tions can be dispensed with if their functions are not required.

Having thus stated the nature and objects of my invention and illustrated a specific embodiment of the same, however, I do not restrict my invention. What I claim as new and useful and desire to secure by Letters Patent is:

A molded telephone hand set having spaced mouthpiece and earphone, a metal perforated reinforcing element having a shell shaped portion at each end approximating the shape of the mouthpiece and ear phone, respectively, and having the portion intermediate its ends in the form of a U-shaped channel approximating the shape of the intermediate portion of the hand

set, said reinforcing element extending over substantially the entire back of the hand set, a molding composition forming the body of the hand set and extending through said perforations to form a rigid structure, and a spacing means comprising a plurality of spaced, tapered pointed studs carried by and projecting from the convex face of said reinforcing element, the points of said studs lying flush with the outer surface of the hand set and being adapted to support the reinforcing element during the molding operation whereby only the points of said studs are visible on the surface of the finished hand set.

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