

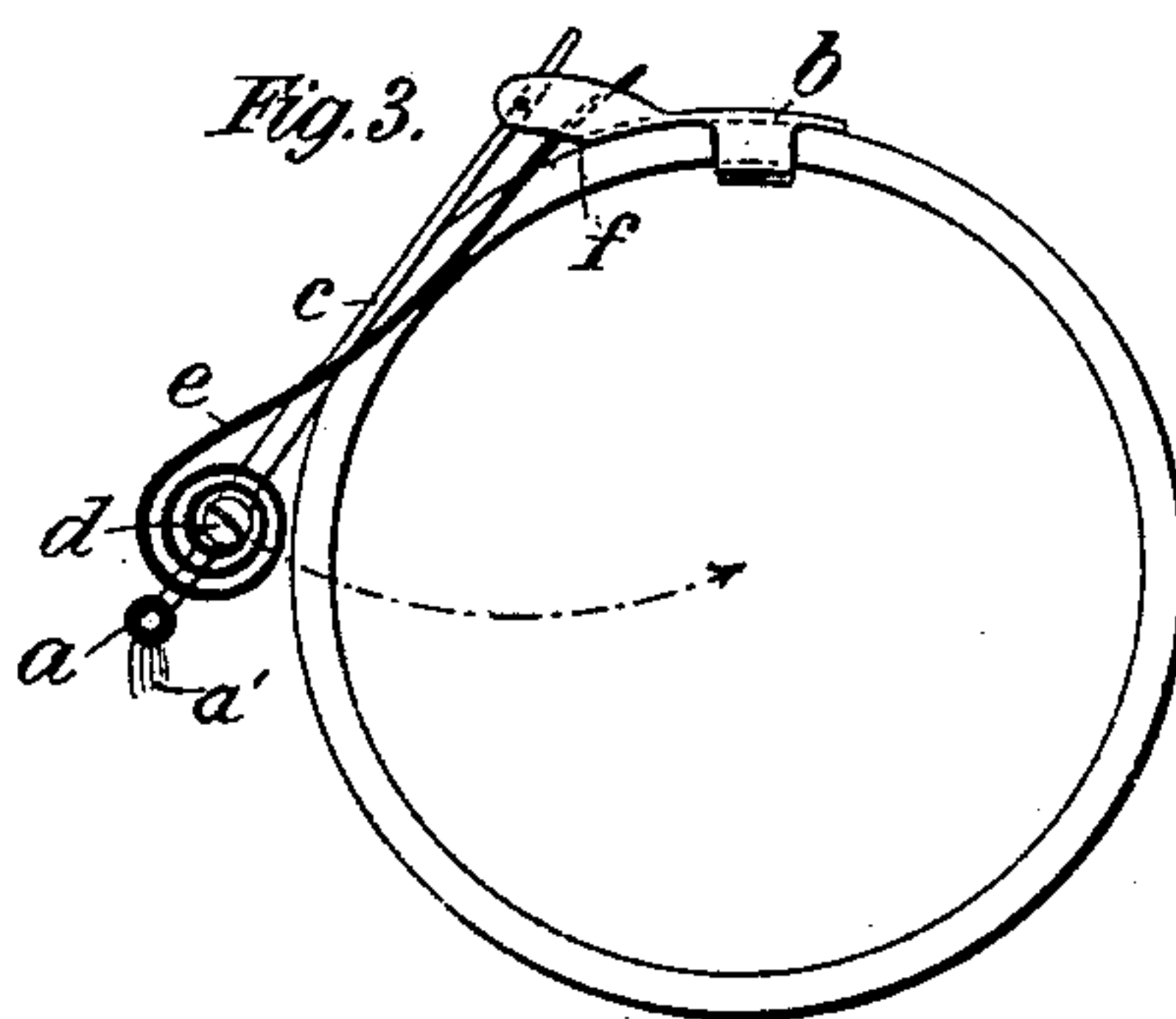
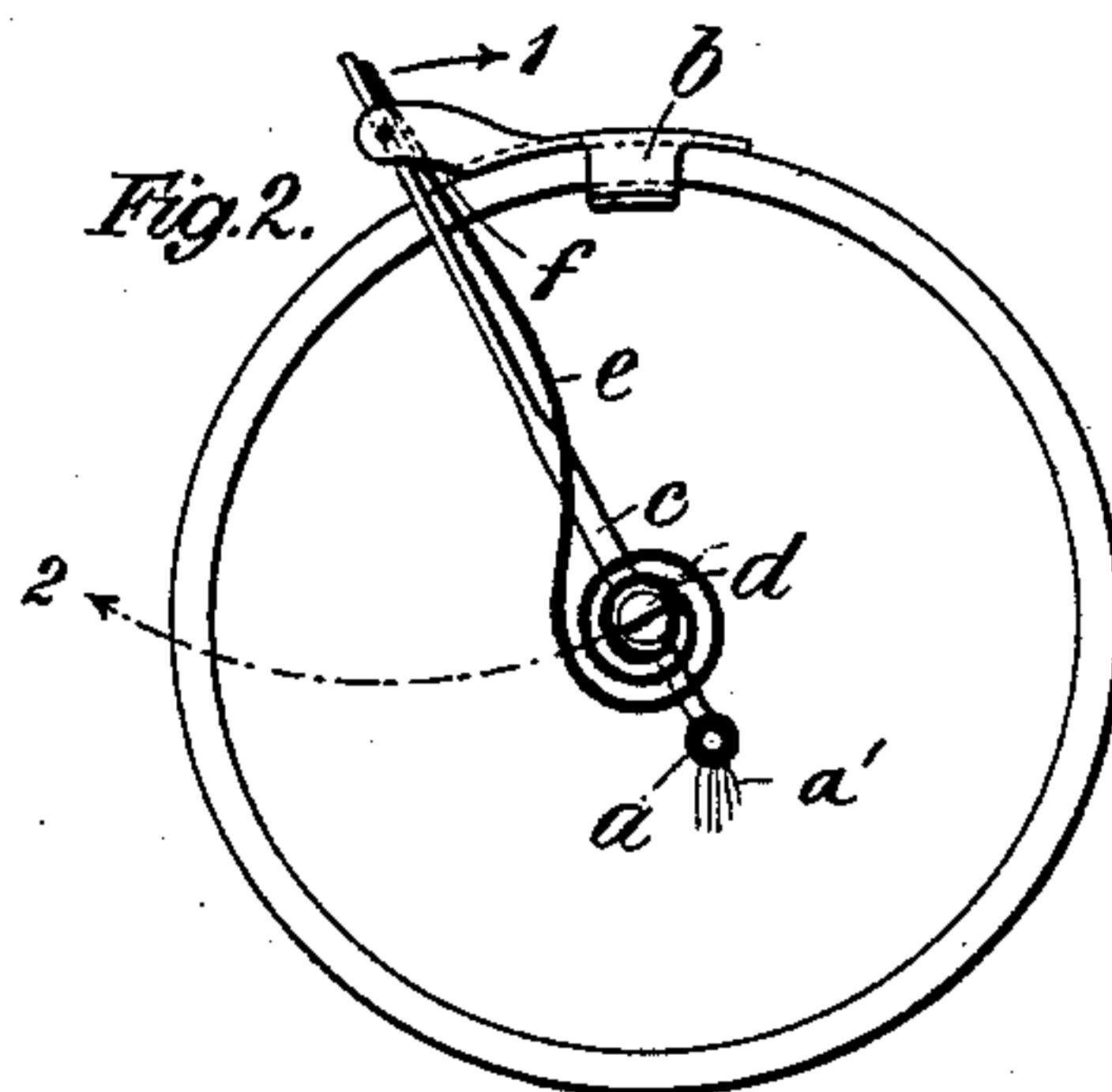
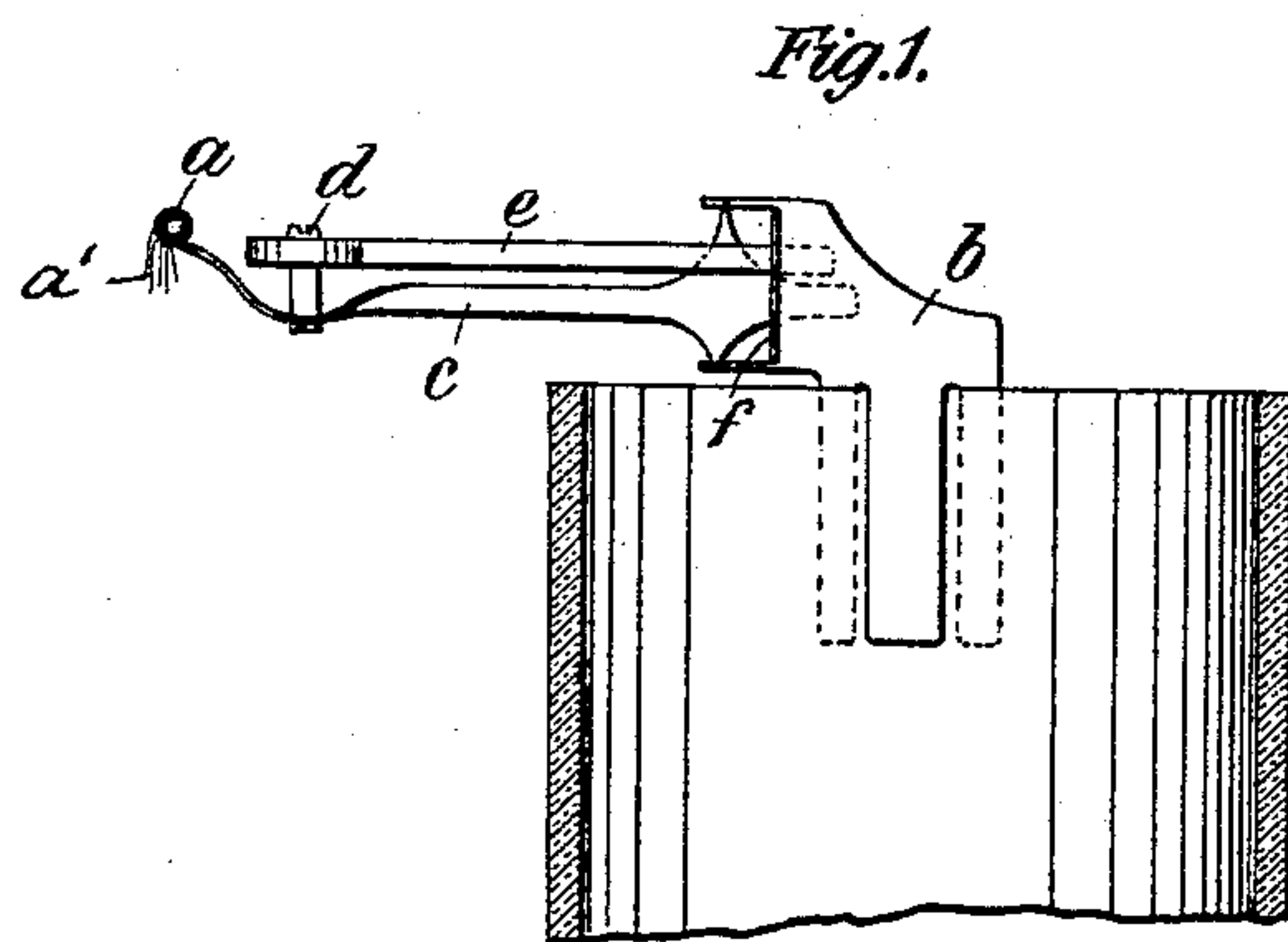
No. 638,786.

Patented Dec. 12, 1899.

O. WINDISCH.  
AUTOMATIC GAS LIGHTER.

(Application filed Mar. 27, 1899.)

(No Model.)



WITNESSES:  
*Ella L. Giles*  
*Oliver*

INVENTOR  
*Oskar Windisch*  
BY *Richard R.*

ATTORNEYS

# UNITED STATES PATENT OFFICE.

OSKAR WINDISCH, OF BERLIN, GERMANY, ASSIGNOR TO FRITZ TRENDEL,  
OF SAME PLACE.

## AUTOMATIC GAS-LIGHTER.

SPECIFICATION forming part of Letters Patent No. 638,786, dated December 12, 1899.

Application filed March 27, 1899. Serial No. 710,681. (No model.)

*To all whom it may concern:*

Be it known that I, OSKAR WINDISCH, a subject of the King of Saxony, and a resident of Berlin, in the Kingdom of Prussia, German Empire, have invented certain new and useful Improvements in Automatic Gas-Lighters, (for which I have filed an application for Letters Patent in Germany, dated February 9, 1899, W. No. 14,872,) of which the following is a specification.

My invention relates to that class of automatic gas-lighting apparatus in which platina-mohr or ethiops of iridium, cadmium, and similar metals or compounds of such metals is employed, the catalytic quality of such ethiops being a well-known means for obtaining the automatic ignition of gas. In gas-lighters of the class referred to the platina-mohr and the thin wires of platina connected thereto, as also the supporting parts of the platina-mohr are liable to become worn and inactive in a comparatively short time of use, and the apparatus becomes inoperative principally owing to the fact that the working parts are too much exposed to the objectionable heat of the flame which has been lighted.

The object of my invention is to automatically remove the operative platina-mohr and its supporting parts, as also the thin wires of platina connected to the ethiops, from the heat of the flame as soon as the same has been ignited and to cause the said ethiops and working parts to return into the normal position when the flame has been extinguished, whereby the apparatus will always be ready for repeated use. To obtain the purpose in view, the platina-mohr or ethiops of similar kind are carried by a lever so pivoted to a suitable supporting-frame to normally keep the position directly above the flame to be lighted, and immediately after lighting the flame the heat thereby generated causes the said lever to turn and to be removed out of reach of the direct heat of the flame. To impart motion to the said pivoted lever, a spring composed of two different metals is connected to said lever, the free end of said spring forming a lever-arm, which on finding a fulcrum and acting against said fulcrum throws the pivoted lever around to a sufficient extent to re-

move the spring and the platina-mohr out of the reach of the direct heat of the flame.

I am aware that a spring composed of two different metals of different expansibility has been employed before for removing the lighting substance from the flame, and I am also aware that it is old to have a pivoted lever carrying at one end a lighting substance and having a spring-diaphragm acting on its other end, and I do not claim so broadly as to include such constructions.

The novel feature of this invention does not consist in employing a spring of the kind described, but in combining the same to a lever which supports the platina-mohr or similar lighting substance in the peculiar manner hereinafter described.

In the accompanying drawings, Figure 1 is an elevation of the automatic gas-lighting apparatus mounted on the top of a gas-lamp chimney. Fig. 2 is a plan of the same shown in its normal position before lighting the flame; and Fig. 3 is a plan showing the position of the apparatus after ignition of the flame.

With reference to the said drawings, *a* is a suitable automatic gas-lighting substance—such, for instance, as platina-mohr or its equivalent; but I do not limit myself to a distinct substance of the kind described.

*a'* are thin wires of platina connected, as usual, to the catalytic substance, which wires, being heated to glowing white, perform the lighting of the gas.

*b* is a suitable support, which may conveniently be formed to be fixed to the upper end of a lamp-chimney. Between lugs of the said support *b* a lever *c* is pivoted to freely swing, as indicated by arrows in Figs. 2 and 3. The lighting substance *a* is carried by the free end of said lever *c*. Adjacent to the outer end of said lever *c* a stud *d* is secured, and within the said stud *d* one end of the spring *e* is secured, the said spring *e* being composed of two different metals having a different expansibility, whereby the said spring is extremely sensitive under the influence even of very moderate heat. The free end of said spring *e* extends parallel or nearly parallel to the lever *c* and about to the



inner end of said lever; but as soon as the said spring *e* becomes heated even to a very moderate degree—*i. e.*, immediately after the flame has been lighted—the said spring will  
5 expand and its free end move in the direction of the arrow 1 in Fig. 2, thus assuming the position indicated by Fig. 3. The said spring resting against the edge *f* of the support *b*, it will be resisted by said edge in  
10 moving, as described, and the said edge *f* will constitute a fulcrum to the spring, which thereby acts as a lever which, being turned in the direction of arrow 2, Fig. 2, carries the other lever *c* along with it and throws the  
15 same into the position shown in Fig. 3, where the lighting substance *a* and also the spring *e* are out of the direct path of the heat of the flame, the spring being still sufficiently subject to the heat to prevent its cooling sufficiently to return the arm to the lighting  
20 position. When the flame has been extinguished, the spring *e* will cool down and resume its former position, as shown in Fig. 2,

thereby receding from its bearing-edge or fulcrum *f*, and as the lever *c* is so pivoted to  
25 normally swing by its own gravity toward the center of the lamp-chimney, as indicated by the arrow in Fig. 3, the combined lever *c* and spring *e* will return into said position, to be ready for lighting the flame again as soon  
30 as the gas has been turned on anew.

I claim as my invention—

In an automatic lighting apparatus, a supporting-frame, a lever pivoted thereto, and carrying a catalytic lighting substance, a  
35 spring secured to the free end of said lever, and a fulcrum for said spring in proximity to the pivot of said lever, substantially as described.

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

OSKAR WINDISCH.

Witnesses:

WOLDEMAR HAUPT,  
HENRY HASPER.