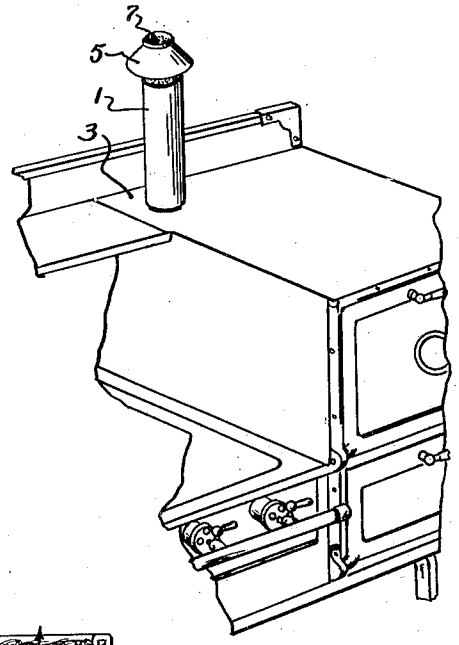
Sept. 23, 1924. 1,509,674

M. E. KOEHLER

CONSUMER OF FLUE IMPURITIES

Filed March 29, 1923

Fig 1



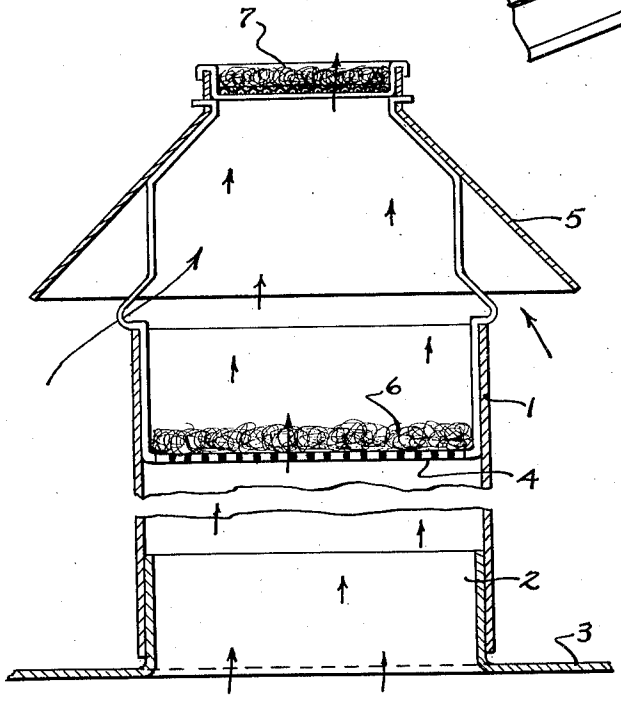


Fig 2

INVENTOR

Maxemilean E. Koehler.

BY

J. Morsted.

ATTORNEY

Patented Sept. 23, 1924. 1,509,674

UNITED STATES PATENT OFFICE.

MAXEMILEAN E. KOEHLER, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO GAS & ELECTRIC APPLIANCE CORPORATION, A CORPORATION OF MARYLAND.

CONSUMER OF FLUE IMPURITIES.

Application filed March 29, 1923. Serial No. 628,536.

To all whom it may concern:

Be it known that I, MAXEMILEAN E. KOEHLER, a citizen of the United States, and resident of Washington, in the District of Columbia, have invented certain new and useful Improvements in Consumers of Flue Impurities, of which the following is a specification.

This invention relates to means for purifying greasy or sooty smoke and vapors such as those arising from a kitchen range especially the oven, and has for its object to prevent fouling of walls and hangings by catching and consuming the greasy and sooty constituents before they can escape into the room. It has been attempted to take the soot and grease out of heated gases by asbestos fibre and other filters, but a filter has the disadvantage of fouling up in a short time and becoming so offensive as to preclude the commercial use thereof.

According to this invention, I have discovered that a metal wool, particularly steel wool, will catch and consume grease and soot as caught without fouling up over a long period of use, and prevent staining the walls. A mat of metal wool, preferably steel wool is inserted within the flue pipe so that the cooking gases, vapors and smoke in the pipe must pass through the steel wool. A metal wool, such as steel wool, acts totally unlike any other material known to me in securing the stated function of consuming grease and soot without fouling up or deteriorating.

In the drawings,

Fig. 1 is a perspective view illustrating an application of this invention, and

Fig. 2 is a vertical section through the attachment.

Referring to the drawing, the attachment comprises a short length of flue pipe 1 which is mounted over the usual outlet flange 2 in the roof 3 of a gas, electric or other range or oven whereby the cooking vapors and other gases and products of the cooking operation may pass up the flue pipe. A support 4 retains a mat 6 of soot and grease consuming non-fouling metal wool, preferably #3 steel wool, within the flue pipe. It has been found that steel wool effects a slow combustion of the soot and grease under the conditions stated without the accumulation of carbonaceous or greasy deposit thereon, as is the case with asbestos used in my prior Patent #1,377,694, May 10, 1921. Surmounting the flue pipe, but spaced therefrom is the hood 5 which preferably extends beyond the flue pipe for the purpose of directing the heated air rising outside the flue pipe inwardly to strengthen the draft through the mat of metal wool 6. Another mat 7 of the same metal wool is mounted on top of the hood 5, so that the column of smoke passes through the two bodies of wool. A thickness of about one inch of wool is sufficient.

Among the advantages of this invention may be mentioned the usefulness of the non-fouling metal wool, preferably steel wool, to consume the soot and impurities without becoming covered with a deposit as do filter materials. In other words, the layer of steel wool is self-cleaning or non-fouling through effecting slow combustion of grease and soot. After prolonged use, the steel wool mat is relatively clean, except for being slightly oxidized; is free from deposited impurities; and has proven uniformly effective in preventing the deposition of greasy soot on walls and hangings.

The term "layer" as used in the specification and claims is not necessarily limited to a body of non-fouling metal wool which is symmetrical in shape or of uniform thickness in all parts.

I claim:

1. The method of eliminating soot and grease from cooking vapors which comprises leading said vapors through a flue containing metal wool to separate out and consume the soot and grease by slow combustion.

2. The method of eliminating sooty matter from heated vapors and gases which comprises effecting slow combustion thereof by passing the same in intimate contact with a filamentous metallic body capable of eliminating such matter upon contact therewith.

3. The combination with a flue pipe, of a layer of non-fouling metal wool within said pipe through which sooty vapors are adapted to pass without the accumulation of deposit on said wool.

4. The combination with a flue pipe through which greasy and sooty vapors and gases are adapted to be passed, of a non-

fouling steel wool cooperating with said flue pipe, so that the vapors and gases contact therewith before being discharged from the flue pipe to lessen staining.

5. The combination with a flue pipe, of a layer of steel wool of a size about that of No. 3, within said pipe, and through which cooking vapors are adapted to pass.

6. The combination with a pipe through which sooty particles are carried by heated vapors or gases, of a non-fouling metallic wool in contact with said particles and capable of consuming the same by slow combustion.

Signed at Washington, in the District of Columbia, this 23d day of March A. D. 1923.

MAXEMILEAN E. KOEHLER.