

C. A. YATES.  
VAPOR LAMP BURNER.  
APPLICATION FILED AUG. 9, 1910.

993,809.

Patented May 30, 1911.

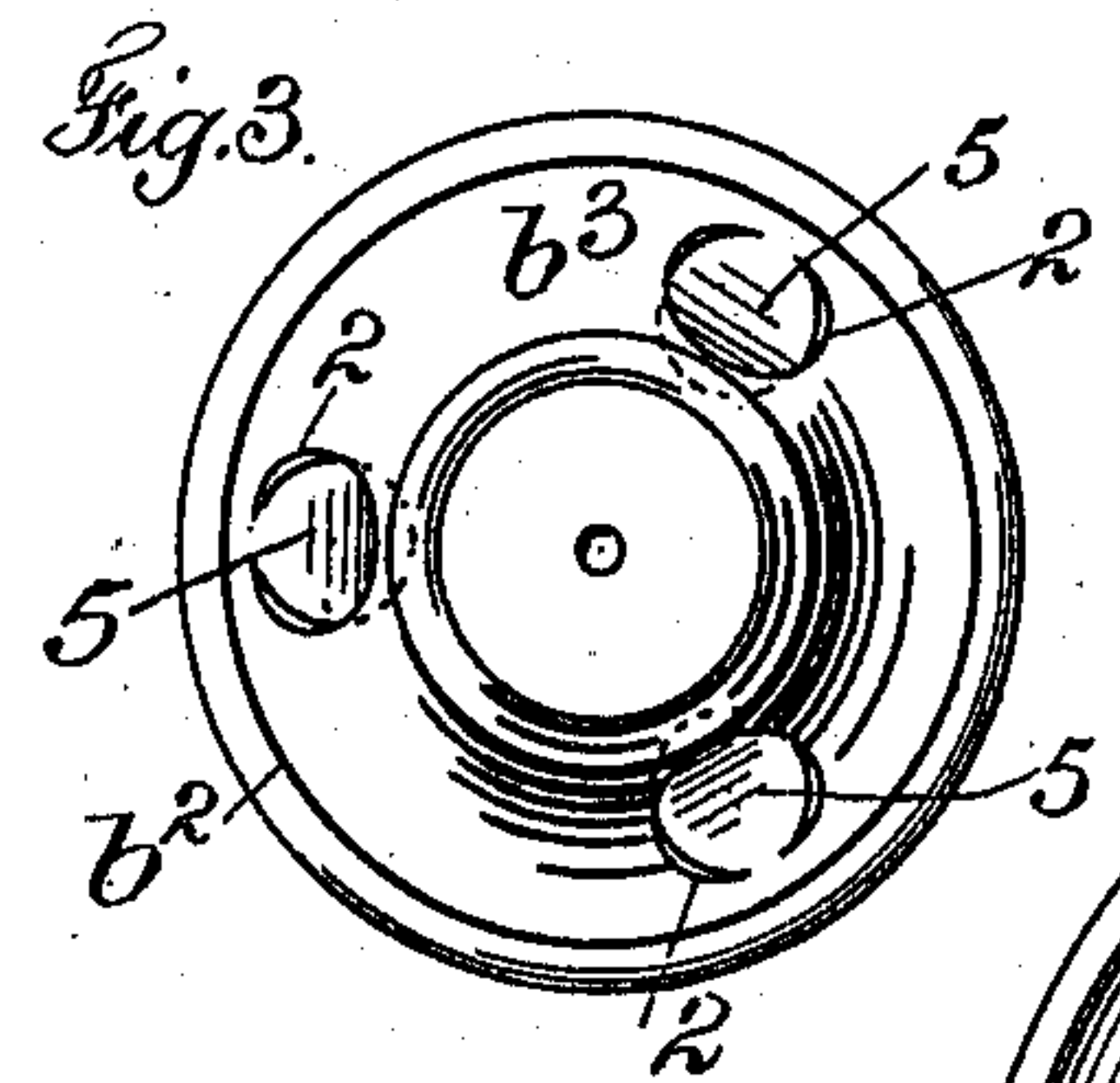
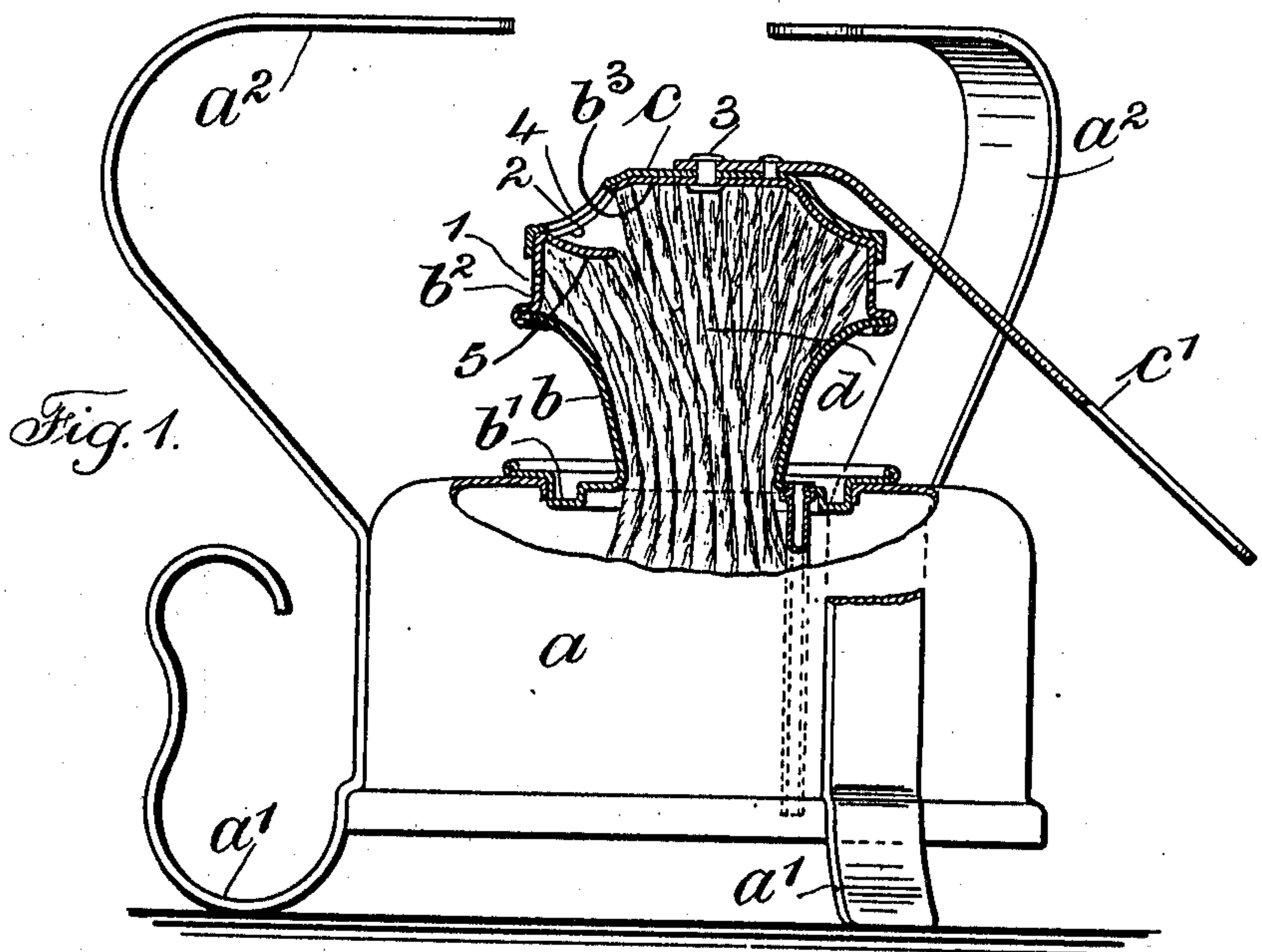
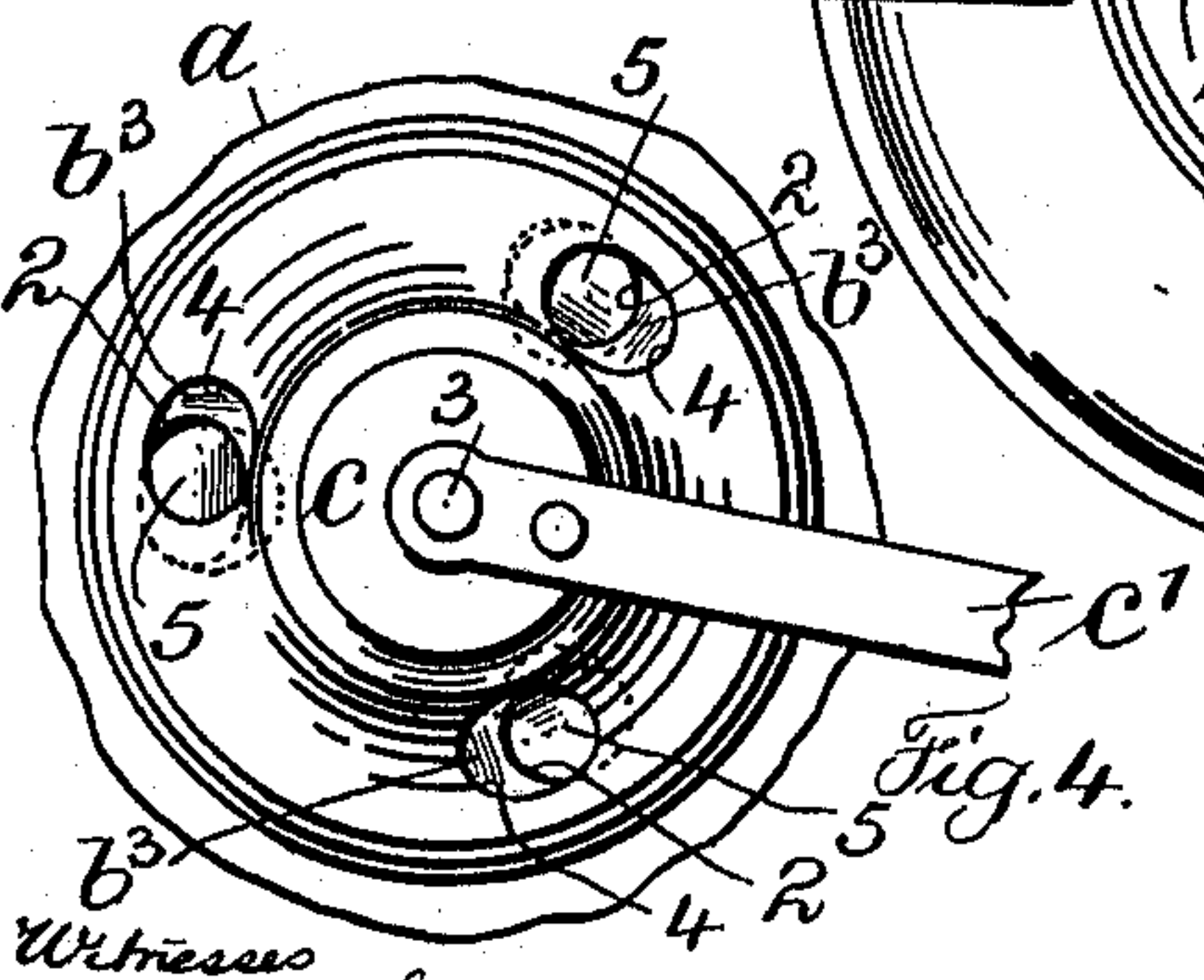
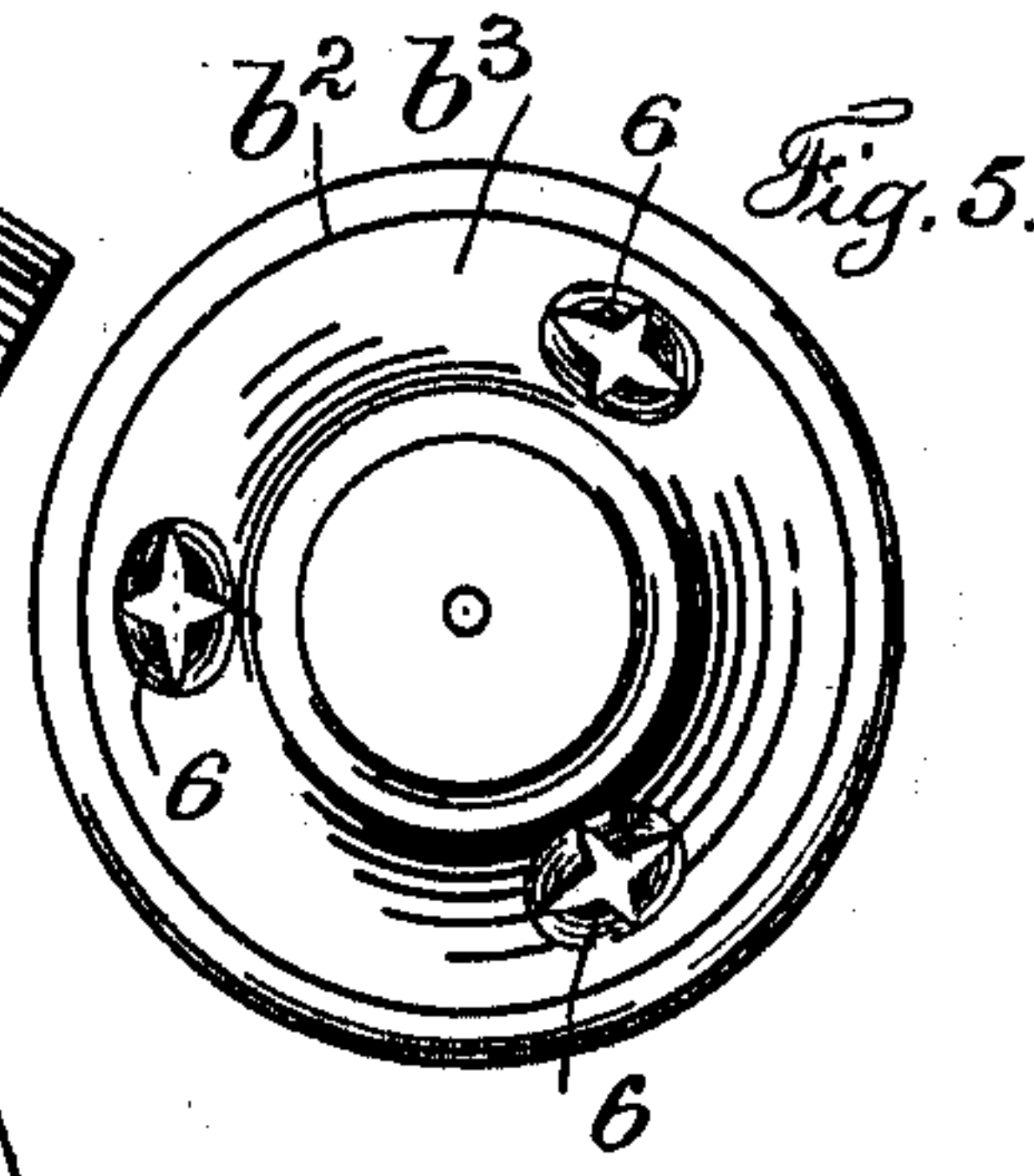
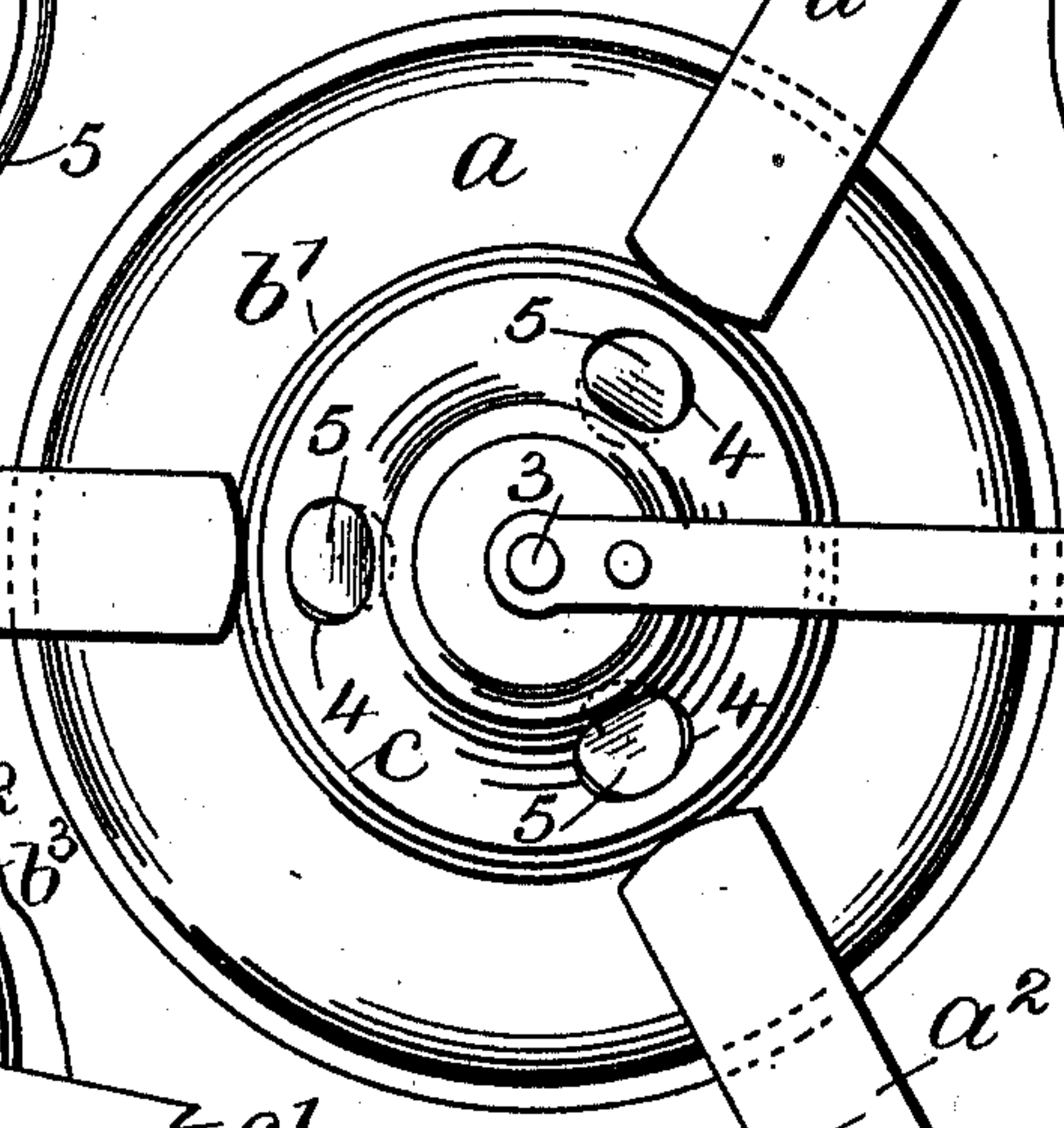


Fig. 2.



Witnesses  
Charles A. Yates  
A. J. Serrell

Inventor  
Charles A. Yates  
by Harold Serrell  
his atty.



# UNITED STATES PATENT OFFICE.

CHARLES A. YATES, OF NEW YORK, N. Y., ASSIGNOR TO THE SUNBURST ALCOHOL STOVE CO., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

## VAPOR-LAMP BURNER.

993,809.

Specification of Letters Patent.

Patented May 30, 1911.

Application filed August 9, 1910. Serial No. 576,384.

*To all whom it may concern:*

Be it known that I, CHARLES A. YATES, a citizen of the United States, residing in the borough of Bronx, in the city, county, and State of New York, have invented an Improvement in Vapor-Lamp Burners, of which the following is a specification.

My invention relates to improvements in vapor lamp burners and the same is an improvement upon the device shown and described in Letters Patent No. 960,167, granted to Harrison Griswold, May 31, 1910, with the object of permitting the escape of the pent up vapors, not into a living room impairing the atmosphere thereof, but within the zone of the flame of burning vapor to be consumed and to momentarily increase the flame thereof and so relieve the pressure of vapor in the burner.

In carrying out my invention and in combination with a burner of usual construction, a font receiving the same and the fluid to be burned and supports for the font and for the article to be heated, I employ a revoluble cap upon the top of the burner and a handle for turning the same.

The burner as usual is circumferentially perforated for the escape of vapor to be burned as a cylindrical flame and the head of the burner within this circumference is provided with perforations to any desired number and of any desired form or outline.

The cap over the head of the burner is provided with alining and similar perforations which may be brought more or less into coincidence with the perforations in the head of the burner to permit the escape of pent up vapor to a regulatable extent or to be closed off as desired, all of which is hereinafter more particularly set forth.

In the drawing Figure 1 is an elevation and partial section of the device constituting my improvement. Fig. 2 is a plan of the same. Fig. 3 is a plan of the head of the burner alone. Fig. 4 is a plan at the central portion of Fig. 2, showing the revoluble cap out of coincidence with the head of the burner, and Fig. 5 is a plan of the head of the burner alone showing a modification of my invention.

Referring particularly to Figs. 1 and 2,  $a$  represents the font of the burner adapted to hold the burning fluid;  $a^1$  represent supports or leg members secured to the font and by which the same is advantageously raised

slightly above the surface that the supports  $a^1$  rest upon.  $a^2$  are supports in the nature of arms extending out from and above the font and the burner and adapted for supporting articles to be heated.  $b$  represents the burner body of tubular form with a flanged base  $b^1$  fitting into the flanged open center of the font and preferably held frictionally in position. This burner like the burner of the aforesaid patent, is advantageously provided with a tube extending down into the fluid of the font and the flanged base  $a^1$ , with a recess to hold a small quantity of fluid to light in starting the burner. The burner body  $b$  from and above its flanged base spreads outwardly and has a parallel-sided portion  $b^2$  of greatest diameter provided with a series of perforations 1 from which the vapor escapes for the flame. The top or head  $b^3$  of the burner is of flattened dome shape and rises slightly above the sides  $b^2$  and the same is provided with openings 2. A cap  $c$  fits over this head and conforms in shape thereto and is advantageously made at its periphery with a down-turned flange fitting around the parallel sides  $b^2$ ; the cap being held to the head of the burner preferably by a central rivet 3 which with an additional rivet through the cap only of the burner constitute the means for holding to the cap a handle  $c^1$  by which the cap is turned or rotated with reference to the head of the burner.

As shown in Figs. 1, 2, 3 and 4, the openings 2 in the head of the burner are preferably formed by stamping away from the head of the burner tongues 5, the position of which is shown particularly in Fig. 1 as pressed down against the wick-filling  $d$  of the burner as circular pieces of metal that are all but severed from the body of the burner. The cap  $c$  is provided with openings agreeing in number to the openings 2 in the head of the burner; the openings 4 being adapted to quite exactly aline or coincide with the openings 2 in the head of the burner so that the openings 4 according to the position of the cap  $c$  as turned by the handle  $c^1$ , either exactly coincide with the openings 2 or more or less coincide, or are entirely closed off. Fig. 2 shows the coincidence of these openings and Fig. 4 shows the openings 4 as moved away by the turning of the cap  $c$  so that only about half of the openings 2 are uncovered. If the handle  $c^1$



is employed to further turn the cap *c* the openings are entirely moved away from any relation with one another and the openings 2 entirely closed off.

5 In Fig. 5 the openings 2 in the head of the burner may each be made by cutting across in opposite directions so as to turn down into the body of the burner four angular shaped tongues 6 instead of a circular  
10 tongue 5. The office performed by the tongues regardless of their shape is to hold the wick-filling of the burner down and away from the openings 2 so that any ex-  
15 pansion of the wick-filling by virtue of the fluid held therein by capillary action will not permit the wick-filling to reach and choke up the openings 2 in the head of the burner or fill the same to such an extent as  
20 to make it difficult to freely turn the cap *c* with reference to the fixed position of the burner.

In the operation of the device of my improvement, the cap *c* is advantageously in a position where the openings 2 in the  
25 head of the burner are closed off. If the flame of the burner indicates an accumulation of pent up vapor, the handle *c*<sup>1</sup> is moved to partially rotate the cap *c* and bring the openings 4 more or less into coin-  
30 cidence with the openings 2 so as to permit the escape of this pent up vapor, and it will be apparent that as this vapor escapes it passes up within the circular zone of the usual flame where it is consumed and does  
35 not pass into the atmosphere of an apartment to vitiate the same. It is thus apparent that the burner may be easily regulated by turning the cap by its handle *c*<sup>1</sup> so as to control the position of the openings 4 in the  
40 cap with reference to the openings 2 in the head of the burner.

I claim as my invention:—

1. In a vapor lamp burner, the combination with a font and a burner therefor having a series of perforations in the peripheral  
45 wall thereof, a head to the burner and openings therein, of a cap device revoluble in relation to the burner and its head and having openings therein adapted to be brought  
50 more or less into coincidence with the openings in the head of the burner, or to be closed off therefrom.

2. In a vapor lamp burner, the combina-

tion with a font and a burner adapted to be connected therewith and having a series of  
55 perforations in the peripheral wall thereof and a wick filling, of a head to the burner covering the top thereof, a series of tongues bent downward inside the burner to hold  
60 back the wick-filling and thereby forming openings in the head of the burner, a cap to the burner and extending across the head thereof, means connecting the cap centrally  
65 to the head of the burner and the cap provided with openings which agree in number, outline and position with the openings in  
70 the head of the burner and means for rotating the cap so as to bring the openings therein more or less into coincidence with the openings in the head of the burner.

3. In a vapor lamp burner, the combination with a font and a burner therefor having a series of perforations in the peripheral  
75 wall thereof, a head to the burner and openings therein, of a cap device revoluble in relation to the burner and its head and having openings therein adapted to be brought more or less into coincidence with the openings in  
80 the head of the burner, or to be closed off therefrom, a central rivet connecting the cap to the head of the burner and a handle device connected to the cap and extending off  
radially therefrom and by which the cap is rotated in relation to the burner.

4. In a vapor lamp burner, the combination with a font and a burner therefor having a series of perforations in the peripheral  
85 wall thereof and a wick filling, a head to the burner and openings therein, of a cap device revoluble in relation to the burner and its head and having openings therein adapted to be brought more or less into coincidence with the openings in the head of  
90 the burner, or to be closed off therefrom, and the head of the burner at the openings therein provided with means for holding down the wick-filling of the burner so as to keep the same away from the openings and  
95 prevent a clogging of the openings or interference with the rotation of the cap.

Signed by me this 14th day of July 1910.

CHARLES A. YATES.

Witnesses:

H. GRISWOLD,  
MARVIN D. STOKEM.