

No. 667,608.

Patented Feb. 5, 1901.

K. THURNAUER.

ACETYLENE BURNER WITH TWO OR SEVERAL FLAME RAYS.

(No Model.)

(Application filed June 19, 1900.)

2 Sheets—Sheet 1.

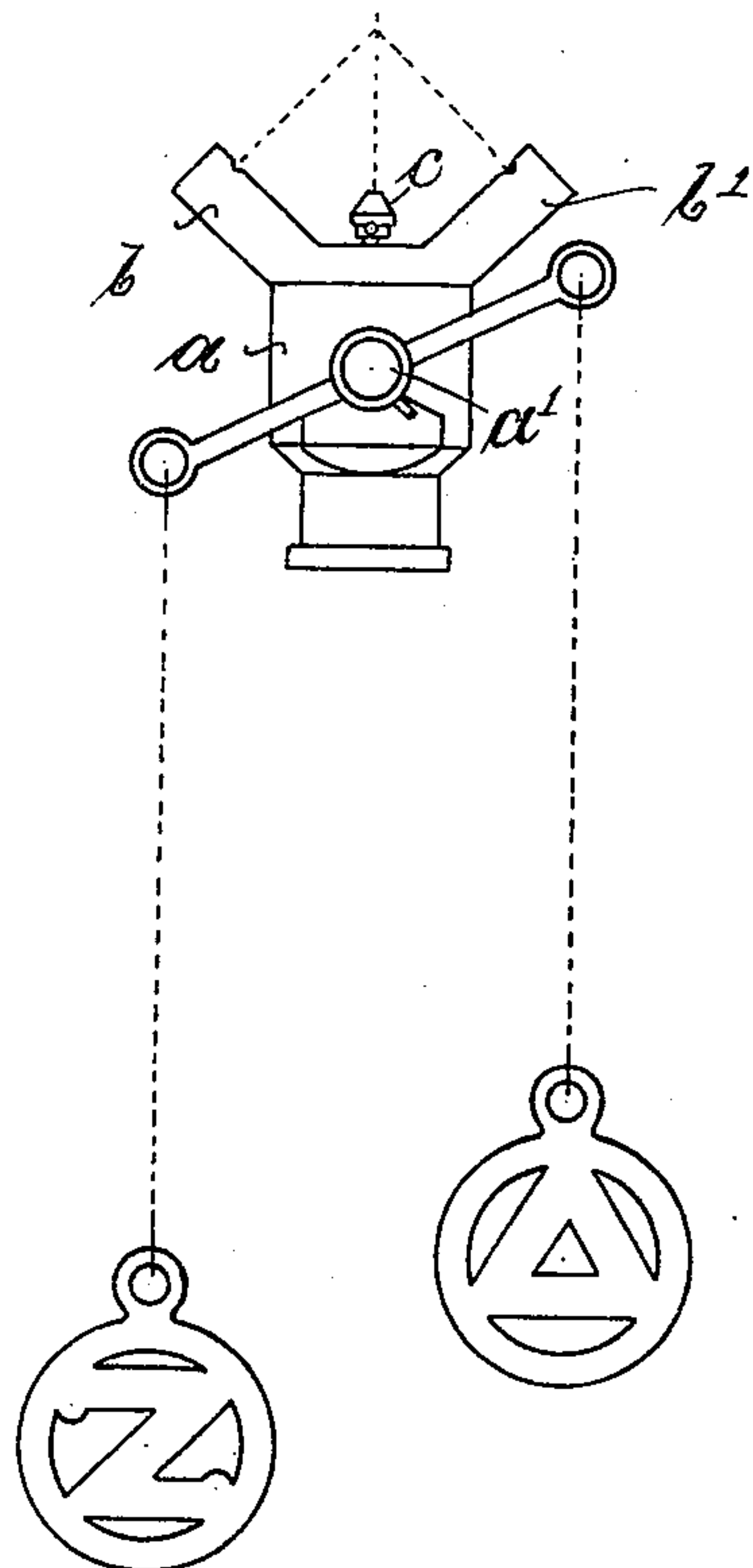


Fig. 1.

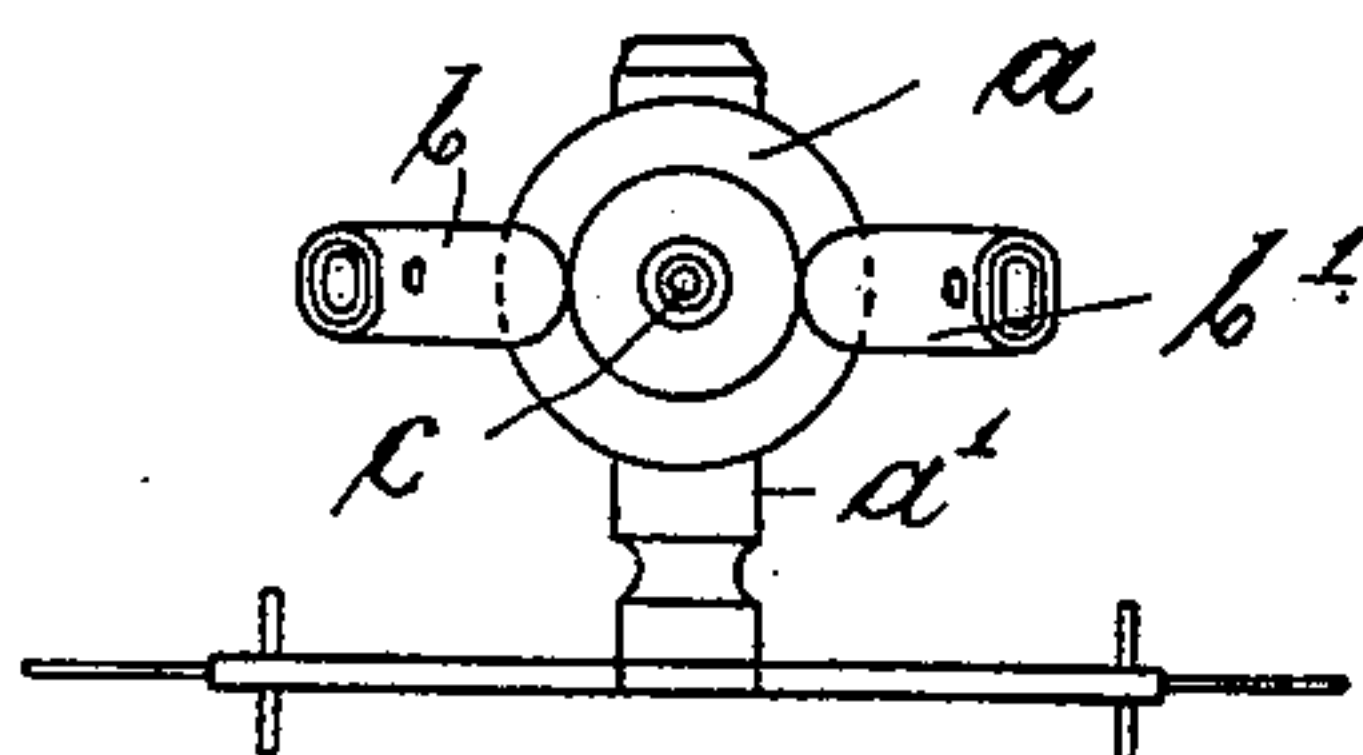


Fig. 2.

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Fig. 3.

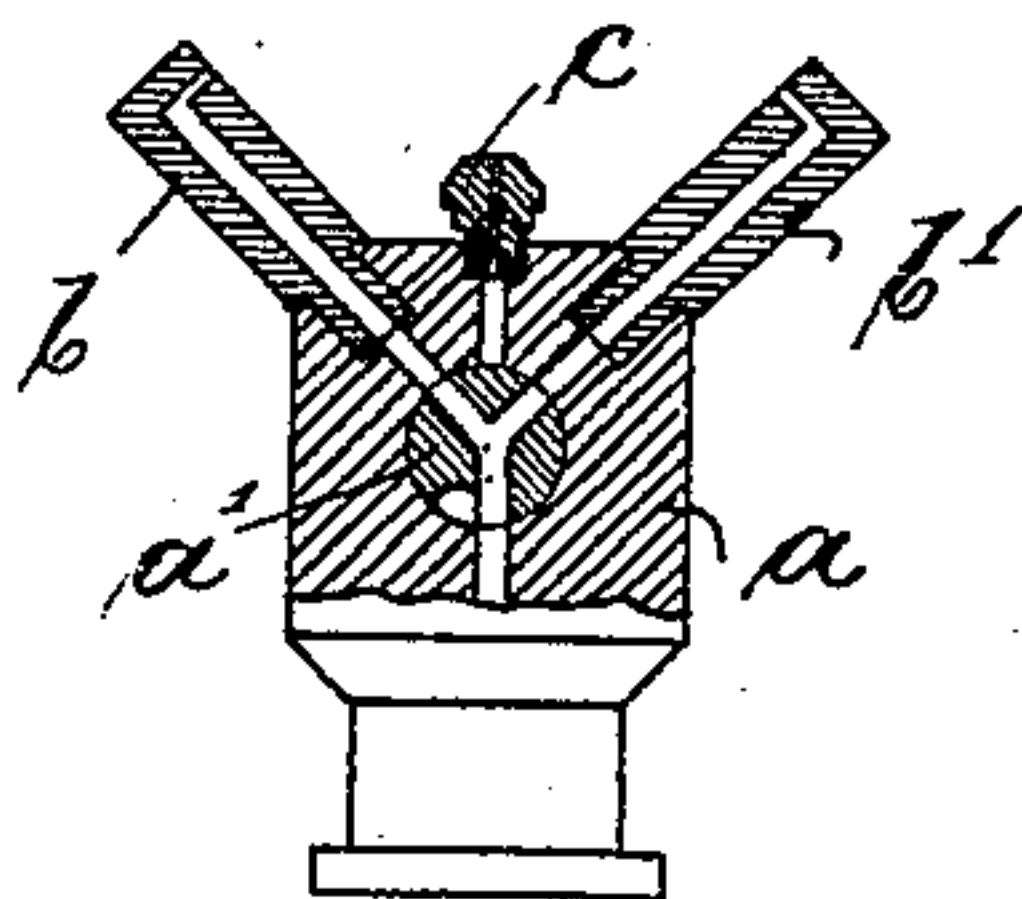
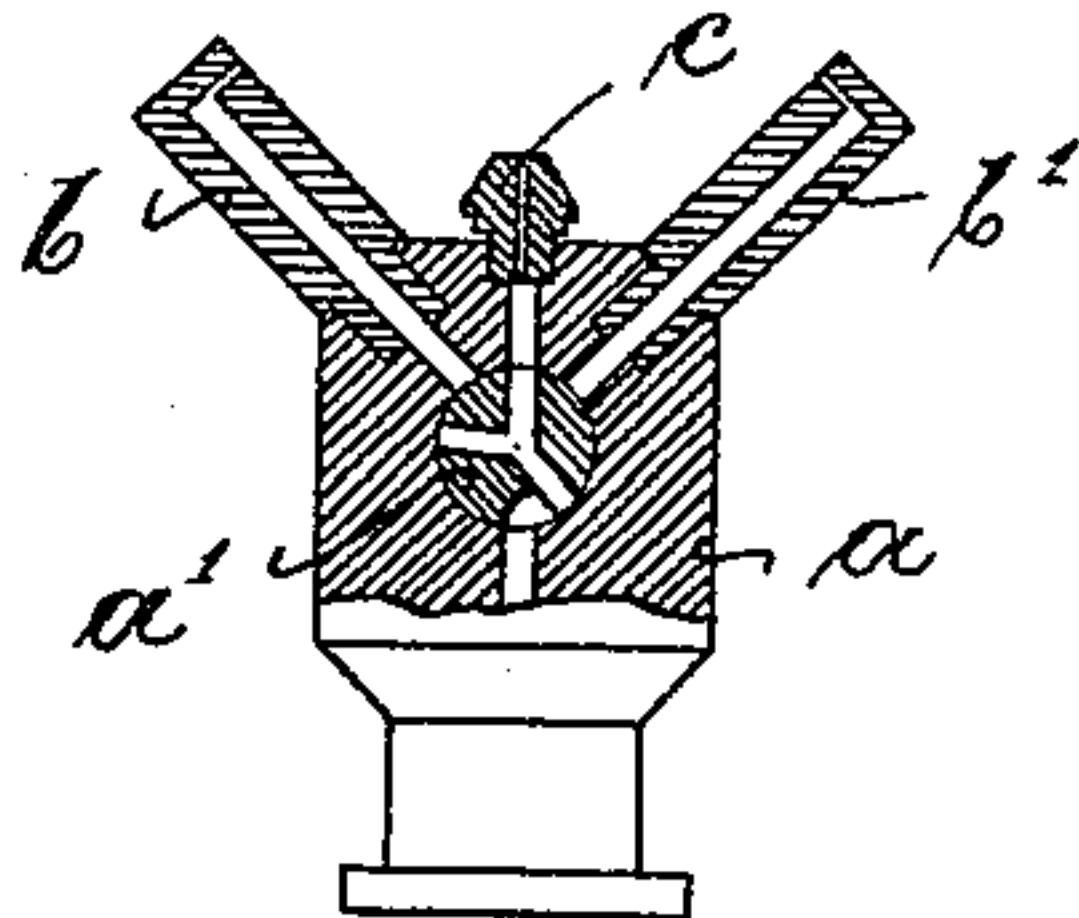


Fig. 4.



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# UNITED STATES PATENT OFFICE.

KUNO THURNAUER, OF NUREMBERG, GERMANY.

## ACETYLENE-BURNER WITH TWO OR SEVERAL FLAME-RAYS.

SPECIFICATION forming part of Letters Patent No. 667,608, dated February 5, 1901.

Application filed June 19, 1900. Serial No. 20,900. (No model.)

*To all whom it may concern:*

Be it known that I, KUNO THURNAUER, a subject of the King of Bavaria, residing at Untere Turnstrasse No. 12, Nuremberg, in the Kingdom of Bavaria, German Empire, have invented new and useful Improvements in Acetylene-Burners with Two or Several Flame-Rays, of which the following is a specification.

10 The object of the present invention relates to a new construction of an acetylene-burner with two or several flame-rays meeting in one point, said burner being provided with a central igniting-tube arranged underneath the meeting-point of the flame-rays.

15 In order to make my invention more clear, I refer to the accompanying drawings, in which similar letters denote similar parts, and in which—

20 Figure 1 shows a front view of the new arrangement. Fig. 2 is a top view of the same. Figs. 3 and 4 show the burner in sectional elevation and illustrate different positions of the valve.

25 Upon the burner-head *a* are arranged two flame-tubes *b b'*, of soapstone or metal. Vertically underneath the meeting-point of the two flame-rays (shown in Fig. 1 by dotted lines) is provided the auxiliary or igniting burner *c*, in the form of a small ray-burner of soapstone. Said auxiliary burner, as well as both flame-tubes, is connected with the main gas-pipe in the known manner by means of a three-way cock *a'*, as shown in Figs. 3 and 4.

35 This cock can be operated by suitable means, as shown in Figs. 1 and 2. By cutting off the main pipe from the two main flame-tubes, Fig. 4, a connection is established between the

main pipe and the igniting-burner, and, vice versa, by opening of the main gas-pipe to the two burners the igniting-burner is gradually cut off, Fig. 3. In burners with two or three flame-rays the igniting-burner is advantageously located in the same vertical plane as the burners of the main flame. The arrangement of the auxiliary burner underneath the meeting-point of the two flame-rays has the advantage that the flame-rays of the auxiliary burner meet at the ignition or the quenching of the flame with the rays of the main burner, so that the ignition is much safer than at the lateral arrangement of the auxiliary burner. By means of this arrangement another advantage is obtained consisting in the possibility of employing a very small burner with an igniting-flame.

Having thus fully described the nature of my invention, what I desire to secure by Letters Patent of the United States is—

A gas-burner provided with a plurality of illuminating-tips so arranged that the gas-jets issuing therefrom converge at a common point, and an igniting-tip arranged between said illuminating-tips and below the plane of the latter, whereby the jet issuing from the igniting-tip impinges against and ignites the jets issuing from the illuminating-tips at the point of contact of the last-named tips, substantially as described.

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

KUNO THURNAUER.

Witnesses:

OSCAR BOCH,  
CARL STOY.