

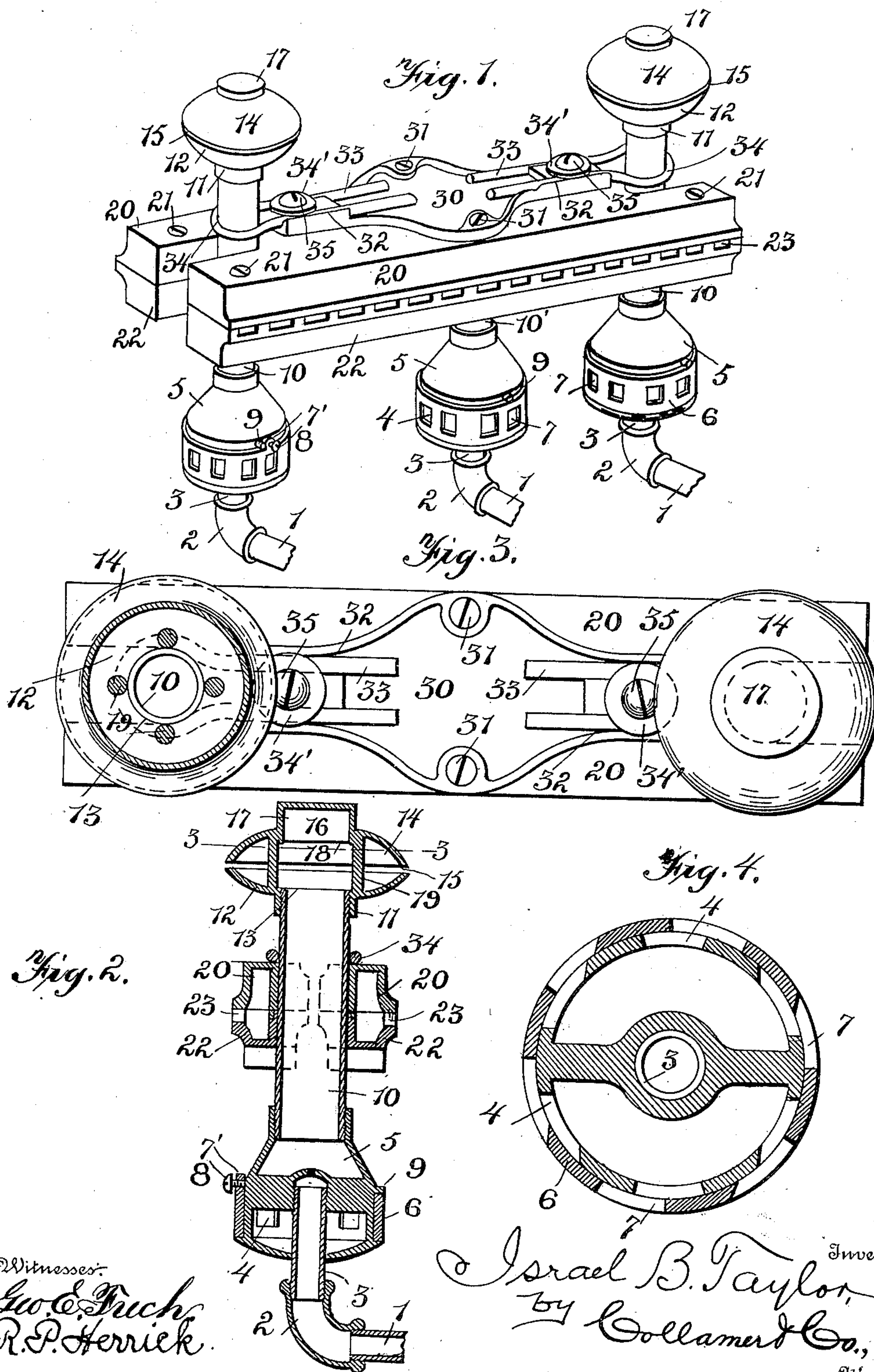
No. 652,698.

Patented June 26, 1900.

I. B. TAYLOR.
GAS BURNER.

(Application filed Sept. 2, 1899.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

ISRAEL B. TAYLOR, OF BUFFALO, NEW YORK.

GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 652,698, dated June 26, 1900.

Application filed September 2, 1899. Serial No. 729,351. (No model.)

To all whom it may concern:

Be it known that I, ISRAEL B. TAYLOR, a resident of Buffalo, Erie county, State of New York, have invented certain new and useful
5 Improvements in Gas-Burners; and my preferred manner of carrying out the invention is set forth in the following full, clear, and exact description, terminating with claims particularly specifying the novelty.

10 This invention relates to stoves, and more especially to such as are used for the combustion of gas in its artificial or natural form; and the principal object of the same is to produce a burner-head especially adapted for
15 this purpose and which is made in a most economic manner. Other objects will appear below.

To these ends the invention consists in the specific construction of parts hereinafter more
20 fully described and claimed and as shown in the accompanying drawings, wherein—

Figure 1 is a general perspective view of this device in its complete and preferred form. Fig. 2 is an enlarged vertical sectional view
25 through one of the endmost inlet-pipes and burner-heads. Fig. 3 is a plan view, with one of the burner-heads in section, on the line 3 3 of Fig. 2. Fig. 4 is a horizontal section through one of the mixers.

30 Referring to the said drawings, the numeral 1 designates the feed-pipe for natural or artificial gas, which latter is led through an elbow 2 and thence upward through a pipe 3 to the mixer. This latter consists of a chamber whose sides have holes 4, whose top 5 is
35 conical and leads upward to the burner and around whose body moves a sleeve 6, having holes 7, as seen in Fig. 4, so located that they are adapted to register with the holes 4
40 when desired. The sleeve 6 has one or more ears 7', adapted to impinge against pins 9 in the body of the mixer when said sleeve is in either closed or open position. The sleeve may be held in a position between its open
45 and closed extremities by means of set-screws 8, which pass through the ears of said sleeve and are adapted to engage the body of the mixer.

50 There may be one feed-pipe 1 branched to the several pipes 3 or there may be several independent feed-pipes; but there is preferably a mixer for each inlet-pipe 10, so that it

can be used independently of the others, if desired. As herein shown, the two endmost inlet-pipes 10 rise from the conical bodies 5
55 of their mixers to a considerable height and at their upper ends carry burner-heads, which form a very important part of my invention, while the intermediate pipe 10' leads to one or more horizontal burners described below. 60
However, it is not essential that said horizontal burners be always employed, although I prefer to use them in a gas stove or range for the purpose of heating the water-back (or water-front) and the oven, thereby making the
65 gas stove or range complete. As the use of horizontal burners is optional, it is also permissible to use one or more of my improved burner-heads, each standing below and adjacent a griddle-hole, as will be clearly understood. 70

As best seen in Fig. 2, my improved burner-head when finished consists of an interiorly-threaded collar 11, a dished or inverted-cup-shaped lower member 12, of concavo-convex
75 form, superimposed upon the upper end of said collar and having an inlet-opening 13 at its center communicating therewith, an oppositely-disposed convexo-concave upper member 14 above and concentric with the lower
80 member and with a slot 15 between their peripheries, an opening 16 in the top of this upper member above that numbered 13 in the lower member, a mixing dome or cup 17, mounted over this opening, with a small flange
85 18 around the latter and projecting slightly into the interior of the head, and a number of pillars 19, (preferably four,) connecting the lower with the upper member preferably just
90 outside said flange. A highly-important point in connection with this burner-head is the fact that it is of one piece of metal, which reduces to a great extent the cost of its manufacture and its liability to become broken or
95 disarranged, and thereby enhances its utility to a proportionate degree. It will not be necessary to describe the manner of making this head further than to say that it is done by first casting the shell complete by means
100 of suitable cores, and the slot 15 is then formed between the upper and lower members by sawing or in any other well-known manner. This leaves the pillars integrally connected at their extremities with the two members

which are held rigidly spaced a proper distance even after the slot is formed, and a very strong and durable one-piece head is thereby produced.

- 5 As illustrated in the drawings herewith, one or more horizontal burners may be used in connection with the burner-heads above described. Each horizontal burner comprises an upper member 20, bolted, as at 21, to a
10 lower member 22, which has openings 23 in the upper edge of its outer wall, and the mixed air and gas passes upward through the pipe 10' into the interior of its burner, as will be clear. On being ignited the flame passes laterally out the openings 23 and strikes the adjacent wall of the water-back (or water-front) or the oven, if the range be provided with one. These parts being well known are not illustrated in the drawings.
- 20 I do not confine myself to the specific details of construction nor to the sizes, shapes, and proportions of parts, as considerable change can be made therein without departing from the principle of my invention.
- 25 One modification which I might suggest, and which is, in fact, illustrated in the drawings, is that there may be two parallel horizontal burners connected by piping or fed from independent mixers, and a plate 30 is
30 bolted or screwed, as at 31, to the tops of the several burners and is provided with grooves 32, through which the arms of staples 33 may pass. This plate not only connects the two burners in such manner as to permit the
35 removal of one or both, but it forms a good support for the staples, as will be clear. Such staples 33 project outward and, through their bends 34, pass the endmost pipes 10. The bodies of the staples stand in the grooves 32
40 and are adjustable longitudinally under the washers 34', which are fastened by screws 35, that pass downward into the plate. Although I have shown the staples thus mounted adjustably in grooves on the plate, it will be
45 clear that the grooves might be formed in the top of a horizontal burner, which would be preferable if there were only one such burner.

What is claimed as new is—

- 50 1. A burner-head comprising upper and lower members oppositely dished and having

an annular opening between their adjacent edges, both members having registering openings through their centers, a mixing-dome of inverted-cup shape covering the opening in the upper member, a series of upright pillars integrally connecting the members around their openings, and means for attaching the inlet-pipe to the opening in the lower member, as and for the purpose set forth. 60

2. A burner-head comprising upper and lower members oppositely dished and having an annular opening between them, the upper member also having an opening through its center, a mixing-dome covering this opening and having a depending flange surrounding the opening on the interior of the upper member, a series of pillars connecting the lower member with the upper member at a point outside said flange, and a vapor-opening through the lower member, as and for the purpose set forth. 70

3. In a gas-burner, the combination with a mixer, a horizontal burner in two separated parts each provided with flame-openings, and staples longitudinally adjustable on said burner in line with the spaces between the parts; of two outer inlet-pipes extending upwardly through said staples, and burner-heads mounted on said pipes and each consisting of an upper and lower member separated by an annular opening, as and for the purpose set forth. 80

4. In a gas-burner, the combination with a pair of upright inlet-pipes having heads at their upper ends, and mixers in their bodies; of a horizontal burner in two separated parts standing at opposite sides of said pipes, an inlet and mixer therefor, a plate detachably connecting the parts of said burners and having grooves aligned with the spaces between them, and staples whose bodies are adjustably clamped in the grooves and whose bends embrace said inlet-pipes, as and for the purpose set forth. 90

In testimony whereof I have hereunto subscribed my signature this the 16th day of August, A. D. 1899. 95

ISRAEL B. TAYLOR.

Witnesses:

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