No. 704,678. Patented July 15, 1902.

W. H. W. FÄHNDRICH.

BY-PASS STOP COCK FOR MULTIPLE LIGHT GASELIERS.

(Application filed Nov. 25, 1901.)

(No. Model.)

Fig. 2.

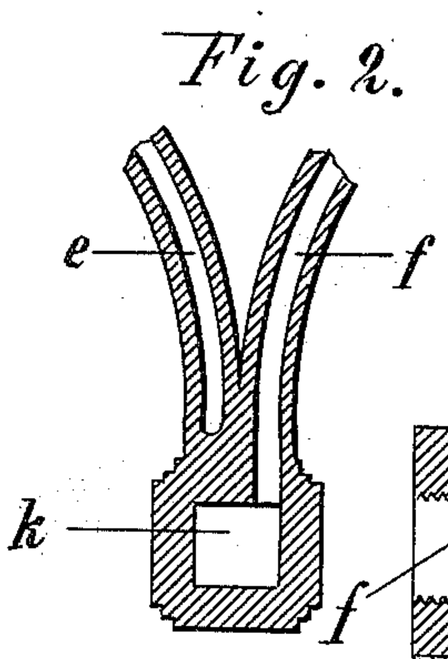
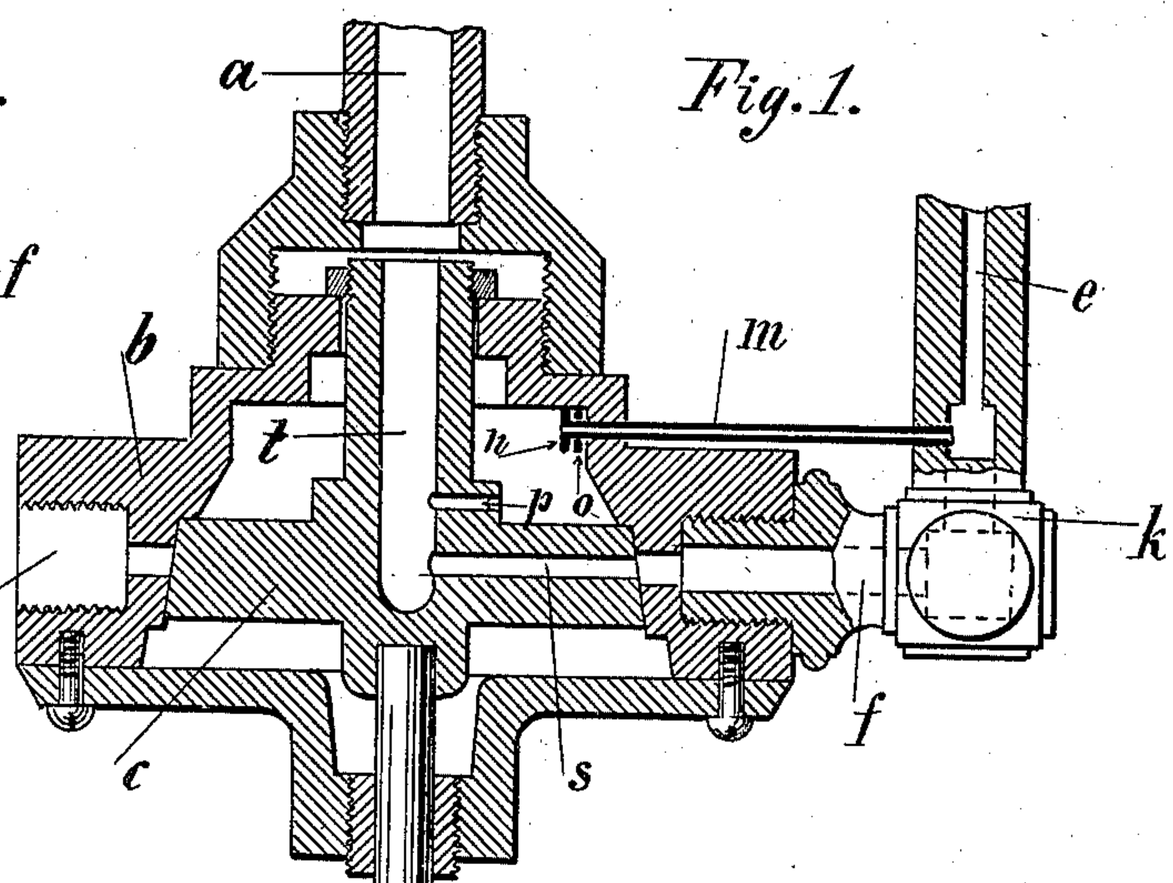


Fig. 1.



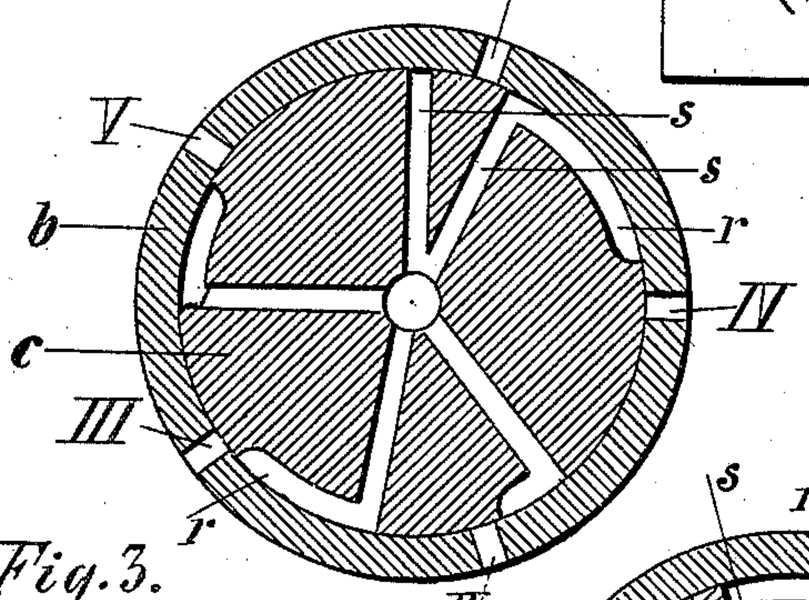


Fig. 3.

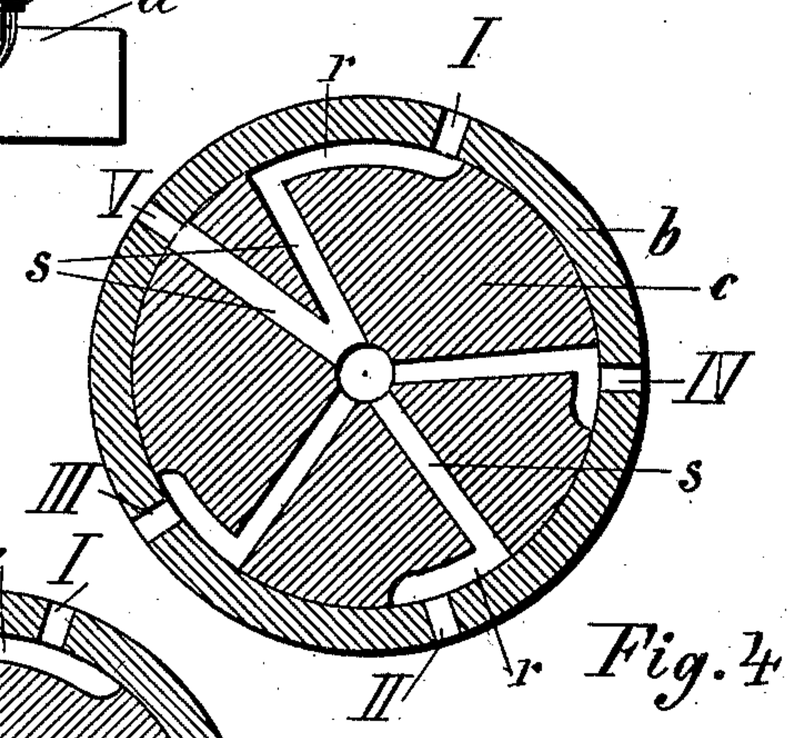


Fig. 4.

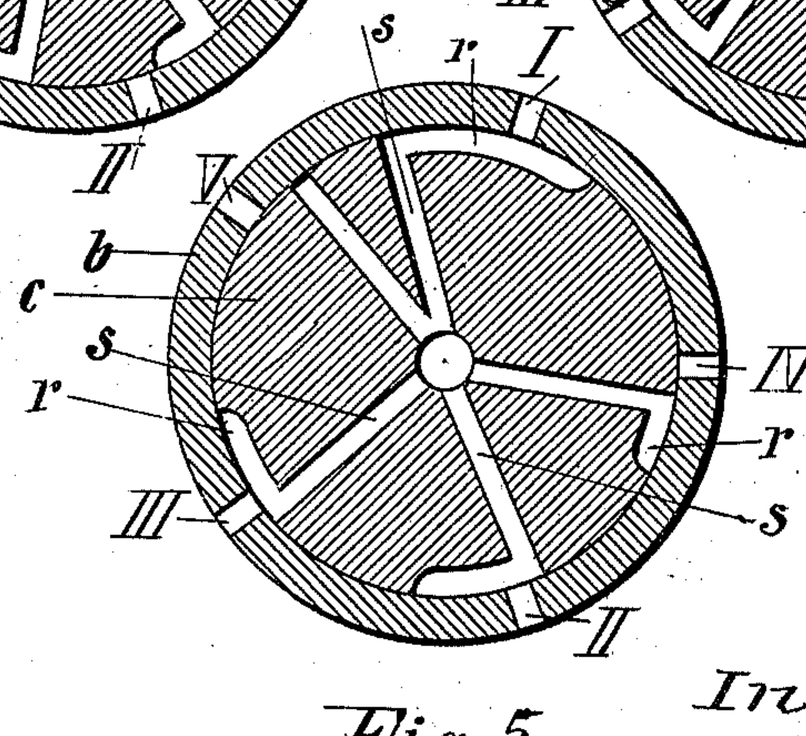


Fig. 5.

Witnesses:
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UNITED STATES PATENT OFFICE.

WILHELM HERMANN WALTHER FÄHNDRICH, OF HAMBURG, GERMANY.

BY-PASS STOP-COCK FOR MULTIPLE-LIGHT GASELIERS.

SPECIFICATION forming part of Letters Patent No. 704,678, dated July 15, 1902.

Application filed November 25, 1901. Serial No. 83,558. (No model.)

To all whom it may concern:

Be it known that I, WILHELM HERMANN WALTHER FÄHNDRICH, manufacturer, residing at 29 Neustadterstrasse, Hamburg, in the German Empire, have invented a By-Pass Stop-Cock for Multiple-Light Gaseliers and the Like, of which the following is a specification.

The invention comprises the features and combination of parts whereby the main jets of a gaselier may be lighted and extinguished successively by the manipulation of a single controlling-plug.

Reference is to be had to the accompanying drawings, forming part of this specification, wherein—

Figure 1 is an axial section of the apparatus. Fig. 2 is a section of a two-way or duplex burner-supporting branch forming part of or attached to the casing of the apparatus, while Figs. 3, 4, and 5 are horizontal sections of the casing and plug of the apparatus, showing the plug in various angular positions.

In Fig. 1, *a* is the gas-supply pipe, *b* the body or casing of the apparatus, and *c* the plug. To the casing *b* a series of two-way or duplex burner-supporting branches *k* are attached. Each of these branches *k* is divided, as shown, one arm containing the passage *f*, which leads to the main flame, while the other arm contains the second passage *e*, leading to the pilot-jet.

In an upward extension of the plug *c* is formed a central passage *t*, whence a series of passages *s* branch off radially within the main body of the plug. A passage *p*, moreover, leads from passage *t* into a chamber *g*, provided in the casing *b* above the main body of the plug. With this chamber *g* are connected tubes *m*, each of which communicates with the second passage *e* in one of the branches *k*. The plug is turned by means of the external handle or knob *d*. Gas is continuously supplied through the pipe *a*, and inasmuch as its passage through the channel *p* is never obstructed, no matter what the angular position of the plug may be, gas is continuously delivered also into the chamber *g* and is thence conducted through the tubes *m* into the second passage *e*, leading to the pilot-jets, which are thus kept permanently burning.

For the purpose of supplying the main jets with gas the plug is turned so as to uncover one or more of the passages *s*, thus allowing gas to flow through the said channel or channels into the corresponding main pass or passes *f* of the duplex branches. There are, as before stated, a number of such passages *s*—viz., as many as there are main jets. In the periphery of the plug are peripheral grooves or ports *r*, extending from the orifices of the passages *s*, the disposition of said passages and the length of the ports *r* being such that as the plug is turned communication with the several main passes *f* is opened or cut off, not simultaneously but successively, with one main pass at a time. This is illustrated in Figs. 3, 4, and 5, wherein are shown three different positions of the plug *c* and channels *s*. In the position shown in Fig. 3 communication with all the main passes *f* is closed, so that none of the main jets can be lighted. Fig. 4 shows the position whereby the opposite extreme is effected, communication with all the main passes being open, consequently all main jets burning at the same time, while Fig. 5 depicts an intermediate position, wherein the jets marked I, II, and III alone are lighted.

For special reasons it is deemed desirable that the jets should be ignited in the order of succession indicated by the Roman figures I to V, Figs. 3, 4, and 5, and that the reverse order should be followed in extinguishing them.

In order to facilitate the fitting of this apparatus, the tube connection *m* is screw-threaded at the outer end and provided with a flange *n* at the other end, as shown, so that when the tube *m* is screwed home into the branch *k* its flange *n* shall press tightly upon the washer *o*, interposed between the flange and the inner wall of the casing *b*, thus insuring a perfectly gas-tight joint at that end, while the screw-thread insures tightness at the opposite end.

By means of the arrangement herein described and shown the manipulation of a single plug suffices in the case of an incandescent or other gas-light fitting having perma-

nently-ignited pilot-jets to cause the several main jets to be lighted or extinguished one at a time in succession.

The particular arrangement here represented is adapted for use in connection with pendent gas-light burners. For other forms of burners or brackets the construction may be suitably modified without departing from the principle of the invention.

I claim—

A casing arranged for attachment to a gas-supply pipe, and burner-supporting branches attached to said casing, each of said branches having a passage leading to the main jet and a second passage leading to a pilot-jet, a plug within the casing arranged to leave a chamber therein, said plug having a central passage and an opening from said passage into said chamber, and said plug also having radial passages leading from said central passage, one for each branch connected to the casing, said radial passages terminating in ports in the side of the plug and said ports being of varying length, means to turn the plug in the casing, and means connecting the chamber in the casing with each of the secondary passages in the burner branches.

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

WILHELM HERMANN WALTHER FÄHNDRICH.

Witnesses:

ALFRED JOSEPH,

AUGUST HEINRICH FRIEDRICH TOGGE.