

(No Model.)

2 Sheets—Sheet 1.

M. L. NYBERG & J. F. SKOOG.
BURNER FOR GAS STOVES.

No. 557,506.

Patented Mar. 31, 1896.

Fig. 1.

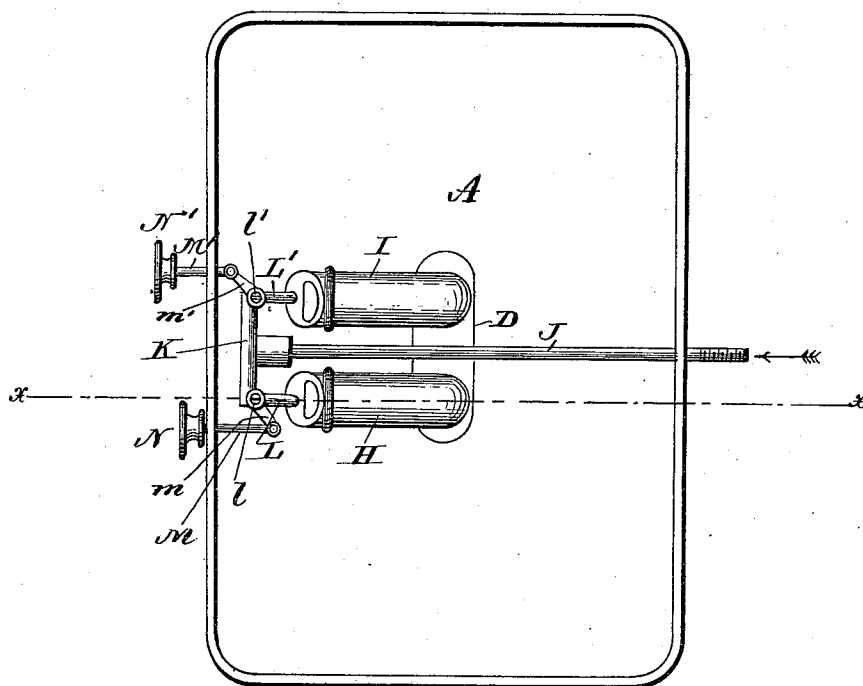
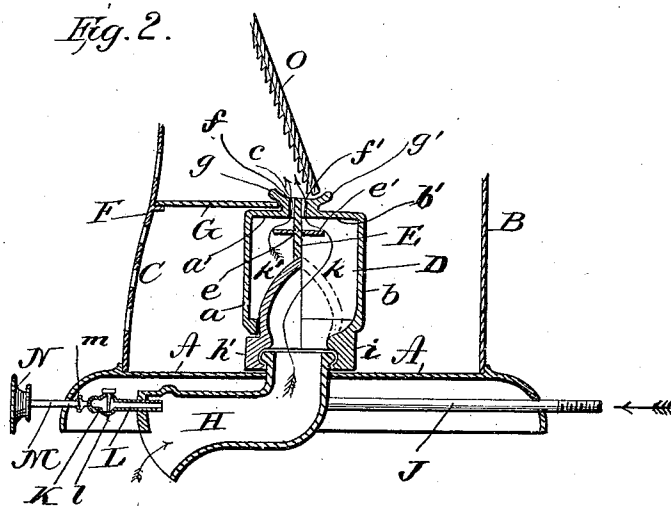


Fig. 2.



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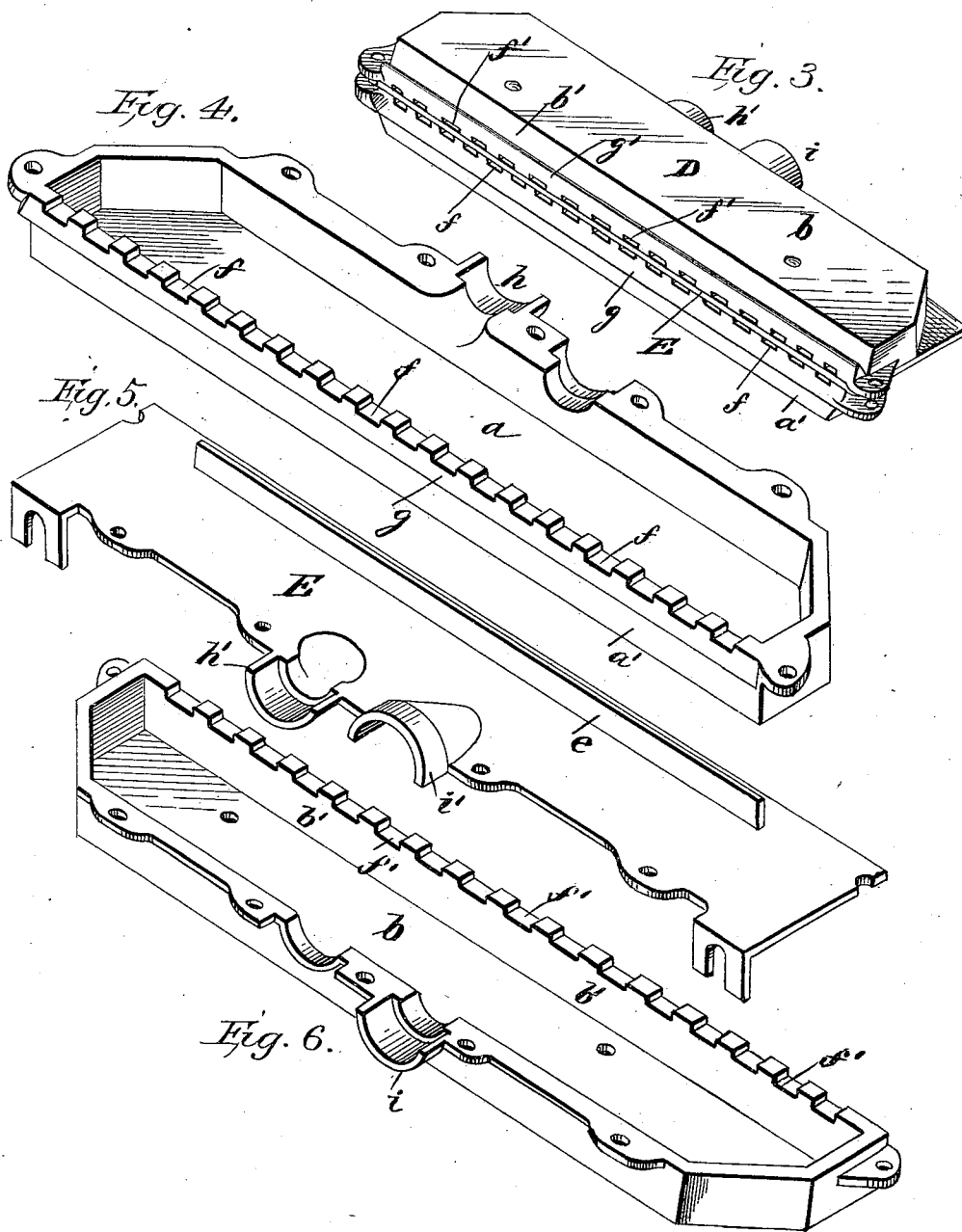
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Witnesses:

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UNITED STATES PATENT OFFICE.

MATTS LEANDER NYBERG AND JOHN FREDRICK SKOOG, OF ERIE,
PENNSYLVANIA.

BURNER FOR GAS-STOVES.

SPECIFICATION forming part of Letters Patent No. 557,506, dated March 31, 1896.

Application filed May 20, 1895. Serial No. 549,981. (No model.)

To all whom it may concern:

Be it known that we, MATTS LEANDER NYBERG and JOHN FREDRICK SKOOG, citizens of the United States, and residents of Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Burners for Gas-Stoves; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a plan of the under side of a gas-stove equipped with our improved burner. Fig. 2 is a transverse sectional view of the same on the plane indicated by the broken line marked *xx* in Fig. 1. Fig. 3 is a perspective view of our improved burner, on an enlarged scale, removed from the stove; and Figs. 4, 5, and 6 represent the three parts of the burner separated from one another.

Like letters of reference designate corresponding parts in all the figures.

Our invention has relation to gas-stoves intended for heating purposes—*i. e.*, for the warming of rooms in dwellings, offices, factories, and other places where that form of heating apparatus is available; and it consists in the improved construction and combination of parts of the double-chambered or duplex burner which will be hereinafter more fully described and claimed.

Referring to the accompanying drawings, the letter *A* denotes the bottom plate or base-plate of the stove, which is supported upon suitable feet (not shown) at any desired height from the floor and provided with the imperforate back plate *B* and perforated or open-work front plate *C*.

Inside of the box or casing formed by the bottom *A*, back *B*, and front *C* is located the burner *D* of our improved construction, (shown in cross-section in Fig. 2,) from which it will be seen that it consists of a rectangular box comprising two parallel side plates *a* and *b* bent inwardly at right angles at their upper ends, as shown at *a'* and *b'*, so as to leave a narrow slot *c* running the entire length of the burner and forming an entrance into the hol-

low interior of the same. Projecting into this slot from the under side, on a level with the adjacent edges of the horizontal top plates *a'* and *b'*, is a narrow plate *E* set on edge and provided with two right-angled wings or extensions *e* and *e'*, which overlap, on opposite sides, the narrow burner slots or apertures *f* and *f'* on opposite sides of the central vertical plate or diaphragm *E*.

The top plates *a'* and *b'* of the burner *D*, at the edge adjacent to the longitudinal slot *c*, are cast with outwardly-flaring lips or ledges *g* and *g'*, one of which, *g*, in connection with plate *a'*, of which it is an integral part, forms a seat for one end of a horizontal plate *G*, the other end of which rests upon and is fastened to a ledge *F* projecting inwardly from the front plate *C*.

A mixture of gas and atmospheric air is fed to the burner *D* through two inlet-pipes *H* and *I*, which, after passing through the bottom-plate *A*, are deflected toward the front side of the stove, terminating in enlarged open mouths which form inlets for the air. These large pipes *H* and *I* constitute the "mixers," within which the gas and atmospheric air is mixed, the gas being supplied through a pipe *J*, terminating in a cross-head or "T" *K*, from the two branches of which pipes *L* and *L'* lead into the mixers *H* and *I*, respectively. Each of these branch pipes *L* and *L'* is provided with a valve *l l'* which may be opened and closed by means of a short arm *m m'* connecting it to a regulating-rod *M* and *M'*, each of which passes through an aperture or guide-hole in the depending flange of bottom plate *A*, and is provided on its projecting outer end with a movable push-button *NN'*. The arms *m* and *m'* are loosely articulated to their respective rods *M* and *M'*, so that the latter can easily be pushed forward or back for operating the valves.

The object in attaching the push-buttons loosely upon their respective rods is to prevent the bending or breaking of the valves and their connecting-arms, if a person not familiar with the operation of the stove and the manner of regulating the gas supply should attempt to do so by turning the buttons instead of pushing them forward and back. Being loosely or rotatably attached to

the regulating-rods, they may be turned without injury.

The combined mixer and inlet-pipes H and I are connected at their inner ends to the under side of the burner by means of flanged semicircular collars *h* and *i* cast upon the two half-sections *a* and *b* of the burner D, with corresponding half-collars *h'* and *i'* cast upon the central diaphragm or partition E. The last-named semicollars, *h'* and *i'*, are deflected in opposite directions, (see Fig. 5,) so as to register with the pipe-collars *h* and *i* upon the burner-plates *a* and *b*, so that each pipe H and I will communicate with only one of the two compartments *k* and *k'* formed inside of the burner by means of the longitudinal diaphragm E, the pipe H feeding the burning mixture of gas and air to the compartment *k*, while the other pipe, I, feeds the mixture of gas and air into the adjacent compartment *k'*. It follows from this construction that either one or both burner-compartments may be used at will. By pulling out the rod M', and thus opening the gas-valve appertaining to pipe I, the chamber *k'* is filled with fuel, which escapes through the series of narrow slots *f* in the top of the burner and is there ignited. Meanwhile (if it is desired to run the burner on "half-power" only, as illustrated in Fig. 1) the other button, N, is pushed all the way in, so as to close the valve *l* appertaining to pipes L and II, thus rendering the other half part of the burner inoperative. If, on the other hand, it is desired to run the stove with "full power" by using the burner to its full capacity, both buttons N and N' are drawn all the way out, thus filling both the burner-chambers *k* and *k'* with fuel, causing jets to issue through both the parallel rows of holes or burner-slots *f'* and *f*. The flame is deflected toward the open front end of the stove, so as to throw the heat into the room by means of an inclined plate O, lined with asbestos, which, becoming incandescent, adds to the attractiveness as well as to the utility of the

stove when burning, in the well-known manner.

From the foregoing description, taken in connection with the drawings, the operation and advantages of our improved burner will readily be understood. The burner D being duplex or double-chambered, either chamber may be used at will, as above described, and the flow of fuel into either chamber may be regulated or cut off by means of the push-buttons N and N'. The burner being made of cast-iron and in sections can easily be taken apart for cleaning or repair when required, the interior wings *e e'* deflecting the flow of fuel within the respective burner-chambers *k'* and *k* before it reaches the slotted outlets *f* and *f'* in such a manner as to effectually avoid waste by too rapid a flow through the apertures, besides assisting in the more thorough commingling of the air and gas before combustion takes place.

Having thus described our invention, we claim and desire to secure by Letters Patent of the United States—

The improved duplex burner for gas-stoves herein shown and described, consisting of the rectangular box D comprising the sides *a a'* and *b b'*, having outwardly-flaring exterior lips *g g'*; in combination with the interior diaphragm E having laterally-extending side wings *e e'*, and provided with the semicollars *h'* and *i'* deflected in opposite directions and registering, respectively, with corresponding semicollars *h* and *i* on the side plates *a a'* and *b b'*, adapted to receive the inlet-pipes H and I; substantially as and for the purpose shown and set forth.

In testimony that we claim the foregoing as our own we have hereunto affixed our signatures in presence of two witnesses.

MATTS LEANDER NYBERG.
JOHN FREDRICK SKOOG.

Witnesses:

ISADOR SOBEL,
JOHN KJELLEN.