

No. 840,092.

PATENTED JAN. 1, 1907.

P. SEILER.
GAS BURNER.

APPLICATION FILED NOV. 28, 1905.

Fig. 1

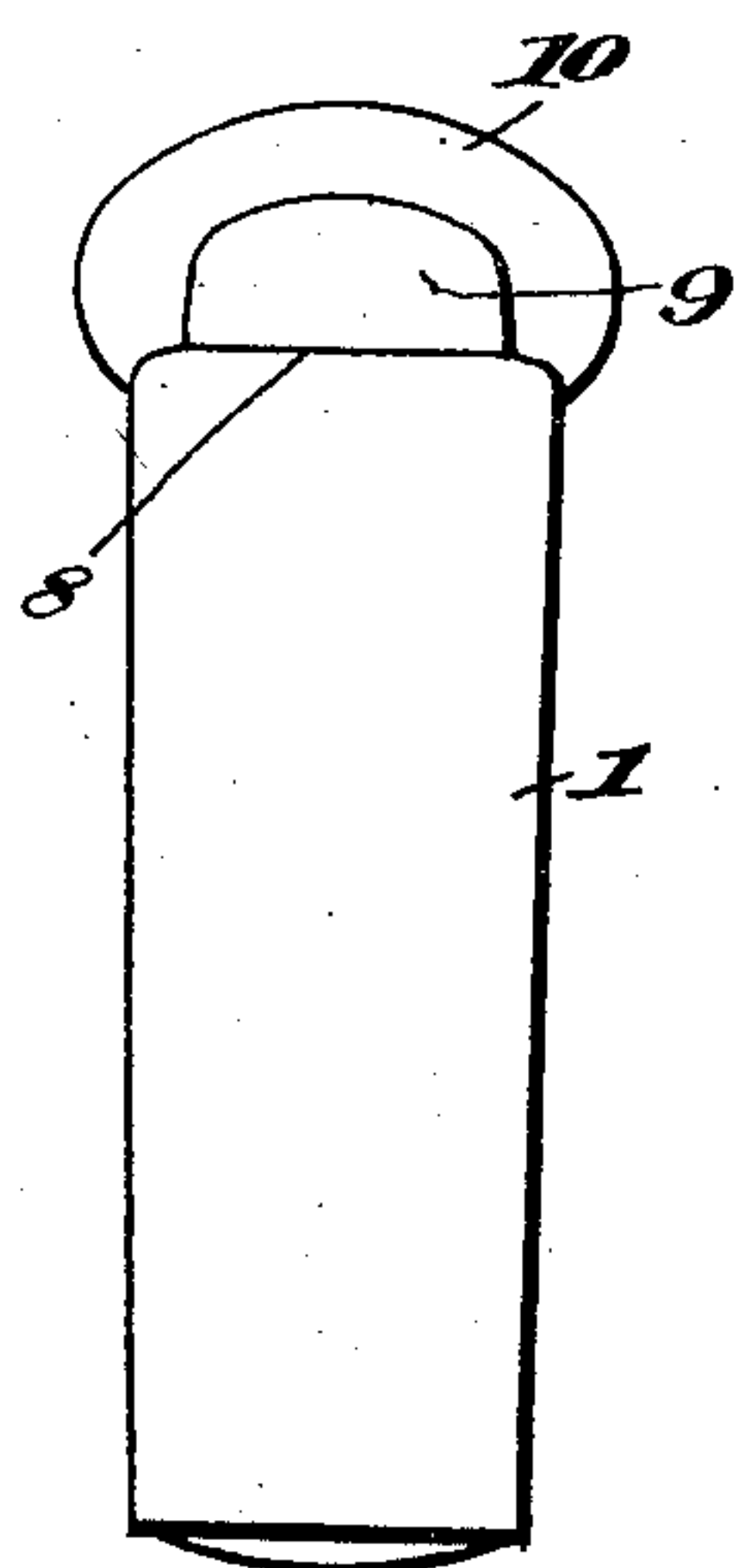


Fig. 2

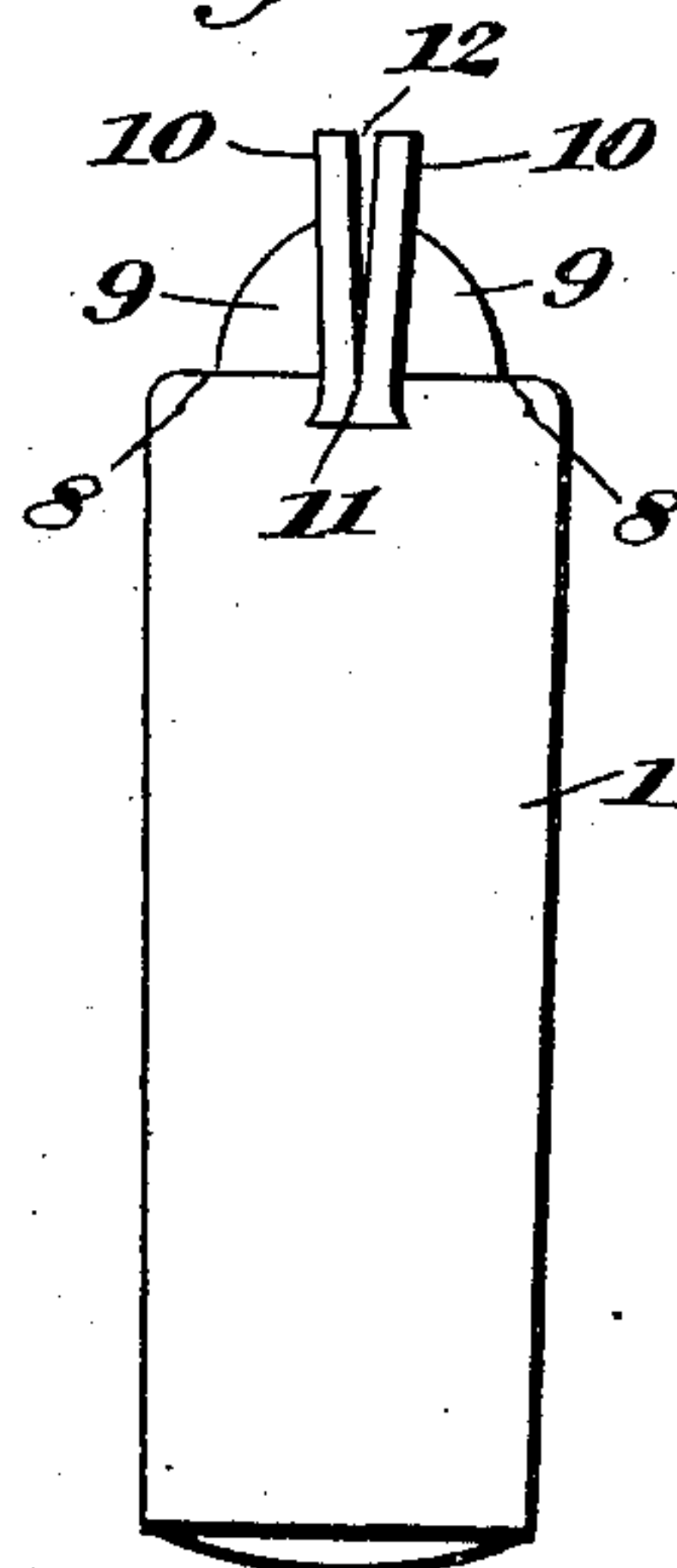


Fig. 3

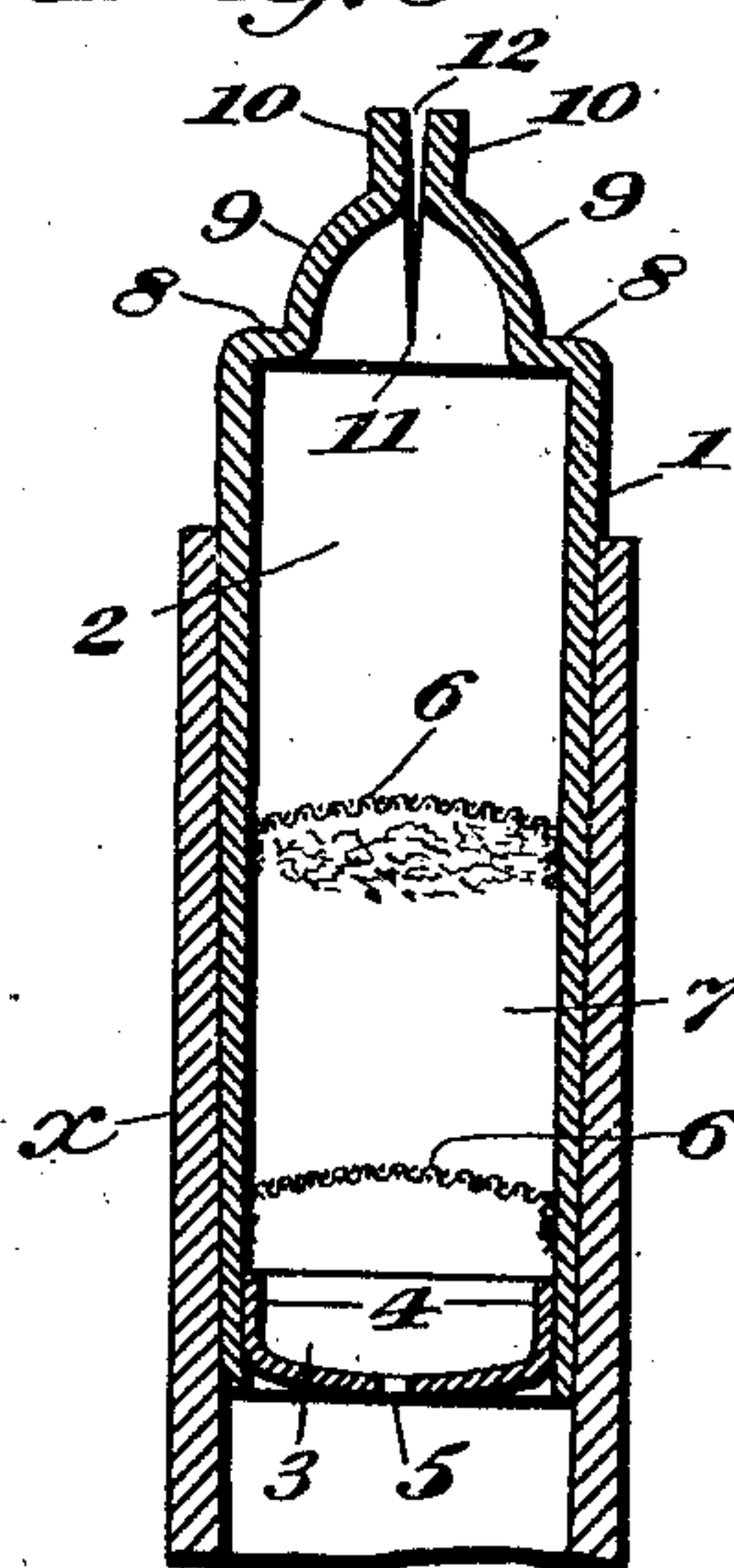
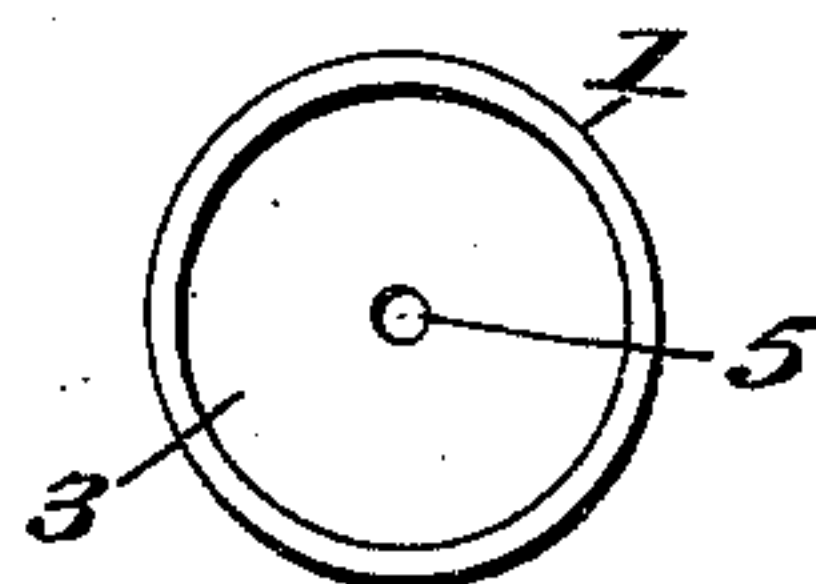


Fig. 4



WITNESSES:

C. S. Kelley
W. S. Moore

INVENTOR

Phillip Seiler

BY

J. H. Baptinger

Attorney

UNITED STATES PATENT OFFICE.

PHILIPP SEILER, OF CHICAGO, ILLINOIS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF ONE-FOURTH TO JOHN D. CAPLINGER, OF CHICAGO, ILLINOIS, ONE-FOURTH TO JOHN ELIAS JONES, OF CINCINNATI, OHIO, ONE-FOURTH TO ABRAHAM DIEFENDORF, OF CHICAGO, ILLINOIS, AND ONE-FOURTH TO WILLIAM H. CRAIG.

GAS-BURNER.

No. 840,092.

Specification of Letters Patent.

Patented Jan. 1, 1907.

Application filed November 28, 1905. Serial No. 289,383.

To all whom it may concern:

Be it known that I, PHILIPP SEILER, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain Improvements in Gas-Burners, of which the following is a specification.

This invention relates to certain improvements in gas-burners, and particularly in burner-tips, such as are commonly employed in gas-lighting systems; and the object of the invention is, in part, to provide a burner-tip of this character of a simple and inexpensive nature which may be cheaply and conveniently formed up from metal, and, in part, to provide for use within and in connection with such tips means for regulating the flow of gas therethrough, so that flickering is prevented and a steady and uniform flame is insured despite ordinary variations in gas-pressure in the mains.

The invention consists in certain novel features of the construction, combination, and arrangement of the several parts of the improved burner-tip whereby certain important advantages are attained and the device is rendered simpler, cheaper, and otherwise better adapted and more convenient for use, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claims.

In the accompanying drawings, which serve to illustrate my invention, Figure 1 is a side elevation of a burner-tip constructed according to my invention; and Fig. 2 is a view of the tip similar to Fig. 1, but taken in a direction at right angles to the direction of vision in Fig. 1. Fig. 3 is a sectional view taken axially through the improved burner-tip, showing the same applied to a pillar for use. Fig. 4 is an under side view of the improved burner-tip, showing the arrangement of the regulator-cap therein.

As shown in the views, the improved gas-burner tip is formed up from an integral piece of metal, which may be conveniently of aluminium in the form of a blank of sheet metal or metal tubing, the body portion of said tip being made of a somewhat tapered form, as shown at 1, in order that the tip

may be snugly fitted in the ordinary way within the upper tapered end of the bore or hollow of the pillar *x*, as seen in Fig. 3.

2 represents the bore or hollow forming a gas-passage within the burner-tip body 1, and this bore or hollow is preferably formed, as herein shown, with straight sides, although, if desired, the walls thereof may be tapered reversely to the taper of the outer walls of the tip-body without material departure from the spirit of the invention.

3 is the regulator-cap, also formed, by preference, of some such material as aluminium, with flanged edges 4, adapted to snugly fit within the walls of the burner-tip body 1 at the lower open end thereof; and 5 is a central gas-aperture in said cap 3 and of a diameter to permit a regulated supply of gas to be received through it from the hollow of the pillar into the hollow of the burner-tip body 1.

Within the lower end of the burner-tip body are arranged spaced screens 6 6, of fine meshed wire-netting, which are held in place by frictional engagement of their edge portions upon the walls of said body, so that they may be conveniently applied or removed, and said screens are spaced apart from each other to produce a chamber between them, as shown at 7, in which chamber is adapted to be received a packing of asbestos or other suitable material for retarding the flow of gas sufficiently to adapt the burner-tip for use in connection with different gas-pressures. By this arrangement it will be seen that the regulator-cap 3 may be removed from the tip, after which one or both of the screens 6 6 may be removed, and the packing of asbestos, if such be employed, may be then adjusted to accommodate the burner-tip to various gas-pressures. The asbestos or other packing may, if desired, be dispensed with, and I have found that an additional screen of wire-gauze similar to the screens 6 6, arranged across chamber 7, serves the purpose of said asbestos packing efficiently in many cases.

At opposite sides of the upper end of the burner-tip body 1 the metal from which the tapered tubular walls thereof are made is inwardly pressed, as seen at 8 8, to form a par-

tial closure or inwardly-directed flange at each side of said upper end, and at the inner portions of said flanges 8 8, at opposite sides of said upper end of the tip, are produced
 5 rounded and upwardly-extended parts 9 9, integral with said flanges 8 8 but extended upward above said flanges and forming within the upper end of the tip-body a discharge-chamber which is in communication with the
 10 hollow 2 of the tip-body 1.

10 10 represent spaced lips or projecting flanges, which are extended around the adjacent edges of the curved or rounded sides 9 9 of the gas-discharge chamber, being integrally produced upon the adjacent edges of
 15 said rounded sides 9 9 and being spaced apart to produce between them a slitted opening at which gas is adapted to be discharged from said chamber for producing an illuminating-
 20 flame at the upper end of the improved burner-tip.

The lips or flanges 10 10 are extended slightly at angles to each other, as clearly shown in Figs. 2 and 3, their relating inclina-
 25 tions being such that the slitted opening between them is made narrowest at the lower part of the gas-discharge chamber, as shown at 11, and widest at the apex of said chamber, as seen at 12 in Figs. 2 and 3. The said slit-
 30 ted opening is thus given a tapered or wedge-like character, so that the gas from the gas-discharge chamber will be emitted in much less volume at the lateral lower portions of the slitted opening and in gradually-increas-
 35 ing volume as the apex of said slitted opening is approached.

By means of the improved burner-tip constructed according to my invention it is possible to conveniently regulate the flow of gas
 40 from the pillar through the tip, so that the regulators commonly employed in the pillars may be readily dispensed with, a great convenience being thereby afforded in adjusting the regulating devices, since it is much less
 45 troublesome to remove the tip and adjust the contained regulating means than to remove the pillar for adjustment of regulating means therein.

The construction of the gas-discharge
 50 chamber at the upper part of the tip is also of a very simple character and increases the efficiency of the burner in illumination by lessening resistance to the outflow of gas at the points where such outflow is most desirable,
 55 and the formation of the wedge-like or tapered gas-discharge slit serves to insure the greatest volume of discharged gas at the upper portions of the slit, so that the discharged gas is prevented from spreading laterally
 60 from the tip.

From the above description of my improvements it will be evident that the improved burner-tip constructed according to my invention is of an extremely simple and
 65 inexpensive nature and is especially well

adapted for use, and it will also be evident from the above description that the improved burner-tip is capable of considerable change without material departure from the principles and spirit of the invention, and for
 70 this reason I do not desire to be understood as limiting myself to the precise form and arrangement of the several parts of the device herein set forth in carrying out my invention in practice.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A gas-burner tip comprising a tubular metallic body portion having a gas-passage
 80 produced in it, the upper end of said body portion having inwardly-directed parts at its opposite sides and extended toward each other and forming flanges extended diamet-
 85 rically across the upper end of the body portion, said flanges being spaced apart to produce between them a slitted opening communicating with the gas-passage within the
 90 body portion for discharge of gas to be burned, said flanges being also extended vertically above the top of the body portion with plane inner faces of greater width than the thickness of the metal from which the
 95 body portion is formed to produce flattened side walls for said slitted opening.

2. A gas-burner tip comprising a tubular metallic body portion having a gas-passage
 100 produced in it, the upper end of said body portion having inwardly-directed parts at its opposite sides and extended toward each other and forming flanges extended diamet-
 105 rically across the upper end and downward along the sides of the body portion, said flanges being spaced apart to produce between them a slitted opening and said open-
 110 ing being extended through the top and sides of the upper end of the body portion for communication with the gas-passage within the same for discharge of gas therefrom and said
 115 flanges being also extended at angles from the top and sides of the upper end of the body portion with plane inner surfaces wider than the thickness of the metal from which the
 120 body portion is produced and forming flattened side walls for said slitted opening.

3. A gas-burner tip comprising a tubular metallic body portion having a gas-passage
 125 produced in it, the upper end of said body portion having inwardly-directed parts at opposite sides and extended toward each other and forming flanges extended diamet-
 130 rically across the top and downward along the sides of the upper end of the body portion, said flanges being extended vertically above the top and laterally beyond opposite
 135 sides of the top of the body portion and being spaced apart to produce between them a slitted opening and said slitted opening being extended through the top and sides of said
 140 upper end of the body portion for communi-

cation with the gas-passage within the body
portion for discharge of gas therefrom and
being gradually widened from its lower part
whereat it communicates with said gas-pas-
5 sage toward its upper part adjacent to the
upper edge portions of said flanges.

In testimony whereof I have hereunto

signed my name, at Chicago, Illinois, this
28th day of October, 1905, in the presence of
two subscribing witnesses.

PHILIPP SEILER.

Witnesses:

W. F. MOORE,

J. D. CAPLINGER.