P. L. F. H. CHAUSSINAND.

CANDLE LAMP.

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997,751.

Patented July 11, 1911.

Fig. 2

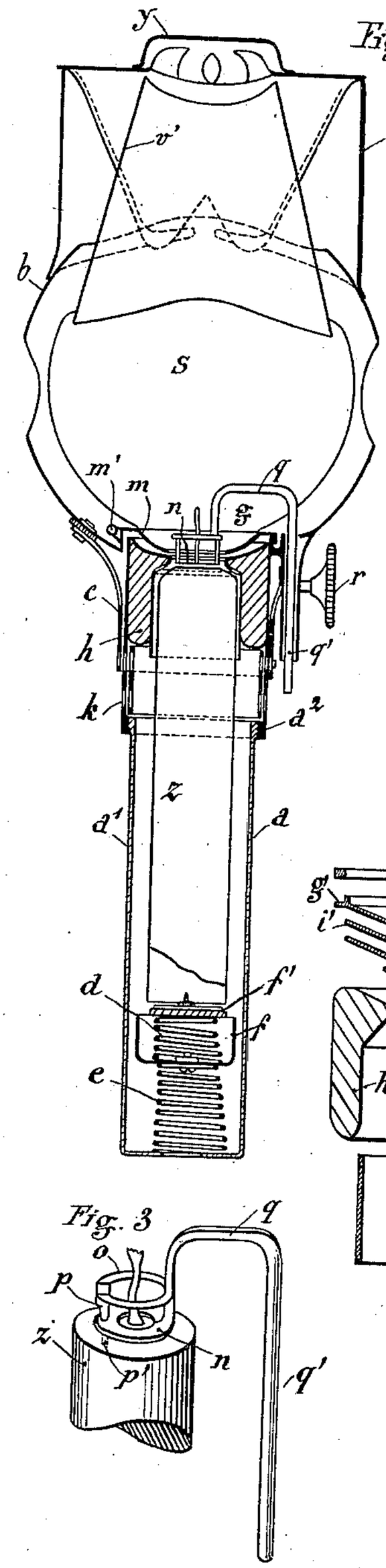

Fig. 1

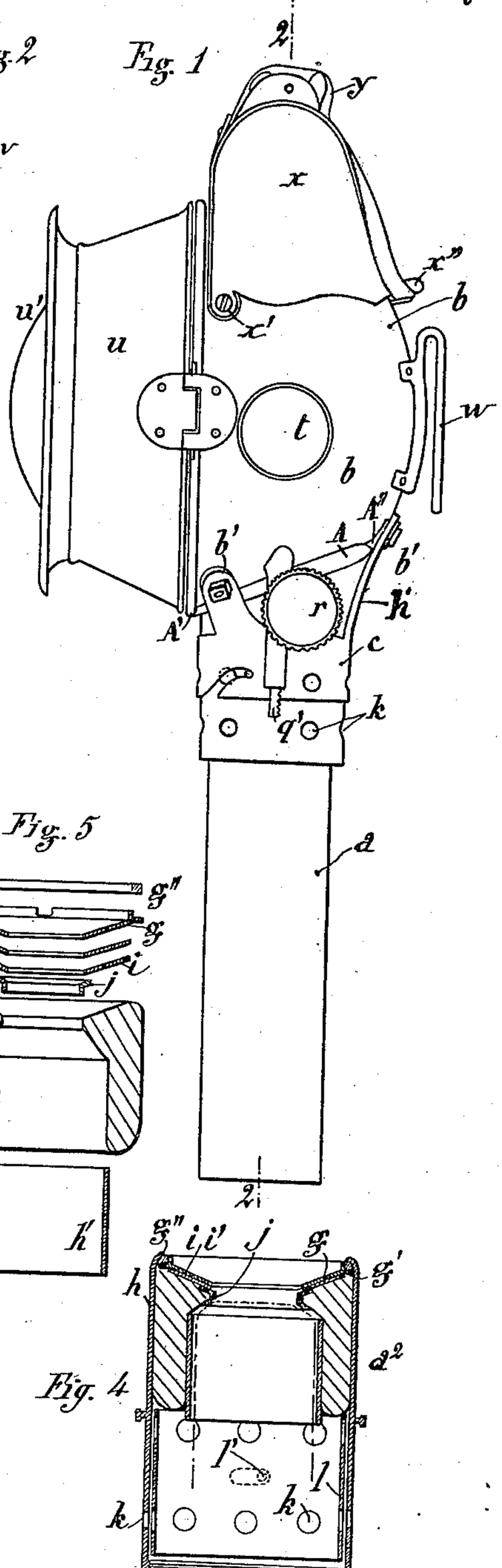

Fig. 5

Fig. 3

Fig. 4

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CANDLE-LAMP.

997,751. Specification of Letters Patent. Patented July 11, 1911.

Application filed June 8, 1910. Serial No. 565,696.

To all whom it may concern:

Be it known that I, PAUL LOUIS FRANÇOIS HIPPOLYTE CHAUSSINAND, a citizen of the Republic of France, residing at St.-Dizier, Haute-Marne, in the Republic of France, have invented a certain new and useful Candle-Lamp, of which the following is a specification.

This invention relates to an improved device or candle burner for bicycle, photographic and candle lamps, or for other purposes, devised with the object of insuring an absolutely uniform burning of the candle with as small a consumption as possible in avoiding any loss or running of the candle due to an excess of fusion and projections of the melted material due to jolts and shocks imparted to the lamp; to this end all the parts are arranged in such a manner as to isolate the candle from the hot parts and melt only a sufficient quantity of material by means of a special adjustable member which constitutes one of the principal features of the invention.

The accompanying drawing shows by way of example a method of carrying the invention into practice when applied to a bicycle or carriage lamp.

Figure 1 is an external side elevation of the improved device fitted in conjunction with the lamp. Fig. 2 is a section on the line 2, 2 in Fig. 1. Figs. 3 and 4 are detail views and Fig. 5 represents in detail all the insulating parts for the upper portion of the candle holding tube.

The body of the lamp *b* is detachably connected with the candle holding tube *a* by means of a bayonet sleeve *c* fixed to the lamp *b*. The candle *z* is pressed upward in the tube *a* by means of springs in the known manner, but in this case instead of the usual single spring there are two springs provided, a long spring *e* bearing on the bottom of the tube and a shorter spring *d* separated from the first or long one by means of a small cup *f* serving to collect the candle grease should any of the melted material drop and thus prevent the lower thrust spring from being rendered inoperative. The candle rests upon the upper spring *d* by the intermediary of a cork washer *f'* furnished with a small pointed projection in order to fix and center the candle perfectly. The small spring *d* is weaker than the large spring and extends only toward the combustion end when the weight of the candle has become small; in this manner the candle can be burned right to the end without providing an excessive initial upward force.

The candle holding tube is divided into two parts a^1 a^2 screwed one upon the other. The part a^1 is slightly larger in diameter than the candle and is perforated at its lower extremity in order to enable the air to circulate freely between its walls and the candle and thus prevent any heating. The part a^2 intended for supporting and centering the candle presents a special construction for the purpose of perfectly insulating the upper part of the candle in contact with it from the hot parts of the lamp; Fig. 4 shows this part a^2 to a larger scale, while Fig. 5 shows its constituent elements separately except for the outer tube which assembles them; this part comprises an upper metal cup *g* perforated at its center in order to uncover the candle wick and a piece of cork *h* below furnished internally with a protecting sleeve *h'* of metal and itself insulated from the cup *g* by means of a cork washer *i* and an asbestos washer *i'*; a small metal ring *j* reinforces the inner angle of the cork member *h*, while a cork ring *g''* resting upon small teeth *g'* cut in the cup *g* insulates the latter from the tube a^2 which maintains these various parts assembled as shown in Fig. 4 by closing its upper edge over *g''*; the bottom of the tube a^2 perforated with holes *k* forms an air cooling chamber the action of which can be regulated in accordance with the outer temperature by means of an inner rotary sleeve *l* likewise perforated and displaceable by a small knob *l'*.

The body of the lantern or lamp proper *b* which comprises the usual parts such as a reflector *s*, glasses *t*, hinged door *u* glazed with a magnifying lens *u'* is provided with a dome *v* inclosing the chimney *v'* and with a perforated and reversible cap *y* and with two flaps *x* capable of turning by friction around a pivot *x'* and being held by hooks *x''* in such a manner that they may be

opened by an amount adjustable according to the external temperature and allow of the entrance of more or less air. By means of a hook *w* the lamp can be fixed to a resilient suspension frame.

Above the candle holding tube fixed in position to the body of the lamp *b* the latter is provided internally with a cup *m* movable around a hinge *m'* and which covers the cup *g* situated at the top of the candle holding tube; the upper part of the latter is thus protected from the heat of the flame by a double cup *m* and *g*. This arrangement of cups and the parts surrounding the wick prevent stearin or other fats of which the candle is composed from being projected when jolts occur.

As the body of the lantern or lamp *b* is always necessarily very hot in order to prevent the transmission of heat to the sleeve *c* the latter is fixed to the body *b* only by lugs *h'* with screw or nut insulating substance such as cork or the like being interposed. In addition two semi-crescents A with front hooks A' and hinged at the rear to the body of the lamp are arranged to be opened in such a manner as to prevent contact between the body of the lamp and the candle holder tube which they surround in ventilating the passage. The passages for ventilation are wide open at all places when it is very hot and more or less closed when it is cold. It will thus be seen that the candle is perfectly insulated and protected from any heating, either by radiation from the flame or by conductivity between the parts of the lamp; it is therefore possible to insure its burning to just the necessary extent by means of a special adjustable part which forms the principal feature of the invention and which is constituted in the following manner. This regulator comprises three main parts (1) a heating upper fusion part consisting of a metal disk *n* perforated for the passage of the wick and which is in contact or at a greater or less distance (some few millimeters at most) from the upper surface of the candle *z*. (2) A gallery or heat recuperating part consisting of a metal crown *o* arranged above the fusion member and intended to receive directly the heat of the flame, the direct heating of the fusion member by the flame being insufficient during cold weather; in addition this part maintains the wick straight at the same time that it burns it in maintaining it of a normal length corresponding to a suitable consumption. (3) A heat transmitting part connecting the gallery with the fusion member and constituted for example by an upright *p* which extends slightly beneath the disk *n* in such a manner as to form a small projection *p'* which enters the candle, this part *p* being preferably flat and screwed into the other parts in such a manner as to project more or less below. These three parts as a whole are rigid with a bent rod *q* which at its part *q'* outside the lamp *b* presents a rack enabling it to be raised or lowered by means of a milled knob *r*. In this manner the regulator can be brought more or less close to the upper face of the candle according to the temperature in such a manner that the latter is melted only to the desired extent.

The lamp may be dismounted in such a manner as to occupy as small a space as possible for transport; with this object the rack regulator having been removed and the cup *m* raised, the tube *a* is introduced into the lamp in an inverted position and its end pressed up to the summit of the dome whereupon its snug is fixed in the bayonet socket.

What I claim and desire to secure by Letters Patent of the United States is:—

1. In a candle lamp, the combination with a holder having a heat-insulated socket to receive the upper end of the candle, of a heat-transmitting regulator movable independently of the socket, and means for adjusting said regulator toward and from the upper end of the candle to vary the transmission of heat from the flame thereto.

2. In a candle lamp, the combination with a holder having a heat-insulated socket to receive the upper end of the candle, of a regulator comprising a metallic disk adapted to rest on the upper end of the candle and perforated to receive the wick, a metallic ring located above said disk concentrically therewith and connected thereto by metallic supports, and means for adjusting said regulator toward and away from the upper end of the candle.

3. In a candle lamp, the combination of a tubular holder having a heat-insulated socket at its upper end to receive the upper end of the candle and providing an air space between said candle and the walls of the holder, and means for adjustably regulating the circulation of air through said air space.

4. In a candle lamp, the combination with the candle holder of means for pressing the candle upward, comprising two springs of different strength and located one above the other, and a cup-shaped receptacle interposed between said springs and extending outward beyond the sides of the candle.

5. In a candle lamp, the combination with the body portion of a tubular candle holder connected thereto and having a socket to receive the upper end of the candle, said socket being separated from the metallic parts of the body and holder by heat-insulating material, a cup carried by the body portion and located above the upper end of said socket, the cup and socket being perforated to receive the wick of the candle,

and a regulator comprising a metallic disk adapted to be held in contact with the upper end of the candle, means located adjacent to the flame for conducting heat therefrom to said disk, and means for adjusting said regulator toward and away from the upper end of the candle.

In testimony whereof I affix my signature in presence of two witnesses.

PAUL LOUIS FRANÇOIS
HIPPOLYTE CHAUSSINAND.

Witnesses:
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H. C. COXE.