

No. 684,404.

Patented Oct. 15, 1901.

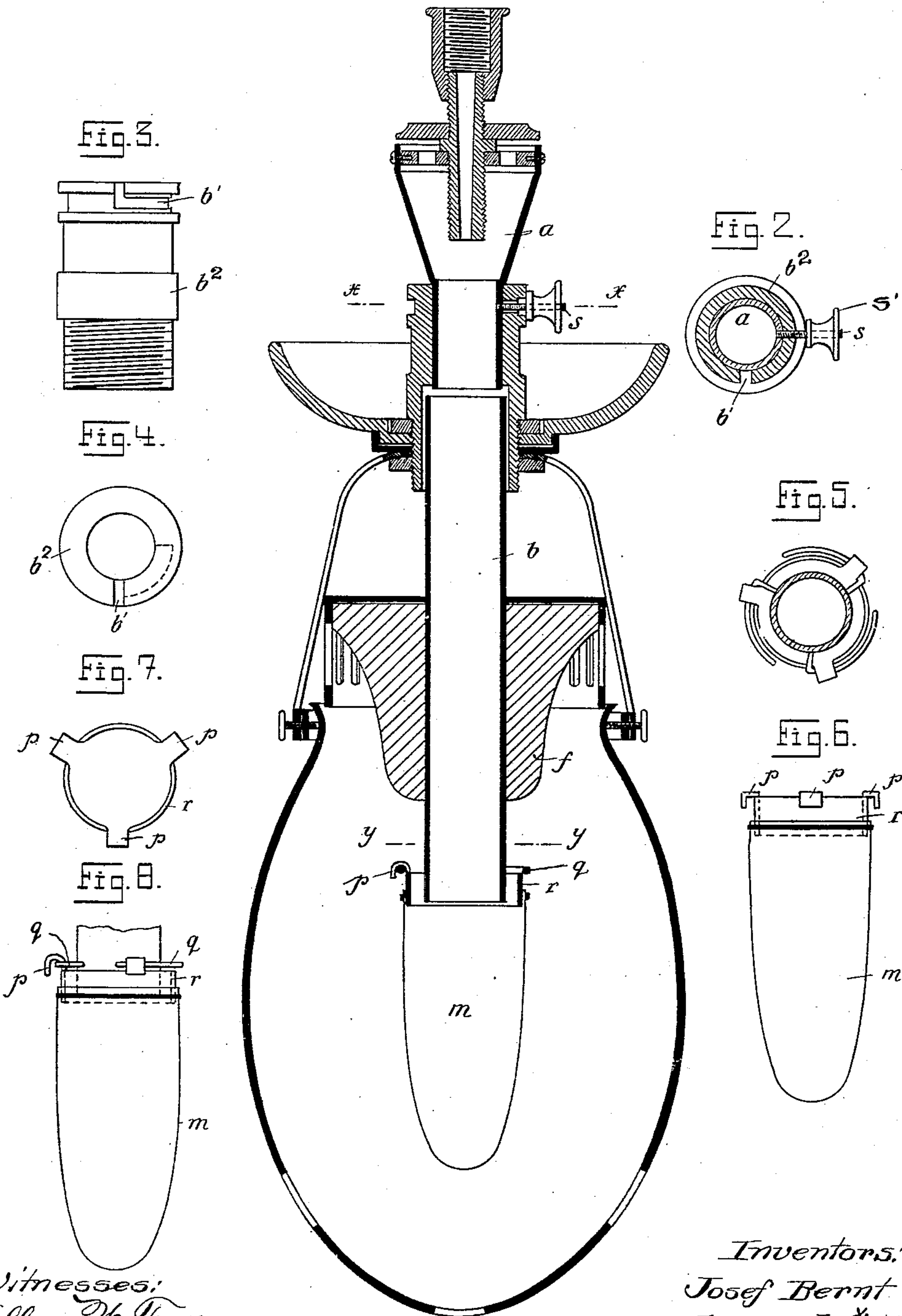
J. BERNT & E. CERVENKA.

GAS BURNER.

(Application filed June 29, 1900.)

(No Model.)

Fig. 1.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOSEF BERNT AND EMANUEL CERVENKA, OF PRAGUE, AUSTRIA-HUNGARY.

GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 684,404, dated October 15, 1901.

Application filed June 29, 1900. Serial No. 22,040. (No model.)

To all whom it may concern:

Be it known that we, JOSEF BERNT and EMANUEL CERVENKA, merchants, residing at Prague, in the Kingdom of Bohemia, Empire of Austria-Hungary, have invented certain new and useful Improvements in Gas-Burners; and we do hereby declare the following to be a full, clear, and exact description of the invention.

Our invention relates to improvements in incandescent gas-burners employing a reversed Bunsen burner. By the employment of a reversed burner the mantle may be suspended at the top, by which means it will avoid the casting of shadows downward and will reflect most of the light in the same direction.

It is well known that Bunsen burners are employed with great advantage in the production of incandescent gas light. The gas issuing from the burner-head when lighted renders the mantle luminous. The light from such luminous body spreads outward in all directions, which makes it necessary to provide the burners with reflectors in order to reflect the light-rays downward. Up to the present this has been impossible to do without expensive reflectors. Attempts have been made to suspend the mantle-head downward. The Bunsen burner as a consequence has also to be reversed. It was found that the gas issuing downward from the burner when lighted retreated through the open nozzle of the burner. The mantle therefore became incandescent only over part of its surface, while the greater portion of it did not come in contact with the burning gas at all, and consequently gave no light. One way to avoid these drawbacks has been to use gas under considerable pressure, such as is not used in normal gas-supplies. Up to the present incandescent gas-burners employing a reversed Bunsen burner have been obtained only in combination with means for gasifying suitable liquids under considerable pressure. In the case of such reversed Bunsen burners the drawbacks above described are caused by the burners becoming excessively hot, whereby a current of air is produced sufficiently strong to drive the flame back.

The present invention relates to a novel construction of Bunsen burner which will ren-

der it applicable under ordinary gas-pressure for attachment to incandescent gas-mantles for casting the light downward.

In the accompanying drawings, Figure 1 is a sectional side view of the gas-lamp. Fig. 2 is a horizontal sectional view on the line xx of Fig. 1. Fig. 3 is a side view of the upper part of the burner-tube. Fig. 4 is a plan view of the same. Fig. 5 is a sectional view on the line yy of Fig. 1 looking downward. Fig. 6 is a side view of the mantle attached to its supporting-rim. Fig. 7 is a top view of the rim, and Fig. 8 is a front view of the mantle attached to the burner-tube.

The gas-inlet a passes through the perforated head and acting upon the injector principle draws in the requisite proportion of air. The mixture of gas and air passes through the vertical tube b to the burner c . The tube b is made of bad heat-conducting material and forms an isolator. The burner c is formed of metal or some other refractory material. The tube b is supported in position by means of the socket b^2 , which need not be made of refractory material. This socket is removably secured to the gas-inlet a in the following manner: The latter is provided with a fixed screw-threaded pin s , which enters a slot b' , formed within the upper edge of the socket. This pin and slot form a bayonet-joint, which joint may be further secured by means of the lock-nuts s' . The mixture of gas and air, which meets with no impediment whatever in the conduit part of the lamp, where it issues from the burner c , is lighted, producing a flame which projects downward and is confined to the shape of the mantle by the contrary air-current produced. Striking back of the flame is prevented, since the isolator prevents the burner becoming excessively heated and reversed air-currents are prevented. For the purpose of deflecting the hot air away from the sides of the burner a conical head f is attached to the isolator. The mantle d is supported by its upper edge from the isolator in a position adjacent to the burner. The mantle m is advantageously fixed in place by being permanently secured to a rim r . The latter is provided with integral fingers p , which engage with the claws q , secured in proper relative position near the lower extremity of the tube b . These claws

are so adjusted in length as to admit of the introduction of the fingers between intervening ones and by a partial turn to allow the proper fingers and claws to engage. The
5 flame reaches the adjacent parts of the mantle and causes the latter to become incandescent over a maximum extent of surface.

What we claim is—

10 1. In an incandescent gas-lamp, a reversed Bunsen burner, having a gas and air inlet, an isolator *b* of bad heat-conducting material below the same, and a burner *c* at the lower extremity of the said isolator, substantially as described.

15 2. An incandescent gas-lamp having a reversed Bunsen burner, gas-inlets at the top

thereof, an isolator *b* of bad heat-conducting material below the same, a deflecting-cone on said isolator, and a burner, and mantle below said cone, all combined for obtaining a flame
20 of approximately the shape of the mantle with ordinary gas-pressures, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of
25 two subscribing witnesses.

JOSEF BERNT.

EMANUEL CERVENKA.

Witnesses:

HENRY SCHMOLKA,

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