

W. R. JEAUVONS.
OIL STOVE.

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964,262.

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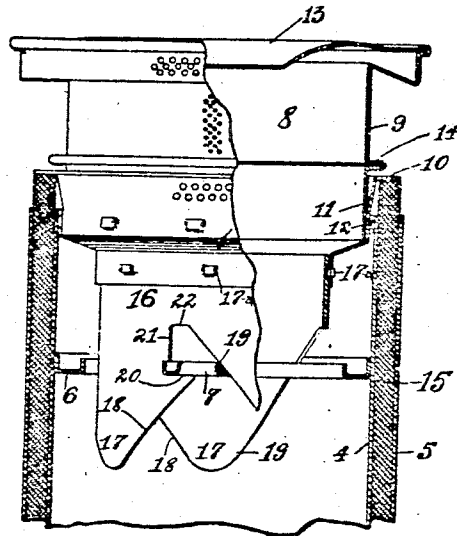


Fig. 2

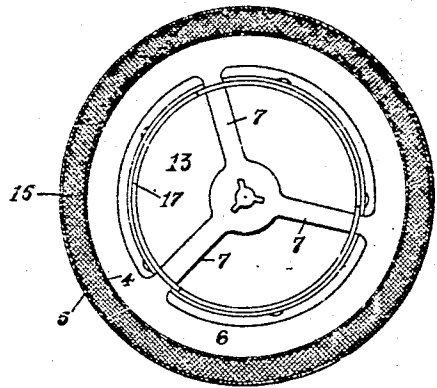


Fig. 3

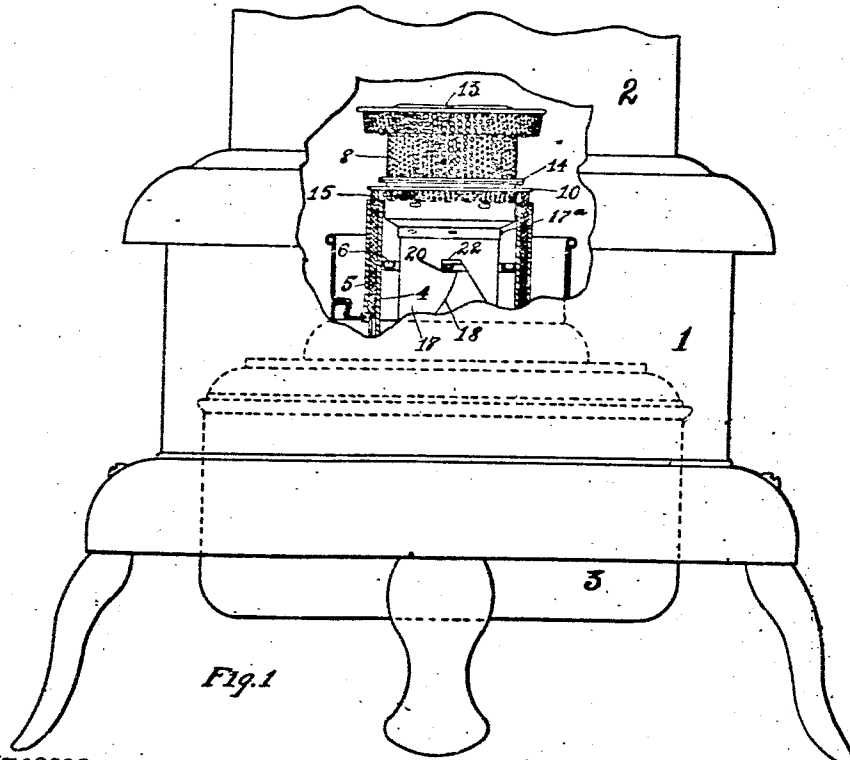


Fig. 1

Witnesses:
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UNITED STATES PATENT OFFICE.

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OIL-STOVE.

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To all whom it may concern:

Be it known that I, WILLIAM R. JEAVONS, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Oil-Stoves, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

10 This invention relates to burners which are employed in heating stoves and lamps, and more especially to burners which are used in stoves known to the trade as "smokeless heaters". Burners of this type are provided with distributors mounted within the top of the inner wick tube and projecting thereabove, and, as heretofore constructed, the distributor has been provided with a rod projecting through the spreader plate of the distributor and provided thereabove with a stop nut, the lower end of the rod being anchored to a suitable frame or spider extending across the inner wick tube at a suitable distance below the top thereof. The air distributor has also been provided with a flange adapted to rest upon the top of the wick and enable the distributor to follow the wick in its excursions, resting upon the tops of the wick tubes when the wick is turned down. When the wick is turned up and the spreader plate engages the stop nut referred to, said flange serves as a stop to limit the maximum operative height of the wick. The range of movement of the air distributor is such that, when the spreader plate engages the stop nut, the wick exposure will provide for the maximum flame for which the stove or heater is designed. An instance of such a stove is shown in my Patent No. 906,887, issued December 15th, 1908.

It is the purpose of the present invention to improve upon the manner of supporting the distributor in the inner wick tube, whereby the distributor may be easily removed from its operative position with reference to the wick tube and conveniently reinserted therein and, when the wick is lifted, the distributor will act as a stop for the wick and, in case the wick should bind at one side more than the other, making it turn up unevenly, the flange engaged by the highest portion of the top of the wick will be maintained parallel with the tops of the wick tubes and will prevent further elevation of

the highest portion of the wick, causing the lower portion to be elevated by the wick raiser into contact with the flange. The top of the wick will thus be parallel with the tops of the wick tubes, whereby an even flame will be produced, notwithstanding the tendency of the wick to bind, as above described.

I accomplish the foregoing objects by the construction illustrated in the drawings forming a part hereof, wherein—

Figure 1 represents an elevation of a portion of a stove or heater, the casing being broken away and the air distributor and certain portions of the burner parts being shown in elevation; Fig. 2 represents an enlarged sectional view of the upper portion of a burner having my invention applied thereto, certain parts of the distributor and the locking member being shown in elevation; and Fig. 3 is a sectional detail of the wick tubes and locking frame carried thereby, looking upward.

Describing the parts by reference characters, 1 represents the base of a lamp or heater, 2 the drum thereof, 3 the oil reservoir, and 4 and 5 the inner and outer wick tubes, respectively. Within the wick tubes there is located the locking frame, said frame comprising a ring 6, which is secured to the inner wick tube, as by soldering, and spider arms 7 projecting inwardly from said ring. Three equi-distantly-spaced arms are shown, and at least this number of arms should be employed in order to attain the results hereinbefore described.

8 denotes the air distributor, said distributor comprising a vertically extending sleeve 9 of perforated material projecting downwardly within the top of the inner wick tube and having suitably secured thereto the wick-engaging flange 10, which projects laterally into the path of the wick and rests on its top surface when the wick is raised above the tops of the wick tubes. The flange 10 may be conveniently carried by and project outwardly from a skirt 11, the lower end of which is secured to the end of the sleeve 9 in any suitable manner, as by pressing outwardly the metal of the latter, as shown at 12.

13 denotes the spreader plate, 14 a flange which may be conveniently formed by bending the metal of the sleeve 9 outwardly, the flange 14 serving to protect the flange 10

from the radiant heat of the flame, as set forth in my Patent No. 906,887, referred to hereinbefore.

To limit the raising of the distributor by the wick 15, I provide the lower end of said distributor with a depending locking device 16. This device is preferably of metal and may be secured to the lower end of the distributor in any convenient manner, as shown at 17^a. The locking device 16 is shown as a tubular skirt having its lower end provided with three beveled projections 17, one for each arm 7 of the locking frame, which is fixed within the inner wick tube. Each projection 17 is provided on each side thereof with an upwardly inclined edge 18 and 19, respectively. One such beveled edge (19) extends upwardly above the plane of the arms 7, when the distributor is in lowered position. The other edge (18) extends upwardly as far as the wall 20, which wall extends horizontally or at right angles to the axis of the burner and forms with the inclined portion of the projection therebelow a locking portion for one of the arms 7. Above this wall the skirt is cut away to provide a recess having a vertical wall 21 and a horizontal wall 22, the inclined surface 19 terminating at the latter wall.

By reference to Figs. 1 and 2 it will be seen that the wall 20 limits the upward movement of the air distributor as it is lifted by the engagement of the wick 15 with the flange 10 and that the wall 22 will be a sufficient distance from wall 20 to permit the lowering of the distributor until the flange 10 rests on top of the wick tubes.

It will be observed that the width of each projection 17 between the upper end of the edge 18 and the opposite inclined edge 19 is substantially equal to the distance between two of the arms 7. From this construction it follows that by merely dropping the air distributor into the top of the inner wick tube, the lower ends of projections 17 will generally strike somewhere between a pair of arms 7, and that either the inclined edges 18 or the inclined edges 19 will engage the three arms 7 simultaneously and that the inclination of these edges will cause the distributor to be rotated by gravity. By the time the upper ends of the edges 18 have cleared the lower surfaces of the arms 7, the action of the inclined surfaces 19 on the arms will cause or rotate the distributor until the horizontal surfaces 20 are brought beneath their respective arms, thereby locking the distributor in place against direct removal in a vertical line, such as would occur by the wick engaging the flange 10. In order to remove the distributor, it is only necessary to twist the same to bring the surfaces 20 clear of the arms thereabove, and the distributor may then be lifted out of place.

The surfaces 20 will all be in the same horizontal plane (assuming that the stove is set level) and, when the wick is turned up, will simultaneously engage the lower surfaces of the arm 7 and limit the elevation of the wick. By providing at least three such surfaces 20, with a corresponding number of arms, the distributor cannot be tilted, but will maintain the flange 10 in a horizontal plane, parallel to the upper ends of the wick tubes when the distributor has been raised to its upper limit of movement by the wick, notwithstanding irregularities in the wick. This is an important feature of my invention since, if the wick should bind at one side (as is frequently the case), the opposite side of the wick will rise freely and will lift the distributor until the latter is arrested in the manner described. Further operation of the wick raiser will cause that portion of the wick which was temporarily bound to engage the flange 10 and, the flange 10 being horizontal or parallel with the tops of the wick tubes, it follows that the top of the wick will then also be horizontal or parallel with the tops of the wick tubes.

Having thus described my invention, what I claim is:

1. In an oil burner, the combination of an inner and an outer wick tube, a wick therebetween, a vertically movable air distributor, a member projecting outwardly from said distributor and adapted to rest upon the top of the wick and move therewith, and means for limiting the elevation of the wick to its maximum operative height, said means comprising at least three locking members within the inner wick tube and a member depending from the distributor and having a corresponding number of downwardly extending projections, each projection having a laterally extending locking portion adapted to engage one of said locking members from beneath and an inclined or cam portion on the opposite side of the projection from the locking portion thereof and adapted to automatically rotate the distributor to bring the locking portions of the projections under the appropriate locking members, said locking portions being arranged to engage their corresponding locking members when the wick is elevated to its maximum operative height.

2. In an oil burner, the combination of an inner and an outer wick tube, a wick therebetween, a vertically movable air distributor, a member projecting outwardly from said distributor and adapted to rest upon the top of the wick and move therewith, and means for limiting the elevation of the wick to its maximum operative height, said means comprising at least three locking members within the inner wick tube and a member depending from the distributor

- and having a corresponding number of downwardly extending projections, each projection having a laterally extending locking portion adapted to engage one of said locking members from beneath, each projection having an inclined surface extending from its locking portion to the lower end of the projection and each projection also having a surface which is inclined in the opposite direction from the former surface and extending upwardly from the lower end thereof, said inclined surfaces being adapted to automatically rotate the distributor to bring the locking portions of the projections thereof under the appropriate locking members, said locking portions being arranged to engage their corresponding locking members when the wick is elevated to its maximum operative height.
3. In an oil burner, the combination of an inner and an outer wick tube, a wick therebetween, a vertically movable air distributor, a flange projecting outwardly from said distributor and adapted to rest upon the top of the wick and move therewith, and means for limiting the elevation of the wick to its maximum operative height, said means comprising at least three anchoring members within the inner wick tube, said anchoring members being substantially equidistantly spaced, and a like number of similarly spaced locking members depending from the distributor and each having a laterally extending locking portion adapted to engage beneath an anchoring member and each having an inclined or cam surface adapted to engage an anchoring member and automatically rotate the distributor to bring the locking portions under the anchoring members, said locking portions being so arranged as to engage their corresponding anchoring members when the wick is elevated to its maximum operative height.
4. In an oil burner, the combination of an inner and an outer wick tube, a wick therebetween, a vertically movable air distributor, a member projecting outwardly from said distributor and adapted to rest upon the top of the wick and move therewith, and means for limiting the elevation of the wick to its maximum operative height, said means comprising at least three anchoring members within the inner wick tube, the lower surfaces of said anchoring members being in substantially the same horizontal plane, and a plurality of locking members depending from the distributor and each having a laterally extending locking portion adapted to engage beneath an anchoring member, all of said locking portions being in substantially the same horizontal plane, and each locking member having an inclined or cam surface adapted to engage an anchoring member and automatically rotate the distributor to bring the locking portions beneath the anchoring members, said locking portions being so arranged as to engage their corresponding anchoring members when the wick is elevated to its maximum operative height.
5. In an oil burner, the combination of an inner and an outer wick tube, a wick therebetween, an air distributor having a member projecting laterally therefrom and adapted to rest on top of the wick and form a stop to limit the elevation of the wick to its maximum operative height, anchoring means secured to the inner wick tube, means carried by the distributor and projecting within the wick tube and adapted to engage the anchoring means at at least three points to limit the elevation of the projecting member to the maximum operative height of the wick and to maintain the aforesaid member parallel with the tops of the wick tubes when the distributor is thus elevated and means carried by and operative by the weight of the distributor and adapted to automatically bring into operative relation the interengaging portions of the distributor and the anchoring means.
- In testimony whereof, I hereunto affix my signature in the presence of two witnesses.
- WILLIAM R. JEAUVONS.
- Witnesses:
J. B. HULL,
BRENNAN B. WEST.