This invention relates to an ear shaper and protector for the human ears, and the main object of my invention is to provide a sanitary device of the character described which is light and comfortable to wear, can be quickly placed in position and removed, and which can be worn at all times as an ear shaper by anyone having irregular shaped ears, thereby aiding the ear to grow in normal position and hence improve the appearance.

A further object of my invention is to provide a device of the character described, having on the inside thereof a flexible rubber tube insertable into the ear canal to aid in the hearing of men and women who have normal hearing who may be working in kitchens, machine shops and factories where dirt and grease would tend to accumulate in the ears and thereby impede the normal hearing of such a person.

A still further object is to provide a neat, compact and durable device of the character described which shall be relatively inexpensive to manufacture which may be used by men, women and children, which shall be attractive in appearance, preferably made from Celluloid, plastic, or any other suitable material, streamlined and neat in appearance, and yet practical and efficient to a high degree in use.

Other objects of my invention will in part be obvious and part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements, and arrangement of parts which will be exemplified in the construction hereinafter described, and of which the scope of application will be indicated in the following claims.

In the accompanying drawings, in which is shown one of the various possible illustrative embodiments of this invention:

Fig. 1 is a front elevational view of an ear shaper and protector embodying the invention;

Fig. 2 is an enlarged cross-sectional view taken on line 2--2 of Fig. 1;

Fig. 3 is a cross-sectional view taken on line 3--3 of Fig. 2;

Fig. 4 is a cross-sectional view taken on line 4--4 of Fig. 3;

Fig. 5 is a cross-sectional view taken on line 5--5 of Fig. 3;

Fig. 6 is a front elevational view of right and left ear protectors;

Fig. 7 is a front view of the ear plate;

Fig. 8 is a front view of my improved device with the ear plate removed;

Fig. 9 is a perspective view of the ear rubber tube; and

Fig. 10 is a front view of the ear plate spring.

Referring now in detail to the drawings, Fig. 10 designates an ear shaper and protector embodying my invention. The same comprises a channel shaped guide 11 having an inner wall 12, an outer wall 13 and an interconnecting web 14. Fixed to walls 12, 13 are a pair of parallel pins 16 and 17. Walls 12, 13 are interconnected by hinge eyes 18 supporting a hinge pin 19. Hinged on said pin 19 is an ear plate 20 having an outer wall 21 and an inner wall 22 forming a slot or chamber 23 to receive a piece of gauge 24. Inner wall 22 has an opening 25 and is formed with a tubular flange projection 26 at said opening, adapted to project into the ear cavity. The outer wall 21 is formed with perforations 28 opposite openings 25, to facilitate passage of sound through plate 20.

Plate 20 has pivot eyes 29a registering with eyes 29, to receive the pivot or hinge pin 19.

Plate 20 is thus hinged to guide 11 by means of the hinge pin 19.

Slot 23 extends to the inner edge of plate 20 so that the piece of gauge may be removed and replaced. Slot 23 has wings 29 at its inner end for the purpose hereinafter appearing.

On hinge pin 19 is a torsion spring 31 having outer arms 32 received in slot portions 28 and a central arm 33 projecting into the guide member 11. Thus the torsion spring causes the plate 20 to press against the ear to keep it against the head.

Plate 20 thus has the dual purpose of shaping the ear and keeping out dirt from the ear.

Means is provided for mounting the device 10 on the ear. To this end there is slidably mounted in guide 11, a pair of bars 40, 41 projecting from the upper and lower ends of guide 11. Bars 40, 41 are formed with longitudinal slots 40a, 41a through which pass pins 16 and 17, respectively. Bar 40 has a pair of aligned hinge eyes 43 receiving a hinge pin 44. Pivot thereto is a hooked or curved arm 45 adapted to engage the top of the neck of the ear, between the ear and the head. Arm 45 has hinge eyes 46 receiving pin 44. On pin 44 is a torsion spring 47 to normally retain arm 45 in the plane of the guide 11 but permitting flexibility in the connection.

Bar 41 has hinge eyes 48 receiving a hinge pin 49 aligned with pin 41. Hinged to pin 49 is a hooked or curved arm 50 having a pair of eyes 51 to receive said pin 49. On said pin 49 is a torsion spring 52 normally maintaining arm 50...
in the plane of guide 11 but also providing for a flexible connection. It will now be understood that hooked arms 45, 50 engage the ears to keep the device 10 thereon. Bars 48, 41 are interconnected by a tension spring 59 located within guide 11, to draw the hooks 45, 50 toward the ear.

A flexible rubber tube 61, somewhat conical in shape may be fitted, at its large end, onto tubular flange 25. Said tubular flange 26 as well as flexible rubber tube 61 project toward the canal of the ear. The rubber tube 61 helps keep out grease and dirt and increases hearing. Part of the ear 62, known as the tragus, as shown in the drawings, sets onto the tragus 62 to hold the ear shaper and protector device in proper position thereon.

Device 10 may be used by men, women or children. When used by children, the rubber tube 61 should be left off.

Plate 20 may be made of two plates pasted or attached together. Plate 20 may be made of plastic material, or any other suitable material.

It will thus be seen that there is provided a device in which the several objects of this invention are achieved, and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiment above set forth, it is to be understood that all matters hereinafter set forth or shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.

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

1. A device of the character described comprising, a guide, a plate hinged thereto on a spring hinge, a pair of bars slidable on said guide, a tension spring interconnecting said bars, and a pair of hooked arms hinged to said bars, respectively, on spring hinges.

2. A device of the character described comprising, a guide, a plate hinged thereto on a spring hinge, a pair of bars slidable on said guide, a tension spring interconnecting said bars, a pair of hooked arms hinged to said bars, respectively, on spring hinges, said plate having perforations, and a piece of transparent linen covering said perforations.

3. A device of the character described comprising, a guide, a plate hinged thereto on a spring hinge, a pair of bars slidable on said guide, a tension spring interconnecting said bars, a pair of hooked arms hinged to said bars, respectively, on spring hinges, said plate having perforations, a piece of transparent linen covering said perforations, and a tube attached to said plate and adapted to project into the cavity of the human ear.

4. A device of the character described, comprising a member, a plate adapted to press against the human ear, hinged to said member, and a pair of hooked arms on said first member adapted to engage behind the ear above and below the same.

5. A device of the character described, comprising a member, a plate adapted to press against the human ear, hinged to said member, a pair of hooked arms on said first member adapted to engage behind the ear above and below the same, said plate being perforated and a removable foraminous sheet on said plate covering said perforations.

6. A device of the character described, comprising a member, a plate adapted to press against the human ear, hinged to said member, a pair of hooked arms on said first member adapted to engage behind the ear above and below the same, said plate being perforated and a removable foraminous sheet on said plate covering said perforations.

7. An ear shaper and protector, comprising a channelled guide, a plate hinged to said guide on a spring hinge, a pair of bars slidably mounted in the ends of said guide and projecting therefrom, a tension spring within said guide interconnecting said bars, hooked arms hinged to said bars on aligned spring hinges, said plate having a slot and being formed with an opening communicating with said slot and disposed on one side of said plate, said plate being formed with a tubular flange surrounding said opening, and with perforations communicating with said opening.

8. An ear shaper and protector, comprising a channelled guide, a plate hinged to said guide on a spring hinge, a pair of bars slidably mounted on the ends of said guide and projecting therefrom, a tension spring within said guide interconnecting said bars, hooked arms hinged to said bars on aligned spring hinges, said plate having a slot and being formed with an opening communicating with said slot and disposed on one side of said plate, said plate being formed with a tubular flange surrounding said opening, with perforations communicating with said opening, and a generally conical flexible rubber tube having its large end engaging said tubular flange.

LUDWIG JUROVATY.