

No. 633,346.

Patented Sept. 19, 1899.

J. B. DE LÉRY.
INCANDESCENT GAS BURNER.

(Application filed Mar. 8, 1899.)

(No Model.)

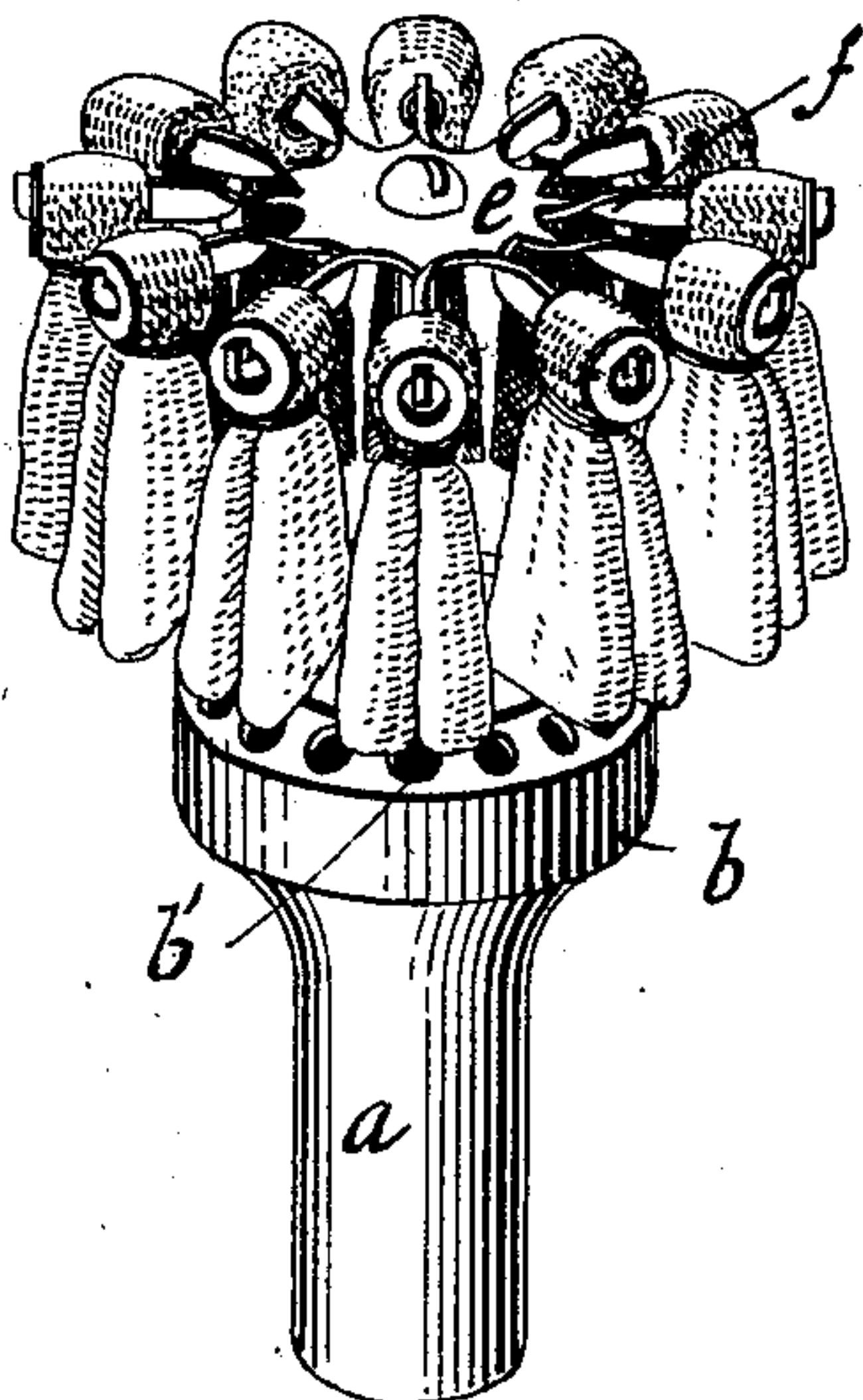


Fig. 1.

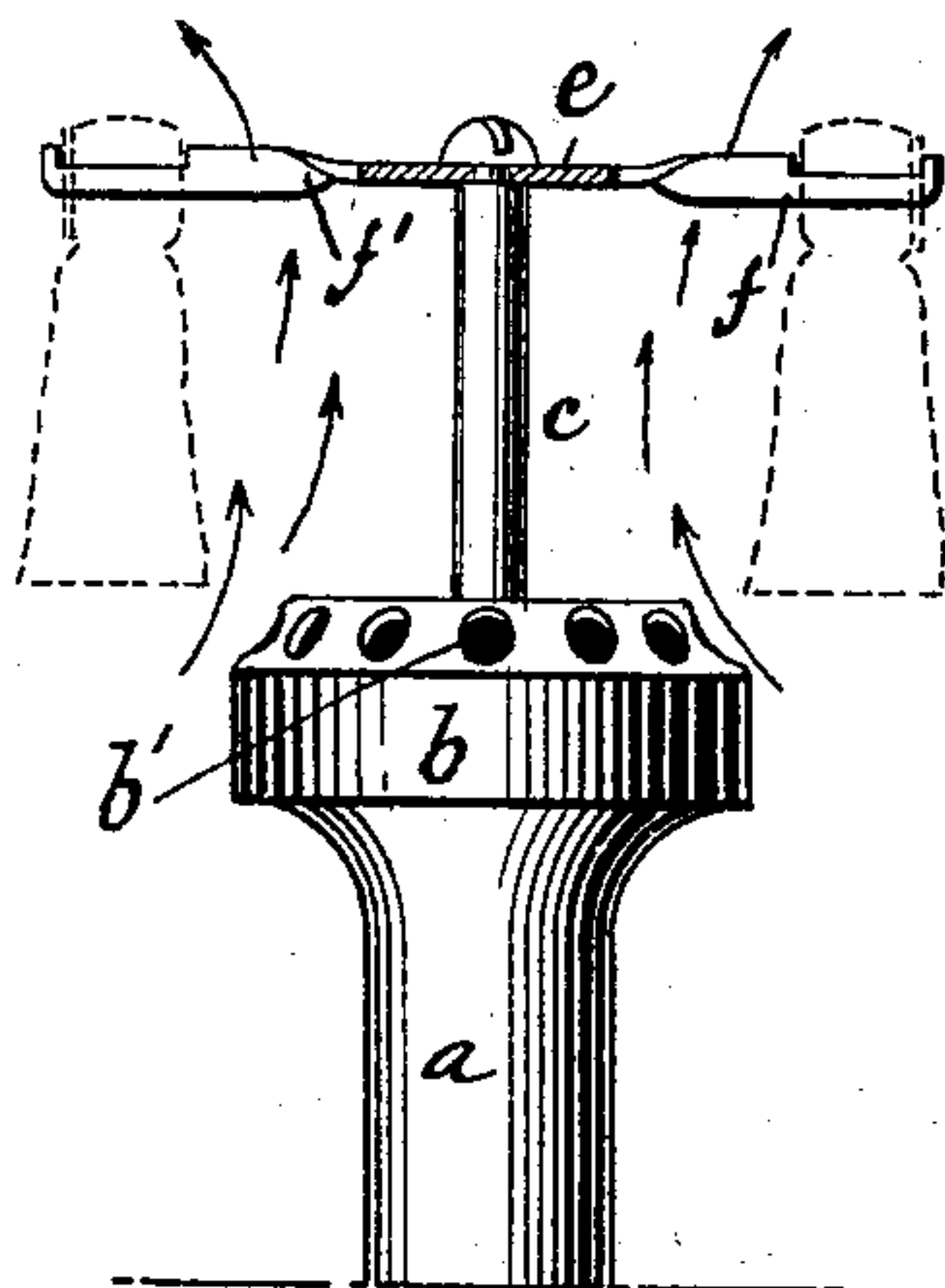


Fig. 2.

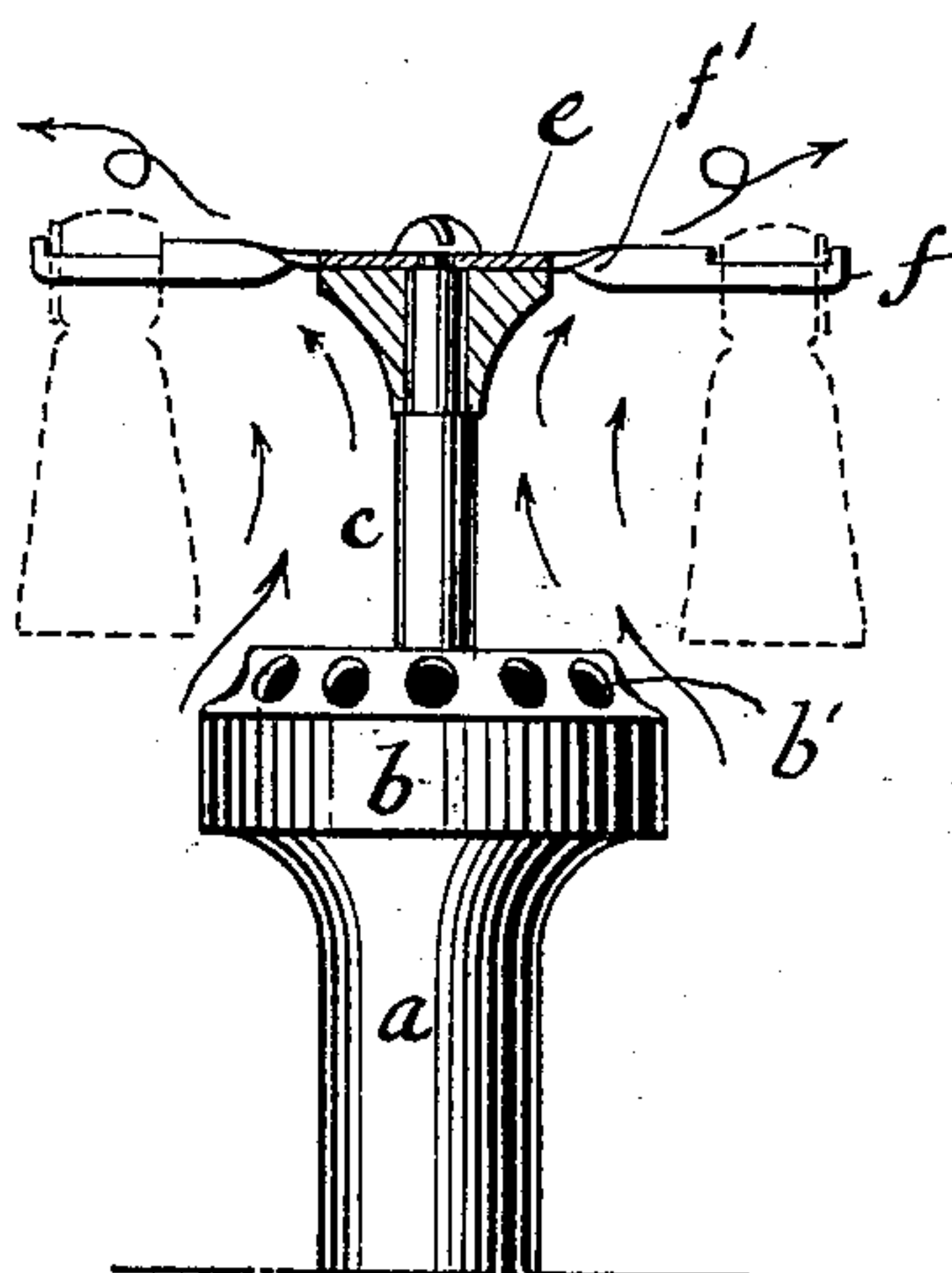


Fig. 3.

WITNESSES:

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JOSEPH B. DE LÉRY, OF NEW YORK, N. Y., ASSIGNOR TO THE DE LÉRY LIGHT COMPANY.

INCANDESCENT GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 633,346, dated September 19, 1899.

Application filed March 8, 1899. Serial No. 708,215. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH B. DE LÉRY, a citizen of the United States, residing at the city of New York, in the borough of Manhattan, State of New York, have invented certain new and useful Improvements in Incandescent Gas-Burners, of which the following is a full, clear, and exact description.

This invention relates to incandescent gas-burners; and it consists of an improvement upon what is known as the "De Léry" burner, a type of which is shown in my application filed January 24, 1898, Serial No. 667,686. In the operation of this burner it will be understood that the heat of the flame produces a vertical draft passing through and around the frame of the burner, in which the soot and other products of combustion are carried. The gas commonly used produces considerable carbon in the form of soot, the particles of which are carried by the draft of the burner and dropped wherever and whenever the draft loses its force. A deposit upon the burner itself is objectionable for various reasons, and it has been found in practice that unless the parts of the burner are made of certain shapes to direct the draft the burner will soon receive this objectionable deposit of carbon. The present invention relates to the details of construction of the burner whereby this deposit of carbon or soot upon the burner is prevented. The peculiar construction referred to serves to direct the draft in which the products of combustion are carried away from the burner to such locations that when the force of the draft is spent the particles of soot will not be deposited upon the burner.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the complete burner. Fig. 2 is a vertical central section thereof with parts in elevation and parts of the incandescent element in dotted lines. Fig. 3 is a similar view showing a further enlargement of the invention.

Referring to the drawings by letter, *a* represents the pipe through which the mixture of

gas and air flows to the burner. It terminates in a cylindrical box or head *b*, having a row of perforations *b'*, from which the flames project. Rising from the center of the head is a post *c*, supporting a horizontal frame consisting of a hub *e*, having a series of spokes or arms *f* radiating therefrom. Upon the outer end of each arm a tassel of fragile incandescing material is suspended, the lower ends of the tassels being in a circle of somewhat greater diameter than that of the head *b* and being slightly above it. The particular improvements herein claimed relate to the shape of the spokes or arms *f* and to a deflector for cooperating therewith. The arms *f*, which radiate from the hub, are flat strips of metal arranged with their width in a horizontal plane and then twisted near to where they join the hub, through an angle of ninety degrees to form propeller-shaped surfaces *f'*. It will now be seen that the drafts of heated air laden with the products of combustion and rising from the flames which project from the circular row of gas-outlets *b'* will strike the curved or propeller surfaces of the arms and impart a twist or cyclonic motion to the draft, which causes it to hold the particles in suspension until they are beyond the region of the burner. The cone (shown in Fig. 3) concentrates the draft against the propeller-surfaces and directs it upward and outward, the propeller-surfaces and the cone acting together to send the soot particles beyond the region of the frame. This form of burner has proved especially effectual for the purpose described, it showing no deposit of carbon whatever after a long period of use.

I claim—

1. In an incandescent gas-burner, a supporting-frame for the incandescing material, said frame being arranged in a horizontal plane above the gas-outlets and consisting of a series of arms or spokes radiating from a center, said arms or spokes having twisted or propeller surfaces, substantially as described.

2. In an incandescent gas-burner, a sup-

porting-frame for the incandescing material,
said frame being arranged in a horizontal
plane above the gas-outlets and consisting of
a series of arms or spokes radiating from the
5 center, said arms or spokes having twisted or
propeller surfaces, and a deflector arranged
concentrically beneath said spokes arranged
to deflect the draft against said twisted

or propeller surfaces, substantially as de-
scribed. 10

In witness whereof I subscribe my signa-
ture in presence of two witnesses.

JOSEPH B. DE LÉRY.

Witnesses:

WM. A. ROSENBAUM,
GEO. S. KENNEDY.