C. J. JOHNSON.

SAD IRON.

APPLICATION FILED MAY 9, 1912.

1,068,245.

Patented July 22, 1913.

3 SHEETS—SHEET 1.

Fig. I.

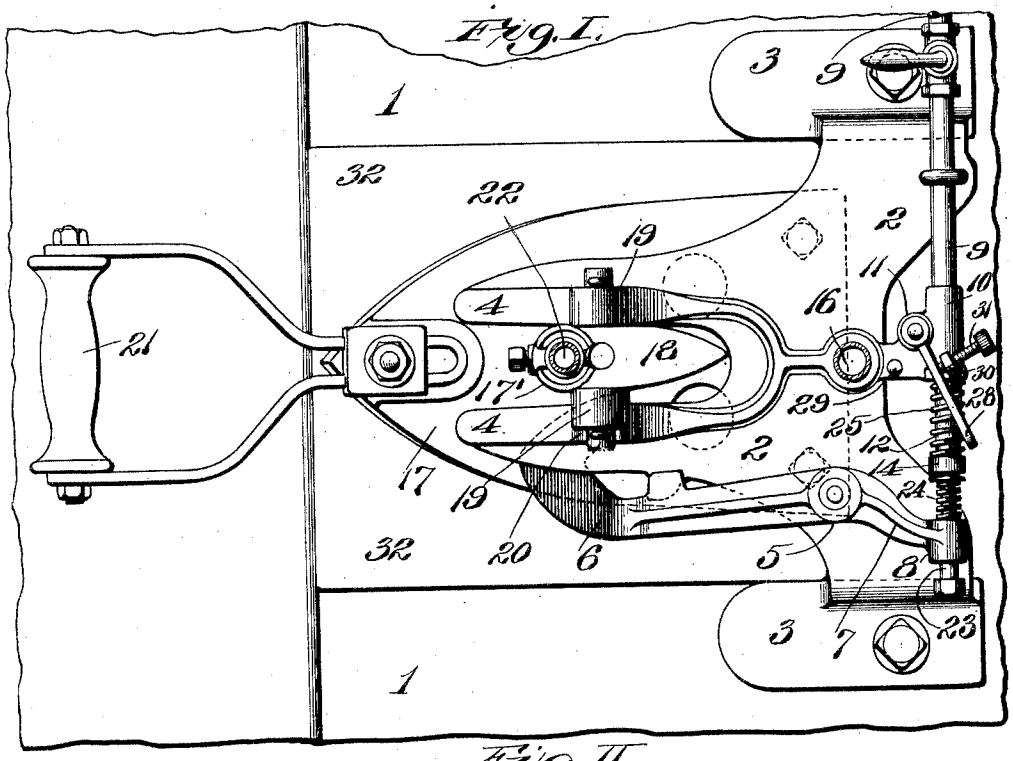
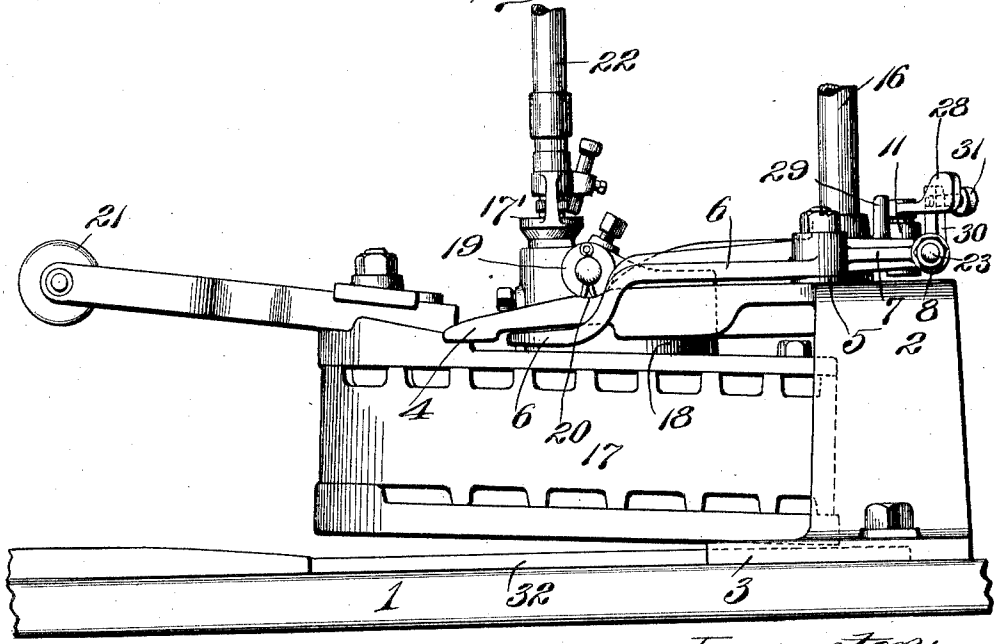


Fig. II.



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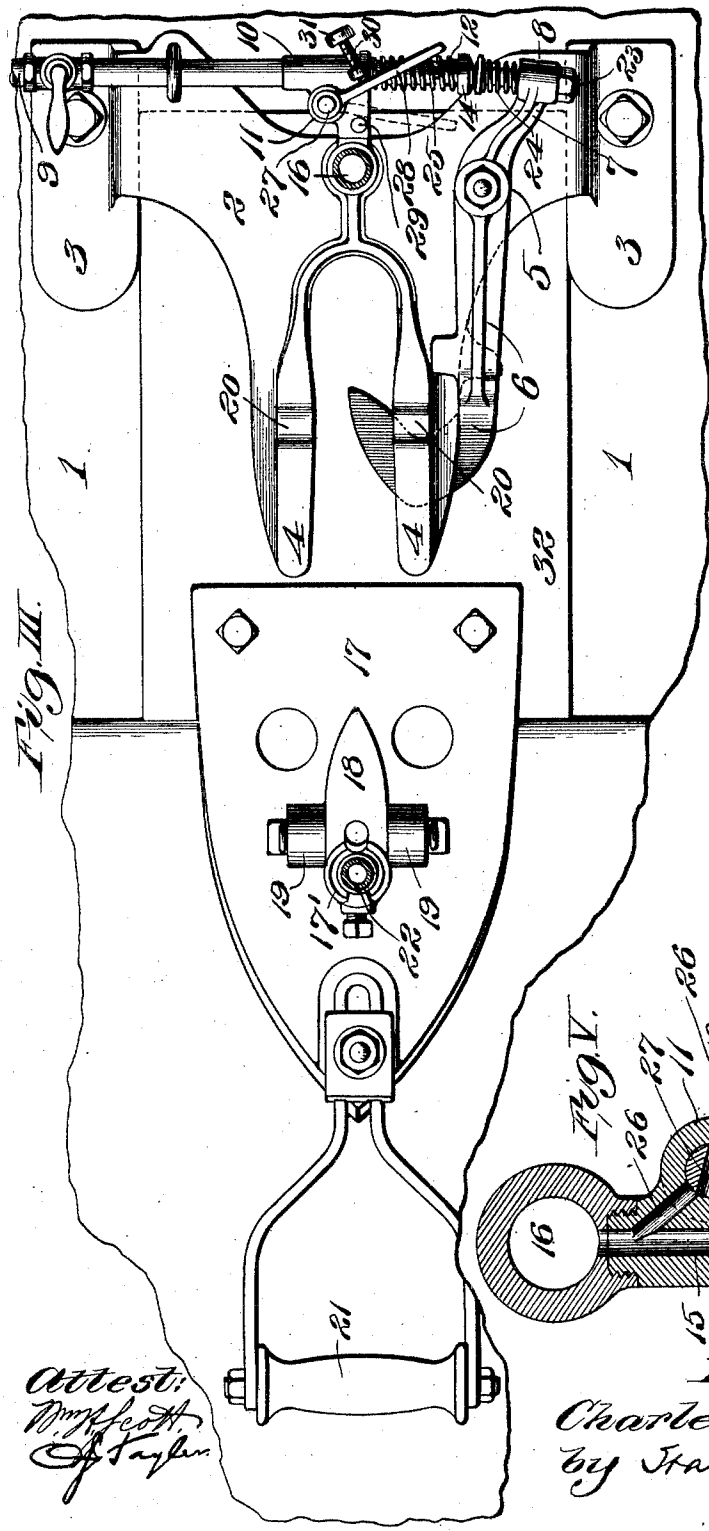


Fig. III.

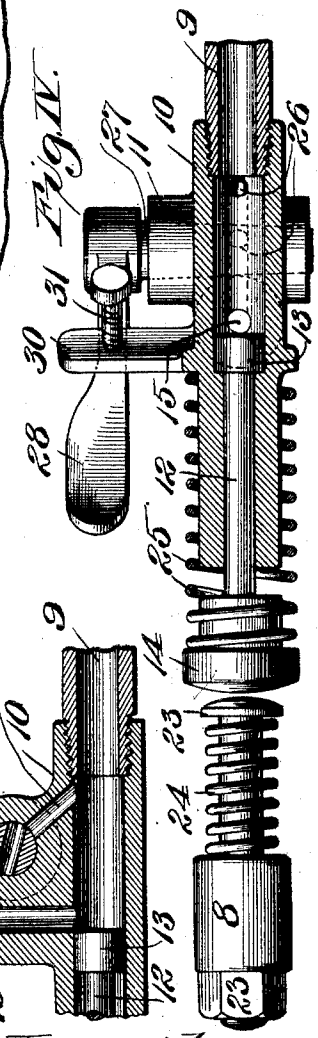


Fig. IV.

Fig. V.

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3 SHEETS—SHEET 3.

Fig. VI.

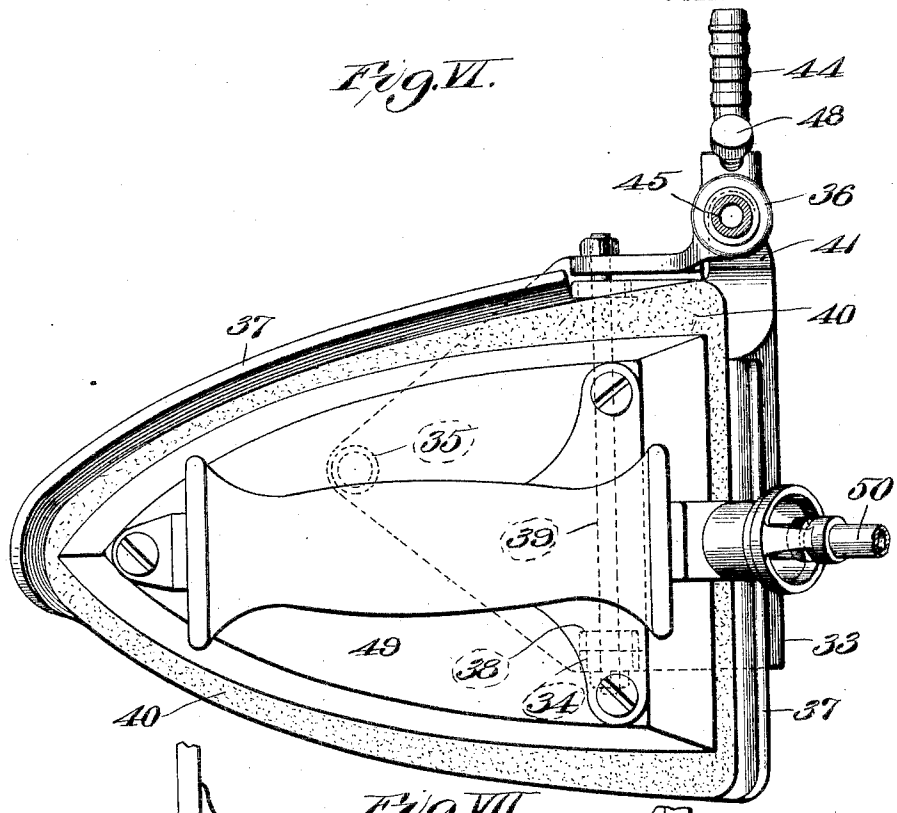


Fig. VII.

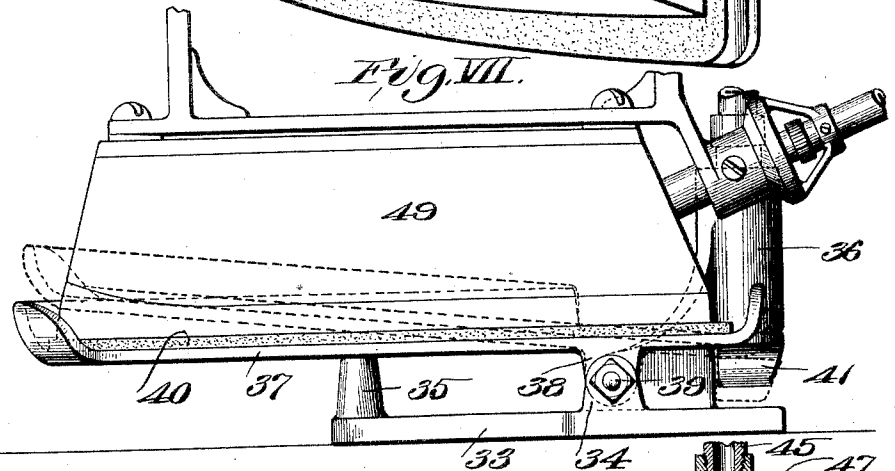
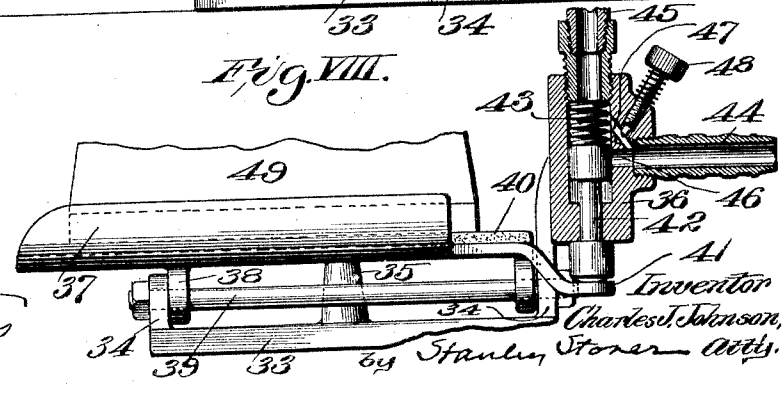


Fig. VIII.



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UNITED STATES PATENT OFFICE.

CHARLES J. JOHNSON, OF CEDAR RAPIDS, IOWA, ASSIGNOR TO JOHNSON GAS APPLIANCE COMPANY, OF CEDAR RAPIDS, IOWA, A CORPORATION OF IOWA.

SAD-IRON.

1,068,245. Specification of Letters Patent. **Patented July 22, 1913.**

Application filed May 9, 1912. Serial No. 696,134.

To all whom it may concern:

Be it known that I, CHARLES J. JOHNSON, a citizen of the United States, residing at Cedar Rapids, in the State of Iowa, have invented a new and useful Improvement in Sad-Irons, of which the following is a specification.

My invention relates to sad irons, adapted for use in large or small laundries, homes, factories or institutions, in which the iron is heated from within, preferably by a burning jet of gas, and in which the temperature is pre-determined and of different degrees when the iron is at rest and when in use. It is adapted for any heating element, either natural or artificial gas, or electricity.

The objects of my invention are therefore, first; to automatically fix a low temperature for the iron when not in use, and second, to automatically fix a higher temperature when the iron is being operated. These temperatures may be instantly altered, to suit the particular work in hand, and when once set, the iron requires no further attention, thus securing a maximum efficiency. I attain these objects by the mechanism illustrated in the accompanying drawings, in which,

Figure I, shows a top view of the iron and its stand, when the iron is not in use; Fig. II, shows a side view thereof; Fig. III, shows a top view of the iron withdrawn from the stand for use, and when the higher heat is required; Fig. IV, shows an enlarged detail view, partly in vertical section, of the valve mechanism which controls the amount of gas; Fig. V, shows an enlarged horizontal section of the gas supply valve; Fig. VI, shows a top view of a modified form of constructing the device; Fig. VII, shows a side view of Fig. VI, in both of which views the iron is in position when not in use, and Fig. VIII, shows the stand on which the iron rests when not in use, the gas supply valve being here shown in vertical section.

Similar letters refer to similar parts throughout the various drawings.

1 is the ironing board or table, of any usual construction. 2 is the stand, preferably of cast iron, secured to one end of said table, and on which the iron rests when not in use.

3 are lugs on either side of the stand to secure same to the table by means of bolts.

4, 4 are bifurcated extensions to the stand forming guides for the iron.

5 is a boss for a lever arm of which 6 is the forward and 7 the rear end. 8 is a perforated boss on the rear end thereof.

9 is the inlet pipe for gas.

10 is the valve housing.

11 is a plug and 12 a throttle valve, controlling the amount of gas.

13 and 14 are enlargements on the valve 12.

15 is the port.

16 is the supply pipe to convey gas to the burner within the sad iron, which is of any suitable flexible construction.

17 is the sad iron and 17′ is the mixer for the gas burner within the sad iron.

18 is a guide lug on the iron, coöperating with the bifurcated extensions 4 on the stand.

19 are rollers on trunnions on the iron and 20 are seats therefor.

21 is the handle by which the iron is operated.

22 is the admission pipe to the gas burner.

23 is the bar actuating the valve. 24 is a spring therefor.

25 is a spring for the throttle valve.

26 is the port or by-pass.

27 is the port in the plug valve. 28 is an arm to control said plug valve. 29 and 30 are stops for said arm. 31 is an adjustment screw to regulate same.

32 is an asbestos plate or stand.

In the modified form shown in Figs. VI, VII, and VIII, the supply of gas is controlled by the weight of the sad iron. 33 is a base plate supplied with lugs 34 and a stop 35. 36 is the valve housing. 37 is a pivotal iron rest supplied with lugs 38. 39 is a hinge pin. 40 is an asbestos covering to the rest on which the iron is placed when not in use. 41 is an arm extending from said rest and 42 is the throttle valve controlled by said arm. 43 is the spring to said throttle valve. 44 is the gas inlet pipe. 45 is the gas outlet pipe, leading to the burner within the iron. 46 is the valve port. 47 is a by-pass, 48 the by-pass valve, 49 the sad iron and 50 the gas inlet pipe to the said sad iron.

The device operates as follows, being illustrated by the preferred construction shown in Figs. I, II, III, IV, and V: The iron here shown weighs some thirty or forty pounds

and is adapted for use in large laundries. The iron in Figs. I and II is not in use, and is hung on the bifurcated extensions 4, 4. When in this position the guide lug 18 in contact with the forward end 6 of the arm pivoted at 5 throws, by means of its rear extension 7, the valve actuating bar 23 inward, and by means of the enlargement 13, closes the port 15, which is normally kept open by means of the spring 25. A reduced supply of gas is then sent through the by-pass 26. This supply for the iron when not in use can be reduced or increased by setting the adjustment screw 31 which limits the movement of the handle 28, and this in turn controls the port in the plug valve, 27, so that a low temperature may be maintained. When it is desired to use the iron, it is drawn from its supports by means of the handle 21, the hooked end of 6 being liberated. This action permits the spring 25 to exercise its full capacity, thereby drawing the enlargement 13 beyond the port 15, and opening the path for a free flow of gas through the supply pipe 16 to the burner within the iron. The heating of the iron being accomplished by a burner located within the said iron, and the supply remaining constant, insures uniformity of temperature, and consequent uniformity of work. During temporary periods of non-use the iron is pushed onto the stand 2, the rollers 19 being passed over the guides 4 till they rest in seats 20. This operation causes the throttle valve 12—13 to close port 15 through the action of lug 18 upon lever 6 and bar 23. Then there is permitted but a limited supply of gas to flow through the by-pass 26, thus maintaining a low temperature in the burner located within the iron.

In the modified form shown in Figs. VI, VII and VIII the rocking stand on which the iron rests when not in use, closes, through the arm 41, the port 46 through the throttle valve 42. When the iron is removed for use, the spring 43 forces the throttle valve open, so that sufficient gas is liberated to maintain a high temperature in the burner.

The device is shown and described for use with a combustible gas though other heat producing media may be used therewith.

What I claim as new and desire to secure by Letters Patent of the United States, is.

1. The combination of an internally heated sad iron, means for supplying gas thereto, a station of rest for the sad iron, means at said station for governing the flow of gas to the sad iron, and an operating device for said governing means actuated and controlled by the sad iron when located in the station of rest and when taken therefrom to automatically increase the flow of gas to the sad iron when the sad iron is taken from the station of rest and to automatically reduce said flow when the sad iron is returned to said station.

2. The combination of an internally heated sad iron, means for supplying gas thereto, a station of rest for the sad iron, means at said station for governing the flow of gas to the sad iron, an operating device for said governing means actuated and controlled by the sad iron when located in the station of rest and when taken therefrom to automatically increase the flow of gas to the sad iron when the sad iron is taken from the station of rest and to automatically reduce said flow when the sad iron is returned to said station, and means for regulating the flow of gas to the sad iron when the sad iron is in the station of rest.

3. The combination of an internally heated sad iron, means for supplying gas thereto, a station of rest for the sad iron, a valvular structure at said station for governing the flow of gas to the sad iron, and spring-returned lever mechanism acting upon a part of said valvular structure and actuated by the sad iron to automatically decrease the flow of gas when the sad iron is placed in the station of rest and automatically increase the flow of gas when the sad iron is taken from the station of rest.

4. The combination of an internally heated sad iron, a station of rest therefor, a flexible gas pipe connecting the sad iron to said station, a supply pipe for leading gas to said station, a throttle valve in the supply pipe, a cock-controlled by-pass around the throttle, and means connected to the throttle valve and actuated by the sad iron for automatically closing said valve when the sad iron is placed in the station of rest and automatically opening said valve when the sad iron is removed from said station.

5. The combination of an internally heated gas sad iron provided with a guide lug, a station of rest provided with a support for the sad iron, a pipe for supplying gas to said station and from the station to the sad iron, a valve in said supply pipe, and lever mechanism mounted upon said support for engagement by said guide lug and connected to said valve for operation thereof in the manner set forth.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."