

C. W. BOYSE.

LAMP.

APPLICATION FILED AUG. 23, 1909.

Patented Nov. 15, 1910.

2 SHEETS-SHEET 2.

976,117.

FIG. 5.

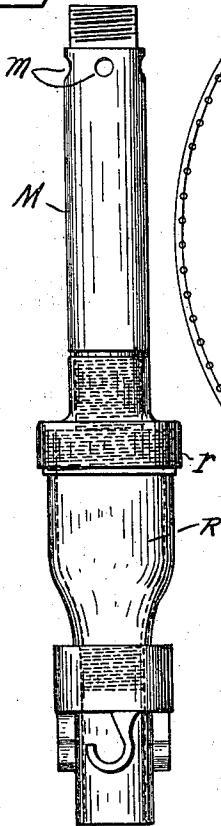
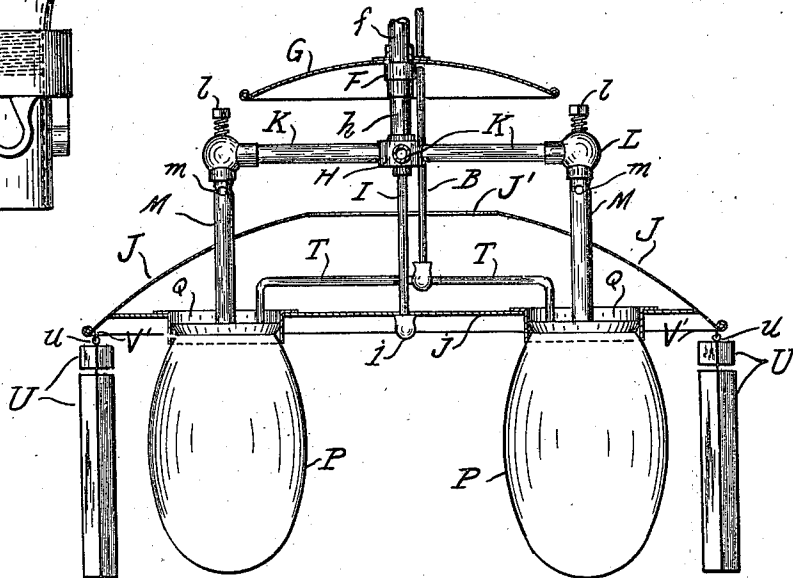
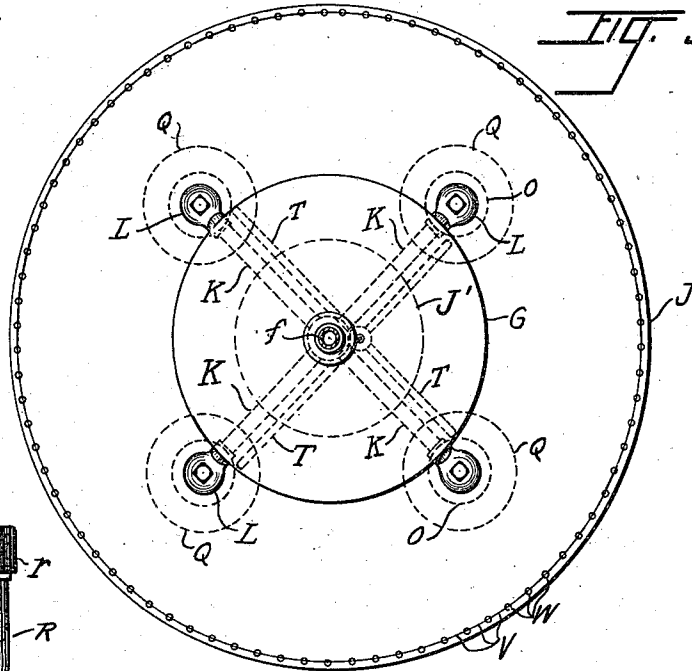


FIG. 3.



WITNESSES:

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FIG. 4.

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LAMP.

976,117.

Specification of Letters Patent.

Patented Nov. 15, 1910.

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To all whom it may concern:

Be it known that I, CLEMENT W. BOYSE, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Lamps, of which the following, when taken in connection with the drawings accompanying and forming a part hereof, is a full and complete description sufficient to enable those skilled in the art to which it pertains to understand, make, and use the same.

The invention relates to what is known in the art as an inverted lamp.

The object of the invention is to obtain an inverted cluster lamp, controlled by a single gas supply cock, which will be economically made and will be economical in use, require but little attention; which will have few parts, and which will not be liable to get out of order or broken.

A further object of the invention is to obtain a cluster lamp which will produce a steady light of considerable brilliancy, and in which cold air will be supplied to the several Bunsen burners thereof, heated gas will be supplied thereto, and said air and gas will be re-heated before the gas is ignited.

In the drawings referred to Figure 1 is a side elevation of a cluster lamp embodying the invention. Fig. 2 is a bottom plan view of the lamp. Fig. 3 is a top plan view of the lamp. Fig. 4 is a vertical view of the lamp. And Fig. 5 is an elevation of the Bunsen tube and burner forming elements in the lamp.

The glass prisms shown in Fig. 3 are removed from the device in Figs. 1 and 2.

A reference letter applied to designate a given part is used to indicate such part throughout the several figures of the drawings wherever the same appears.

A is the gas supply pipe to which the lamp is suspended and from which the supply of gas to the burners of the device is obtained.

B is a pilot gas supply pipe, C is the gas supply cock arranged to control the gas supplied to the burners of the device.

D is a lever to supply cock C and E, E', are flexible cords arranged over pulleys X, X, and provided with handles e, e', on one end thereof, by means of which the supply cock is manipulated.

F is a coupling and f is a nipple arranged to join coupling F and supply cock C.

G is a deflecting shield on nipple f.

Shield G is shown as resting on the upper end of the coupling F.

H is a four way fitting and h is a connecting tube, screw threaded at both ends and known to the trade as a nipple attached to fitting H and to union or coupling F.

I is a rod or pipe attached to the under side of four way fitting H and i is a cap at the lower end of rod or pipe I.

J is a dome and j is a disk. Dome J and disk j are supported on rod or pipe I by means of cap i.

K, K, are horizontal nipples attached to four way fitting H.

Dome J is provided with central aperture J'.

L, L, are adjusting valves attached to respective nipples K, K, and are respectively provided with screw l.

M, M, are Bunsen pipes, provided with apertures m, m, and respectively attached to and supported by the valves L, L.

N, N, are burners respectively attached to the lower ends of the Bunsen pipes M, M.

O, O, are mantles on burners N, N, and P, P, are globes over mantles O, O.

The disk j is provided with apertures Q, Q, through which apertures the burners N, extend.

q, q, are spring catches at the edges of the several apertures Q, Q, by means of which the globes P, P, are secured and held in place.

The several burners N, N, are provided with chambers, R, R, (each of said burners having one chamber), and r, r, are screens in the several chambers. Screens r, respectively, consist of a disk of foraminated metal having the central portion thereof forced into a semi-spherical shape.

S, S, are teeth on the periphery of disk j; the spaces between said teeth forming passage ways for air to flow between the dome J and said disk when the device is in operation.

T, T, are branch pipes from pilot supply pipe B respectively arranged to discharge gas adjacent to the mantles O, O.

U, Fig. 4, are prisms suspended by wires u from wire V. The dome J is provided with apertures W and the wire V is laid on the upper surface of the dome and made to ex-

tend down through the apertures W and back again to form eyes V'. The several wires *w* are threaded through said eyes V'.

With the gas supply cock opened and the gas ignited the operation of the lamp is as follows;—Currents of heated air are produced at the burners which rise from said burners through the apertures Q, Q, between disk *j* and dome J, and pass out from said dome through the central aperture J'. Induced currents of cold air flow upward through the several spaces between the teeth S, S, of the disk *j* and out through the central aperture J' of dome J. The mingled currents of hot and cold air which flow upward through the aperture J' strike the shield G and are thereby deflected from the upward course thereof. Gas flows downward through gas supply pipe A, supply cock C, nipple *f*, coupling F, nipple *h* and four way fitting H and to the horizontal nipples K, K, and said gas is warmed by the upwardly flowing currents of warmed air, and said gas flows from said horizontal nipples through the adjusting valves L, L, into the Bunsen burners of the device in a heated condition. Cool air will flow through the apertures *m*, *m*, and pass into the chambers N, along with the gas delivered to said Bunsen burners, and while in said chamber N the gas and air will be heated and thoroughly mixed, and delivered therefrom to the flame of the lamp in a heated condition. The flame of the lamps will produce incandescence of the mantles O, O.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is,—

1. In a cluster gas lamp the combination of a shield, a four way fitting below the shield, a dome below the fitting, said dome provided with a central aperture and with

a plurality of additional apertures, horizontal nipples in the fitting, regulating valves at the ends of the nipples, depending Bunsen burners attached to the regulating valves, a disk below the dome, said disk provided with apertures through which said burners extend, and provided with peripheral recesses, and mantles, the said Bunsen burners extending through the additional apertures in the dome and respectively provided with apertures for the admission of air above said dome, and said burners provided with chambers near the lower ends thereof and perforated diaphragms in said chambers.

2. In a cluster lamp, the combination of a shield, a fitting provided with a chamber and with a plurality of discharge passages from said chamber, said fitting positioned below the shield, means to supply gas to said chamber, a dome below said fitting, said dome provided with a central aperture and with additional apertures, horizontal nipples attached to said fitting to direct the flow of gas from the discharge passages thereof, regulating valves at the ends of said nipples, depending Bunsen burners respectively provided with air inlets and attached to said regulating valves, a disk positioned below the dome, said disk provided with apertures through which said burners extend, and said disk provided with passage ways for the flow of air, mantles on said burners, said dome positioned to deflect from said air inlets of the burners the heated products of combustion at said burners and the air flowing through the passage ways of said disk and to direct them onto the said fitting.

CLEMENT W. BOYSE.

In the presence of—

CHARLES TURNER BROWN,
CORA A. ADAMS.