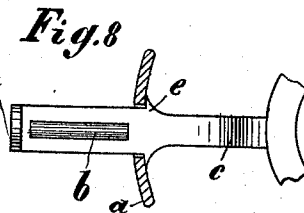
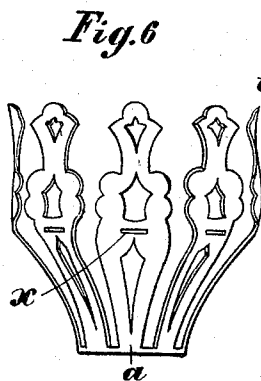
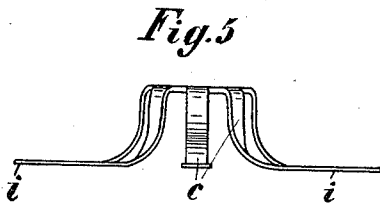
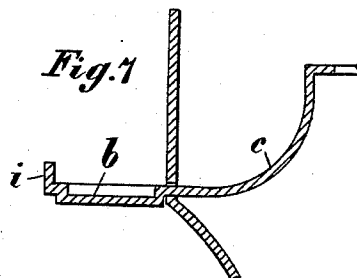
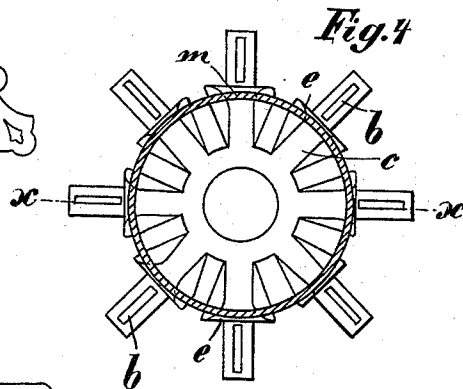
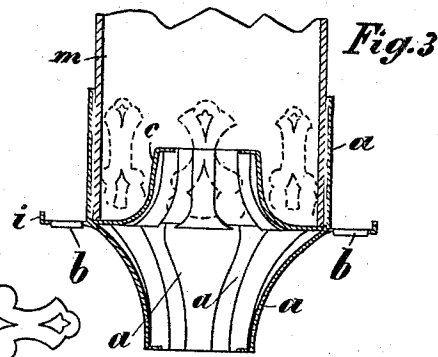
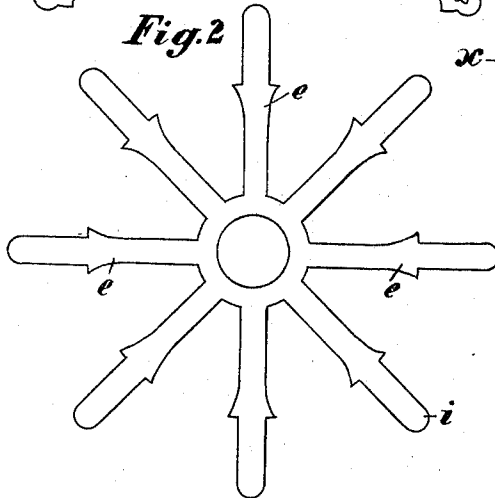
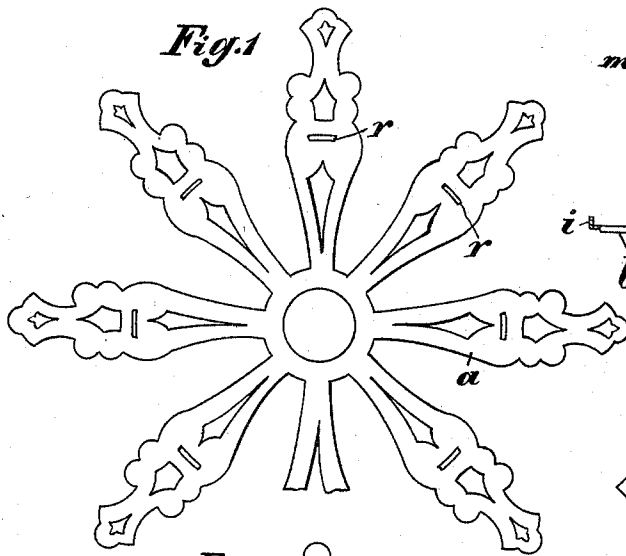


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GAS BURNER.

No. 586,175.

Patented July 13, 1897.



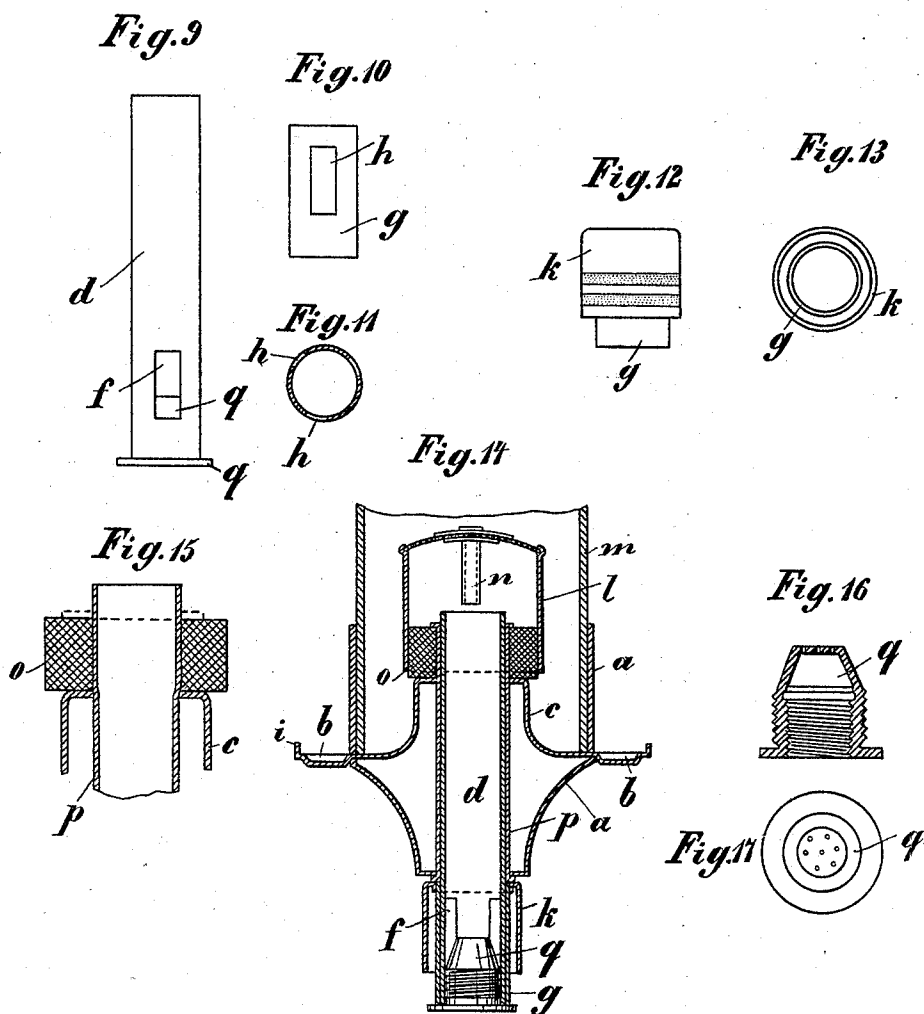
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UNITED STATES PATENT OFFICE.

RICHARD GÄBEL, OF DRESDEN, GERMANY.

GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 586,175, dated July 13, 1897.

Application filed January 27, 1896. Serial No. 577,219. (No model.)

To all whom it may concern:

Be it known that I, RICHARD GÄBEL, mechanical engineer, of 19 Pirnaischestrass, Dresden, in the Kingdom of Saxony, German Empire, have invented new and useful Improvements in Gas-Burners, of which the following is a specification.

The object of the invention is to construct a detachable shade-holder for gas-burners (or others) of simplified manufacture.

The further object of the invention is to construct a burner for incandescent gas and similar lamps in which the heat-isolating ring is secured to the shade-holder only by pressure.

The last object of this invention is to surround the central tube of a Welsbach burner at its air-entrance portion with a mantle-piece having same number of openings as the air-entrance portion of the central tube in order to regulate the air-entrance.

In the accompanying drawings, Figure 1 is a plan of a piece of the shade-holder stamped out of flat metal and destined to form the principal portion of the shade-holder; Fig. 2, a plan of the second flat and stamped-out metal piece of the shade-holder; Fig. 3, a side view, partly in section, of the shade-holder formed of the two pieces, Figs. 1 and 2; Fig. 4, a plan of the shade-holder; Fig. 5, a bell-like piece formed by pressing of the formerly flat and stamped-out metal piece drawn in Fig. 2; Fig. 6, the transformation into a crown-like piece of the formerly flat and stamped-out metal piece as shown in Fig. 1; Fig. 7, partly cross-section of the spokes of the two pieces, crown-piece and bell-piece, put together with embossments *b* and the bent-over terminals *i*; Fig. 8, a plan of the construction shown in Fig. 7; Fig. 9, the central tube *d* with valve-openings *f* and funnel-piece, side view; Fig. 10, the mantle-piece *g* to surround the central tube *d*, side view; Fig. 11, a plan of the device shown in Fig. 10; Fig. 12, cup *k* of the burners and mantle-piece *g*; Fig. 13, a plan of the cup shown in Fig. 12; Fig. 14, a vertical section of the burner, including shade-holder central tube, mantle-piece chimney, isolating-ring, and funnel-piece *q*; Fig. 15, threadless ring of isolating material fastened by pressure between shade-holder portion *o* and stem *p*; Fig. 16, the screw funnel-piece

q entrance of gas in cross-section; Fig. 17, a plan view of the funnel-piece shown in Fig. 16.

a are the spokes of the crown-piece, Fig. 1. *b* are the embossments in the bell-piece of the shade-holder, Figs. 3 and 4.

c are the spokes of the bell-piece; *d*, the central tube with valve-openings and funnel-piece *q*; *e*, spurs of spokes *c*, Figs. 2, 4, &c.; *f*, valve-openings of central tube *d*; *g*, air-valve regulator, Figs. 10, 11, 12, 13, and 14, with *h* openings for the air-entrance; *i*, terminals of spokes *c*, having flat and bent portions, (see Figs. 3, 4, 7, and 14;) *k*, cup connected to and operating the air-valve; *l*, ring supporting the screen and stud *n*; *m*, chimney; *n*, stud in screen of ring *l*; *o*, the threadless ring of isolating material; *p*, sleeve to hold the threadless ring of isolating material by a flange at its upper ends on one side and having a flange at its bent-over lower end; *q*, the funnel or nozzle, Figs. 16, 17, and 14, for the entrance of gas from the gas-pipe.

r are openings in the spokes of crown-piece *a*, Fig. 1.

The shade-holder is manufactured in such a way that, first, star-like figures, as shown in Figs. 1 and 2, are stamped out of flat metal and afterward transformed, the first into a crown-like piece (see Fig. 6) and the second into a bell-like piece. (See Fig. 5.) The bell-piece 5 is then introduced into the interior of crown-piece, Fig. 6, and they are put together by passing the ends *i* of spokes *c* through the openings of *a* up to their spurs *e*. After this the ends of spokes *c* are provided with embossments *b* in order to give an outside hold to the bent upright spokes *a* of the crown-piece and to prevent the moving of spokes *c* in the openings *r* of spokes *a*. At last the terminals *i* of spokes *c* are bent over in order to hold the shade in place.

The great advantage of this method of manufacture is that it requires no rivets or similar things and it does away with the numerous pieces composing the shade-holder made according to the old system. In consequence it is cheaper.

Fig. 14 shows the complete burner, and at this the second improvement. The central tube *d* is surrounded at its upper portion with the sleeve *p*. The object of the sleeve *p* is to secure by the upper flange the thread-

less isolating-ring *o* to the shade-holder. The novelty of this is the manner of fastening the isolating-ring by pinning, while the ordinary manner of fastening it is to provide
5 the isolating-ring with thread and to screw it on the central tube. It is very difficult to provide a ring of such material with the necessary thread. It shall be manifest that also this making so proves a very great advantage.
10 The improvement in the central tube *d* for air-and-gas mixture consists in the addition of a valve *g*, surrounding the first and having the same number of openings as the central tube *d* has at this portion in order to
15 regulate the influx of air as desired. This is done by turning sidewise the valve *g*, fitted close on the central tube, using as handle the cup *k*, connected to it.

20 The advantage of this device consists in the facility to narrow the air-openings in horizontal direction, and thus to maintain

the same level of air-entrance necessary to a good operation of the apparatus.

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

In gas-burners, the combination of the shade-holder, with the central tube, a sleeve surrounding the tube and having its upper end flanged, a threadless insulating-ring surrounding the upper portion of the said sleeve, and located between the flange thereof and a portion of the shade-holder, substantially as and for the purpose set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

RICHARD GÄBEL.

Witnesses:

FELIA LOEPER,
OSKAR SCHALKOWSKY.