

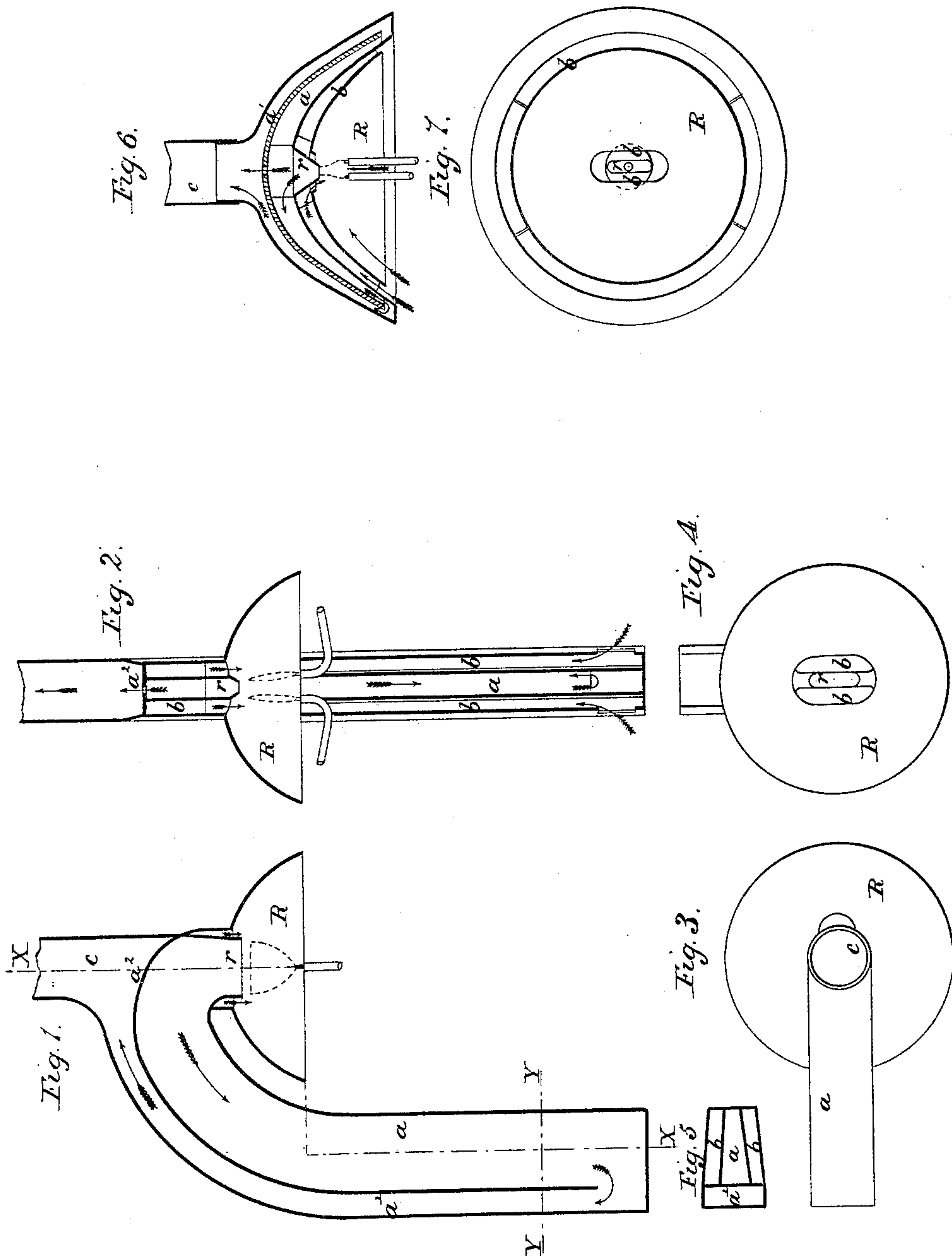
(No Model.)

F. SIEMENS.

GAS LAMP.

No. 399,289.

Patented Mar. 12, 1889.



Witnesses:

Wm. H. Keller.

Vernon M. Worsey.

Inventor:
Frederick Siemens.
By: C. S. Whitman.
Attorney.

UNITED STATES PATENT OFFICE.

FREDERICK SIEMENS, OF DRESDEN, SAXONY, GERMANY.

GAS-LAMP.

SPECIFICATION forming part of Letters Patent No. 399,289, dated March 12, 1889.

Application filed July 12, 1886. Serial No. 207,810. (No model.) Patented in Germany July 15, 1884, No. 31,122, and in England July 24, 1884, No. 10,560.

To all whom it may concern:

Be it known that I, FREDERICK SIEMENS, a citizen of Saxony, residing at Dresden, Saxony, in the Empire of Germany, have invented a new and useful Improvement in Gas-Lamps, (for which I have obtained a patent in Great Britain, No. 10,560, bearing date the 24th day of July, 1884, and in Germany, No. 31,122, bearing date the 15th day of July, 1884,) of which the following is a specification.

My invention relates to the construction of a gas-lamp, the flame of which burns steadily without being inclosed by a glass, and is supplied at the upper part of a reflecting-bell with air heated by the products of combustion, there being no parts under the flame to interfere with the downward passage of the light.

Figures 1 and 2 of the accompanying drawings are vertical sections, Fig. 2 being taken on the line X X of Fig. 1, and Figs. 3 and 4 are plans, Fig. 4 being taken as from below; also, Fig. 5 is a sectional plan on Y Y of Fig. 1, showing one form of lamp according to my invention suitable for a light in such a position that a shadow on one side is not objectionable. Fig. 6 is a vertical section, and Fig. 7 is a plan from below, of a similar lamp made in circular form, so as to present no side shadows.

In this lamp two flat flame-burners are placed side by side within a bell-reflector, R. The products of combustion pass through a mouth, *r*, which should be so limited in area and suited to the form of the flames as to give passage for little or no air besides. The products descend a channel, *a*, and ascend *a'* to the chimney *c*. Air entering by lateral orifices ascends channels *b* on each side of *a*, becoming heated on its way, and issues into the upper part of the reflector to supply the flames. Through the crown of *a* there is a small aperture, *a*², for passage of a portion of the hot products of combustion to start the chimney-draft.

Fig. 6 is a vertical section, and Fig. 7 a plan looking from below, showing a lamp with channels operating as above described, but arranged in circular form surrounding the light, the inner wall of the air-channel *b* con-

stituting a reflector. The partition separating the channels *a* and *a'* is preferably covered with a layer of imperfectly-conducting material, such as asbestos sheet, so as to retain in the channel *a* a greater amount of heat available for heating the air ascending the channel *b*. The partition separating *a* from *b*, instead of being plain, may be corrugated or provided with projections or ribs, so as to increase its heat absorbing, conducting, and radiating power; and in like manner corrugations, projections, or ribs may be used in the channels of the lamp shown in Figs. 1 to 5, inclusive. In both lamps single burners may be used, or double burners, as shown, or multiple burners, care being taken to suit the size and form of the mouth *r* to the flames, so that practically only products of combustion shall pass through it, without taking with them any material part of the air supplied from the channels *b*. When two or more burners are used, they may be placed at an angle one to the other, instead of parallel, as shown in the drawings.

Having thus described the nature of my invention and the best means I know for carrying the same into practical effect, I claim—

The combination of the burner not inclosed by a glass or globe, the bell-reflector R, within which the burner is placed, the mouth *r*, through which the products of combustion pass, and which deflects the air upon the flame, the channels *a a'*, through which the products of combustion pass to the chimney, the channel *b*, in which the ascending air is heated and caused to issue into the upper part of the reflector to supply the flame, and a small aperture, *a*², for the passage of a portion of the hot products of combustion to start the chimney-draft, as and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FREDERICK SIEMENS.

Witnesses:

C. MAX HERRMANN,
Chief Engineer, Dresden.
MAX SCHULZE,
Ingenieur, Dresden.