

No. 817,075.

PATENTED APR. 3, 1906.

S. J. LAVIS.
COMBINED HELMET AND FACE PROTECTOR.
APPLICATION FILED JULY 17, 1905.

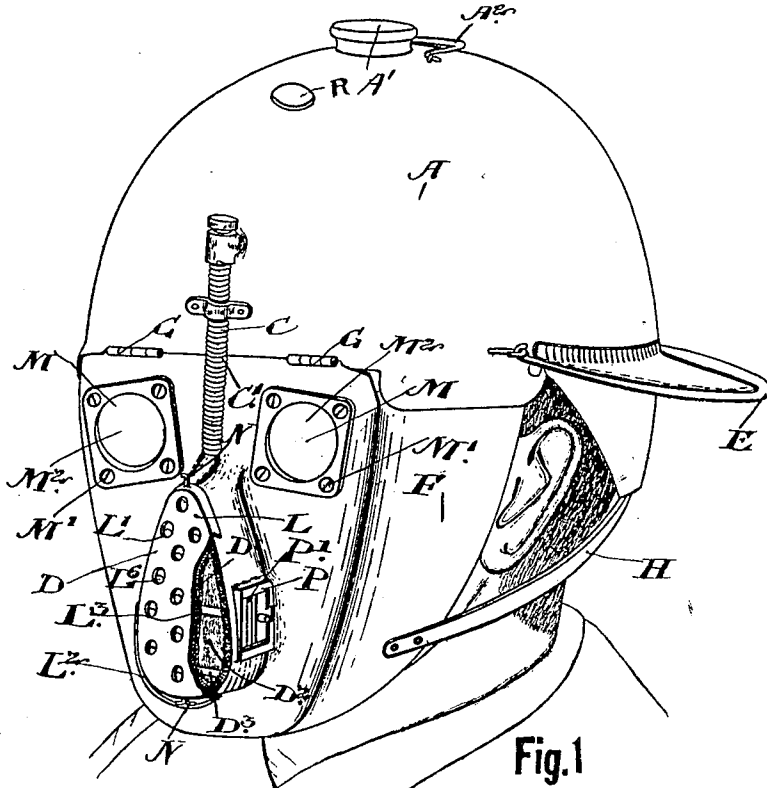


Fig. 1

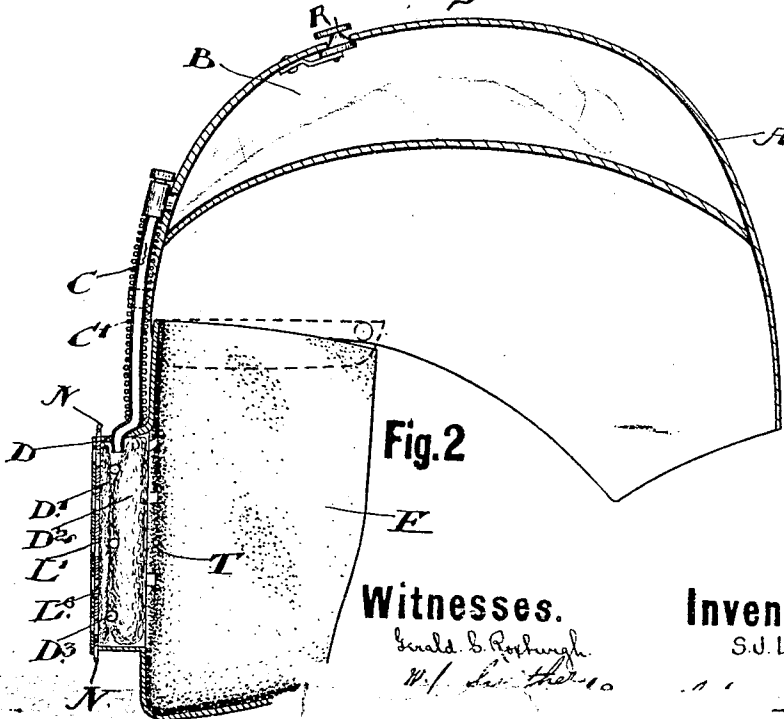


Fig. 2

Witnesses.

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UNITED STATES PATENT OFFICE.

SAMUEL JOHN LAVIS, OF BOWMANVILLE, CANADA.

COMBINED HELMET AND FACE-PROTECTOR.

No. 817,075.

Specification of Letters Patent.

Patented April 3, 1906.

Application filed July 17, 1905. Serial No. 270,093.

To all whom it may concern:

Be it known that I, SAMUEL JOHN LAVIS, of the town of Bowmanville, in the county of Durham, in the Province of Ontario, Canada, have invented certain new and useful Improvements in a Combined Helmet and Face-Protector, of which the following is the specification.

My invention relates to improvements in a combined helmet and face-protector; and the object of the invention is to devise a simple, strong, durable, and efficient protection for the head and face particularly adapted for the use of firemen and others subjected to the dangers of smoke, fumes, heat, fire, and the like; and it consists, essentially, in the features, combination, and arrangement of parts hereinafter described, and particularly set forth in the claims.

Figure 1 is a perspective view of my helmet, showing the method of adjusting it on the head. Fig. 2 is a cross-sectional view through the center of the nose-piece and tank.

In the drawings like letters of reference indicate corresponding parts in each figure.

A is the crown.

B is the tank, and C is a channel of rubber or like material leading from the said tank to the nose-piece D.

E is a spark or water shield attached to the rear of the helmet by a hook and eye or other similar device.

F is the face-piece, connected to the crown by hinges G G, and H is a strap securely fastened to the rear of the crown and suitably adjustably connected to the face-piece F.

M represents the eyeholes, with mica or other suitable diaphanous eyepieces M², held securely to the face-piece by screws M' or the like.

C' is a spiral-spring covering for the channel C, thereby protecting it from the destroying influences of heat, flame, and the like, at the same time supplying a hard, strong, durable, and flexible outer covering for the channel.

D' D² are sponges within the combined nose and mouth piece D, held apart by rods D³, which allow the fluid from the tank to flow down and well over the surface of the sponges, respectively.

L is a covering for the nose and mouth piece, held thereto by means of the hooked ends of the handle or rod L², and L³ is a sliding shutter provided with portions N, pro-

jecting outwardly through the outer covering L and by means of which the shutter is moved.

L⁶ represents openings in the shutter, which correspond when the shutter is in its upper position to the holes L' in the outer covering and provide means for regulating the air-supply in accordance with the state of the surrounding media.

P is a shutter on the side of the nose and mouth piece D, free to slide in guideways P', and allows direct passage of air to the operator. Thus it is seen that a very fine adjustment of the air-passage to the operator is easily obtainable by means of shutters provided on the front and the sides of the nose.

R is a suitable adjustable air-valve allowing atmospheric pressure into the tank, thus causing the fluid therein to flow more easily when required.

An opening A' with a cap or covering is supplied in the crown, through which the liquid is poured into the tank B. The inner surface of the helmet is covered with a felt lining T or the like, which serves further to protect the wearer from extremes of heat and also forms a padding for the face and head.

A suitable handle A² is attached, whereby the helmet may be conveniently carried.

To those more directly subjected to flame ear-protectors may be supplied extending from the face-piece, which although not impeding sound will amply fulfil the purpose which they are designed.

With such a combined helmet and face-protector as I have herein described it will be seen that an important advancement has been made in regard to the method of protection in the form of head-gearing for those subjected to such forms of danger and a long-felt want finally and successfully overcome.

What I claim as my invention is—

1. In a combined helmet and face-protector, the combination with a crown, of a tank in the upper portion thereof, a face-piece hinged to said crown, having suitable eyeholes therein, an inner channel connecting said tank to the nose-piece, an outer flexible spiral-spring covering for said channel, and means for admitting and regulating the air-supply to the wearer as and for the purpose specified.

2. In a combined helmet and face-protector, the combination with the crown, having a tank therein, of a face-piece hinged to said crown, and having suitable eyeholes therein,

a suitably-formed nose-piece on said face-piece, a perforated covering for the nose-piece, a correspondingly-perforated shutter sliding under and within the covering, means
5 for manipulating said sliding shutter, and a flexible channel connecting the tank to the nose-piece as and for the purpose specified.

3. In a combined helmet and face-protector, the combination with the crown portion
10 having a tank therein, of a face-piece hinged to said crown, and having suitable eyeholes therein, a suitably-formed nose-piece on said face-piece, a perforated covering for the nose-piece, a correspondingly-perforated shutter
15 sliding under and within the covering, means for manipulating said sliding shutter and

supplemental air-valves on the sides of the nose-piece as and for the purpose specified.

4. In a combined helmet and face-protector, the combination with the crown portion,
20 of a tank secured therein, a face-piece hinged to said crown; a flexible channel connecting the tank to the nose-piece of said face-piece, means for admitting and regulating the air-
25 supply to the wearer and rods fastened within said nose-piece as and for the purpose specified.

SAMUEL JOHN LAVIS.

Witnesses:

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