March 25, 1924.

1,488,051

J. McDONOUGH ET AL

FUEL SAVER

Filed March 9, 1923

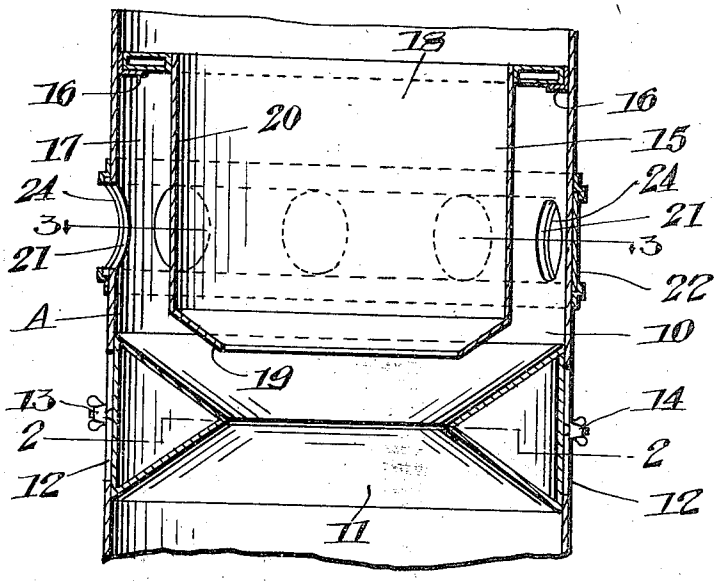


Fig. 1.

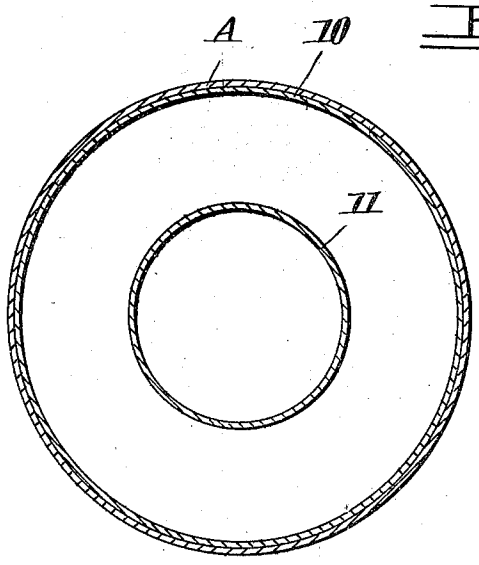


Fig. 2.

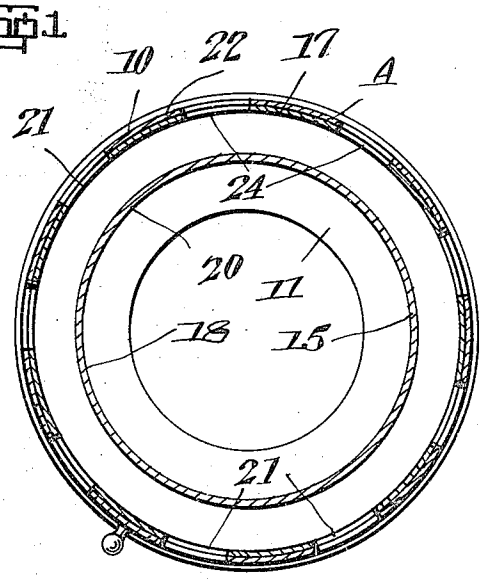


Fig. 3.

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UNITED STATES PATENT OFFICE.

JOSEPH McDONOUGH AND ALFRED WILKIN, OF EDMONTON, ALBERTA, CANADA.

FUEL SAVER.

Application filed March 9, 1923. Serial No. 623,866.

To all whom it may concern:

Be it known that we, JOSEPH McDONOUGH and ALFRED WILKIN, both subjects of the King of Great Britain, and residents of the city of Edmonton, in the Province of Alberta and Dominion of Canada, have invented certain new and useful Improvements in Fuel Savers, of which the following is a specification.

This invention relates to improvements in fuel savers and more particularly to improvements in attachments for stove-pipes, stacks or heating plants, and the object of the invention is to provide simply constructed and effective means for preventing the smoke and hot gases from going into the flue and consuming them by means of the injection of air into the flue.

Further objects are to provide a device of this character in which the several parts will satisfactorily perform the various functions required of them.

With these and other objects in view, the invention consists essentially in the combination and arrangement of parts as hereinafter described and illustrated by the drawings accompanying the present specification.

Referring to the drawings in which like characters of reference indicate corresponding parts in each figure—

Figure 1 is a sectional elevation of a stove-pipe embodying our invention.

Figure 2 is a section on line 2—2 of Figure 1.

Figure 3 is a section on line 3—3 of Figure 1.

In the drawings, A is the device or burner as a whole and illustrated as applied to an ordinary stove-pipe 10 having an adjustable annulus 11 which is triangular in cross section.

The pipe 10 is suitably slit at 12 on opposite sides to accommodate means in the form of thumb screws 13 and 14 for adjusting the member 11.

Mounted in the pipe 10, above the member 11 and in spaced relationship thereto, is an oxygen conducting member 15 comprising a cylindrical body portion adapted to slide into the stove-pipe and to rest therein at its upper end on an L-shaped flange 16 riveted to the stove-pipe The member 15 is formed with a sloping base so that it will be parallel to the top of the cone or triangular-shaped member 11.

The insertion of the member 15 divides the stove-pipe into two parts, an outside ring 17 which opens into the central chamber 18 at 19 and an inner ring 20 formed by the member 15, which may be termed the hanging section.

The stove-pipe 10 is provided opposite the member 15 with spaced orifices therein 21 over which a sleeve 22 is adapted to fit and which is provided with orifices 24 designed to register with the orifices in the stove-pipe. This sleeve is so arranged that it is adapted to slide and by this sliding motion the size of the openings can be regulated or completely closed so as to stop any air coming in.

In operation, the air supply enters through the orifices 21 to meet the upwardly ascending hot air and gases at 19 and to act on them as a damper and also providing means to cause combustion of the waste products given off in the chamber 11.

From this it will be seen that the escaping gases are burnt up and also that a direct draft on the fire is obviated to prevent it from burning away quickly.

When starting a fire, the openings 21 are closed and then a direct draft will be provided through the openings in the members 11 and 15, thereby allowing rapid starting of the fire.

As many changes could be made in the above construction and many apparently widely different embodiments of our invention within the scope of the claims, constructed without departing from the spirit or scope thereof, it is intended that all matter contained in the accompanying specification and drawings shall be interpreted as illustrative and not in a limiting sense.

What we claim as our invention is:

1. A fuel saver of the character described comprising, in combination, a stove-pipe having an annulus adjustably mounted therein, a cylindrical casing designed to fit into the stove-pipe above said annulus and spaced from the stove-pipe, flange means for suspending the casing in the stove-pipe, a sloping base for the casing in parallel alignment with the annulus, a plurality of spaced orifices around and in the stove-pipe opposite the casing, a sleeve designed to fit over said orifices and provided with openings designed to register with the stove-pipe openings.

2. In a fuel saver of the character described, the combination with a stove-pipe having a triangular ring adjustably mounted therein and provided with means for op-

erating said ring, of a casing suspended above the ring and in spaced relationship to the stove-pipe, orifices in the stove-pipe opposite the casing and a sleeve having spaced orifices therein adapted to fit over the stove-pipe orifices.

3. In a device of the character described, the combination with a stove-pipe having an adjustable damper member, of a casing member arranged above the damper member and adapted to form air passages between the stove-pipe and said casing, controllable by said damper, air intake means for the stove-pipe communicating with said air passages and sleeve means for controlling the air through said intake means.

In witness whereof we have hereunto set our hands in the presence of two witnesses.

JOSEPH McDONOUGH.
ALFRED WILKIN.

Witnesses:
HEATH CAMPBELL MACKENZIE.
RUSSELL W. SPEERS.