Sept. 5, 1933. M. S. CHURCH 1,925,303

SMOKE CONSUMER

Filed Oct. 24, 1932

Fig. 1.

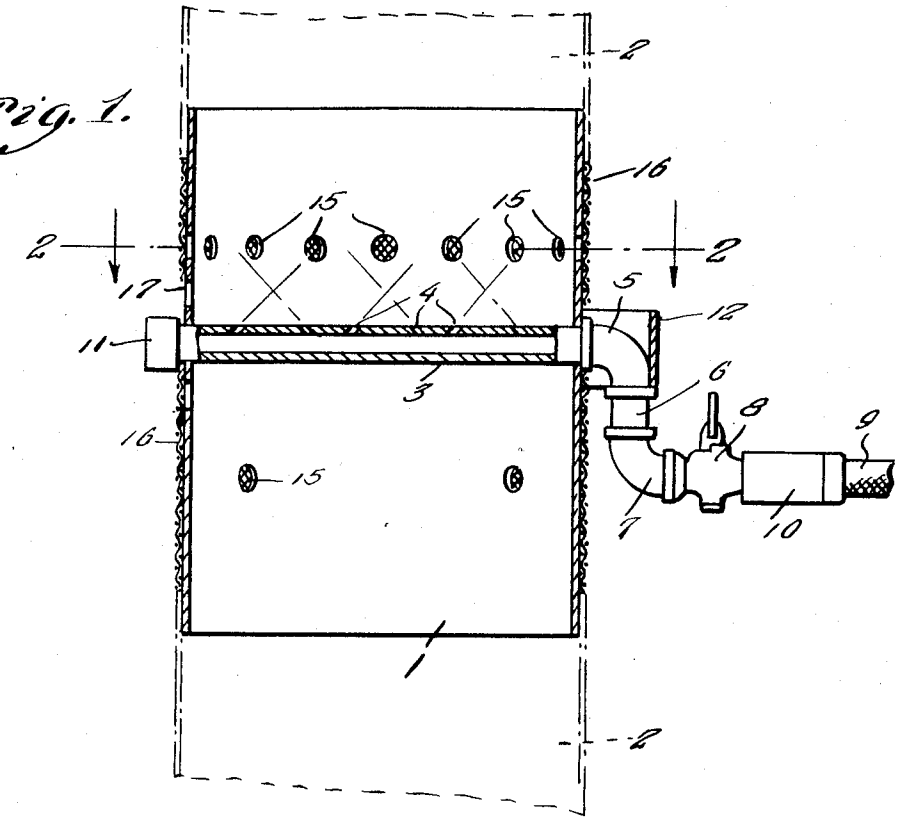
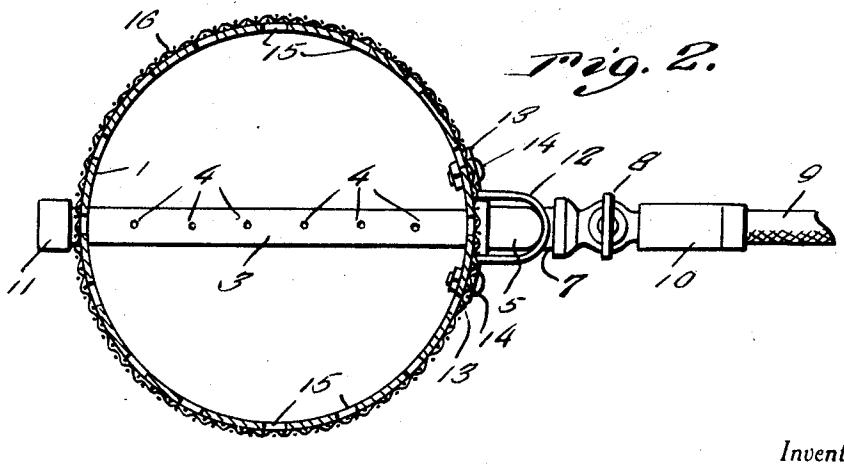



Fig. 2.




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# UNITED STATES PATENT OFFICE

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## SMOKE CONSUMER

Mary S. Church, Ellington, Mo.

Application October 24, 1932. Serial No. 639,371

1 Claim. (Cl. 183—6)

The present invention relates to new and useful improvements in smoke consumers, and has for one of its objects to provide, in a manner as hereinafter set forth, a device of this character embodying a novel construction, combination and arrangement of parts through the medium of which the consumer may be expeditiously mounted or interposed in a stovepipe for operation.

Other objects of the invention are to provide a smoke consumer of the aforementioned character which will be simple in construction, strong, durable, highly efficient and reliable in operation, and which may be manufactured at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawing, wherein like characters of reference designate corresponding parts throughout the several views, and wherein:

Figure 1 is a view in vertical section through a smoke consumer constructed in accordance with the present invention.

Figure 2 is a view in horizontal section through the smoke consumer, taken substantially on the line 2—2 of Figure 1.

Referring now to the drawing in detail, it will be seen that the embodiment of the invention which has been illustrated comprises a metallic tube 1 which is adapted to be interposed in a stovepipe 2. Extending diametrically through an intermediate portion of the tube 1 is a gas burner 3 having oppositely inclined pairs of gas outlet openings 4 in its top. The inclination of the openings 4 is such as to assure the lighting of all of the jets or streams of gas after one or more jets or streams is lit.

An elbow 5 is threaded on one of the projecting end portions of the burner 3 and abuts the tube 1. A pipe section 6 and elbow 7 connect the elbow 5 with a control valve 8. The reference numeral 9 designates a flexible conduit from a suitable source of gas supply (not shown) which is connected with the valve 8, as at 10. The other end of the burner 3 projects from the tube 1 and is closed by a cap 11. A substantially U-shaped bracket 12 is mounted on the tube 1 and engaged with the elbow 5 for retaining the burner 3 against all movement in the tube 1. The substantially U-shaped bracket 12 is provided with out-turned feet 13 on its ends which are secured to the tube 1 through the medium of nut-equipped bolts 14.

Above and below the burner 3, the tube 1 is provided with circumferentially extending series of air inlet openings 15. Screen bands 16 cover the openings 15. These screens eliminate any danger of sparks escaping from the openings 15 which might result from back pressure in the chimney or which might happen when the burner is not being used. The screens 16 are spaced from the ends of the tube 1 to permit the stovepipe sections to be slipped over the end portions of said tube. An uncovered opening 17 is provided in the tube 1 adjacent the burner 3 to permit the insertion of a match for lighting the gas.

In use, the flames from the burner 3 are sufficiently intense in heat to consume the smoke passing through the tube 1, this combustion being assisted by the air which enters through the openings 15 and 17. It will be seen that the construction is such that the consumer may be conveniently mounted for operation in a conventional stovepipe or flue between a pair of the flue sections. Of course, various sizes of tubes 1 will be provided for different sizes of stovepipes.

It is believed that the many advantages of a smoke consumer constructed in accordance with the present invention will be readily understood, and although the preferred embodiment of the invention is as illustrated and described, it is to be understood that changes in the details of construction and in the combination and arrangement of parts may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:

A smoke consumer for arrangement in a flue, comprising a short length of pipe having its ends adapted to be inserted in two spaced sections of the flue pipes said pipe having a pair of opposed holes therein, a tube passing diametrically through said short pipe with its ends passing through said holes and said tube having perforations therein, a cap closing one end of the tube, means for feeding gas into the other end of the tube, such means including an elbow connected to said other end of the tube and having an end bearing against the short pipe, a U-shaped bracket having its ends connected to parts of said short pipe with its bight engaging a part of the elbow to hold the tube against movement in the short pipe, said short pipe having holes therein for the admission of air thereinto, said holes being arranged above and below the burner tube, one of the holes being arranged close to the tube for the admission of an ignition member for igniting the gas passing from the perforations in the tube.

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