

(No Model.)

2 Sheets—Sheet 1.

J. F. WERLE.
GAS STOVE.

No. 540,373.

Patented June 4, 1895.

Fig. 1.

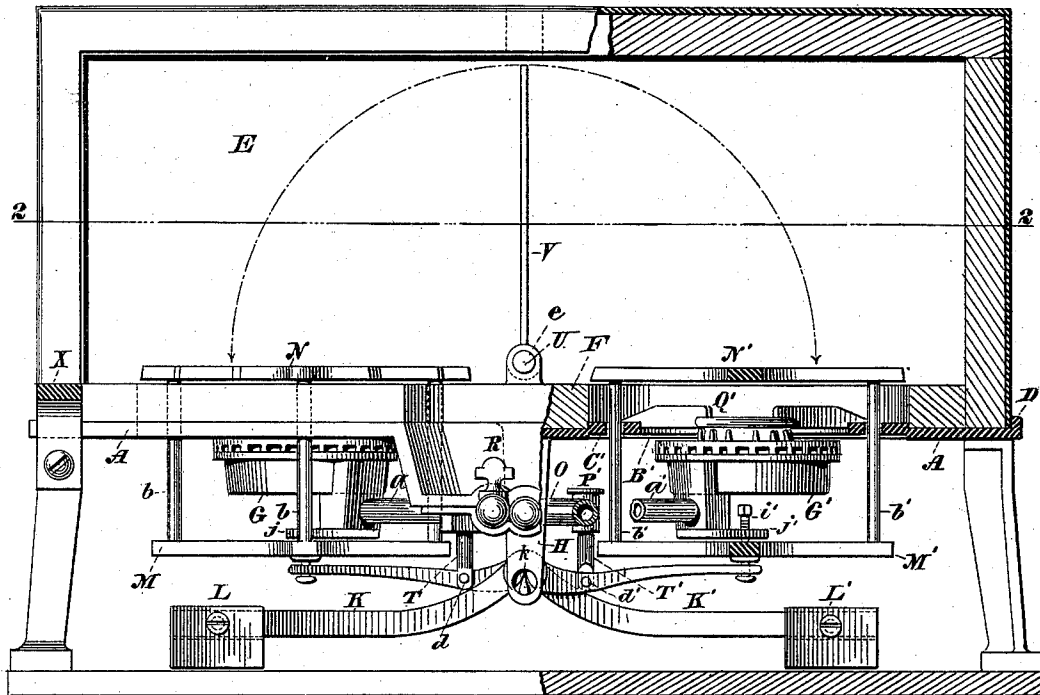
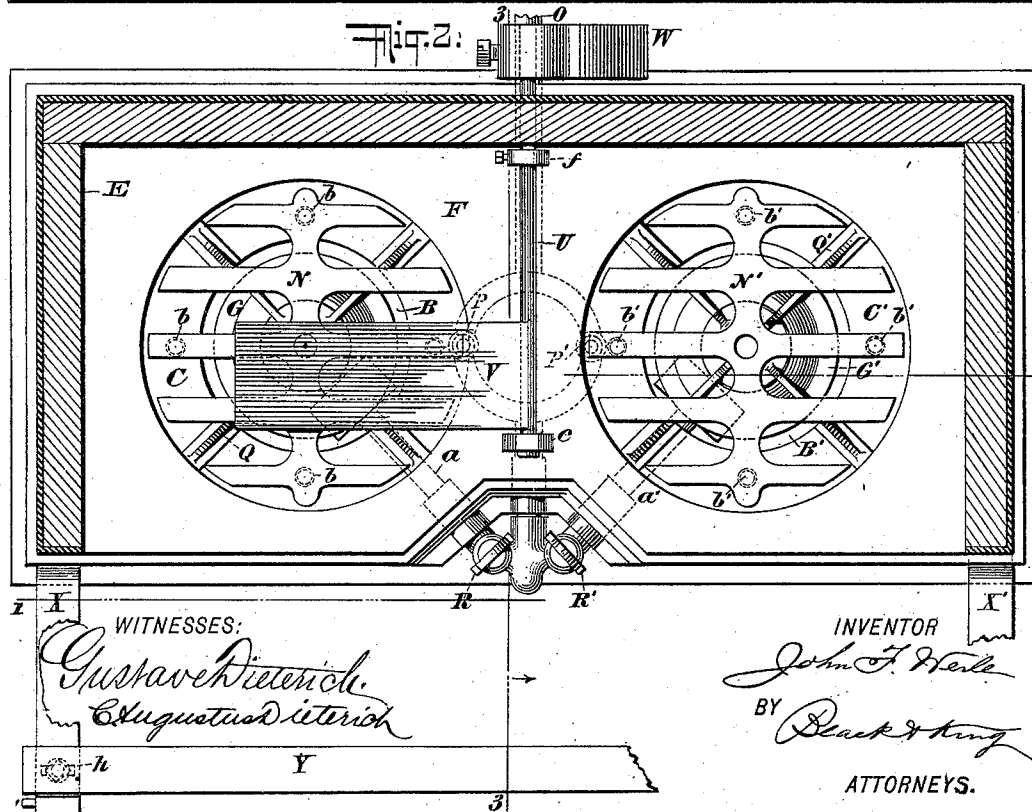


Fig. 2:



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INVENTOR

John F. Werle

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(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

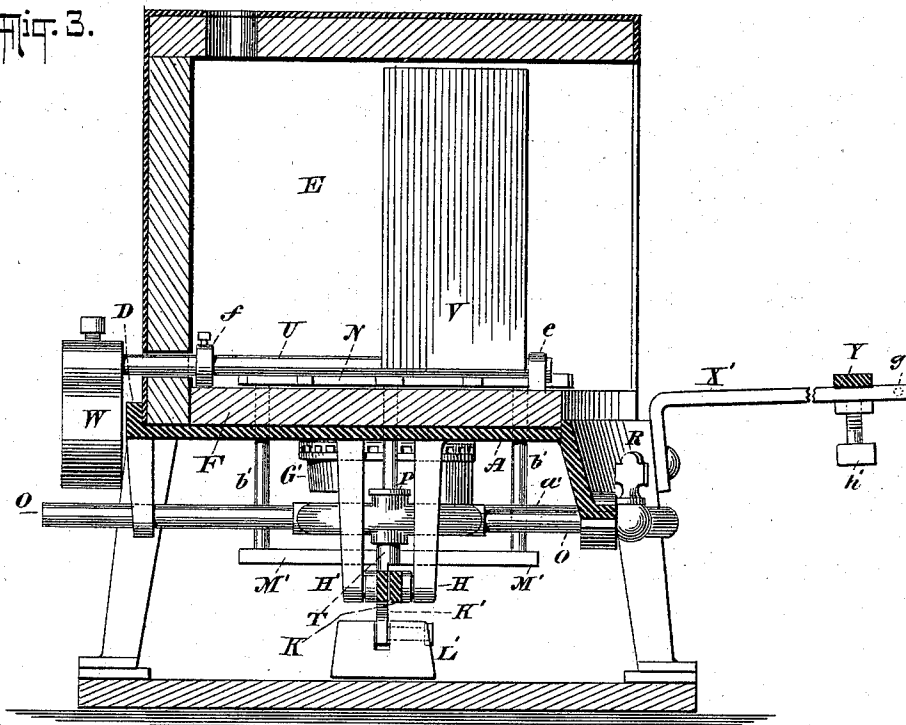


Fig. 4.

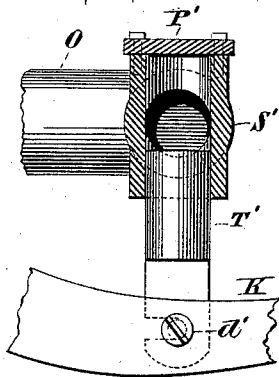


Fig. 6.

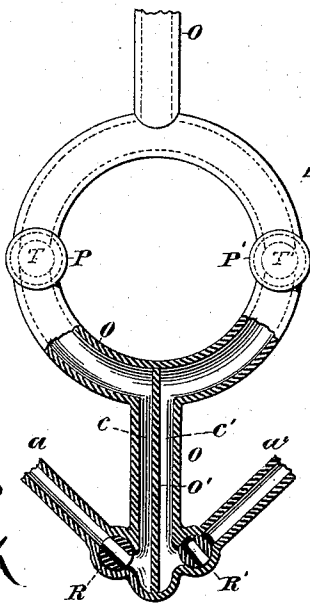
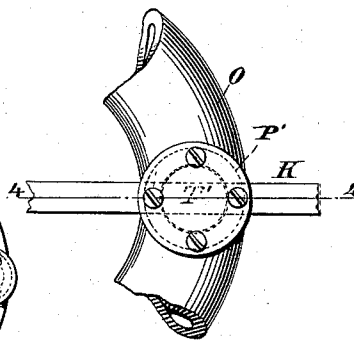


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN F. WERLE, OF BROOKLYN, ASSIGNOR TO EDWARD G. BLACK, OF NEW YORK, N. Y.

GAS-STOVE.

SPECIFICATION forming part of Letters Patent No. 540,373, dated June 4, 1895.

Application filed July 12, 1894. Serial No. 517,340. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. WERLE, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Gas-Stoves, of which the following is a full, clear, and exact description.

My invention relates more particularly to that class of gas stoves known as "book-binders' stoves" which are used for heating fillets and similar instruments, and consists in the combination, construction and arrangement of parts hereinafter more fully set forth.

The object of my invention is to produce a gas stove wherein the supply of gas necessary for heating the instruments may be automatically regulated or controlled by the instrument to be heated, and the further objects to save a great quantity of gas now unnecessarily wasted, and to save the time and labor consumed in regulating the supply of gas in the stove whenever an instrument is to be heated.

In the accompanying drawings, forming part of this specification, wherein like letters indicate like parts, Figure 1 is a front view of my improved stove, the same being shown partly in section on the line 1 1 of Fig. 2. Fig. 2 is a horizontal section on the line 2 2 of Fig. 1. Fig. 3 is a vertical section on the line 3 3 of Fig. 2. Fig. 4 is an enlarged detail section of one of the cut-off valves. Fig. 5 is an enlarged detail plan view of the same; and Fig. 6 is an enlarged detail section of gas-supply pipe, showing the construction of separate compartments therein.

In the accompanying drawings A designates the main supporting platform made of iron mounted upon suitable standards and having circular apertures B, B', annular ribs C, C' bordering said apertures, and a ridge D extending entirely around the edge of said platform adapted to receive and hold in place a hood E consisting of soapstone sides and top covered with sheet iron; the bottom of said hood also consisting of a slab of soapstone F having circular apertures therein corresponding in outline to the annular ribs C, C' of the supporting platform A.

Upon the annular ribs C, C' rest the spiders Q, Q' supporting the depending burners G, G' which are connected with the separate compartments of the supply pipe by pipes a, a'.

From the under side of the supporting platform A, and about midway between the burners G, G' are two downwardly projecting supports H, H' having a fixed triangular knife-edge k of steel upon which the beams K, K', having balance weights L, L' attached to one of the ends of each of said beams, are adapted to vibrate, and the other ends of said beams pivoted to the cruciform frames M, M' having uprights b, b' extending through holes in the annular ribs C, C' and supporting the grates N, N'.

To the under side of the platform A is secured the gas supply pipe O having a central ring portion provided with cut-off valves P, P' located in said ring portion opposite to each other, a straight forward portion having a partition O' extending through the same and dividing it so as to form two separate compartments c, c' each of said compartments having separate stop cocks R, R' and connected with the burners G, G' by the pipes a, a'.

The automatic cut-off valves P, P' for regulating the supply of gas to be admitted to the burners consist of cylinders S, S' open at their lower ends to receive the vertically operating plungers T, T', the lower portions of which are partly cut away to admit the balanced vibrating beams K, K' having pins d, d' adapted to fit into recesses in the lower portions of the plungers T, T'.

Through an aperture in the slab F projects a bearing e integral with the platform A to support one end of a shaft U carrying a leaf V and collar f, the other end of said shaft passing through the rear wall of the hood E, which at the same time forms a bearing therefor; said shaft being provided with a counterpoise weight W keyed upon the projecting end of the shaft at the rear of the hood and adapted to maintain the leaf V in a normally vertical position.

To the front of the stove and secured to the platform A is an adjustable support for the instruments to be heated consisting of two outwardly projecting arms X, X' having stops

g, g' and an adjustable bar *Y* carried by said arms provided with thumb screws *h, h'* to secure the bar in its adjusted position.

The operation of my improved gas stove is as follows: Assuming the end of the gas supply pipe *O* to be in connection with the source of supply, and the stop-cocks *R, R'* open, the cut-off valves are then so adjusted by means of the set screws *i, i'* in the projecting plates *j, j'* on the under side of the burners *G, G'* to allow a sufficient amount of gas to circulate through the supply pipe *O*, and pipes *a, a'* until the same reaches the burners *G, G'* where the same after being ignited will burn with small flames beneath the grates *N, N'*. Now, when the operator desires to heat an instrument he places the heavy metal end or head piece upon the grate *N*, letting the handle thereof rest upon the adjustable bar *Y*, and then adjusts the balance weight *L'* by moving the same forward or backward to such a point where the weight of the instrument will overbalance the weight *L'*. The weight of the instrument then causes the grate and its fixed parts to descend, and as the same are secured to the balanced beam *K'* the same will likewise descend and cause the plunger *T* pivoted thereto to be partly withdrawn from the cylinder *S*, thereby opening the valve fully, permitting a free circulation of gas in the pipes leading to the burner *G* and producing a full flame beneath the grate *N*, for heating the instrument. After the instrument has been sufficiently heated the same is then withdrawn from the stove, and as the weight of the grate *N* is not sufficient to overbalance the weight *L'* said weight will again descend causing the other end of the beam connected with grate *N* to ascend and resume its former position, and the plunger *T* to enter farther into the cylinder *S*, thereby diminishing the supply of gas. Where the instrument to be heated has a small metal end or head piece which would, if placed in direct contact with the flame, become heated to such an extent as to burn or char the handle thereof, or where for any reason it would be undesirable to place the instrument in direct contact with the flame, the operator may then turn down the balanced leaf *V* and interpose the same between the flame and the instrument, thereby keeping the flame

from the instrument and enabling the same to become heated without injuring the instrument or its handle. After the instrument has been heated and is withdrawn from the stove the counter-poise weight *W* keyed to the shaft *U* at the rear of the hood will cause the leaf *V* to rise and resume its normal vertical position.

The handles of the instruments are always supposed to rest upon the adjustable support. This tool support being slightly higher than the grate causes the main weight of the instrument to bear upon the grates, and the bar *Y* being made adjustable will accommodate long as well as short handled instruments.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a gas stove, the combination of burners, grates adapted to be depressed, and mechanism for regulating or controlling the supply of gas, with a leaf having a normally vertical position carried upon a shaft mounted in suitable bearings, and a counter-poise weight keyed to said shaft; said leaf being adapted to be interposed between the gas flame and the instrument or article to be heated, and to resume its normal position when said instrument or article is withdrawn from the stove, substantially as specified.

2. In a gas stove the burners, depressible grates, supporting frames therefor, vibrating beams suitably supported to sustain the supporting frames, and provided with adjustable balance weights, and a gas supply pipe provided with cut-off valves operated by said vibrating beams, combined with a leaf carried upon a shaft having a counter-poise weight keyed thereto, and mounted in suitable bearings, said leaf being adapted to be interposed between the gas flame, and the article to be heated, substantially as herein shown and described.

Signed at the city of New York, in the county and State of New York, this 9th day of July, 1894.

JOHN F. WERLE.

Witnesses:

WILLIAM J. OLSEN,
LAWRENCE KNEELAND.