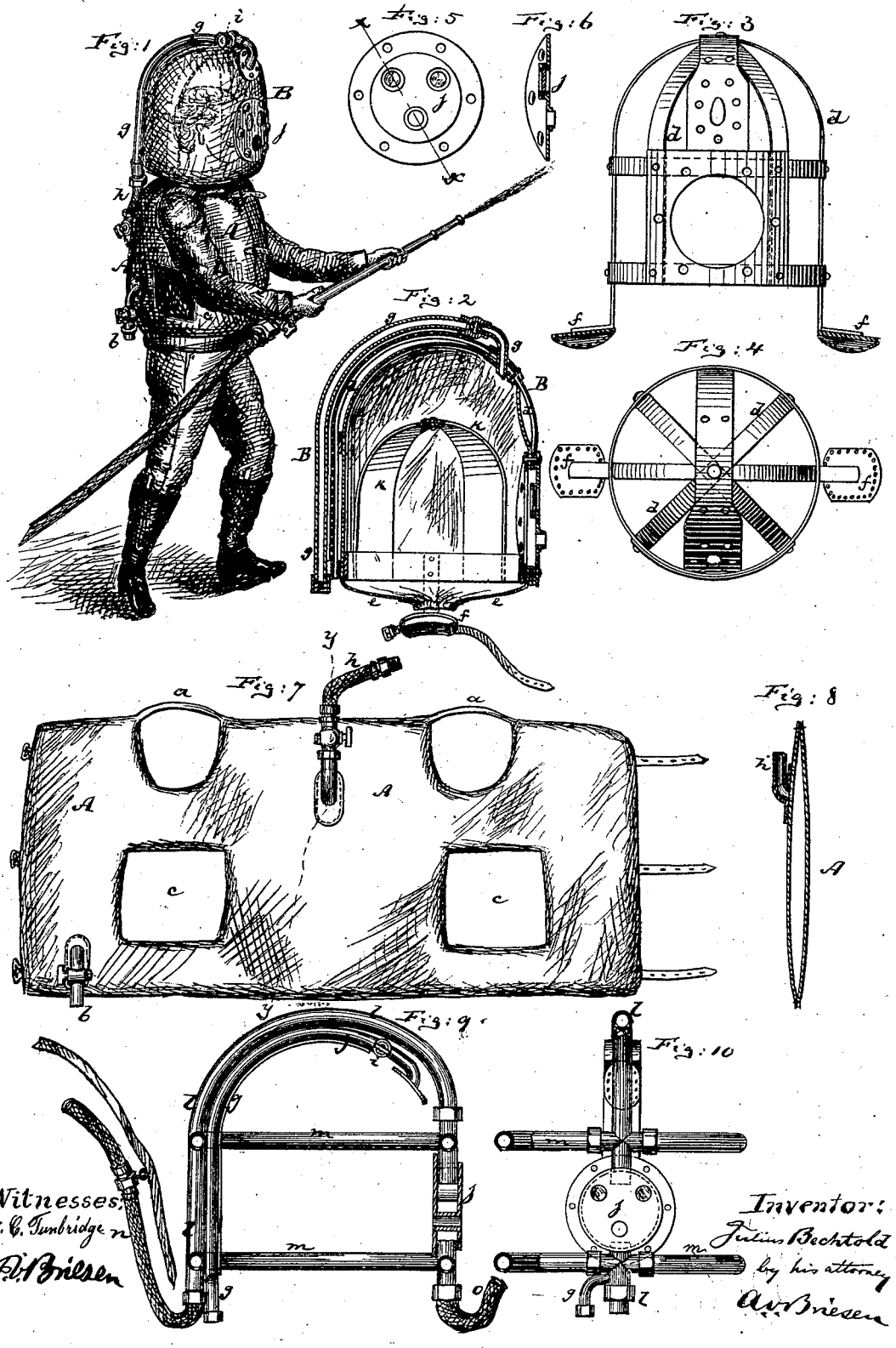
J. BECHTOLD.

Fireman's Helmet and Dress.

No. 196,862. **Patented Nov. 6, 1877.**



UNITED STATES PATENT OFFICE.

JULIUS BECHTOLD, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN FIREMAN'S HELMET AND DRESS.

Specification forming part of Letters Patent No. **196,862**, dated November 6, 1877; application filed April 13, 1877.

To all whom it may concern:

Be it known that I, JULIUS BECHTOLD, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Fireman's Helmet and Dress, of which the following is a specification:

Figure 1 is a perspective view of my improved fireman's helmet and dress. Fig. 2 is a vertical longitudinal central section of the helmet. Fig. 3 is a side view, partly in section, of the metallic frame of the helmet. Fig. 4 is a top view of the same; Fig. 5, a front view of the face-plate used on the helmet; and Fig. 6, a cross-section on the line *x x*, Fig. 5. Fig. 7 is a face view of the jacket; Fig. 8, a transverse central section on the line *y y*, Fig. 7. Fig. 9 is a side view of a water-sprinkling attachment used on the helmet; and Fig. 10, a front view, partly in section, of the same.

Similar letters of reference indicate corresponding parts in all the figures.

This invention relates to various improvements on a fireman's helmet and dress, constructed to supply firemen with fresh air when engaged in extinguishing fire, without impairing their freedom of motion, and so that they may freely visit places filled with smoke or foul air without danger of being suffocated.

The invention consists in the various details of construction hereinafter more fully pointed out.

In the drawing, the letter A represents the improved fireman's jacket. B is the helmet. The jacket A is made, preferably, of rectangular shape, as shown in Fig. 7, and is provided at its ends with suitable straps and buckles, or button-holes and buttons, so that it can be fastened around the body of the fireman. It is also provided with proper openings at its upper part for the arms, and with shoulder-straps *a a* to support it on the wearer.

The jacket is made of a double thickness of rubber or other suitable air-tight material, properly connected at the ends, (see Fig. 8,) so as to form an air-space within the entire jacket. This space may be filled with compressed air through a pipe, *b*, that may be connected with an air-pump. When the jacket is properly filled the pipe *b* is closed by a cock, and the air thus prevented from escaping.

In order to allow the jacket, when filled with air, to snugly fit around the body of the fireman, I provide it with two or more holes, *c c*, which render it more yielding, but these holes do not allow the air to escape.

The helmet B is made of a size to completely cover the head of the wearer, and to leave an air-space around the head. It is composed of a suitable metallic frame, *d*, covered with canvas, and lined on the inner side with rubber cloth or other air-tight material *e*. The frame *d* is provided with pads *f f*, Fig. 3, by which it is supported on the shoulders of the fireman. The covering or lining *e* is, at its lower part, contracted, (see Fig. 2,) so as to close air-tight around the neck of the wearer. *g* is a pipe firmly attached to the helmet B, and communicating at one end with the inner side of the helmet, preferably at the front thereof, while its other end communicates with the air-space of the jacket A, such jacket being provided with a pipe, *h*, that can be coupled to the pipe *g*.

By a cock, *i*, in the pipe *g*, or a cock in the pipe *h*, or both, the flow of air from the jacket to the helmet may be regulated. In this way a constant and regular supply of fresh air can be kept up from the jacket to the interior of the helmet.

When the air in the jacket is exhausted it may be refilled through the pipe *b*.

To the front of the helmet B is attached a metallic face-plate, *j*, of circular or other form, and provided with openings opposite the eyes and mouth of the wearer. Through the mouth-opening of this plate the exhaled air is discharged. This opening in the face-plate *j* may be provided with a suitable slide or valve to regulate the quantity of foul air discharged, or cause its discharge at regular or suitable intervals.

The helmet B is properly held on the head of the fireman by a pair of straps or bands, *k k*, that cross each other, as shown in Fig. 2. These straps also prevent the metallic frame of the helmet from injuring the wearer, and hold the helmet elevated to form a proper air-chamber above the head.

It will be seen that by this improved apparatus the fireman will be supplied with a constant stream of fresh air, which will enable him to visit places filled with smoke or foul air. At the same time the apparatus will not

impede, to any material extent, the freedom of his movements, as the air-jacket fits his body snugly, and allows the free use of his limbs.

In Figs. 9 and 10 I have represented an attachment to the helmet for sprinkling the same with water, and preventing it from catching fire. This attachment, which may, however, be omitted, consists of a perforated pipe, *l*, passing over the helmet from back to front, and communicating with perforated branch pipes *m m*, that embrace the sides of the helmet. All these pipes are perforated opposite the helmet, as clearly shown in Fig. 9. The main pipe *l* communicates at one end with a water-hose, *n*, Fig. 9, while the other end is connected with a nozzle, *o*. In this way the water used by the fireman for extinguishing the fire is caused to pass over and around the helmet, and will, through the perforations of the pipes *l m*, sprinkle the same and keep it moist.

I prefer to have the pipes *m l* pass also through or discharge water into the hollow of the face-plate *j* to keep it cool. If this water-sprinkling attachment is not used the face-plate need not be made hollow.

I claim as my invention—

1. The hollow jacket A, made of a double thickness of air-tight material, and provided with holes for the arms, and with the openings *c c* beneath the same, to cause it to fit the wearer, substantially as and for the purpose herein shown and described.

2. The helmet B, provided with the inner straps or bands *k k*, which hold it elevated to form a proper air-chamber above the head, substantially as specified.

JULIUS BECHTOLD.

Witnesses:
ERNEST C. WEBB,
F. v. BRIESEN.