To all whom it may concern:

Be it known that I, JOSEPH SHIMMERFENK, a citizen of the United States, residing at Philadelphia, county of Phila-
delphia, State of Pennsylvania, have invented certain new and useful Improvements in Gas-Heated Water-Heaters, of
which the following is a specification.

This invention relates to gas heated water
heaters. The object of the invention is the provi-
sion, first, of a novel multiple gas burner, hav-
ing air and gas supply nipples or nozzles which are bodily adjustable in relation to each other, whereby simultaneous regulation of the air supply at all the burners may be obtained: second, an improved arrangement and construction of raised nipples or nozzles for a gas burner of a water heater, together with a condensation drip or drain, whereby the condensation is automatically drained off without clogging or interfering with the burners.

The invention consists, first, of a gas
burner having multiple burners, nipples or nozzles, with means and mounting whereby the gas supplying nipples may be adjusted bodily as an entirety, in both directions, in relation to the air nipples to there-
by simultaneously regulate the air supply according to the character and pressure of the gas being burned.

The invention consists, further, in an improved arrangement of shell and air supply plate and nipples, and a condensation drip or drain whereby the accumulated condensation is prevented from clogging the burners.

The invention consists, still further, in the details of construction and combination of gas expansion box, gas and air nipples, and adjusting screws for effecting relative bodily movement of the parts, as set forth fully hereinafter.

In the accompanying drawings: Figure 1 is a side elevation; Fig. 2, a vertical section; Fig. 3, a cross section on line 3–3, Fig. 2; and Fig. 4, a detail of the gas expansion box and the gas supply nipples.

The invention is intended for use in any connection where it is desired to heat water, instances being the heating of water for domestic use such as at the usual kitchen boiler or at a bath tub. Other uses are ob-
vious.

The shell 1 may be of any suitable con-
tour and is provided at its top with an outlet 2 which may open directly into the room or be connected to a flue. The shell is supported by legs 3 which are secured by screws 4 to the lower part or apron 5 of the shell. 10 In the upper part of the shell is a baffle 6 which sufficiently retards the heat to prevent too rapid draft and to insure proper heating of the coil 7. The coil 7 may be of any form but is preferably of the shape shown. The inside of the shell 1 is provided with integral lugs 8 on opposite sides thereof or at many points as desired. Such of these lugs are tapped as are most convenient in the installation of the heater, the coil being connected to two of such lugs. The cold water inlet 9 is secured to one of the lugs and is provided with a controlling valve 10 to let in or shut off the water. To the other lug to which the coil is connected, there is attached a valveless hot water outlet 11. The shell is provided with a relatively large opening which is kept normally closed by a door 12 having spring hinges 13 which keep said door shut. Consequently if there should be a flare-back or explosion such as occurs in igniting a water heater, the door would remain closed and the user would not be alarmed, such explosions being not danger-
ous, but sometimes terrifying. The door may have insulating panels 14 and a name plate 15.

Secured by a flange 16 and screws 17 is a bottom plate 18 which is of circular form and provided with numerous conical nipples 19 which are provided with air holes 20. These holes may be of varying sizes, but they are preferably about one-eighth inch in diameter. There is provided a pet-cock or condensation drain 21 on a level with the upper surface of the bottom plate 18. The conical nipples 19 projecting upwardly from the plate 18, the accumulation of condensation cannot readily reach the holes 20 and quite a quantity may accumulate before it is necessary to open the pet-cock and drain the condensation off.

Located within the apron 5 and below the plate 18, is a hollow circular gas expansion box 24 which is provided on its upper surface with nipples 22 corresponding in num-
ber to the nipples 19 and each of tapering form and provided with a pin hole 23 com-

cmunicating with the interior of the box 24 and affording an outlet for the gas. The nipples 22 are adapted to be entered more
or leis in the nipples 19 to thereby adjust
the effective area of air supply opening to
the holes 26. Natural gas does not require
as much air for its proper consumption as
does artificial gas. Also, the richness and
pressure of artificial gas varies in different
cities and localities. Therefore arrange
the box 24 and its nipples 23 so that they
may be moved simultaneously and bodily in
relation to the nipples 19 to regulate the
affecte air supply by choking down or
opening up the interior of the nipples 19.
This may be done in different ways, but I
preferably employ screws 25 threaded
through the box 24 in any suitable manner
to prevent escape of gas and threaded into
the bottom plate 18 so that on turning these
screws, the entire box 24 and its nipples 23
may be moved simultaneously and bodily to
any desired extent in relation to the plate
18 and the nipples 19. Preferably three of
the screws are employed. Screwed into one
side of the box 24 is a gas inlet 26 which may
be connected to any suitable flexible gas tube
or pipe and this inlet slides up and down
in a slot 27 in the apron 5. A similar slot
or slots may be provided at different points
28 of the apron and a plugged hole 29 may
be provided on the opposite side of the box
24 for convenient attachment of the inlet 26
according to the position in which the heater
is installed.

I am aware that various changes in detail
construction may be resorted to in the means
for adjusting the gas expansion box and in
the construction of the nipples for the air
and gas without departing from the spirit
and scope of the invention.

Having thus described my invention, what
I claim as new and desire to secure by Let-
ters Patent is:

1. The combination with a plurality of air
nipples or burners, of gas supplying nipples
or burners corresponding in number and
position to the nipples aforesaid and indi-
vividually adapted to cooperate therewith to
regulate the air supply therethrough, said
plurality of gas supplying nipples or burn-
ers being movable at will in opposite direc-
tions simultaneously and bodily as an en-
tirety in relation to the air nipples or burn-
ers to position them closer to or farther
from the air nipples or burners.

2. The combination with a plurality of air
burners or nipples, of a plurality of project-
ing gas supplying nipples or burners corre-
sponding in number and position to the nip-
bles aforesaid and individually adapted to
to enter and cooperate with the air nipples to
regulate the air supply therethrough, said
air nipples and gas supplying nipples being
relatively bodily movable at will in opposite
directions as an entirety to position them
closer to or farther from each other.

3. The combination with a plurality of air
nipples or burners, of a gas expansion
box having a plurality of projecting gas
burners communicating with its interior and
adapted to enter and cooperate with the air
nipples or burners to regulate the supply of
air therethrough, and means for adjusting
at will in opposite directions the gas expan-
sion box in relation to the plate whereby
the gas burners are simultaneously and bod-
ily moved closer to or farther from the air 75
nipples.

4. The combination with an enclosing
shell, of a plate located inside said shell and
provided with burners, raised above its sur-
face, and means for draining condensation 80
from the upper face of said plate.

In testimony whereof, I hereunto affix my
signature in presence of two witnesses.

JOSEPH SHIMMELFENNIS.

Witnesses:
Morris Dos Passos,
Francis X. Delaney.