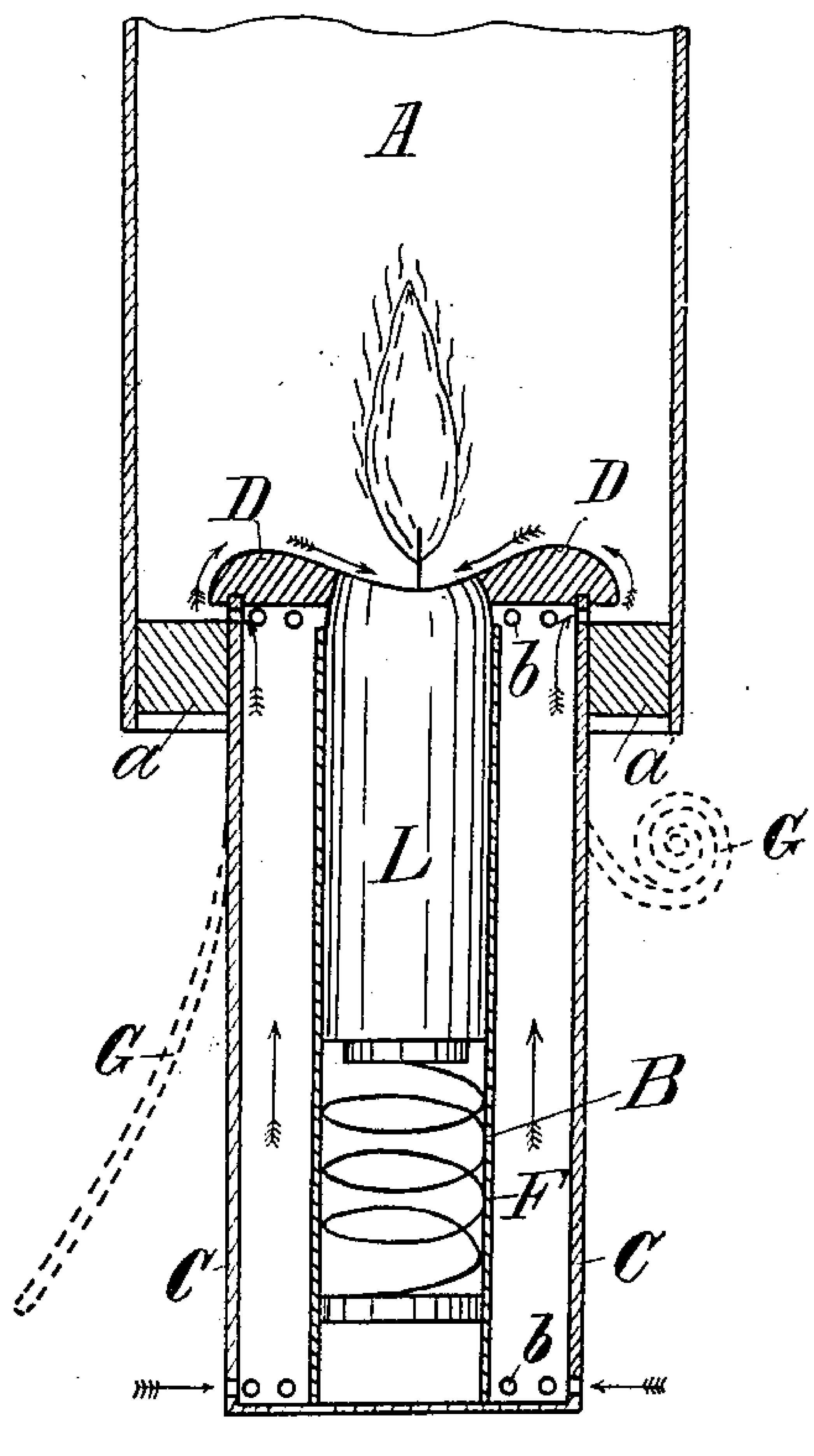
No. 611,099. Patented Sept. 20, 1898.

A. BOCK.

CANDLE BURNING LANTERN FOR VEHICLES, &c.

(Application filed Jan. 25, 1897.)

(No Model.)



WITNESSES.
Julius [illegible]
Isaac B. Owens

INVENTOR:
A. Bock

BY
Munn & Co

ATTORNEYS

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ALEXANDER BOCK, OF COPENHAGEN, DENMARK.

CANDLE-BURNING LANTERN FOR VEHICLES, &c.

SPECIFICATION forming part of Letters Patent No. 611,099, dated September 20, 1898.

Application filed January 25, 1897. Serial No. 620,637. (No model.) Patented in Austria November 29, 1896, No. 4,781/46.

To all whom it may concern:

Be it known that I, ALEXANDER BOCK, civil engineer, of Copenhagen, in the Kingdom of Denmark, have invented certain new and useful Improvements in Candle-Burning Lanterns for Vehicles, &c., (for which I have obtained Letters Patent in Austria, No. 4,781/46, dated November 29, 1896,) of which the following is a specification.

The present invention relates to certain improvements in the construction of candle-burning lanterns for vehicles and other means of conveyance—such as carriage-lanterns, ship-lanterns, bicycle-lanterns, &c.—the special object in view with these improvements being to keep the "candle-cup" dry, and thus avoid the drawbacks hitherto experienced with candle-lanterns, such as a splashing, going out, &c.

The accompanying drawing shows a vertical section of such a lantern.

The lantern consists of two main parts—viz., the lantern-space and the candle-holder B—which two parts are connected together by means of a piece *a*, made of a heat-insulating material such as cork, wood, or a similar substance. The heat of the lantern-space is thereby prevented from communicating itself through the walls of the lantern-space to the candle-holder.

As there is no communication between the lantern-space and the outer air below the smoke-cap, the air that is necessary for the burning of the candle is compelled to come from underneath and sweep along the insulated candle-holder B. On account of the special construction of this candle-holder the air-current is directed as follows: The candle-holder is surrounded by a mantle C, provided with holes *b* at each end and carrying a ring-formed plate D at the top. The upper surface of this plate is shaped after a special curve that has been found out after numerous experiments, and the characteristic features of the shape of the plate D are as follows: The highest part of the plate is arranged at some distance from its inner edge, while the surface lying between the highest part and the inner edge is bent downward toward the cup formed in the upper part of the candle around the wick in such a manner that the sectional curve of the plate-surface is approximately in one sweep with the sectional curve of the above-mentioned candle-cup. This shape causes the air-current, as shown by the arrows in the drawing, after having passed around the candle-tube underneath the lower surface of the plate D and its outer edge to sweep with increasing velocity along the upper surface of the plate in such a manner that the air, being under the attractive influence of the suction produced in the middle of the lantern by the flame, finally with great force is thrown downward in the candle-cup toward the very root of the wick, whereafter it ascends into the flame.

Another special feature of the present invention is that the mantle C, that carries the plate D, is arranged so as to serve as a kind of heat-conveyer. With this object in view the mantle C is made of a very voluminous heat-conducting material with a large cooling-surface, causing the heat to be given off downward to the atmosphere. The mantle C may suitably be made of thick copper. In order to increase the surface of the heat-conveyer, as also for the purpose of decoration, the lower part of the heat-conveyer may be cut up into strips G, that are rolled up in spirals or similar shapes, as shown on the drawing with dotted lines.

I claim—

1. A candle-burner having means for carrying the candle and for feeding the same as it is burned, and provided with a plate having a central orifice adapted to receive the burning end of the candle, the plate being curved upwardly from the outer edge and thence downwardly to form a continuation of the curve of the concavity which will exist at the burning end of the candle, substantially as described.

2. A candle-burner having a chimney, a tube held at the lower end of the chimney and projecting downwardly therefrom, the tube being capable of carrying the candle, means for feeding the candle upwardly in the tube, and a plate located at the upper end of the tube and having a central perforation adapted to receive the upper end of the candle, the plate curving from its outer edge upwardly and thence downwardly so as to run into the curve of the concavity at the upper end of the candle, the upper end of the tube

having perforations through which all the air for supporting combustion passes into the base of the chimney at the outer edge of the plate, substantially as described.

3. A candle-burner having a plate with an orifice therein, the upper face of the plate being curved inwardly and downwardly toward the orifice to form a continuation of the curve of the concavity which will exist at the burning end of the candle, substantially as described.

4. A candle-burner having a chimney, a mantle projected into the lower end of the chimney, a block fitted between the upper end of the mantle and the lower end of the chimney, means within the mantle for holding and feeding the candle upwardly into the chimney, and a plate secured at the upper end of the mantle and having a perforation, the upper side of the plate being curved downwardly toward the orifice so that said curve will run gradually into the curve of the concavity which will occur at the upper end of the candle, substantially as described.

5. A candle lamp or lantern, provided with a disk having its upper face concaved at the center and its margin rounded or curved downwardly to the lower face of the disk, and provided with a central aperture into which the end of a burning candle is adapted to project, the said disk being arranged with its upper face above the openings through which all the air for supporting combustion passes, substantially as described.

6. A candle lamp or lantern, comprising a candle-tube, a mantle surrounding the candle-tube and provided with perforations at its upper end, through which perforations air for supporting combustion passes, a disk on the upper end of the mantle and having its upper face concave at the center and its margin rounded or curved downwardly to the lower face of the disk and provided with a central aperture into which the burning end of the candle is adapted to project, and a chimney insulated from the said mantle, substantially as described.

7. A candle lamp or lantern, comprising a candle-tube, a mantle surrounding the candle-tube and extending the length thereof, said mantle being provided with perforations at its ends, through which air for supporting combustion passes, a disk on the upper end of the mantle and having its upper face concave at the center and its margin rounded or curved downwardly to the lower face of the disk and provided with a central aperture into which the burning end of the candle is adapted to project, a chimney, and a ring of insulating material carried by the chimney between it and the mantle, substantially as herein shown and described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

ALEXANDER BOCK.

Witnesses:
S. HOFMAN-BURG,
JULES BLORN.