T. TRUDEAU.

Globes for Gas Lights.

No. 167,417. Patented Sept. 7, 1875.

FIG.1

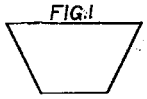


FIG.2

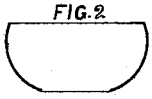


FIG.3

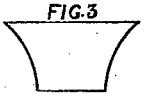


FIG.4

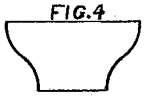


FIG.5

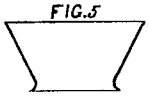


FIG.6

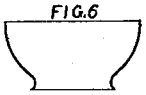


FIG.7

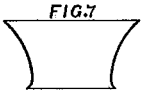


FIG.8

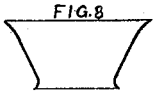


FIG.9

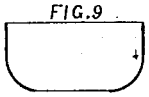


FIG.10

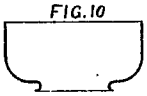


FIG.11

FIG.12

FIG.13

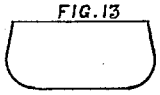


FIG.14

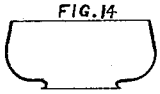


FIG.15

FIG.16

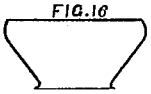
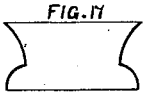


FIG.17



WITNESSES

Toussaint G. Lorimier.
Horace Lapierre

INVENTOR

Toussaint Trudeau

UNITED STATES PATENT OFFICE.

TOUSSAINT TRUDEAU, OF OTTAWA, CANADA.

IMPROVEMENT IN GLOBES FOR GAS-LIGHTS.

Specification forming part of Letters Patent No. **167,417**, dated September 7, 1875; application filed January 24, 1872.

To all whom it may concern:

Be it known that I, TOUSSAINT TRUDEAU, of Ottawa, in the county of Carleton and Dominion of Canada, have invented certain Improvements in Globes for Gas-Lights, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to further improvements in the method and means of tranquilizing the flame of gas-burners and increasing the light thereof, with respect to which Letters Patent No. 117,486, dated July 25, 1871, and reissued No. 4,633, November 7, 1871, have been granted to me.

The present improvement consists in the enlargement of the upper openings of some of the smaller globes described in my patent No. 4,633, to the extent of one and a half inch.

The advantages of the improvement are that, with globes of moderate size and moderate breadth of lower opening, a steady flame is obtained, combined with a greater volume of light, due to increased radiation through the enlarged upper openings; that it admits the use of expanded flames without the risk of breakage, arising from the overheating of the upper part of the globes; that the soiling of the globes by smoke and soot, when wide flame-burners are used, is diminished.

The invention is illustrated in detail by the accompanying drawings, in which—

Figure 1 is a cross-section of one of my globes fitted over a gas-burner, A A being the globe or shade, B B the gallery, and C the burner. Figs. 2 to 18 are vertical sections of globes or shades, showing various forms and outlines which may be given to them.

My globes are made of the sizes given in the following table:

Diameter of lower opening.	Height.	Diameter of upper opening.
2½ inches.....	3 to 4 inches..	Over 6 to 7½ inches.
3 "	3 to 5 " ..	Over 6 to 7½ "
3½ "	3 to 5 " ..	Over 6½ to 8 "
4 "	3 to 5½ " ..	Over 7 to 8½ "
4½ "	3 to 5½ " ..	Over 7½ to 9 "
5 "	3 to 6 " ..	Over 8 to 9½ "

The diameters of lower openings, which are intermediate between any two of the above-named diameters, require height and diameter of upper openings of corresponding intermediate proportions.

For ordinary use, I prefer the following dimensions: Diameter of lower opening, three inches; height, three and three-fourth inches; diameter of upper opening, seven inches.

The best results are obtained when the globe is placed over the gas, so that the lower edge, or the narrowest portion of the lower opening, is at or near the level of the top of the burner. The effect of very low globes is improved by their being slightly raised above the level of the top of the burner.

When measuring the diameter of any of my globes, the portion of which diverges slightly in a downward direction, as shown in Figs. 6, 7, 9, I ignore the divergence, and take the narrowest part of the globe or shade as the diameter of the lower opening. With globes or shades diverging upward in the form of a trumpet, as in Figs. 9, 12, 13, the dimensions of the upper opening should not be measured in the extreme diameter, but as if the general direction of the sides was produced to the full length of the globe.

My globes may be manufactured of glass, paper, or any other suitable material, and they may be supported by galleries, fitted with binding-screws, as in galleries now in general use, or by galleries of any other convenient form.

I claim as my invention—

A gas globe or shade, having its lower opening from two and a half to five inches, height from three to six inches, and its upper opening from six to nine and a half inches diameter, the said dimensions being proportioned to each other in the various sized globes, substantially as herein set forth, the globe to be arranged with the narrowest part of the lower opening on or nearly on a level with the top of the burner, substantially as described.

TOUSSAINT TRUDEAU.

Witnesses:
TOUSSAINT G. COURSOLLES,
HORACE LAPIERRE.