

No. 731,782.

PATENTED JUNE 23, 1903.

J. JÜRGENS.
AUTOMATIC GAS IGNITER.
APPLICATION FILED NOV. 13, 1902.

NO MODEL.

Fig. 1.

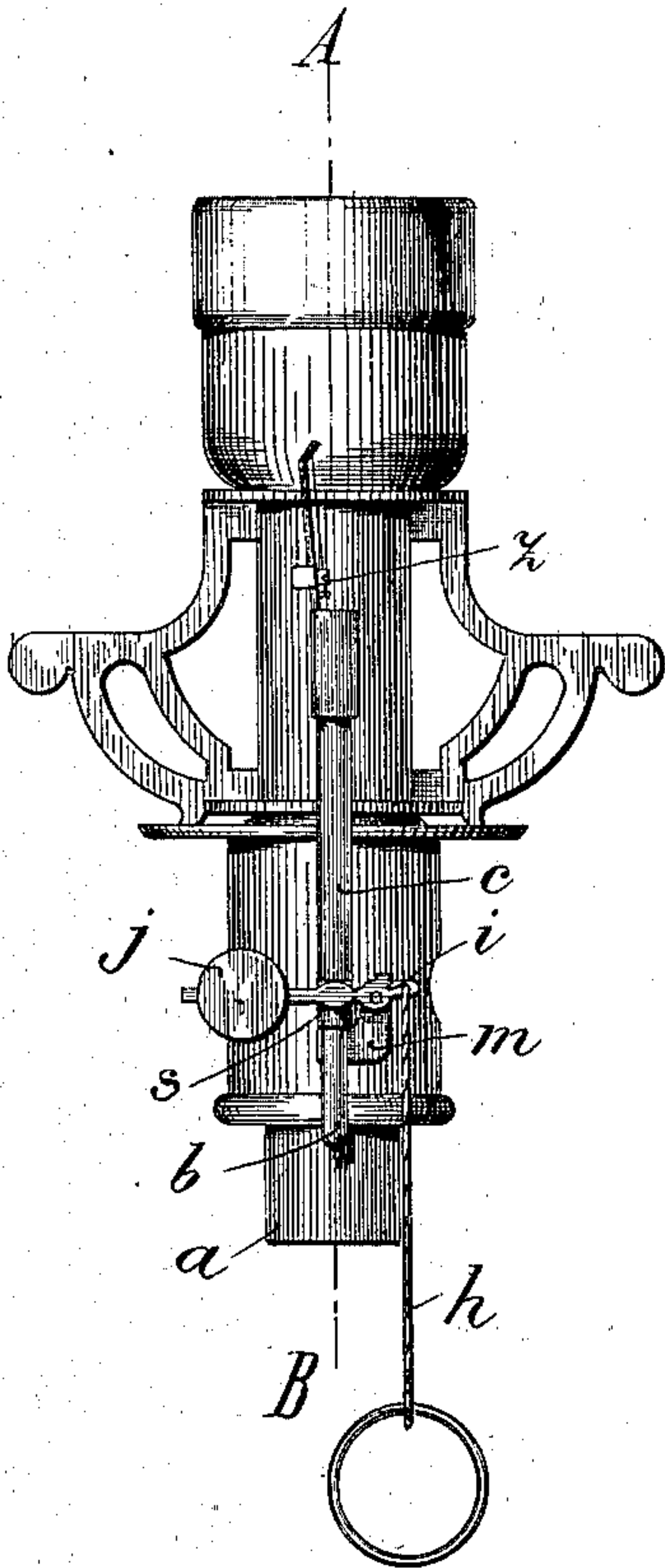


Fig. 2.

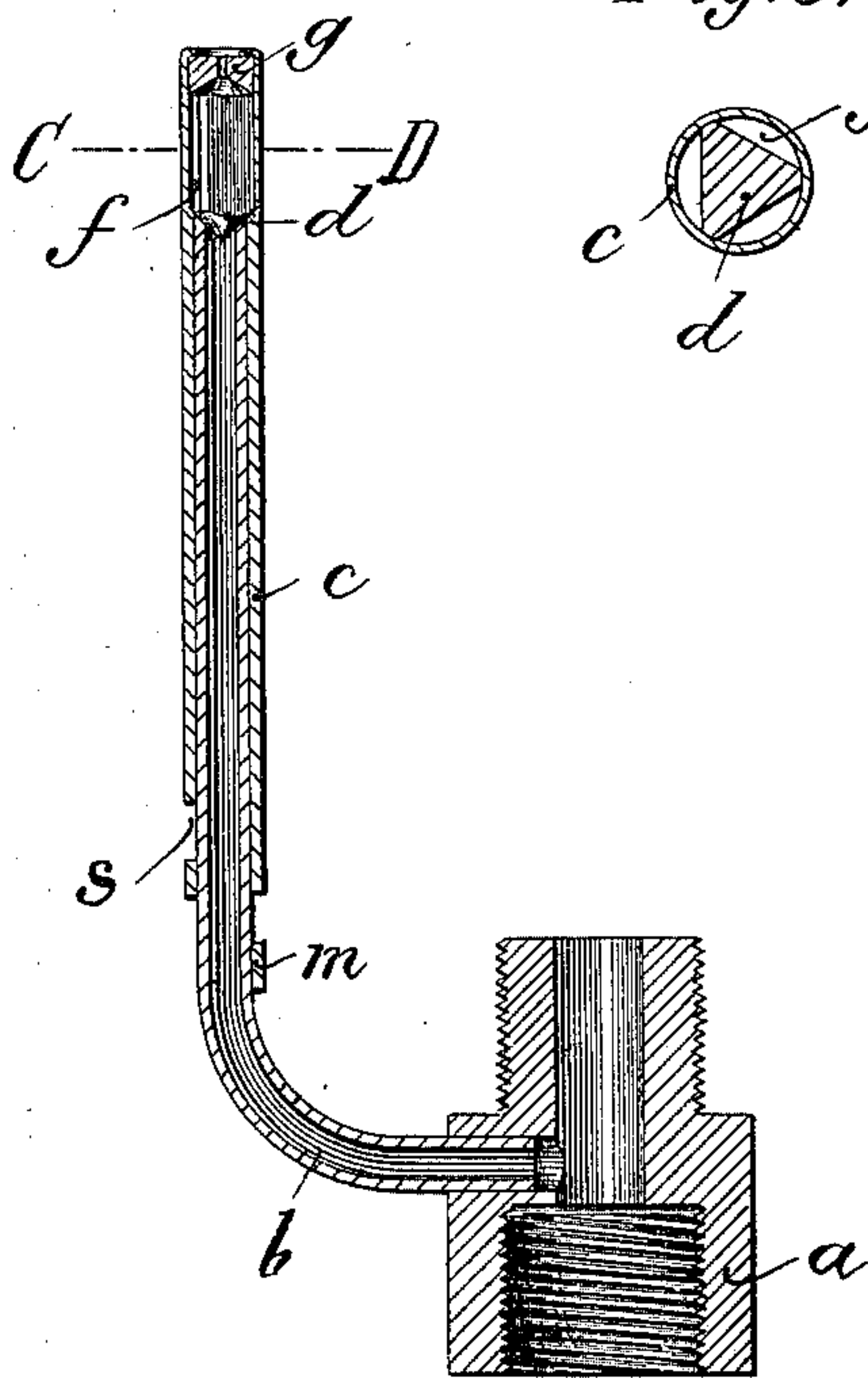
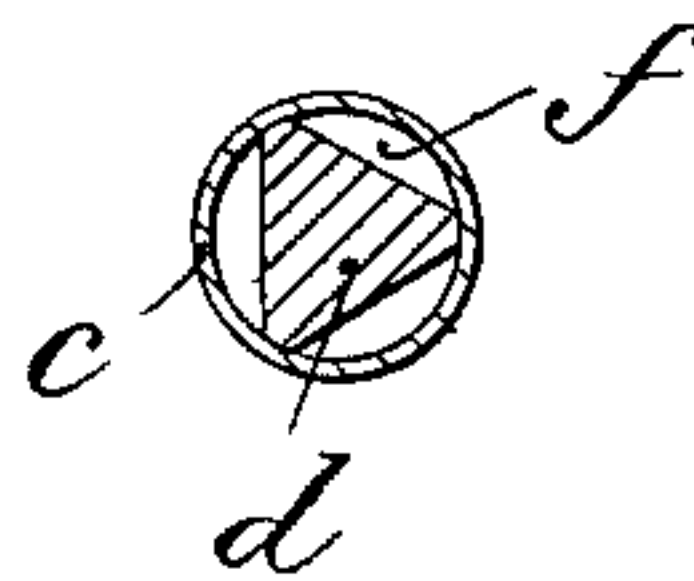


Fig. 3.



Witnesses:
versatenden
Fritz Isler

Inventor:
Julius Jürgens
by *Frederick Munk*
attorney

UNITED STATES PATENT OFFICE.

JULIUS JÜRGENS, OF HAMBURG, GERMANY.

AUTOMATIC GAS-IGNITER.

SPECIFICATION forming part of Letters Patent No. 731,782, dated June 23, 1903.

Application filed November 13, 1902. Serial No. 131,227. (No model.)

To all whom it may concern:

Be it known that I, JULIUS JÜRGENS, engineer, a subject of the German Emperor, and a resident of Hamburg, German Empire, have invented new and useful Improvements in Automatic Gas-Igniters, of which the following is a specification.

The present invention relates to automatic gas-igniters of that kind in which a by-pass or auxiliary pipe branches off from a main pipe before the latter enters the burner, the said branch pipe leading to a separate igniting-burner and being normally closed by a plug-cover or the like held in position on the orifice of the pipe by its own weight and that of the parts connected with it. In order to permanently prevent the access of air to the contact-surfaces of the said pipe-orifice and the resulting oxidation and defective closing at the said contact-surfaces, I use a conical valve or plug fixed inside a tube and adapted to automatically close the auxiliary pipe by its own weight and that of the parts connected with it, said valve being arranged below the igniting-burner, by which latter the tube is closed. The said tube is placed over the auxiliary pipe, which it closely fits.

With some kinds of igniting-burners arranged outside the lamp and adapted to be ignited by means of a special igniting-lamp it has already been proposed to close the orifice of the igniting-pipe by means of a conical valve closed in on all sides; but in that case a tight guide, such as a stuffing-box, is required for the valve-rod, and also a spring.

The novelty of the present invention lies in the fact that the tubular casing which incloses the valve-cone on all sides and renders unnecessary a valve-rod and tight guide for the latter permanently and tightly closes the igniting-pipe by means of its own weight and that of the valve and the other parts connected with it without the aid of a spring.

An example of the present invention is shown in the annexed drawings, in which—

Figure 1 is a side view; Fig. 2, a vertical section on line A B of Fig. 1 on an enlarged scale, and Fig. 3 a cross-section on line C D of Fig. 2.

The by-pass or branch pipe *b* for the igniting-burner branches off from a short length

of tube *a*, inserted into the main pipe either in front of or behind the gas-tap or if a three-way cock is used directly from the said cock. The inner edges of the upper orifice of the branch pipe *b* are conical and the said orifice is normally tightly closed by the conical valve *d*, which bears on the said conical edges.

The conical valve *d* is provided with a prismatic upward extension, (shown in Fig. 3 in cross-section,) and the edges of the said prismatic extension are fastened to the inner walls of a tube *c*. This tube *c* is placed over the branch pipe *b*, its upper end being closed by the igniting-burner *g*.

As shown in Fig. 1, the igniting-ball *z* can also be placed immediately at the end of this tube *c*. The flattened sides of the upper part of the valve *d* leave passages *f* between the latter and tube *c*, through which passages gas flows from the branch pipe *b* to the igniting-burner *g* when the valve *d* has been lifted. The tube *c*, with the valve-cone *d* fixed inside it, can be lifted by any suitable means. In the example shown in Fig 1 this lifting of the tube *c* is effected by means of a double-armed lever *i*, which is pivoted on the arm *m*, fixed to the branch pipe *b*. One arm of the said lever *i* passes through a lateral recess *s* in tube *c*. (Shown in Fig. 2.) A chain *h*, suspending freely from the end of the other arm of lever *i*, facilitating the lifting of the device, is placed in a high position.

A weight *j* can be attached to the lever *i* to assist the automatic closing of the branch pipe.

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

Improved automatic gas-igniter comprising in combination with the usual by-pass pipe branching off from the main gas-pipe, a conical orifice of said by-pass pipe, a conical valve resting in said orifice, a prismatic prolongation extending upward from said valve, a tube loosely placed over the by-pass pipe, carrying the igniting-burner on its upper closed end and rigidly connected with the prismatic prolongation of the valve, recess at the bottom end of the outer tube, a double-armed lever pivoted to an arm fixed to the by-pass pipe, one arm of said lever passing

through the recess in the outer tube, a suitable device attached to the outer arm of the lever for pulling the same, and a counterweight on the other arm for automatically
5 turning the lever to its original position substantially as described and shown and for the purpose set forth.

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

JULIUS JÜRGENS.

Witnesses:

ED. JÜRGENS,

OTTO SCHROEDER.