

No. 669,404.

Patented Mar. 5, 1901.

W. H. I. WELCH.
OVERHEAD REGENERATIVE GAS LAMP.

(Application filed Oct. 5, 1900.)

(No Model.)

Fig. 1.

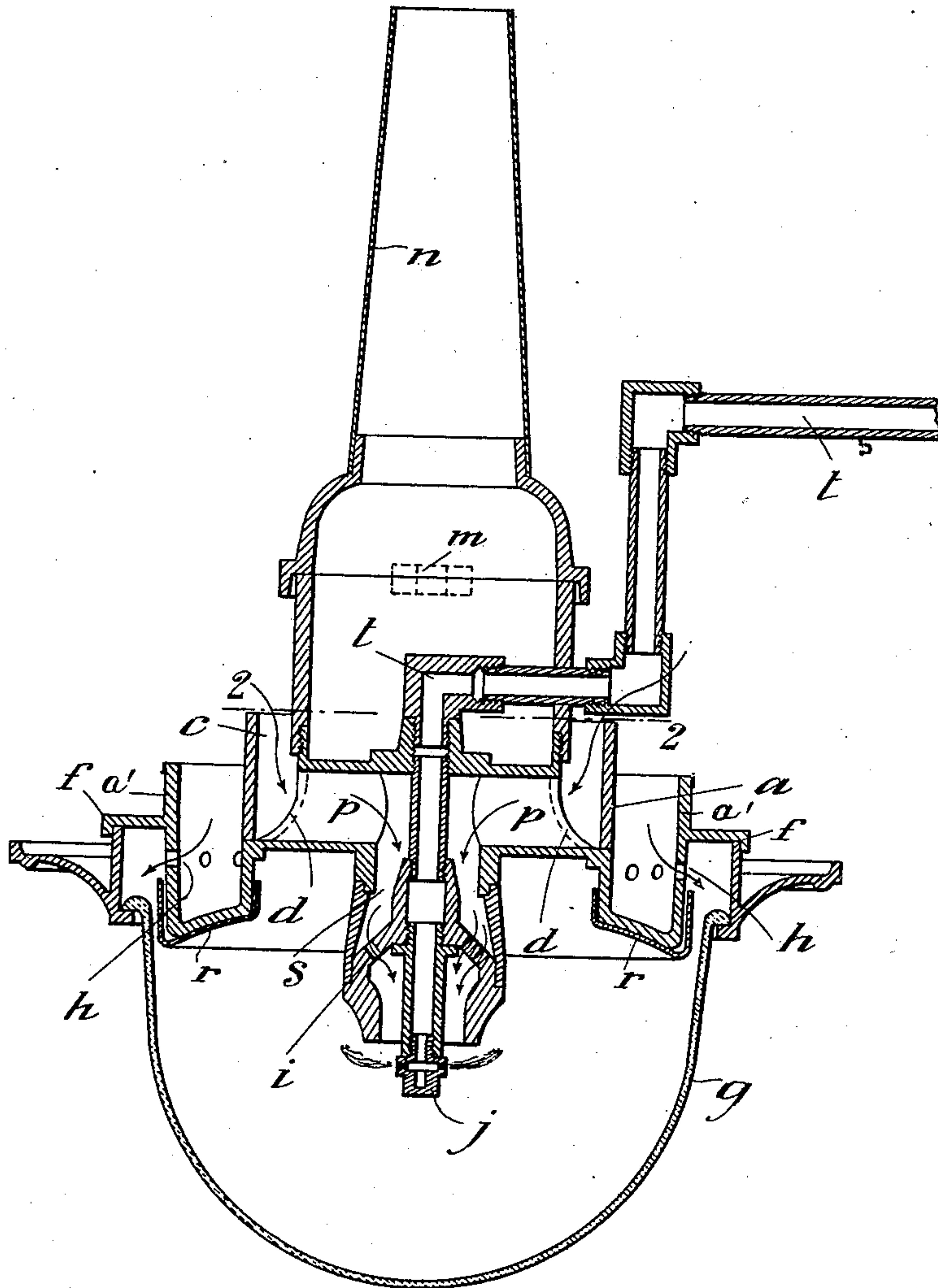
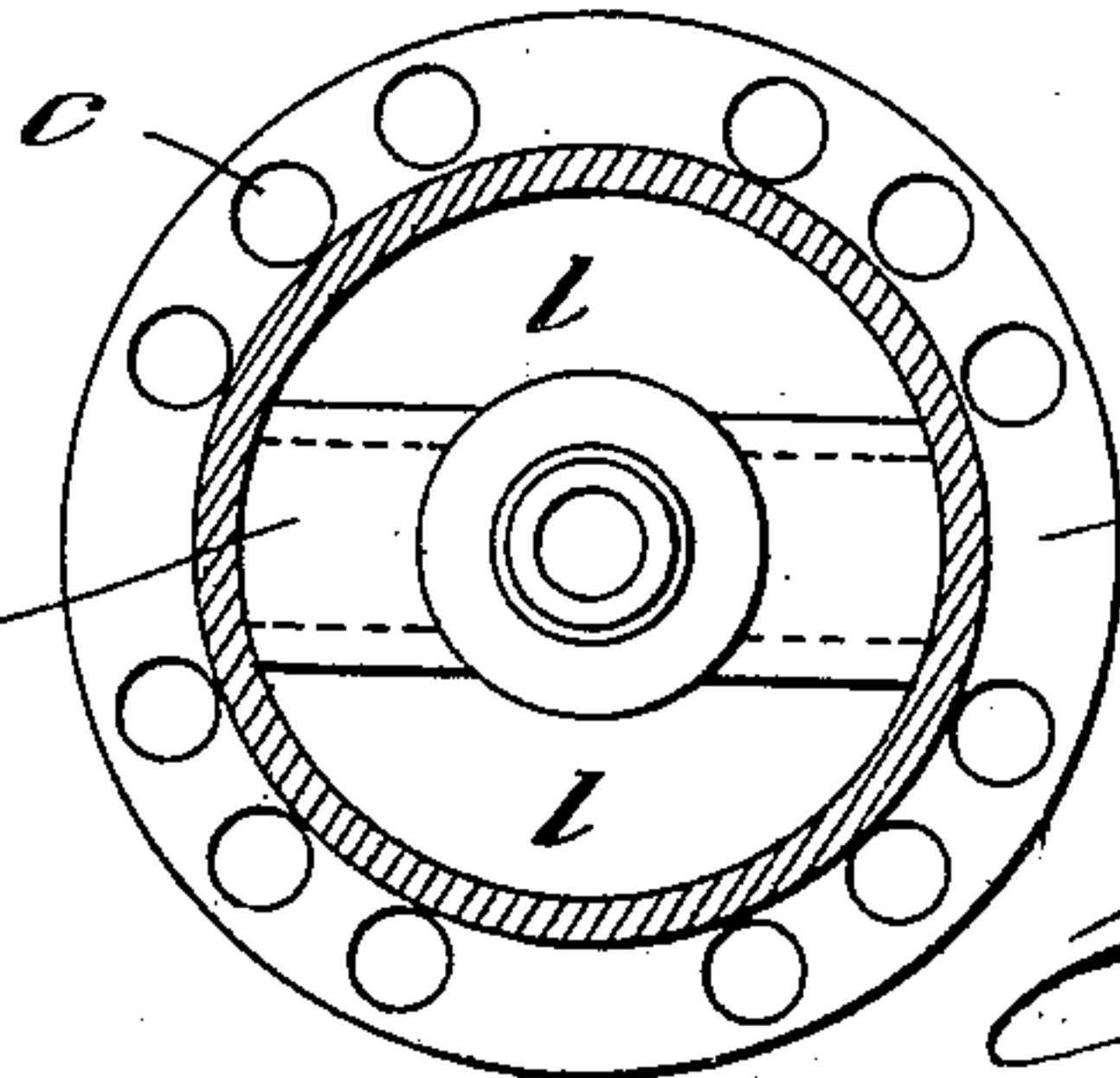


Fig. 2.



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UNITED STATES PATENT OFFICE.

WILLIAM H. I. WELCH, OF BOW, ENGLAND, ASSIGNOR TO THE LAMP MANUFACTURING COMPANY, LIMITED, OF LONDON, ENGLAND.

OVERHEAD REGENERATIVE GAS-LAMP.

SPECIFICATION forming part of Letters Patent No. 669,404, dated March 5, 1901.

Application filed October 5, 1900. Serial No. 32,168. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HENRY ISAAC WELCH, engineer, a citizen of England, residing at 68 Coborne road, Bow, in the county of Middlesex, England, have invented a certain new and useful Improvement in Overhead Regenerative Gas-Lamps, (for which I have made application for a patent in Great Britain, dated September 18, 1900, No. 16,626; 10 in France, dated September 18, 1900, No. 292,156, and in Belgium, dated September 18, 1900, No. 120,384,) of which the following is a specification.

This invention relates to an improvement 15 in overhead regenerative gas-lamps having a circular flame, the object being to so arrange the passages for the entering air as to simplify the construction and to reduce the risk of explosions when lighting the lamp. 20 For this purpose the lamp is constructed as will be described, referring to the accompanying drawings, in which—

Figure 1 is a vertical section, and Fig. 2 a section on line 2 2 of Fig. 1.

25 The passages for the entering air and for the issuing products of combustion are formed in a casting *a*, carried by and surrounded by a casting *a'*, mounted upon the ring *f*, which is usually supported from the ceiling, and the 30 casting *a* is provided with a set of circularly-arranged tubes *c*, leading into an annular passage over a conical surface *d*. This passage communicates through channels *p* with a central chamber *s* immediately above the 35 burner and surrounding the gas-inlet pipe *t*, to which is attached the perforated cone-piece *i* for directing the heated air onto the upper side of the circular flame issuing from the burner *j*. The air for supporting the com-

bustion of the circular flame enters through 40 suitable wind-guarded holes of the outer casing, passes down the tubes *c*, impinging upon the upper surface of the cone *d*, thence through the channels *p* to the central chamber *s*, and thence in a highly-heated condi- 45 tion through the holes in the cone-piece *i* to the upper side of the flame, the air for the under side of the flame being supplied to the globe *g* through the small openings *h*, arranged around the casting *a*. The ring *r* 50 can be made as a reflector, and the upper part of the chimney *n* can be hinged at *m* to facilitate the lighting of the lamp through the passages *l* on each side of the channels *p*, which also permit of the ready passage of the prod- 55 ucts of combustion to the chimney.

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

In an overhead regenerating gas-lamp, a 60 casting in which are formed passages for air to supply the top of the flame, these passages consisting of a set of tubes by which the air is directed on a conical surface, so as to be highly heated by the products of com- 65 bustion as they ascend to the chimney and a casting supporting and surrounding the said casting and provided with openings for the passages of air to supply the bottom of the flame, substantially as and for the pur- 70 pose set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM H. I. WELCH.

Witnesses:

GERALD L. SMITH,
EDWARD GARDNER.