

A.D. 1823 N° 4869.

Apparatus to be Worn by Persons Entering Rooms
filled with Smoke, &c.

DEANE'S SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, CHARLES ANTHONY DEANE, of Charles Street, Deptford, in the County of Kent, Ship Caulker, send greeting.

WHEREAS His most Excellent Majesty King George the Fourth, by
5 His Letters Patent under the Great Seal of Great Britain, bearing date at Westminster, the Twentieth day of November, in the fourth year of His reign, did, for Himself, His heirs and successors, give and grant unto me, the said Charles Anthony Deane, His especial licence that I, the said Charles Anthony Deane, my executors, administrators, and assigns, and every of
10 them, by myself and themselves, or by my and their deputy or deputies, servants or agents, or such others as I, the said Charles Anthony Deane, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term of years therein expressed, should and lawfully might make, use, exercise, and
15 vend, within England, Wales, and the Town of Berwick-upon-Tweed, and also in all His said Majesty's Colonies and Plantations abroad, in such manner as to me, the said Charles Anthony Deane, my executors, administrators, or assigns, or any of them, should in my or their discretion seem meet, my Invention of "AN APPARATUS OR MACHINE TO BE WORN BY PERSONS ENTERING
20 ROOMS OR OTHER PLACES FILLED WITH SMOKE OR OTHER VAPOUR, FOR THE PURPOSE OF EXTINGUISHING FIRE OR EXTRICATING PERSONS OR PROPERTY THEREIN;" in which said Letters Patent there is contained a proviso that if I, the said Charles Anthony Deane, should not particularly describe and ascertain the

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nature of my said Invention, and in what manner the same is to be performed, by an instrument in writing under my hand and seal, and to cause the same to be enrolled in His Majesty's High Court of Chancery within six calendar months next and immediately after the date of the said recited Letters Patent, then the said recited Letters Patent, and all liberties and advantages 5 whatsoever thereby granted, should utterly cease, determine, and become void, as in and by the same Letters Patent, reference being thereunto had, will more fully and at large appear.

NOW KNOW YE, that in compliance with the said proviso, I, the said Charles Anthony Deane, do hereby declare that the nature of the said 10 Invention, and the manner in which the same is to be performed, are particularly described and ascertained in manner following (that is to say):—

The Invention consists of a machine or apparatus composed of a helmet or headpiece constructed of thin sheet copper tinned on the inside, or of any other suitable metal or material, which said helmet is attached by rivetting or 15 otherwise to a kind of jacket or veste made of leather, canvass, or other sufficiently pliable material. This veste is adapted to be worn by a person, being strapped or buttoned on to the upper part of the body in such a manner that the helmet may enclose or surround the head, and thus enable the person so equipped to enter a room or other place filled with smoke or other vapour, for the purpose 20 of extinguishing fire or extricating persons or property therefrom as aforesaid. The front part of the said helmet (at about the level of the operator's eyes) is provided with glazed windows or elliptical apertures, which are fitted with strong glasses, being protected from accident by bars of metal which cross the said glasses on the outside thereof. The said helmet is also constructed with 25 two apertures at the back or hind part thereof, to which apertures flexible pipes or tubes (made of leather or other suitable material) are attached by screw or union joints, or other suitable joints or modes of junction: one of the said flexible pipes is intended to proceed to a considerable distance, having as many union joints in it as may be required to unite the various lengths of 30 pipe. This long pipe is for the purpose of supplying a continual current of fresh air, to enable the operator within the helmet to breath without difficulty, for which purpose the extremity of the said pipe proceeds from and is united to the exit or nose pipe of a pair of double bellows, which may be placed at any convenient distance from the part where the smoke or vapour is collected, 35 so that the person who works the bellows may be clear of the smoke, and, consequently, the bellows will draw in a current of fresh or uncontaminated air, and will force the same through the long flexible pipe, for the supply of the operator who wears the helmet. The other flexible pipe which proceeds

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from the helmet is about four or five feet in length, and is for the purpose of allowing the air to escape from the interior of the helmet as fast as the same is replenished with fresh air from the bellows.

In order to explain clearly the nature of my said Invention, and to enable
5 persons conversant with works of a similar nature to put it in practice,
I have hereunto annexed a Sheet of Drawings or Plans, wherein Fig. 1
represents the whole machine or apparatus as it would appear when in use.
The helmet or headpiece A being worn by the person or operator, who is sup-
posed to enter the place filled with smoke or other vapour; he is furnished
10 with a lanthorn strapped on in front of his veste, as seen at B; he is also pro-
vided with a few small tools, which are contained in a kind of pouch or bag
suspended in front, as seen at C. The operator is represented in the Figure 1
as carrying in his right hand a small hatchet or cutting hammer, constructed
with an iron handle for the purpose of forcing open any doors or chests which
15 may conceal or enclose the property desired to be rescued. At the same time
he is provided with some small wooden wedges, in order to fasten or keep
open such doors as the flexible air-pipe may require to pass through. D, D,
represents the flexible pipe for supplying a current of fresh air as aforesaid;
its further extremity is screwed on at d to the nose pipe, which proceeds from
20 the bellows contained within the box or chest E, only a small part of which
bellows can be seen in the Fig. 1, but the handle by which they are intended
to be worked may be seen at H in the same Figure. The bellows are of
such dimensions as to occupy about one half of the chest E, the other half
being adapted to contain the helmet, with all its appendages of flexible
25 pipes, &c.; by which means, when the lid of the chest is closed, the whole
apparatus may be carried about with great ease from place to place by means
of handles which project from the sides of the chest. Thus the whole appa-
ratus may be found ready to operate at any time, without the danger of its
parts being mislaid. The dimensions of the chest E to contain the whole
30 need not be more than about two feet long, one foot six inches wide, and two
feet deep, and the lid is fixed on to the chest with hinges that will admit of
its being turned down flat against the side of the chest, so as to be out of
the way of the bellows when the apparatus is in use. F, G, shew the exit
pipe, which is adapted to convey the contaminated air from the interior of
35 the helmet; its lower orifice is strapped near to the ankle of the operator, as
seen at G, by which means there is very little danger of smoke or vapour
entering through the said pipe, in consequence of its orifice being so near the
floor where the air is generally the coolest. The dotted lines H* shew the
manner in which a brake or lever may be applied (if desired) to work the
40 bellows, the whole being constructed so as to be easily detached for the pur-

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small knob or button *g*, so that the holes through it correspond with the holes in the plate beneath) the operator is enabled to speak and breathe without the necessity of being supplied with air from the bellows; but as soon as he enters the part where the smoke or vapour becomes troublesome, he turns
5 the plate *P* round by its button *g*, so as effectually to exclude the surrounding atmosphere, and he then depends upon the bellows for a supply of air. *D*, Figure 3, represents the flexible pipe proceeding from the bellows; its opening does not enter directly into the helmet, but communicates with a flat or oblong pipe of metal, leather, or other suitable material *r, s*, which is
10 curved to the shape of the helmet, so as to remain clear of the operator's head. This pipe divides itself into three branches, which terminate in narrow openings or mouths situated immediately above the glasses or windows *a, b, c*, as seen at *t, v*, Figure 3. By this arrangement the fresh and cool air which is thrown in by the bellows, rushes with considerable force across the said
15 glasses, and thereby prevents their becoming obscured by the condensation of moisture upon them, which would otherwise occur from the breath of the operator. *F* shews the other flexible pipe, which serves to convey off the contaminated air; its orifice enters directly at the back part of the helmet, as seen at *f*, in Fig. 3.

20 I have now fully described the nature of the machine, and the manner of using the same, by reference to the annexed Drawing; and I do hereby declare, that I consider my claim of Invention to consist in a machine, or a helmet or apparatus as aforesaid, which is adapted to be worn by persons entering rooms or other places filled with smoke or other vapour, for the
25 purpose of extinguishing fire, or extricating persons or property therein. the said helmet or apparatus being continually supplied through a flexible pipe or tube with fresh air, such supply of air being impelled by the aid of a pair of bellows, or other convenient means. At the same time I must observe, that the form and the particular mode of constructing or putting
30 together the said apparatus or helmet, as also the construction of the bellows or apparatus for supplying air may be varied according to the discretion of the workman employed in making the same. The materials of which the whole may be made may also be varied according to the nature of the case without departing from the object of the Invention as herein-before described
35 and set forth.

In witness whereof, I, the said Charles Anthony Deane, have hereunto set my hand and seal, this First day of April, in the year of our Lord One thousand eight hundred and twenty-four.

CHARLES ANTHONY (L.S.) DEANE.

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J. W. FARRER.

AND BE IT REMEMBERED, that on the same First day of April, in the year above mentioned, the aforesaid Charles Anthony Deane came before our Lord the King in His Chancery, and acknowledged the Specification aforesaid, and all and every thing therein contained, in form above written. And also the Specification aforesaid was stamped according to the tenor of 5 the Statute in that case made and provided.

Inrolled the same First day of April, in the year above written.

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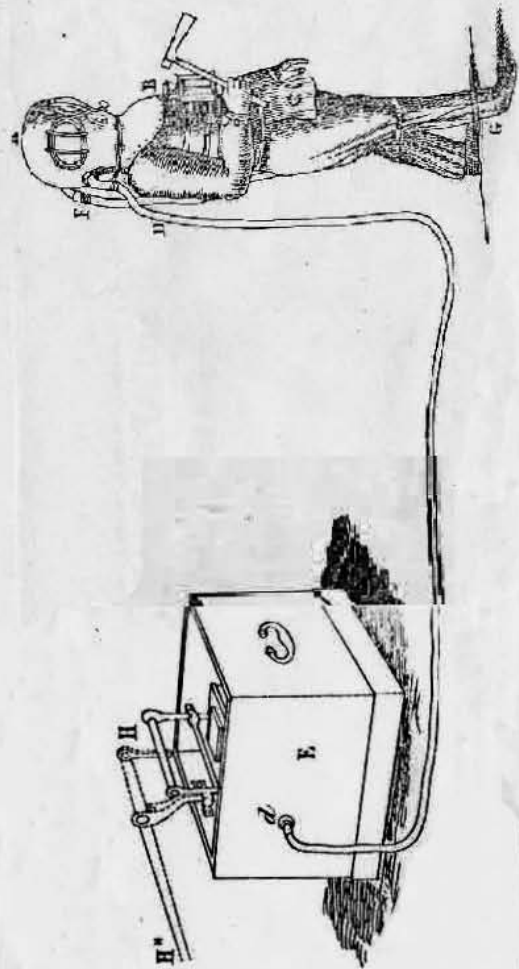


FIG. 2.

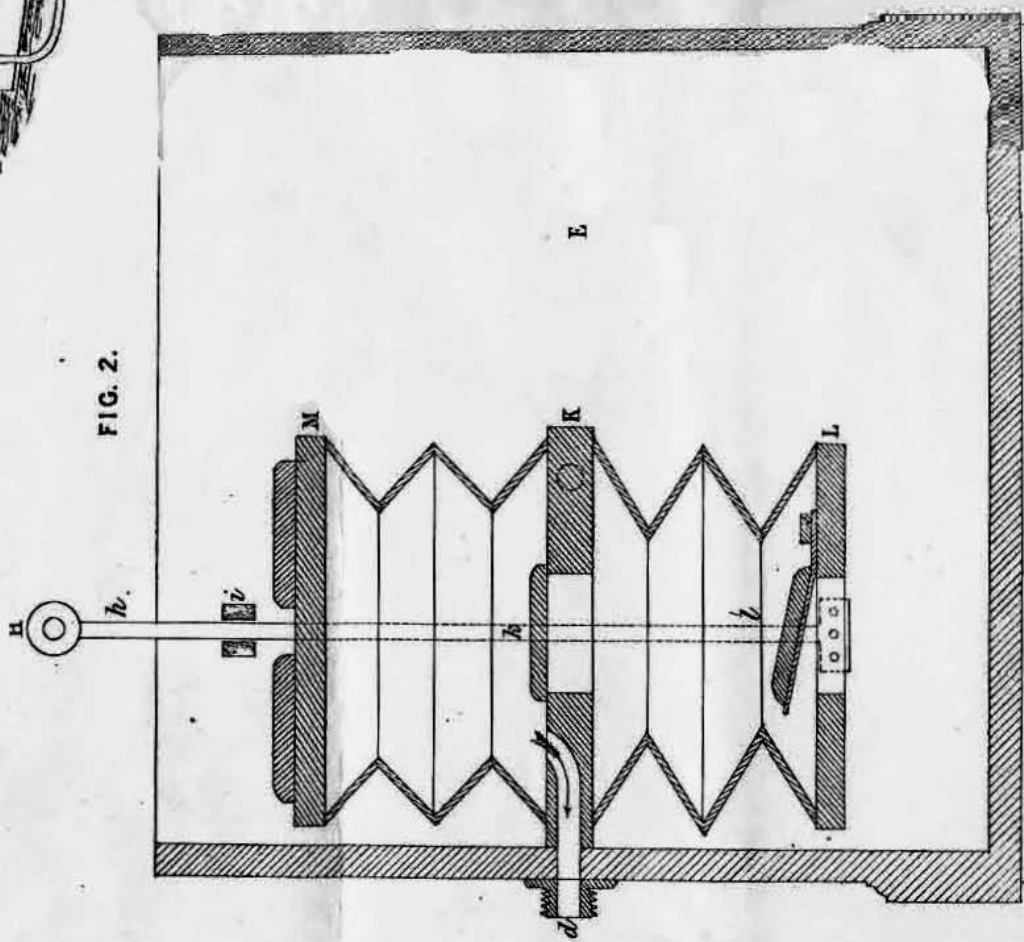


FIG. 4.

