

May 29, 1923.

F. D. WALDRON

1,456,524

HELMET

Filed April 13, 1918

Fig. 1.

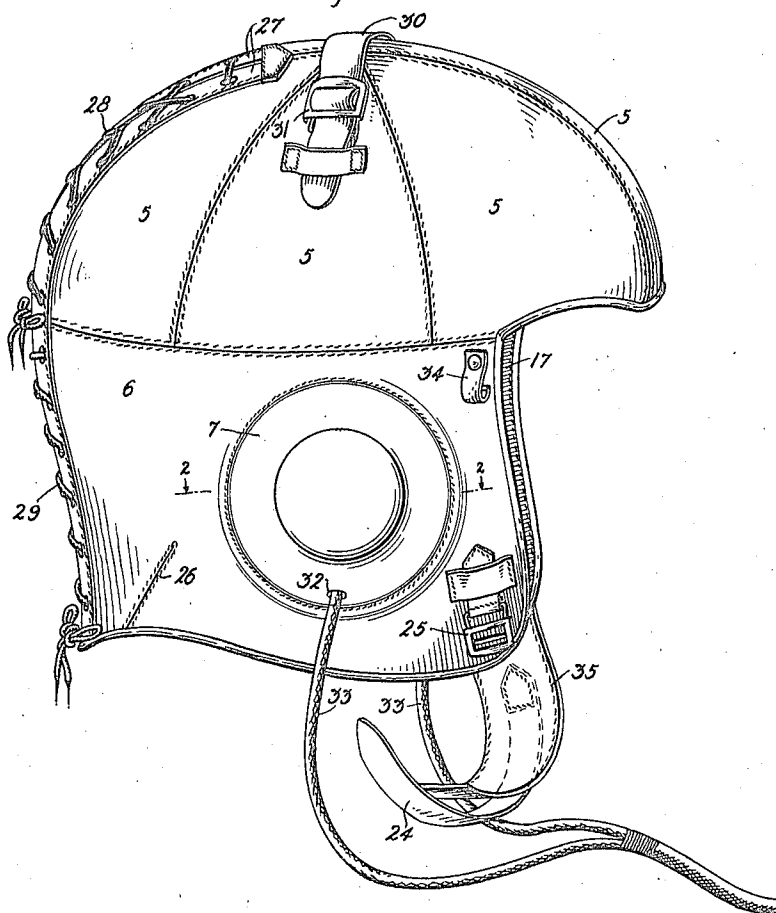
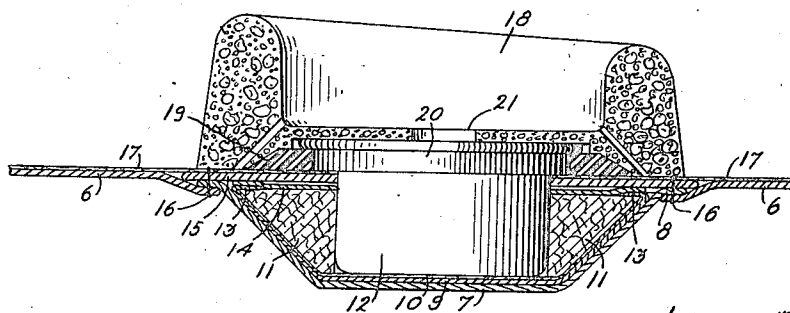


Fig. 2.



Inventor:

Fred D. Waldron

by J. Roberts Atty.

Patented May 29, 1923.

1,456,524

UNITED STATES PATENT OFFICE.

FRED D. WALDRON, OF BROOKLYN, NEW YORK, ASSIGNOR TO WESTERN ELECTRIC COMPANY, INCORPORATED, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

HELMET.

Application filed April 13, 1918. Serial No. 228,393.

To all whom it may concern:

Be it known that I, FRED D. WALDRON, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Helmets, of which the following is a full, clear, concise, and exact description.

This invention relates in general to aviators' helmets and more particularly to a helmet especially adapted for the efficient operation of the telephone apparatus associated therewith.

In order to obtain satisfactory operation of the telephone apparatus used in aeroplane service, either for communication between the pilot and the observer or for communication with outside stations, it is essential that special precautions be taken to exclude or overcome the excessive noises resulting from the whir of the propellers, the rush of air and the exhaust of the engines, which in some types of aeroplanes are located adjacent to the pilot. It is not only necessary that such precautions be taken, but it is also necessary that the means provided to exclude outside noises should not in any way encumber the user's movements or obstruct his line of vision to the extent of interfering with his customary duties.

Since the customary aviator's outfit includes a helmet fitting closely over the skull and adapted to protect the aviator's head, it is the object of the present invention to provide a helmet specially arranged to carry a pair of telephone receivers mounted in such a manner as to be shielded from the effects of all outside disturbances.

A further object is to so construct the helmet that outside disturbances will be prevented from reaching the ears of the aviator.

A still further object is to provide a helmet adjustable to the head of the user whereby the receivers are held in the position for most efficient operation and one which may be easily placed in position and removed without disturbing the adjustment of the receivers for a certain individual.

To accomplish these objects a feature of the invention resides in permanently securing in the helmet a pair of pockets each adapted to hold a telephone receiver of the familiar watch case type. These pockets are provided with means for both reflecting

and absorbing any vibrations from outside disturbances which would otherwise set the receiver casing in vibration and interfere with one's listening.

Another feature resides in constructing the helmet so that the edges bear firmly against the face of the wearer, thus excluding external noises to a considerable degree, and in providing collapsible earpieces which further aid in preventing outside disturbances from reaching the ears of the user.

A further feature consists in providing a lacing for the upper portion of the helmet by means of which it may be adjusted to fit the individual head, and a separate lacing which may be loosened to permit the helmet being placed in position or removed.

These and other features of the invention may be better understood by referring to the accompanying drawing in which Fig. 1 is a perspective view of a preferred type of helmet in accordance with this invention, and Fig. 2 is a cross-sectional view of the receiver pocket taken along the line 2-2 of Fig. 1 and looking in the direction of the small arrows.

The helmet proper is preferably made of sheepskin leather and lined with some such material as eiderdown cloth. The upper portion consists of a number of V-shaped pieces 5-5 sewed together and so cut as to form a tight-fitting cap portion. Attached to the lower edges of the pieces 5-5 on each side of the helmet is a side piece 6 of suitable dimensions to afford the desired protection and equipped with a pocket designed to hold a receiver of the watch case type.

The construction of this receiver pocket is shown in detail in Fig. 2 and consists of a cup-shaped member 7, preferably of cowhide or other stiff leather, formed into approximately the shape shown, and having its outer edge 8 bent over to lie in a plane parallel to that of the central portion. The inside of the cup-shaped member 7 is provided with a layer of metal foil 9, preferably lead, for the purpose of excluding outside disturbances by the reflection of sound waves, and this metal foil in turn is protected by a layer of heavy cloth or drilling 10. The use of metal foil for this purpose forms no part of the present invention, but is illustrated and specifically claimed in a copending application of John P. Minton, Serial No. 224,968, filed March 27, 1918. A soft felt

ring 11 triangular in section is then placed within the cup, the inner diameter of this ring being such as to allow the insertion of the casing 12 of the telephone receiver. The edges of the metal foil 9 are bent over as shown at 13—13 and are joined by a ring of metal foil 14, also preferably of lead. A ring 15 of comparatively stiff leather is placed upon the ring 14 for the purpose of affording mechanical protection to the metal foil and also to add a certain amount of rigidity to the receiver pocket and permit its being secured to the helmet. This pocket, as described, is now fastened into the aviator's helmet by stitching as shown at 16 through the leather of the helmet 6, the edge 8 of the leather cup, the ring 15 and the eiderdown lining 17 of the helmet.

For the purpose of further excluding all outside disturbances, there is provided an earpiece 18 which does not form a part of the present invention but is illustrated and specifically claimed in my Patent No. 1,368,307 of February 15, 1921. This ear piece is preferably of soft sponge rubber and is provided with a soft gum rubber insert or ring 19 which, because of its greater rigidity, permits the earpiece being secured to the shouldered hard rubber receiver cap 20. An aperture 21, in alignment with a similar aperture in the receiver cap, permits the efficient operation of the receiver.

One of the side pieces is provided with a strap 24 adapted to pass under the chin of the wearer and engage a buckle 25 secured to the other side piece. These side pieces are so made that when this strap is tightened the edges of the side pieces fit closely to the face, thereby excluding outside noises and also preventing air from working into the helmet and forming pockets. This is accomplished by slightly gathering the edges which are then bound, and by providing in each side piece a stitched dart 26, as shown. A soft lined strap 35 is provided as a guard for strap 24 to prevent the latter from causing chafing. In order to permit the helmet being fitted to the head of the individual so that the receivers are located in the most efficient position and also to make it easy to put on and take off, leather facings 27—27 are provided with perforations which allow their being laced together. The lacing 28 is provided for adjusting the helmet to the individual, and after being adjusted once, need not be changed. The lower lacing 29, however, is for the purpose of facilitating putting on and removing the helmet. A further adjustment of the helmet so that the receivers are brought at the best height for

efficient transmission is accomplished by means of the strap 30 and the buckle 31. An aperture 32 is provided on either receiver pocket to permit the insertion of the conducting cords 33—33. Short straps 34 provided with glove fasteners are also provided for the purpose of holding the aviator's goggles in position.

It will be noted that the helmet as illustrated and described is close fitting and has no projecting parts to offer resistance to or catch the wind, a feature of considerable importance when taking into consideration the high rate of speed with which aeroplanes often travel and the practical absence of a shield to protect the aviator's head from the pressure of the wind. It will also be noted that the method of holding the receivers in place makes it easy to substitute for one set of receivers another set having a different impedance should occasion arise.

What is claimed is:

1. A helmet comprising an upper portion and a lower portion, means for adjusting the upper portion to fit the head of the individual user, a pair of receiver pockets permanently secured to said lower portion and additional means for adjusting said receiver pockets for proper alignment with the ears of the individual user.
2. A helmet comprising an upper portion, a lacing for adjusting said portion to fit the head of the individual user, a lower portion having a pair of receiver pockets permanently secured thereto, and a lacing for adjustably positioning said pockets to the ears of the individual user.
3. A helmet comprising an upper portion, a lower portion having a pair of receiver pockets permanently secured thereto, means in the upper portion for providing a vertical adjustment for the receiver pockets, and additional means in the lower portion for further adjusting the position of the receiver pockets.
4. A helmet comprising a lower portion having a pair of receiver pockets permanently secured thereto, a lacing in said portion for adjustably positioning said pockets to the ears of the individual user, an upper portion, a lacing for adjusting said upper portion to fit the head of the individual user, and additional means in the upper portion for adjusting the helmet to bring the receiver pockets into the most efficient position for the individual user.

In witness whereof, I hereunto subscribe my name this 4th day of April A. D., 1918.

FRED D. WALDRON.