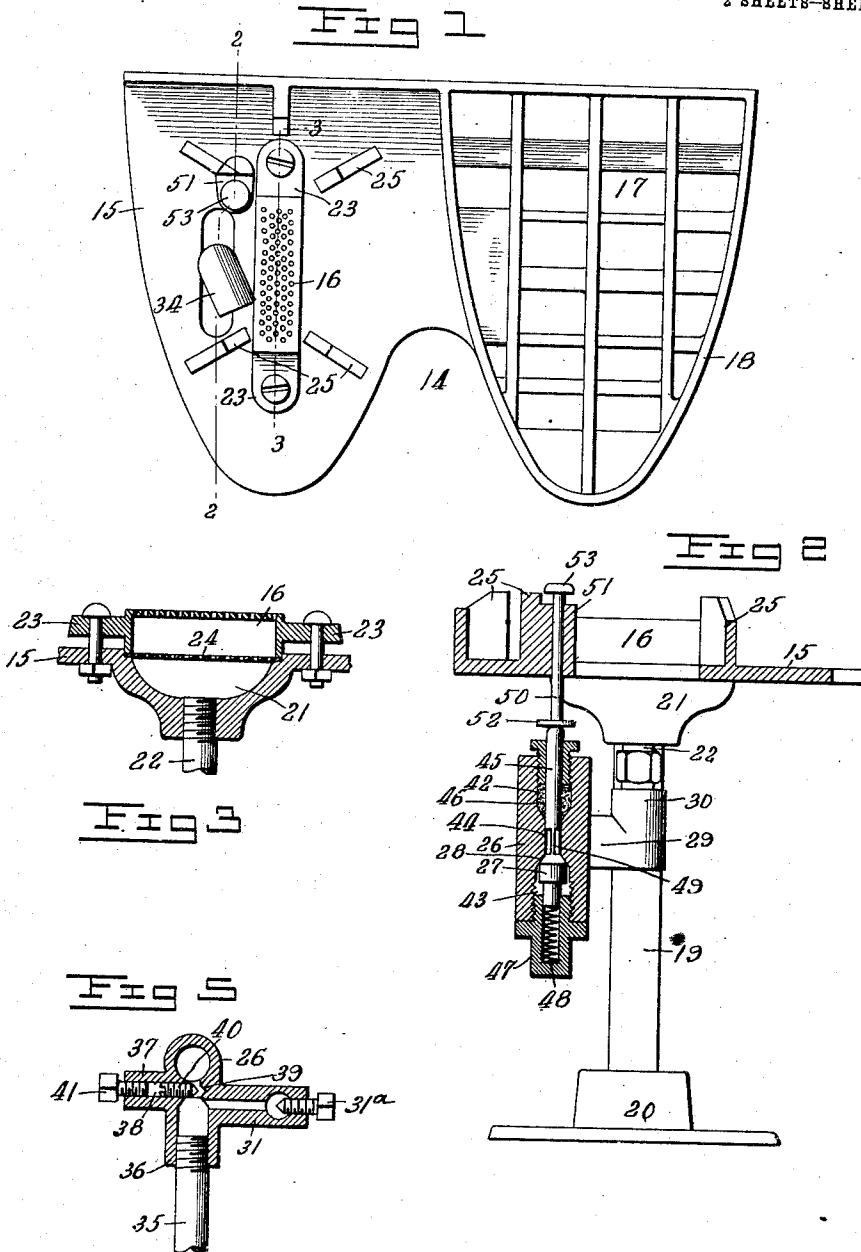


W. H. VAN HORN.
SAD IRON HEATER.
APPLICATION FILED MAY 27, 1910.

976,952.

Patented Nov. 29, 1910.
2 SHEETS-SHEET 1.



Witnesses
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Fig 4

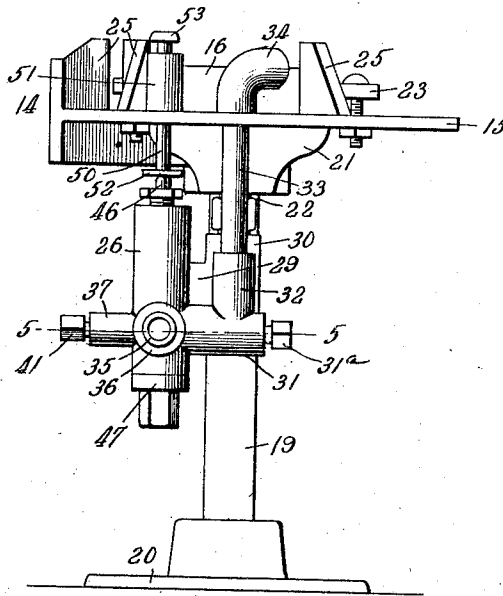


Fig 6

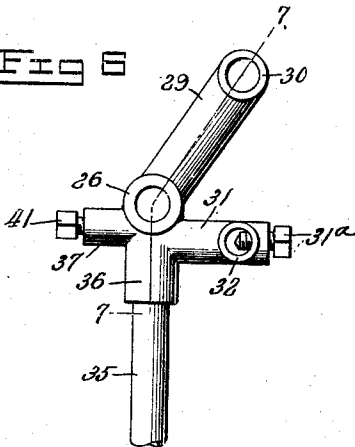


Fig 7

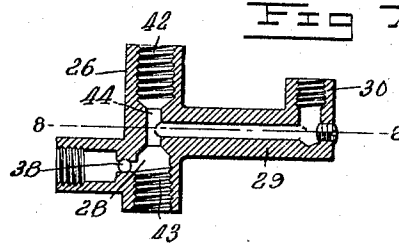
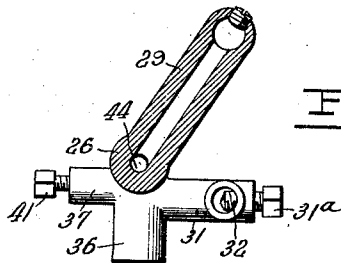


Fig 8



Witnesses

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UNITED STATES PATENT OFFICE.

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SAD-IRON HEATER.

976,952.

Specification of Letters Patent. Patented Nov. 29, 1910.

Application filed May 27, 1910. Serial No. 563,772.

To all whom it may concern:

Be it known that I, WILLIAM H. VAN HORN, a citizen of the United States, residing at Baltimore, State of Maryland, have invented new and useful Improvements in Sad-Iron Heaters, of which the following is a specification.

This invention relates to a sad iron heater and has for its object to provide a simple and economical heater for burning gas provided with a normally closed inlet valve adapted to be automatically opened for the admission of gas to the burner when a sad iron is placed on suitable supports arranged around the burner, and closed when the iron is removed therefrom. The gas issuing from said burner when the valve is opened is lighted by a suitably disposed pilot burner kept constantly lighted so long as gas flows to the heater.

With this and other objects in view the invention consists of the novel construction, combination and arrangement of parts hereinafter described and claimed and illustrated in the accompanying drawings in which:—

Figure 1 is a plan view of the improved said iron heater and holder which may form a part thereof; Fig. 2, a vertical sectional view on the line 2—2 of Fig. 1; Fig. 3, a similar view on the line 3—3 of the same figure; Fig. 4, an elevation of the heater viewed from the left side thereof Fig. 1; Fig. 5, a horizontal sectional view on the line 5—5, Fig. 4; Fig. 6, a plan view of the valve casing and the several branch arms projecting therefrom; Fig. 7, a vertical sectional view of the valve casing on the line 7—7 Fig. 6, and Fig. 8, a horizontal sectional view on the line 8—8, Fig. 7.

In the drawings, the numeral 14 indicates a horizontal table for sustaining a sad iron, one half of which 15, in the structure shown, is a flat plate and carries the burner 16, the other half 17, in the form of a grid and surrounded by a flange 18, serves as a holder for the iron when not in use. The table 14 is supported by a vertical standard 19 rigidly mounted in a base 20 adapted to be fastened on a table or other suitable article.

In the center of the plate 15 is a longitudinal depression or cavity 21 forming a gas chamber fed by a pipe 22 opening thereinto from the bottom, see Figs. 2 and 3. Supported on a shoulder in the gas chamber 21 near the top is the burner 16 made a gas

burner, as here shown in the form of a box open at the bottom and perforated at the top for the escape of gas, and fastened to the plate 15 by bolts passing through said plate and through ears 23 projecting from the ends of the burner. Between the burner and the gas cavity is a perforated metal or wire gauze diaphragm 24 to prevent flare-back of the gas. The burner hereinabove described is merely a type, as any approved form of burner may be substituted therefor.

Integral with or attached to the plate 15 are a number of upstanding lugs 25 slightly higher than the top of the burner to support a sad iron and form a combustion space between the burner and the bottom of said iron.

Beneath the plate 15 is a vertically disposed valve casing 26 containing a valve 27 for controlling the admission of gas to the burner 16. Projecting laterally from the valve casing above the valve seat 28 is a tubular branch 29 having an upturned end 30 interiorly threaded to receive the gas inlet pipe 22. When the valve is opened gas flows through the branch 29 to the burner. A second tubular branch 31 projects from the valve casing 26 below the valve seat, and has an upright extension 32 at its end threaded to receive a pipe 33 carrying on its upper end a pilot burner 34 to ignite the main burner 16 whenever gas is admitted thereto. The branch 31 is provided with a valve 31^a to regulate the quantity of gas flowing to the pilot burner.

The main gas pipe 35 bringing gas to the burners is screwed into a branch 36 connected with the valve casing 26 below the valve seat and in direct communication with the pilot burner branch 31 so as to keep the pilot burner constantly lighted while the heater is in use. At a right angle to the branch 36 is a small branch 37 having a longitudinally threaded hole 38 therein opening into a reduced passageway 39 connecting the opening in the branch 36 with the valve casing 26 just below the valve seat 28. Screwed into the hole 38 is a plug valve 40 adapted to be turned by a suitable tool to increase or decrease the area of the passageway 39 and thus vary the quantity and pressure of the gas which may pass to the main burner 16. The plug valve 40 is short and its outer end lies some distance within the threaded hole 38 to protect it from meddle-

some persons. A threaded bolt 41 is screwed into and closes the threaded hole 38 as shown.

The vertical valve casing 26 has a bore extending therethrough from end to end. The upper and lower ends 42 and 43 respectively of said bore are approximately of the same diameter and connected about midway of the casing by a reduced portion 44 which forms a guide for the stem 45 of the valve 27, said reduced portion leading upward from the valve seat 28. The upper end 42 of the bore forms a stuffing box 46 for the valve stem 45 which terminates in a rounded head a short distance above the packing nut of the stuffing box, said nut also forming a guide for the valve stem. The lower end 43 of the bore is closed by a screw cap 47 in which is seated a spring 48 arranged to press upwardly on the valve 27 and hold it against its seat to prevent gas passing to the burner 16. The lower end of the valve stem 45 is cut away or otherwise reduced in size at 49, to permit gas from the main pipe 35 when the valve 27 is open, to enter the reduced portion 44 of the bore around the valve stem and thence to the passageway in the branch 29 communicating with the burner 16.

The valve 27 is opened automatically by means of a pin 50 when a sad iron is placed on the lugs 25. This pin 50 slides easily in a vertical hole bored through a lug 51 on the upper side of the plate 15 and preferably within the area circumscribed by the lugs 25. The lower end of the pin 50 has an enlargement 52 that rests on the rounded upper end 45^a of the valve stem 45 and a head 53 on its upper end that projects a short distance above the lugs 25. When a sad iron is placed over the burner, its lower side strikes the pin and depresses it a short distance, pushing down the valve stem and opening the valve. The gas then passes the reduced portion of the valve stem through the branch 29, pipe 22, gas chamber 21 and through the burner 16 where it is lighted by the pilot burner 34. As soon as the iron is removed, the spring 48 which had been compressed by the downward movement of the valve reacts, and closes the valve on its seat, to shut off the gas, and through the valve stem, elevates the pin once more above the lugs 25.

Constructed as above described the heater is simple and cheap; positive and automatic in its operation, and economical in the use of gas, as the moment an iron is removed from over the burner, the flow of gas is stopped and the flame extinguished. This reduces the quantity of gas consumed and, perhaps, the generation of heat in the room where the heaters are used. Extinguishing the flame when not desired tends to keep the

atmosphere in the room pure as less oxygen is consumed and less vitiated gases thrown off as products of combustion.

The right is reserved to change the exact construction and arrangement of the various parts of this invention provided the scope and spirit of the claims are not exceeded.

What I claim is:

1. A heater of the class described, comprising a gas burner, means for supporting above the burner an object to be heated, a valve casing having a through opening larger at its ends than at an intermediate point, a valve therein and having normally a bearing against a seat, a plug secured into one end of said casing and having a bore for a spring to hold said valve seated, a stuffing box in the other end of said casing through which the valve stem passes, and a slidable pin supported on said valve stem but disconnected therefrom, extending above the burner in position to be depressed and open said valve when an object is placed on said supporting means.

2. A heater of the class described comprising a main burner and a pilot burner, a valve casing having a through opening reduced in size intermediate its ends, a valve seat being formed at the lower end of the reduced portion, said valve casing having an integral branch for attachment of the gas inlet pipe and a like branch connected to the pilot burner below the valve seat, and an integral branch above the valve seat connected to the main burner, a valve in said valve casing, a stuffing box in the upper end of the casing for the stem of said valve, a pin resting on said valve stem for opening the valve when depressed, a plug in the lower end of said valve casing and a spring in said plug to normally hold the valve seated.

3. A heater of the class described comprising a burner, a valve casing having a passage therethrough reduced in size intermediate its ends, and a valve seat at the lower end of the reduced portion, a valve in said casing mounted on a valve stem slidable in said reduced portion and guided thereby and extending within the casing, a portion of said valve stem next the valve being cut away to permit the passage of gas when the valve is open, independent sliding means for opening said valve when an object is placed over the burner, and means for automatically closing said valve when the object is removed.

4. A heater of the class described comprising a burner, a valve casing having a passage therethrough reduced in size intermediate its ends, a valve seat at the lower end of the reduced portion, said casing having formed integral therewith projecting branches each provided with a channel, one

of said channels leading from above said reduced portion of the valve passage to the burner, another to the pilot burner and a third connected to the gas inlet pipe, a valve
5 in said casing mounted on a valve stem slidable in said reduced portion and guided thereby and extending without the casing, a portion of said valve stem next the valve being cut away to permit the passage of
10 gas when the valve is open, independent sliding means for opening said valve when an object is placed over the burner, and means for automatically closing said valve when the object is removed.
15 5. A heater of the class described, comprising a main burner and a pilot burner, a valve casing, a normally closed gas inlet valve and a valve stem in said casing, said casing being formed with a branch projecting therefrom and provided with a channel
20 above said valve connected to the main burner, a second branch below the valve for the inlet of gas, and a third channeled

branch also below the valve for connecting gas to the pilot burner.

25 6. A heater of the class described, comprising a main burner and a pilot burner, a valve casing, a normally closed gas inlet valve and a valve stem in said casing, said casing being formed with an outwardly projecting branch above said valve provided
30 with a channel and leading to the main burner, a second branch below the valve for the inlet of gas, and a third channeled branch below the valve for conducting gas
35 to the pilot burner, a vertical rod extending above the burner to open said inlet valve when depressed, and a spring below the inlet valve to close it when the pin is free.

40 In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM H. VAN HORN.

Witnesses:

JOHN S. COLE,
EDGAR J. KEMP.