To all whom it may concern:

Be it known that I, JOHN RICHARDSON WIGHAM, of Albany House, Monkstown, in the county of Dublin, Ireland, have invented an improvement in lamps or burners for illuminating light-houses, beacons, harbor-lights, light-ships, and for signaling or other purposes; and do hereby declare that the following description, taken in connection with the accompanying drawings hereinafter referred to, forms a full and exact specification of the same, where- in I have set forth the nature and principles of my said improvement, by which my invention may be distinguished from others of a similar class, together with such parts as I claim and desire to secure by Letters Patent—that is to say:

Hitherto when glass-reflecting or glass-refracting dioptric apparatus (such as annular lenses, refracting-belts, &c,) have been used in the illumination of light-houses, only one focal lamp, burner, or source of artificial light has been used in each lantern, as the main central radial focus from which the light is transmitted through the dioptric apparatus direct to the mariner.

My present invention consists in the employment in each lantern for such apparatus, as aforesaid, of two or more such main focal lamps or burners, whereby greatly increased light may be transmitted to the mariner. For this purpose I place two or more burners or sources of light vertically, or nearly so, one over the other, and I arrange air flues and passages to and from the respective lamps or burners, in such a manner that the products of combustion from the lower burners do not interfere with the action of the upper burners, and that the air-supply to the upper burners is heated and accelerated by the action of the lower burners. I avail myself of the spaces in the aforesaid refracting or reflecting apparatus which are not traversed by the rays of light to the lenses or refracting-belts, &c, as the case may be, for the purpose of placing within those spaces the pipes or other appliances for conducting illuminating gas, oil, or other illuminating agent to the same, as also the supports for the upper burners, so that such pipes and supports shall not obstruct the rays of light transmit-
through the flues $E^1 E^2$ without interfering with the action of the upper burners, the heat of such products of combustion is imparted to the air passing through the flues $D^1 D^2$ and casings $E^1 E^2$, whereby the currents of air to the burners are accelerated, and the combustion is consequently rendered more perfect.

The upper burners and their casings are supported by the gas-pipe $B$ and by other pipes or rods $II$, which are arranged in positions corresponding with the spaces in the refracting or reflecting apparatus, which are not traversed by the rays of light, so that they do not obstruct the light transmitted through such apparatus.

Although I have shown three burners in combination, it will be evident that only two, or more than three, such burners may be employed, according to my invention; also, instead of constructing the burners, as shown, for burning gas, they may be constructed as oil-lamps.

Having thus described the nature of my invention and in what manner the same is to be performed, I claim—

The casings and flues $C^1 C^2 D^1 D^2 E^1 E^2$, in combination with the burners $A A^1 A^2$, substantially as and for the purposes herein described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses this 15th day of November, A. D. 1873.

JOHN RICHARDSON WIGHAM.

Witnesses:

JOHN DONOHOE,
5 Clanfessel Terrace,
Dublin, Householder.

PATRICK HAYES,
1 Anglesea St., Dublin.