No. 614,148. Patented Nov. 15, 1898.

J. WALSH.

BURNER AND GLOBE.

(Application filed Dec. 27, 1897.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

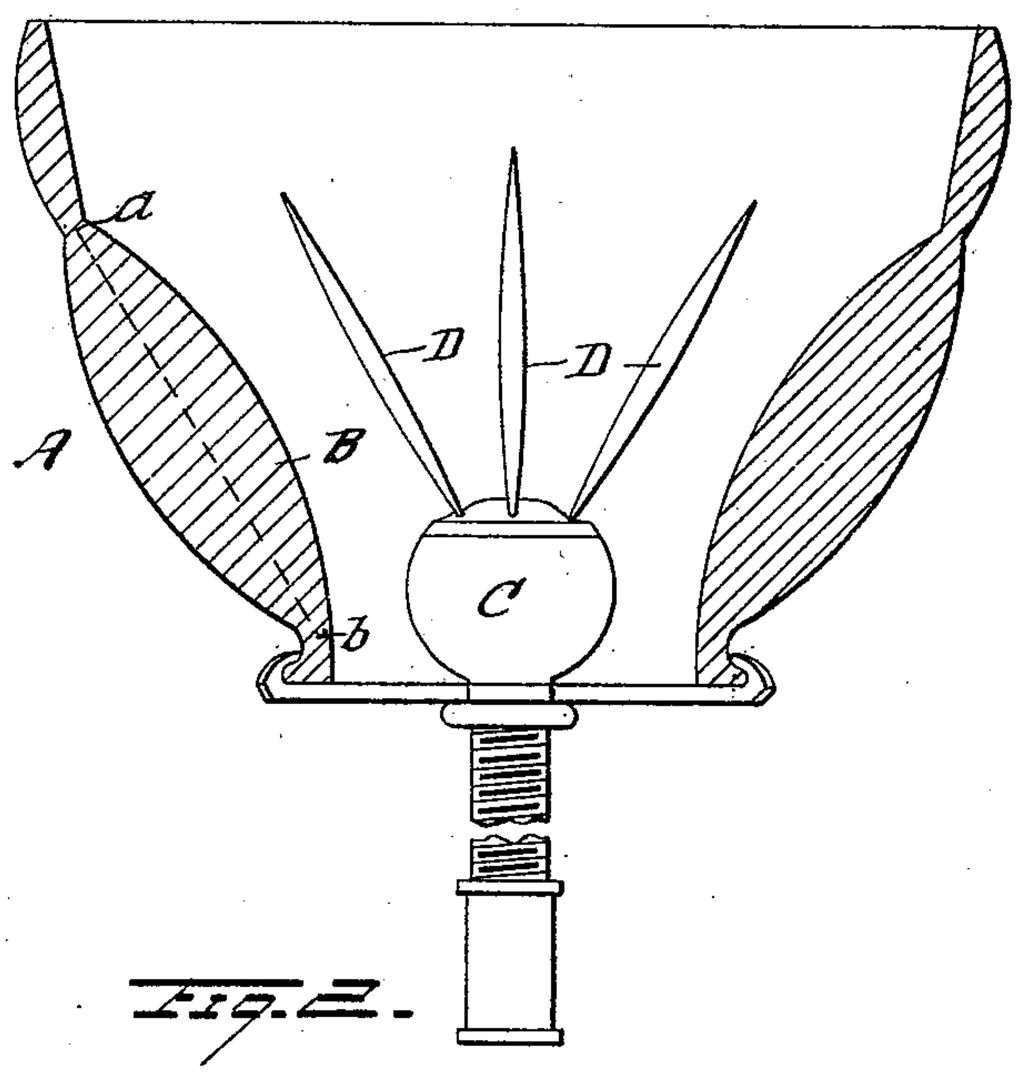
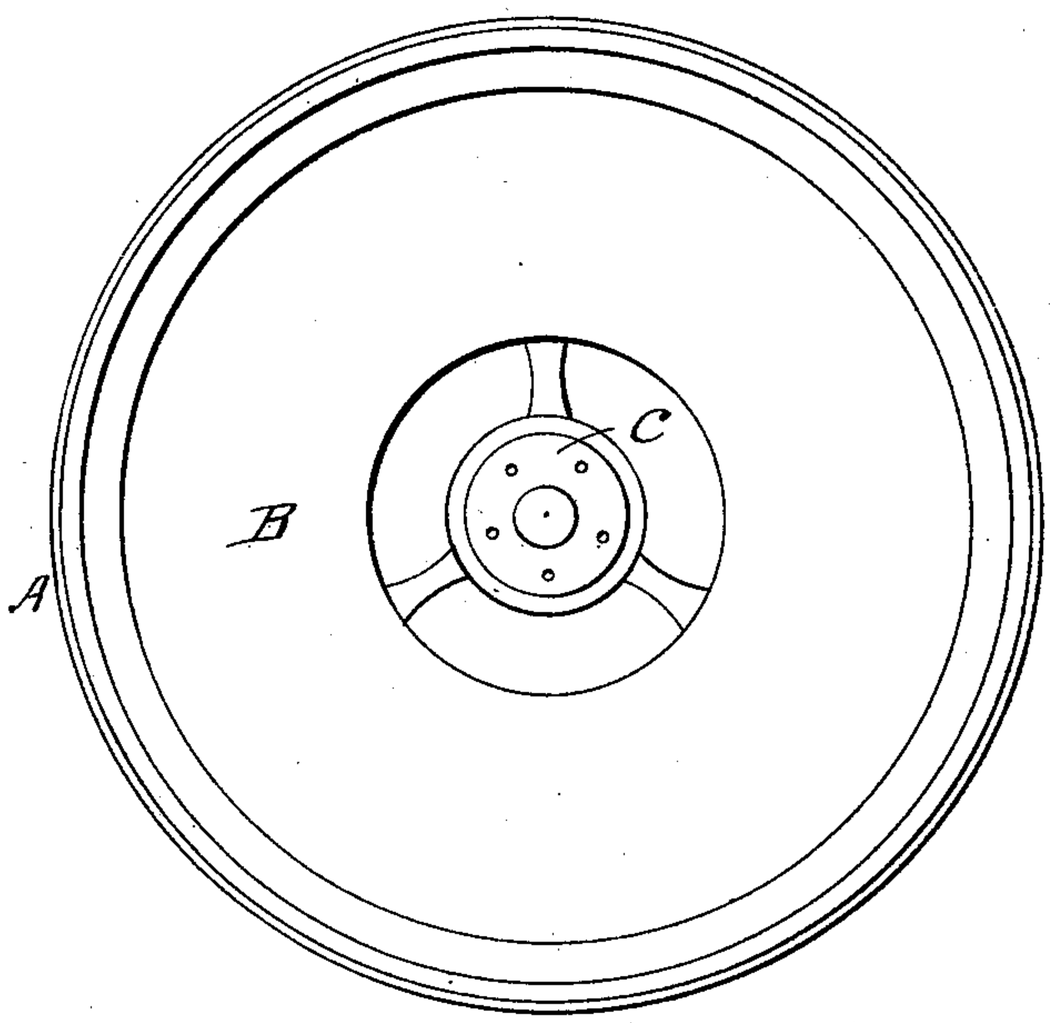


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

Fig. 3.

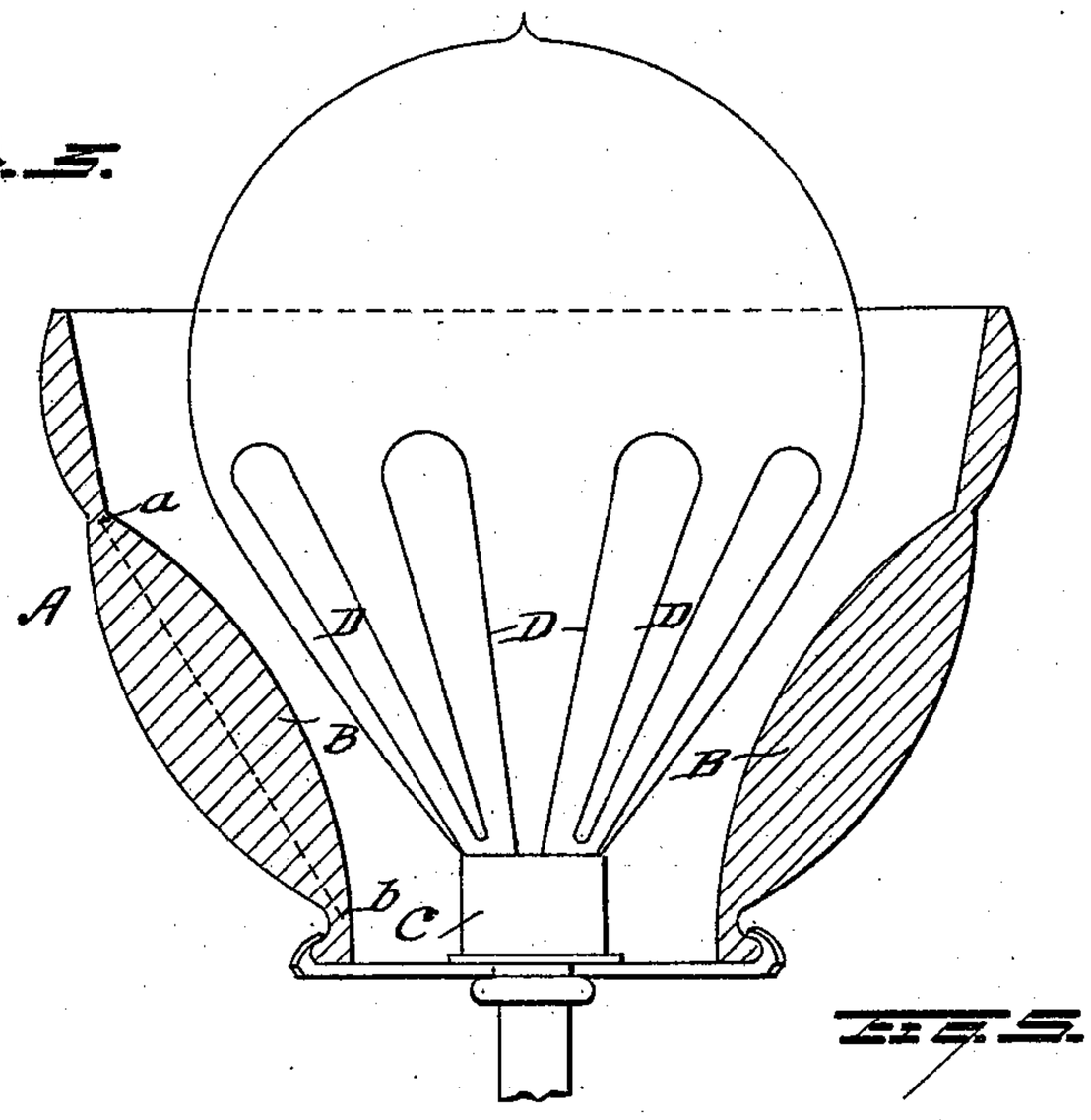
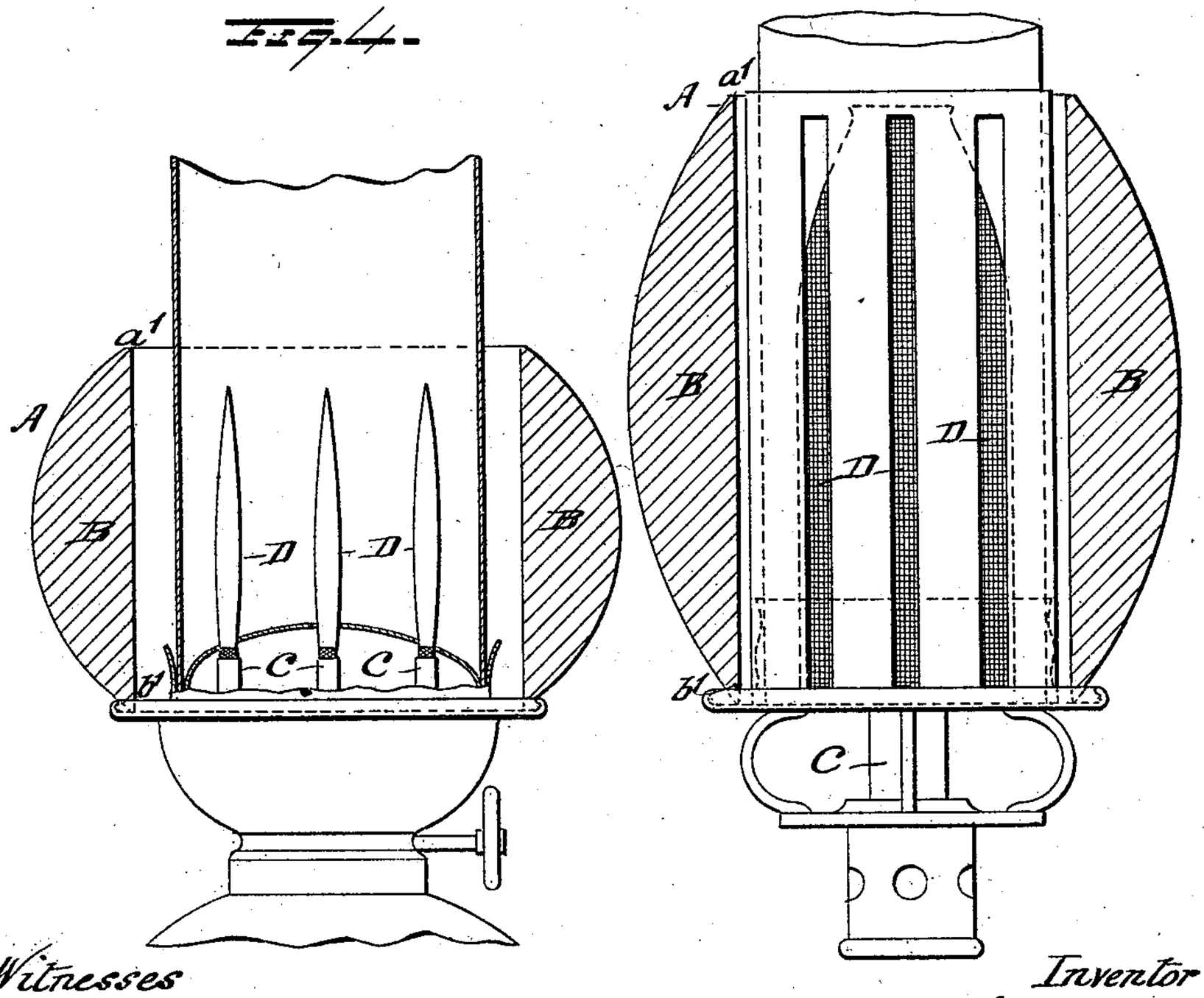


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN WALSH, OF LONDON, ENGLAND.

BURNER AND GLOBE.

SPECIFICATION forming part of Letters Patent No. 614,148, dated November 15, 1898.

Application filed December 27, 1897. Serial No. 663,801. (No model.)

To all whom it may concern:

Be it known that I, JOHN WALSH, a subject of the Queen of Great Britain, and a resident of London, England, have invented certain new and useful Improvements in Burners and Globes, of which the following is a specification.

In order to magnify the light, or to better direct and utilize the same, or to obtain in effect more light from a given quantity of gas, oil, or other combustible illuminant or electric or other illuminating power, I combine with a globe constructed as hereinafter described a burner or light-giving device also constructed in the manner hereinafter set forth.

Reference being made to the annexed drawings, Figure 1 is a section through globe and burner for gas. Fig. 2 is a plan thereof. Fig. 3 is a similar section through the globe and fitting for electric incandescent lamps. Fig. 4 is a similar section of globe and burner for oil-lamp. Fig. 5 is a similar section of globe and burner for gas-light in which an incandescent mantle is used.

The globe A consists of or comprises an annular lens B—that is to say, the globe is constructed so that the glass is annularly thickened or provided with a similar chamber for water or other liquid in such a manner that its section is either double convex or plano-convex in appearance, such section being taken upon any plane containing the axis of the burner or equivalent fitting. The medial plane of the lens may be an inverted cone, as in Fig. 1, which is necessary or desirable from manufacturing considerations when the lens is double convex, or a cylinder, as in Fig. 4, when the lens is plano-convex, the one or other form being used according as the light is to be directed downwardly or horizontally and according to the nature of the illuminant or illuminating power. This medial plane is represented by the dotted line *a b*, Fig. 1, or by the plane side *a' b'* of the lens, Fig. 4.

The burner or light-emitting fitting C is so made that the flames or light-emitting filaments or surfaces D are in the form of straight shafts of approximately equal light-emitting power throughout their length, such shafts being preferably directed parallel to the said medial plane of the lens at its nearest part, this plurality of shafts being equidistant around the burner—that is to say, it is an essential feature of this invention that the light should not be employed in the form of a sheet of flame, but should be broken up into a plurality of independent and separated pillars or shafts of light. Where, as with the use of an incandescent mantle, it is not desirable to use separate mantles of thin elongated form, the single central mantle may be employed; but its light-emitting power is split up into a plurality of strips or shafts either by the use of non-combustible strips of asbestos or the like or by use of an opaque screen surrounding the mantle and having slits therein for the passage of the rays.

In gas-burners or jets when used for this invention a plurality of holes or orifices is employed to produce a plurality of straight and narrow flames. Electric incandescent lamps are also so made that the filaments lie in straight lines throughout the greater part of their length—that is to say, with the least possible length of curves and without double curves—and more than one filament may be placed in each lamp, or several lamps may be used, so that the filaments serve the same purpose as before described. In oil-lamps a plurality of wicks is used for the same purpose of producing independent shafts of light.

I claim as my invention—

The combination with a transparent globe having an annular lens of an illuminating-fitting in the axis of said globe adapted to produce a plurality of straight and independent light-emitting shafts parallel to the medial plane of said lens at its nearest part substantially as set forth.

In witness whereof I have signed this specification in presence of two witnesses.

JOHN WALSH.

Witnesses:

A. E. MELHUISH,

R. KOEHLER.