

E. A. HAILWOOD.
GAUZE OF MINERS' SAFETY LAMPS.
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986,461.

Patented Mar. 14, 1911

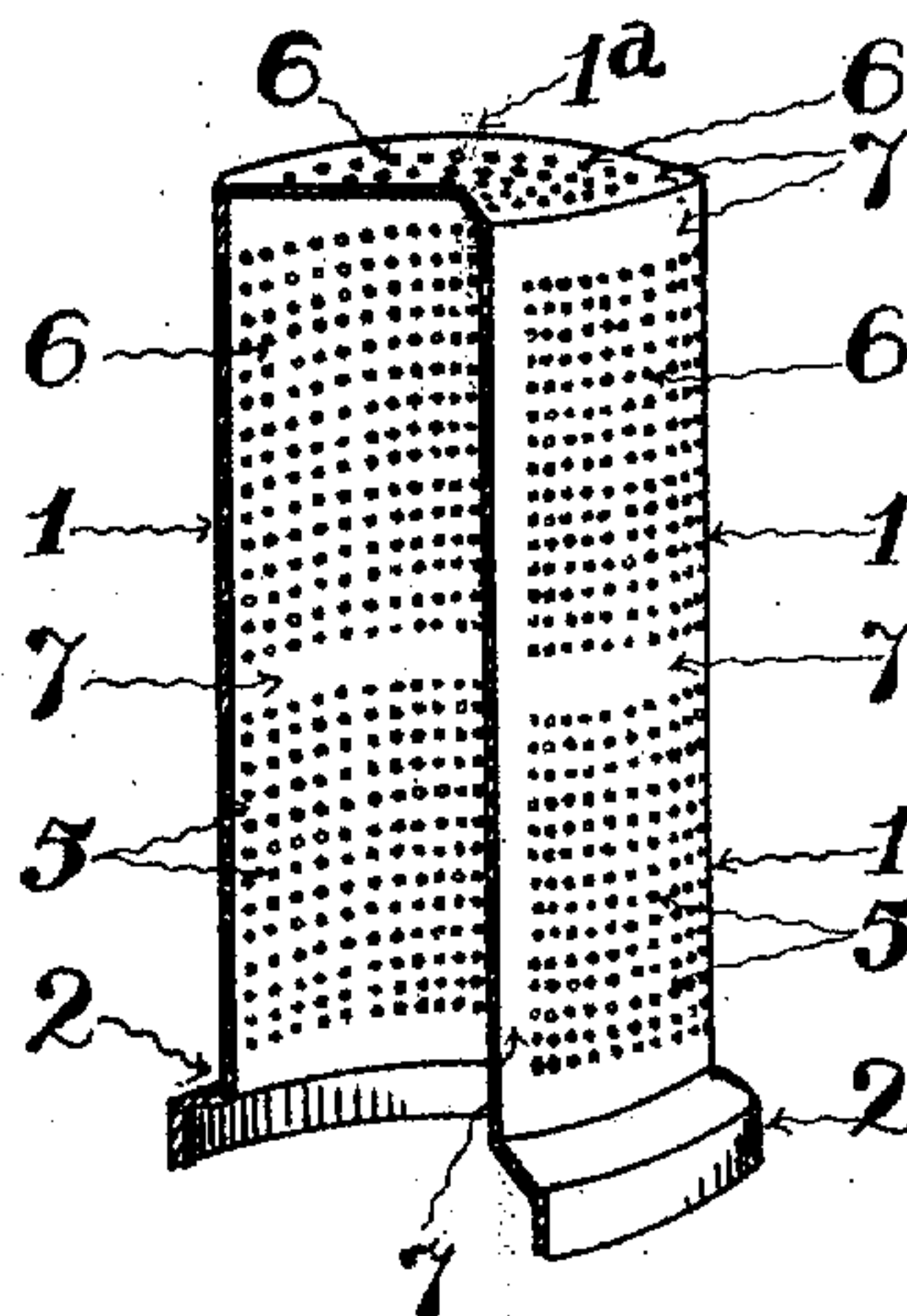


Fig 1.

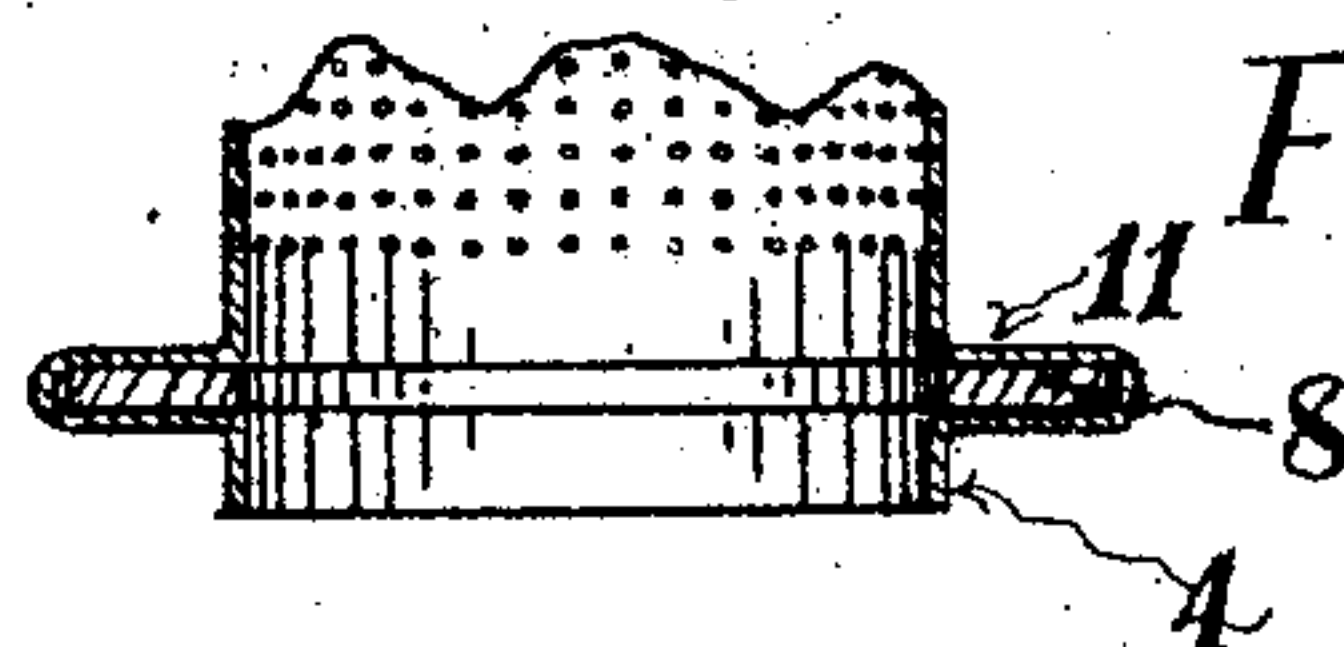


Fig2.

Witnesses.
Wm Telford.
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UNITED STATES PATENT OFFICE.

ERNEST ARTHUR HAILWOOD, OF MORLEY, ENGLAND.

GAUZE OF MINERS' SAFETY-LAMPS.

986,461.

Specification of Letters Patent.

Patented Mar. 14, 1911.

Application filed November 26, 1906. Serial No. 345,254.

To all whom it may concern:

Be it known that I, ERNEST ARTHUR HAILWOOD, a subject of the King of Great Britain, residing at 7 Gladstone Terrace, Morley, in the county of York, England, late of 3 Blenheim Terrace, Rooms Lane, Morley, in the county of York, England, have invented certain new and useful Improvements in Gauzes of Miners' Safety-Lamps, of which the following is a specification.

It is usual to provide a miner's safety lamp with what is termed a "gauze", which is really a deep cap or cone of gauze web or the like. The object of this "gauze" being to prevent flame inside the lamp from communicating with and igniting gas or other explosive mixture outside the lamp. To shield the said "gauze" from the effects of strong air currents and to save it from external damage, it is customary to provide same with an external metal cover, shield, or bonnet. Now to construct the said "gauze" it is usual to bend a sheet of gauze web or the like into the form of a cylinder, joining the two butting edges by means of a vertical fold or seam, the upper opening of the said cylinder being closed by a piece of gauze web or the like secured by means of a circular fold or seam: metal flanged rings are then attached by means of punch marks, rivets, or the like to the lower or other open end of the said "gauze" cylinder. The said flanged rings are provided for the purpose of securing the whole to the lamp frame or glass. Now it has been found in practice that any or all of these folds, seams, or joints are apt to be broken or burst open, or the gauze body to become detached from the said metal flanges, thereby destroying the safety of the lamp.

The object of my invention is to remedy these defects.

I wish it to be understood that in the following specification and claims that in using the word "gauze" I intend same to imply the aforesaid flanged deep cap or cone, whether constructed of wire gauze mesh, perforated metal or the like, and not for same to be restricted to what in some trades

is described as "gauze" i. e., simply wire mesh material.

In describing my invention reference is had to the accompanying sheet of drawings in which similar letters indicate similar parts:—

Figure 1. shows in perspective (part in section) one form of my invention. Fig. 2. depicts sectional elevation (part cut away) of modified form of flange and strengthening ring.

In carrying my invention into effect I make the entire "gauze" i. e., body 1 Fig. 1, top 1^a, together with flange 2, (the latter for securing the whole to the lamp frame or glass) from one sheet or piece of aluminium, brass, copper, steel, asbestos, or the like, shaping same into the desired form without seam or joint by means of stamping, spinning, raising, striking, casting or other suitable means. A suitable number of air inlet apertures or holes 5, situated toward the lower portion of the body 1, and also a number of similar apertures or holes 6, to admit of the escape of the products of combustion (these latter apertures being situated toward the upper portion of the body 1 and also in the top 1^a), are then formed by drilling, piercing or other suitable means. The said apertures 5 and 6, are of such a size as to prevent a flame inside the lamp from communicating with and igniting gas or other explosive mixture outside the "gauze".

In order to strengthen the said "gauze" or cap I may leave one or more vertical or horizontal strips or bands of unperforated material such as 7 Fig. 1, and may insert in a bend 11 Fig. 2 in the flanged ring 4 a supporting metal ring 8.

What I claim as my invention and desire to secure by Letters Patent is:—

1. As a new article of manufacture, an integral seamless cap for use in miners' safety lamps, comprising a cylindrical body portion, a top closing one end thereof and a holding flange at the other end thereof, the body portion and the top being perforated.

2. As a new article of manufacture, an

integral seamless cap for use in miners' safety lamps, comprising a cylindrical body portion, a top closing one end thereof, and a holding flange at the other end thereof, said body portion being perforated.

3. A cap for use in miners' safety lamp comprising a seamless cylindrical body portion having a closure at one end thereof, said body portion and said closure being integral

and provided with perforations, and a holding flange positioned adjacent the other end of said body portion. 10

In witness whereof I have hereunder set my hand in the presence of two witnesses.

ERNEST ARTHUR HAILWOOD.

Witnesses:

SAMUEL WHETTALL,

WILLIAM TELFORD.