No. 652,080. Patented June 19, 1900.

J. R. CHAPPELL.

FIREMAN'S HELMET.

(Application filed Feb. 27, 1900.)

(No Model.)

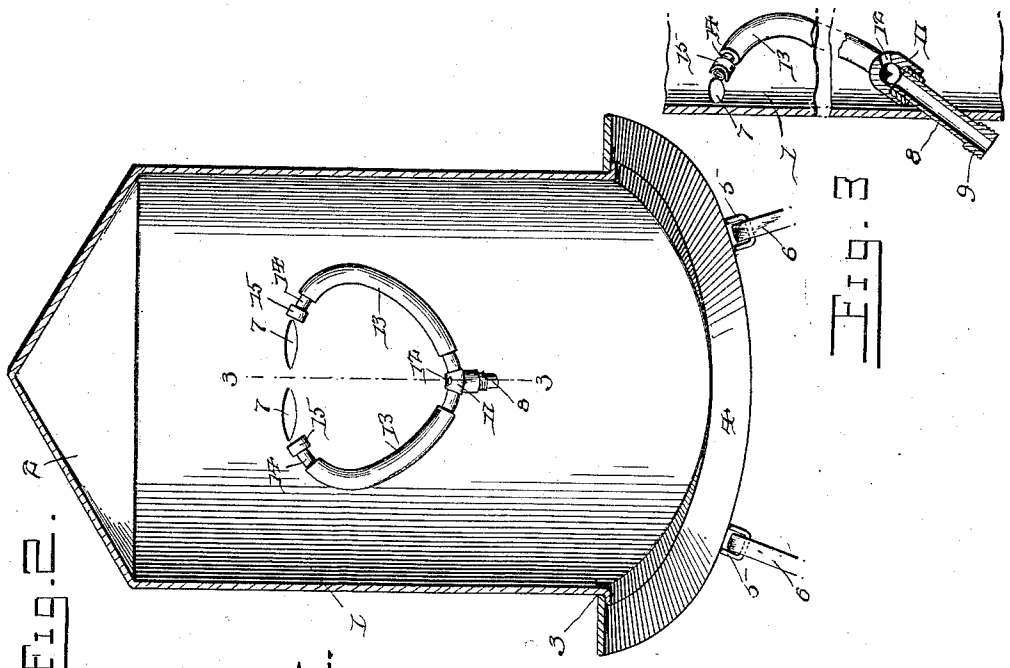

Fig. 2.

Fig. 3.

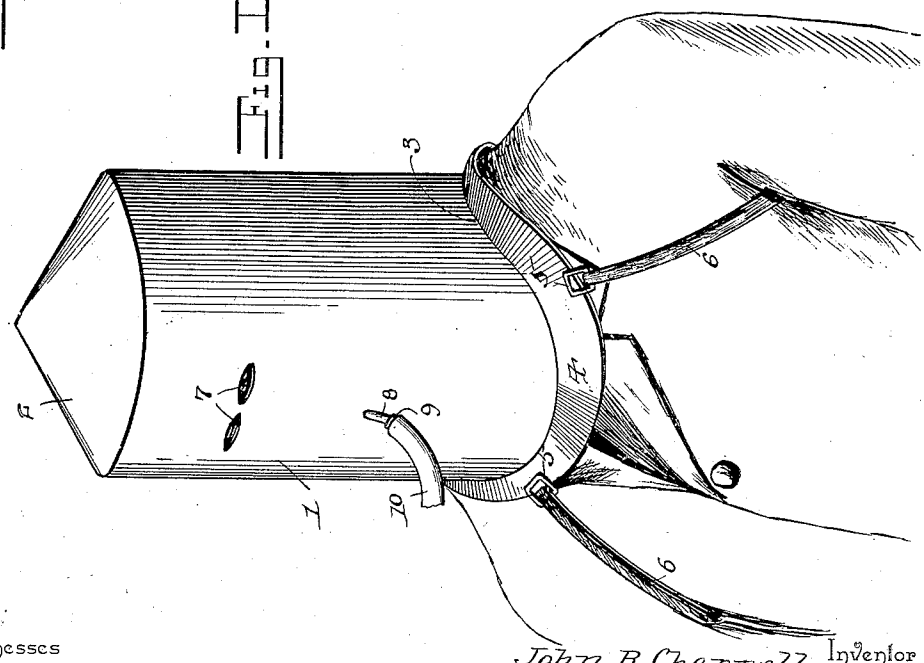

Fig. 1.

Witnesses
F. E. Alden.
W. E. Lipard.

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By His Attorneys,
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UNITED STATES PATENT OFFICE.

JOHN ROBERT CHAPPELL, OF SUFFOLK, VIRGINIA.

FIREMAN'S HELMET.

SPECIFICATION forming part of Letters Patent No. 652,080, dated June 19, 1900.

Application filed February 27, 1900. Serial No. 6,704. (No model.)

To all whom it may concern:

Be it known that I, JOHN ROBERT CHAPPELL, a citizen of the United States, residing at Suffolk, in the county of Nansemond and State of Virginia, have invented a new and useful Fireman's Helmet, of which the following is a specification.

This invention relates to firemen's helmets, and has for its object to provide an improved device of this character which is designed to cover and protect the head of the wearer against smoke and heat and at the same time to furnish pure air for breathing. It is furthermore designed to provide means for expelling any smoke which may enter the helmet and to maintain the vision-openings free from smoke and other foreign matter, so that the vision of the wearer may not be impaired or obstructed.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a perspective view showing the application of a fireman's helmet constructed in accordance with the present invention. Fig. 2 is an enlarged longitudinal sectional view thereof. Fig. 3 is a detail sectional view taken on the line 3 3 of Fig. 2.

Corresponding parts in the several figures of the drawings are designated by like characters of reference.

Referring to the accompanying drawings, 1 designates the body of the helmet, which is in the form of a metallic cylinder, which is provided with a conical top or crown 2 for closing the upper end of the helmet, while the lower end thereof is open, so that the device may be readily placed over the head of the wearer and supported upon his shoulders. The lower edge of the helmet is cut or curved upwardly, as at 3, at opposite sides thereof, so as to snugly fit the shoulders, and the front and rear thereof are extended downwardly, so as to rest upon the chest and back, respectively, of the wearer. Provided at the lower edge of the device is an outwardly-directed and dowardly-deflected marginal rim or flange 4, which is designed to fit flat and snugly against the body of the wearer, so as to exclude smoke from gaining access to the interior of the helmet. At the front and rear of the marginal flange there are provided the links 5, to which are connected the straps 6 for engagement beneath the arms of the wearer to hold the device firmly in place. In the front of the helmet and adjacent to the upper end thereof there is provided a pair of openings 7, through which the wearer may look without exposing his head to the smoke and heat.

To supply pure air to the interior of the helmet, there is provided an inlet-tube 8, which extends in opposite directions through the front of the helmet at a point adjacent to the mouth of the wearer, the opposite ends of the tube being screw-threaded, as at 9, to form nipples. A suitable flexible tube or pipe 10 is connected to the outer nipple and communicates with a reservoir or other source of pure air under pressure, so as to force the air into the interior of the helmet. Connected to the inner nipple is a T-coupling 11, which is provided with an exit opening or port 12, located intermediate of the opposite branches of the coupling and inclined or directed inwardly toward the wearer of the helmet in order that the pure air may be supplied directly toward his mouth. Fitted to each branch of the coupling is a flexible tube 13, which is bowed upwardly and laterally and provided at its upper end with a hard nipple 14, that is connected to the inner side of the helmet by means of a substantially U-shaped clip 15. The upper ends of the tubes 13 are open and are also located at or adjacent to the opposite outer edges of the openings 7 and are directed inwardly, so that the air may pass outwardly through the openings to maintain the openings free from smoke or other obstructions and also to draw out any smoke which might gain access to the interior of the helmet.

From the foregoing description it will be apparent that the helmet may be readily fitted to the head and firmly secured in position without requiring any degree of skill or expe-

rience and fits snugly the shoulders of the wearer, so as to effectively exclude smoke and gases. Moreover, pure air is conveniently furnished to be breathed and also to render the helmet comparatively cool, and the air is also distributed to clear smoke out of the helmet and render the vision of the wearer clear and unobstructed. In practice a compressed-air reservoir may be carried on the shoulders of the wearer and connected to the supply-pipe 10, or said pipe may be of greater length, so as to communicate with a source of supply, which is located exteriorly of the burning building. It is preferable to have the crown of the helmet conical-shaped, so as to strengthen it and to more firmly resist the blow of a falling object than if the crown were flat.

The present device is also useful in the event of a smoldering fire which has filled the interior of a building with a dense smoke and dangerous gases, as it permits of the wearer entering the building and passing safely through the smoke, so as to locate the fire and extinguish the same without employing great quantities of water, and thereby damaging parts of the building and the contents thereof which are not on fire or liable to become so.

What I claim is—

1. A fireman's helmet, comprising a cylindrical metallic body, which has a conical top, an open lower end, and a sight-opening formed in one side thereof, the lower edge of the body being cut up at opposite sides to fit the shoulders of a wearer, an outwardly-directed marginal flange at the lower edge of the body, opposite loop-shaped attaching-straps connected at opposite ends to the front and rear edges of the flange, a T-coupling extending in opposite directions through the body and below the sight-opening thereof, the branches being located upon the inner side of the body, and provided with an intermediate discharge-opening, and tubes having their respective ends connected to the respective branches, and their opposite ends connected to the inner side of the helmet and located at opposite sides of the sight-opening.

2. A fireman's helmet, having a sight-opening, an air pipe or tube, a T-coupling extending in opposite directions through one side of the helmet, with its branches upon the inner side, and also provided with a discharge-opening located between the branches thereof, and other tubes connected to the branches and discharging at opposite sides of the sight-opening.

3. A fireman's helmet, having a sight-opening, a supply tube or pipe for conducting pure air to the helmet, a T-coupling extending in opposite directions through one side of the helmet, and connected to the supply-pipe, the branches of the coupling being located within the helmet, and also provided with an exit-opening located between the branches, flexible tubes connected to the respective branches, nipples provided at the outer ends of the flexible tubes and located at or adjacent to opposite sides of the sight-opening, and clips embracing the respective nipples to connect the latter and the flexible tubes to the helmet.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN ROBERT CHAPPELL.

Witnesses:
T. A. BARBEE,
HENRY C. BROWN.