

B. F. RUNYAN.
DIVER'S MASK,
APPLICATION FILED SEPT. 11, 1918.

1,324,747.

Patented Dec. 9, 1919.

Fig. 1

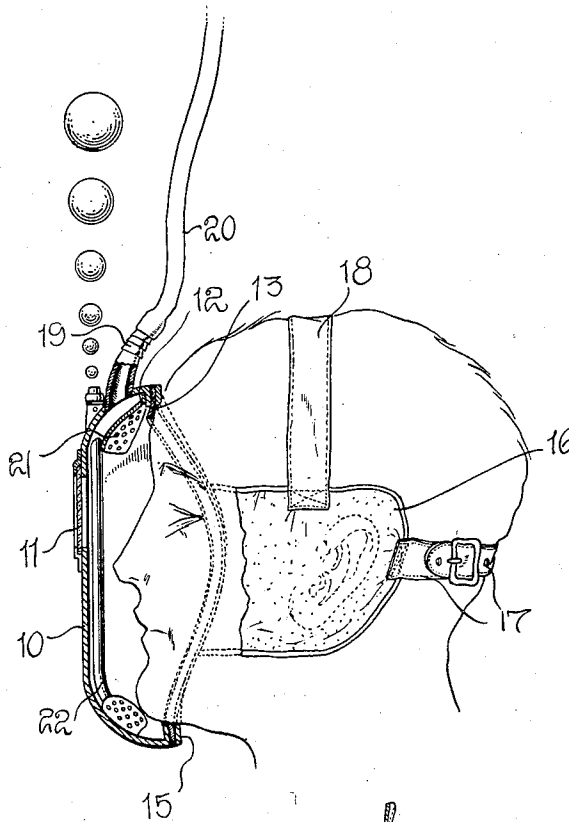
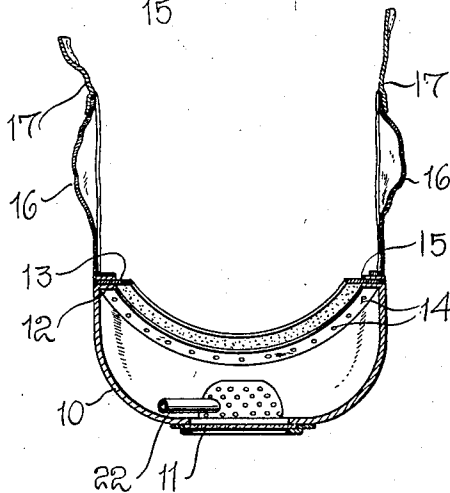


Fig. 2



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DIVER'S MASK.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, BENJAMIN F. RUNYAN, a citizen of the United States, residing at Houston, in the county of Harris and State of Texas, have invented certain new and useful Improvements in Divers' Masks, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to diving apparatus, and particularly to helmets or like devices.

The general object of the invention is to provide a diving helmet or hood in the form of a mask adapted to be disposed against the face of the wearer and have water-tight contact therewith, the mask being held in position by suitable means and having an inlet for compressed air and an outlet for foul air, thus doing away with the necessity of using the ordinary diver's helmet which entirely incloses the head and has to be attached to a suit, and further permitting the diver to turn his head readily in every direction, without inconvenience.

A further object is to provide a mask of this character which is very simple in construction, which may be readily applied or removed, and which is extremely light.

Other objects will appear in the course of the following description.

My invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is a vertical sectional view of the mask applied; and

Fig. 2 is a horizontal sectional view of the mask.

Referring to these drawings, it will be seen that this mask comprises a copper plate 10, which is bent so as to more or less conform to the contour of the face and which is provided in its upper portion with a pane of glass 11. The copper mask extends inward at its sides and at its top and bottom, so as to accommodate the nose of the wearer and the inner edge of the copper plate is flanged as at 12. A rubber gasket 13 is attached to this flange by means of screws or bolts 14 passing through the gasket in the flange and through the outer ring 15. This rubber gasket extends inward beyond the flange 12 and the ring 14 so as to bear against the face of the wearer and have a water-tight contact therewith.

In order to hold the mask in place upon the head, ear tabs 16 are bolted or other-

wise attached to the sides of the copper plate and are adapted to extend over the ears. These tabs or plates 16 are preferably made of rubber and prevent the access of water to the ears. Strap sections 17 are attached to the ear tabs, these strap sections being provided with a buckle whereby they may be connected. A head band 18 is attached to the tabs 16 and extends over the top of the head.

The upper end of the mask is provided with a tapered nipple 19 to which an air hose 20 is connected, this air hose being connected to any suitable pump. A baffle plate 21 extends beneath the outlet of the nipple 19, this baffle plate being perforated. This perforated baffle plate acts to break up the air blast and prevent it from striking on the face. A pipe 22 is mounted within the mask and is open at its lower end to receive foul or exhaust air and extends out through the top of the mask to discharge the air.

This mask is designed for diving and for use in mines or in other situations where a person may come in contact with foul or poisonous air or gases. Inasmuch as it is made of copper, it may be easily caused to conform to the contour of the face by tightening up on the straps 17. It is very light and inasmuch as it does not entirely inclose the head and is not bolted to a suit as the ordinary diving helmet is, it permits the user to turn his head in any direction he may desire and to operate with the least possible impediment. The air pressure when it becomes too great within the mask may blow out around the face but this air pressure will prevent the water or gas from entering between the gasket and the face. Should the diver meet with an accident, he may readily remove the mask, which is not the case with a helmet.

While I have illustrated certain details of construction which I believe to be of value, I do not wish to be limited thereto as it is obvious that many minor changes might be made without departing from the spirit of the invention as defined in the appended claims.

I claim:—

1. A diver's mask formed of a sheet of thin, flexible metal, the mask having an inwardly extending wall around its perimeter, a gasket attached to said wall and extending inward and adapted to bear against the face

of the wearer, and means engaging over the head for holding the mask pressed against the face of the wearer, and means for supplying air to the space inclosed within the mask and removing the foul air therefrom.

2. A diver's mask made of thin metal and provided with a pane of glass and having an inwardly extending flange around its perimeter, a gasket attached to the mask and adapted to bear against the face, ear tabs attached to the mask, straps attached to the ear tabs, a band attached to the ear tabs and adapted to extend over the head, and means for supplying fresh air to the mask and discharging foul air therefrom.

3. A diver's mask made of thin, flexible metal and provided with a pane of glass and having an inwardly extending flange extending around its perimeter, a gasket attached to the edge of the mask and adapted to bear against the face, ear tabs attached to the mask, straps attached to the ear tabs, a band attached to the ear tabs and adapted to extend over the head, an air supply pipe entering the top of the mask, a baffle plate disposed below the supply pipe and having perforations, an exhaust air pipe disposed with-

in the mask having an inlet opening disposed at the bottom of the mask, and an outlet exterior to the mask.

4. A diver's mask formed of thin, flexible sheet metal approximately concavo convex in form, the edge of the mask being formed with an inwardly extending flange and the front of the mask having a glass pane, a gasket disposed on said flange and extending inwardly therefrom, fastening devices holding the gasket in place, ear tabs of flexible material attached to the side walls of the mask and having straps adapted to engage behind the head, a band adapted to engage over the head, a nipple extending from the top of the mask and to which an air pipe may be attached, a perforated baffle plate disposed below the nipple, and an air pipe disposed within the mask having its lower end opening into the mask and its upper end discharging through the mask.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

BENJAMIN F. RUNYAN.

Witnesses:

THOS. V. RYBICKI,
D. B. MUSGRAVE.