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Patented Nov. 11, 1902.

W. F. KEISER.

GAS BURNER.

Application filed Apr. 7, 1902.

(No Model.)

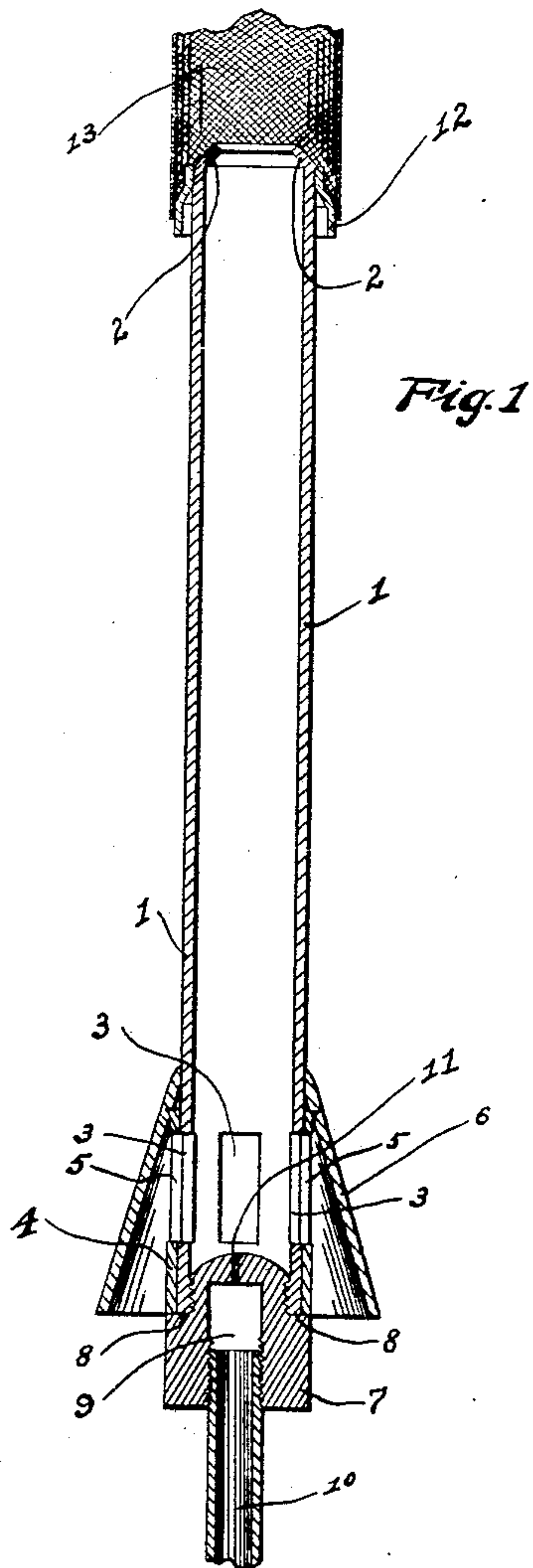


Fig. 1

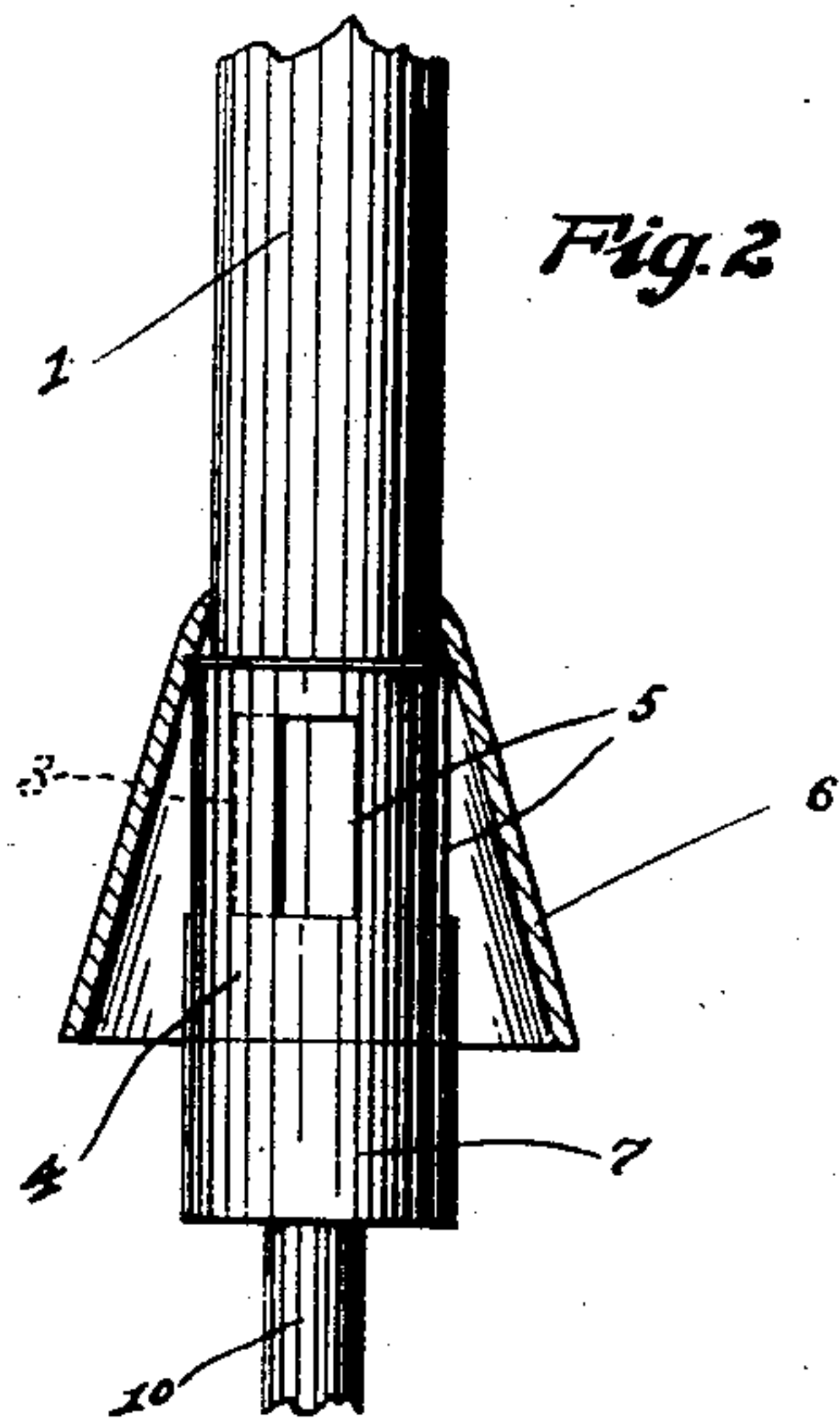


Fig. 2

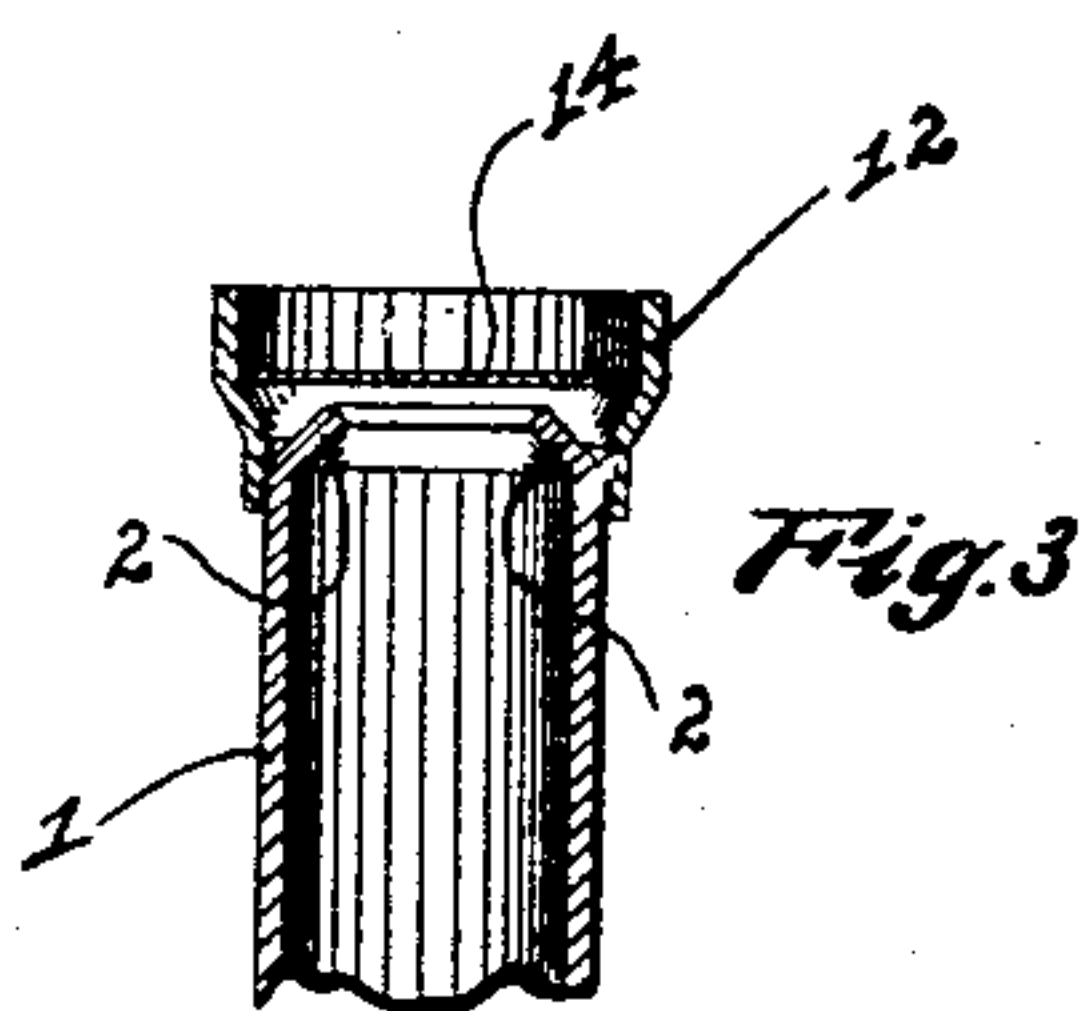


Fig. 3

WITNESSES:

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GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 713,449, dated November 11, 1902.

Application filed April 7, 1902. Serial No. 101,625. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. KEISER, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Gas-Burners, of which the following is a specification.

My invention relates to the improvement of incandescent gas-burners; and the objects of my invention are to provide an improved gas-burner of this class of superior construction and arrangement of parts whereby a brilliant light of high power may be produced by the consumption of a comparatively small amount of gas, to provide in connection therewith improved means for regulating the brilliancy of the flame at the mantle and for muffling the sound produced by the rush of the combined air and gas through the burner-tube, and to produce other improvements the details of which will be more fully pointed out hereinafter. These objects I accomplish in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a central vertical section of my improved burner, showing a portion of an ordinary incandescent burner-mantle surmounting the same. Fig. 2 is a view in elevation of the lower portion of the burner-tube, showing its mixer bell or sleeve in section; and Fig. 3 is a sectional view of the upper end portion of the burner-tube, showing the position of the burner-head ring or muffler reversed from that shown in Fig. 1.

Similar numerals refer to similar parts throughout the several views.

In carrying out my invention I employ a vertically-arranged burner-tube 1 of somewhat greater length than that ordinarily employed, the mouth or upper end of said burner-tube being contracted to form an internal shoulder 2 about the opening thereof. The lower portion of the tube 1 is provided with separated air-inlet slots 3, this slotted portion of said tube being surrounded by a rotatable valve-sleeve 4, which is likewise provided with slotted openings 5, which are adapted when said sleeve is rotated to be made to register or partially register with the openings 3. The sleeve 5 has its upper end portion suitably engaged with the inner side of a

depending bell-shaped or flaring mixer-sleeve 6, the smaller upper end portion of which fits loosely on said tube 1. Into the lower end portion of the tube 1 is screwed a gas-feed plug 7, which below its head portion is enlarged to form a circular shoulder 8, on which is adapted to bear the lower end of the valve-sleeve 4. The plug 7 is provided with an internally-threaded socket 9, with which is adapted to engage a gas-supply pipe 10, the upper end of said socket communicating with the interior of the tube 1 through the medium of the usual reduced gas-port 11.

The upper end portion of the tube 1 is externally threaded below its shoulder portion 2, and onto said threaded portion is adapted to be screwed the internally-threaded and smaller end or neck portion of a collar 12, the unthreaded end portion of this collar 12 being of such size as to result in the formation of an annular space between the same and the tube 1. In Fig. 1 of the drawings I have shown the collar 12 with its smaller and threaded end uppermost, and in this position it is obvious that said collar may be employed as a guide or retainer for an ordinary incandescent gas-burning mantle 13, the lower end of which is adapted in the usual manner to drop over the tube 1 and in the present instance to be assured in its position by inclosing the lower portion of the collar 12. As indicated in Fig. 3 of the drawings, it will be seen that said collar 12 may be inverted, its larger and unthreaded portion extending, as shown, above the burner-tube. When used in this latter position, I provide within said collar a disk 14, of wire gauze or netting, which is detachably supported therein.

It will readily be understood that the air which passes through the openings 5 and 3 from the interior of the bell 6 and into the tube 1 mixes with the gas introduced into said burner-tube through the supply-pipe 10 and that this mixture of air and gas is ignited at the upper reduced end of the tube 1. It has been found that the contact of the combined gas and air with the internal shoulder 2 at the end of the burner-tube and the partial stoppage of the same in its passage through the burner-opening serve to produce a more complete mixing or mingling of the two ele-

ments just prior to the use of the same for illuminating purposes, resulting in an extremely brilliant light being afforded.

5 The rush of the gas and air through the tube 1 into the flame at the end of said tube tends to generate a slight roaring noise; but this difficulty, where the same is considered as an objection, may be readily obviated by inverting the position of the collar 12 on the
10 burner-tube and inserting the disk of wire-gauze therein. The contact of the mixed gas and air with this gauze serves to break the force of the same and reduce the noise otherwise produced and likewise results in a
15 slightly-reduced brilliancy of the flame. It will thus be seen that the lighting power of the flame may be regulated by the use of the disk 14 and that the detachable collar 12 facilitates the use of said disk.

Having now fully described my invention, 20 what I claim, and desire to secure by Letters Patent, is—

In a gas-burner, the combination with a tube 1 and a gas-supply pipe connected with its lower end portion, of a removable and re- 25 versible collar 12 having one of its ends contracted, said contracted end portion being threaded and adapted to be detachably connected with the threaded upper end portion of said burner-tube and a wire-gauze disk 30 adapted to be supported within said collar when the larger end portion of the latter is projecting upward, substantially as specified.

WILLIAM F. KEISER.

In presence of—

A. L. PHELPS,

W. L. MORROW.