

Improved Army Hat and Cap.

The English army in the East Indies have long been in the practice of wearing capes to their caps to protect their necks from the sun and dust, and when the rebellion broke out in this country, the capes, under the name of Havelocks, were introduced into our army, and at one time there was a great rage among fashionable young ladies and madams for making Havelocks for the soldiers. It is well known that they were partially a failure. Though very comfortable at times, they were found to collect the dust and consequently to become very filthy after a little use. Mr. Warburton, of Philadelphia, has recently obtained a patent for an arrangement by which the cape is folded in the top of the hat or cap when not needed, in such manner that it can be readily dropped around the neck when required.

This invention is illustrated in the accompanying engravings in connection with a ventilating arrangement for hats patented by Mr. Warburton on the 11th of December, 1860. Figs. 1 and 2 are sectional views of a military hat of the regulation pattern with this improvement, and figs. 3 and 4 are sectional views of a fatigue cap with a modification of the improvement.

In figs. 1 and 2, A represents the body and B the brim of the hat, C being the sweat band, around the edge of which is secured a light whalebone spring. About one half of the sweat band is secured to the hat in the usual manner, the rear half being disconnected, so that it can be drawn forward away from the rear of the hat.

To the inside of the hat, between the body and the sweat band, is secured the cape, D, which, when not required for use, may be packed away in the interior of the body, as shown in Fig. 1; the sweat band then springs back to its proper place covering the cape from the grease and sweat of the wearer's head. When the cape or curtain has to be used, however, the rear of the sweat band, C, is drawn forward, so that the cape can fall to the position shown in Fig. 2, after which the sweat band, which is made of a material somewhat elastic, but not stretchy, is allowed to recover its former position against the interior of the hat.

The upper end of the curtain, D, is attached to about one half of the circumference of the hat, and is of sufficient extent to cover the back of the head and neck, as well as the opposite sides of the face of the wearer, its lower end being furnished with projecting ends *dd*, having any suitable appliances for connecting one end to the other, under or over the chin. The loose rear of the sweat band may be retained in its proper vertical position, by means of a band or tape, E. It will be evident, that while the cape affords the desired protection to neck and face of the wearer, its adoption involves no necessity for changing the form of the hat from the established regulation pattern, while it can be readily applied to any hat varying in outward form.

In Figs. 3 and 4, the cape is represented of a somewhat stiffer material than that referred to above, the upper end of the cape being in this instance connected to the top of the interior of the cap or hat, by a piece F, of muslin, or other suitable material. The sweat band, C, extends throughout the front portion only of the circumference of the hat or cap. When the cape is not required for use it occupies the position shown in Fig. 3 in the interior of the cap.

There are holes in the front edge of the sweat band for the admission of air to the interior of the hat, through the space between the sweat leather and the

hat. This space is obtained by securing the ends of a thin metal strap across the front of the interior of the hat, it being set off from the hat about one-eighth of an inch. In addition to obtaining a space for the entrance and circulation of air in connection with the usual holes in the top, a flexible rest, or spring cushion is provided for the forehead, and grease and perspiration are by the same means kept away from reaching the hat.

The patent for this invention was granted Feb. 25, 1862, and hat manufacturers and others, who may desire to use the invention for only a special contract, or to purchase local rights, or to buy out the entire patent, can learn the terms and obtain further infor-

small holes, from the $\frac{1}{50}$ to the $\frac{1}{32}$ of an inch in diameter according to the quality of the gas, and one current of air rises through the ring while another flows upward against the outside; the whole being surrounded by a glass chimney.

The annexed cut illustrates an improvement in the Argand burner invented by Hippolyte Monier, of Paris, France, and patented in the United States through the Scientific American Patent Agency. It consists in a substitution of an incorrodible refractory substance which is a slow conductor of heat for metal in certain parts of the burner, and in the employment of a glass basket for supporting the chimney and shade to avoid a shadow below the lamp.

The grate, *a*, is a short tube of which the exterior is in the form of an inverted frustrum of a cone, with a flange at its upper extremity perforated with holes from which the gas issues; this flange being beveled as shown. In Monier's improvement this tube is made of burnt plaster, clay, or other incorrodible, refractory material which is a slow conductor of heat; *b* is a porcelain tube forming the exterior of the burner, having its upper end beveled to fit the flange of the grate, *a*; *c* is a tube of metal into which the tube of the grate, *a*, fits and which combines with the latter tube to fit the tube of the burner. The tube, *c*, has a deep flange, *v*, at the bottom to fit the interior of the tube, *b*, and it is made in the same piece with the hollow fork, *dd*, and hollow stem of the burner. The piece *c d e f g*, being protected from the heat by the slow conducting nature of the substance

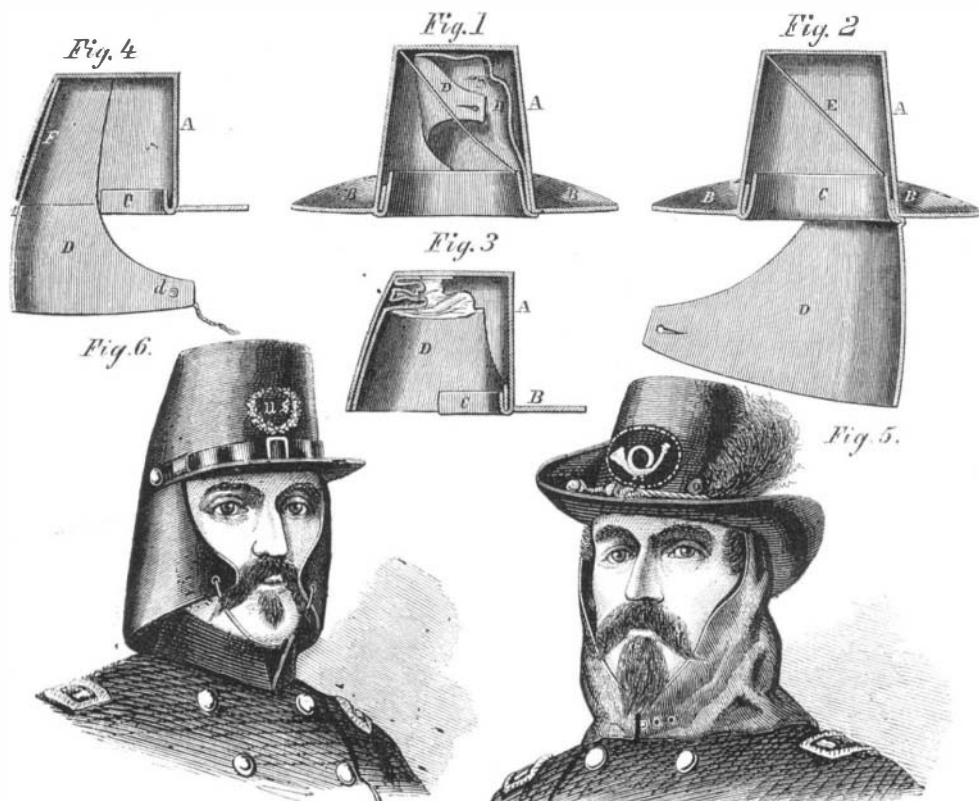
composing the other two pieces, *a b*, may be made of lead or other fusible metal when cheapness is an object. The three pieces of which the burner is composed are united by a suitable cement, and the burner thus constructed presents essentially the same form as the ordinary Argand gas burner. The metal portion may be painted white to harmonize in appearance with the tube, *b*.

The stem of the burner, besides the internal screw thread which screws on to the gas pipe, has an external screw thread, *f*, and a collar, *g*, above the thread. This is for the attachment of the glass basket that supports the chimney and shade; a nut, *h*, being screwed on below the basket. A washer of soft leather should be interposed between the collar and basket to prevent the glass from breaking. The basket has a horizontal ledge around its outer side for the support of the shade, and projections above the ledge to support the chimney. Between these projections are openings through the basket for the admission of air; the air entering the shade at the top and passing down by the side of the chimney, and thus being warmed in its passage. The chimney is steadied by the elastic arms, *g*, of the metal ring, *p*.

There are modifications of the basket proposed by the inventor, embracing, however, the same principle. For instance, the shade and chimney may both rest upon the same ledge, and the air may be admitted through holes below the ledge, and under the edge of the chimney between the projections upon which it rests.

We have seen flattering mention of this burner in the French journals, with statements of the great saving of gas effected by its use. It has also been used to some extent in this country. The advantage of having no shadow directly beneath the light is obvious.

Persons wishing to treat with Mr. Monier, in respect to the introduction of this invention into the United States, can address him to the care of M. Desnos Gardissal, No. 29 Boulevard St. Martin, Paris.

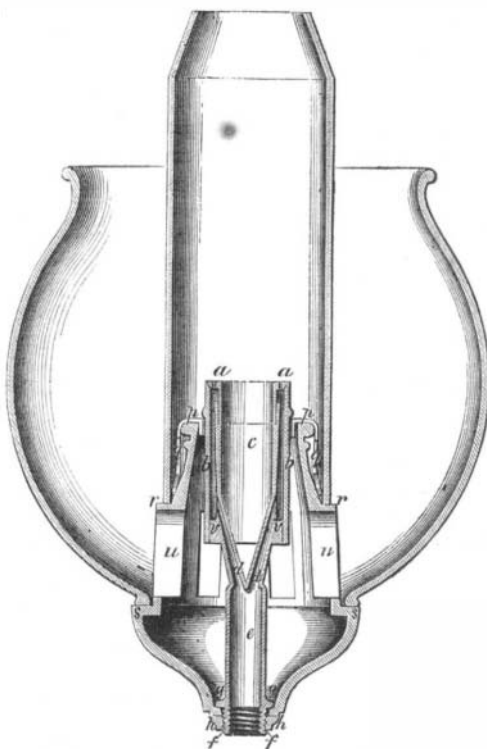


WARBURTON'S ARMY HAT AND CAP.

mation from the inventor and patentee, W. F. Warburton, 430 Chestnut street, Philadelphia, Pa.

MONIER'S GAS BURNER.

The Argand gas burner is employed as the standard in measuring light, in the gas works of England and



the United States. It forms a hollow flame which is surrounded by a chimney and supplied with two currents of air, one upon the inside and the other upon the outside. The gas is allowed to issue through a flat horizontal ring perforated with a number of