E. BACKUS.

Heating Stove.

No. 4,669.

Patented July 28, 1846.

Fig. 4

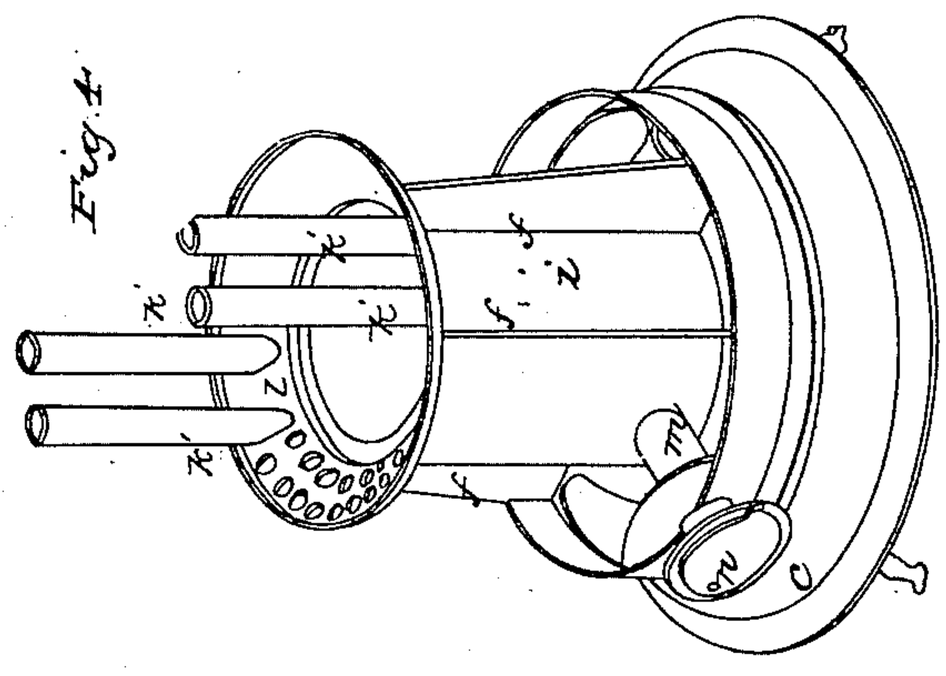


Fig. 3

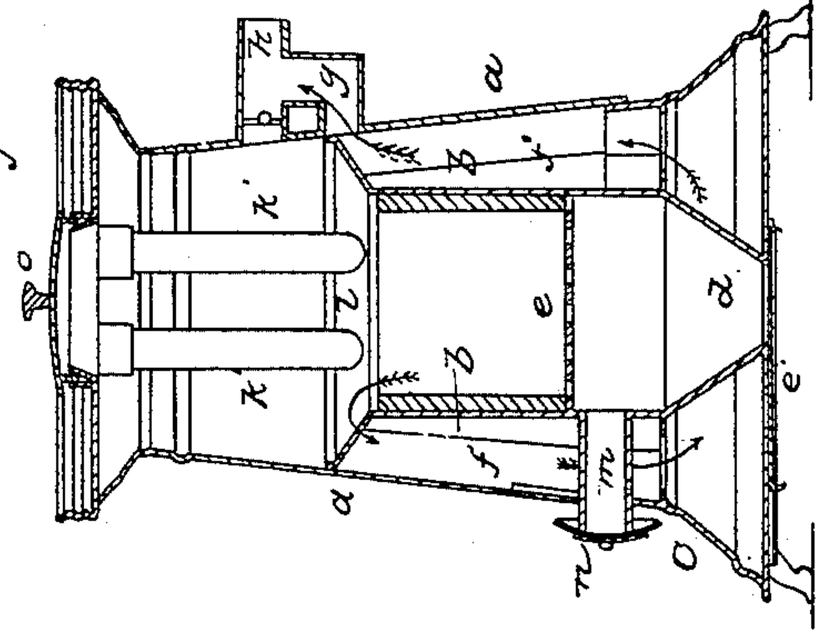


Fig. 2

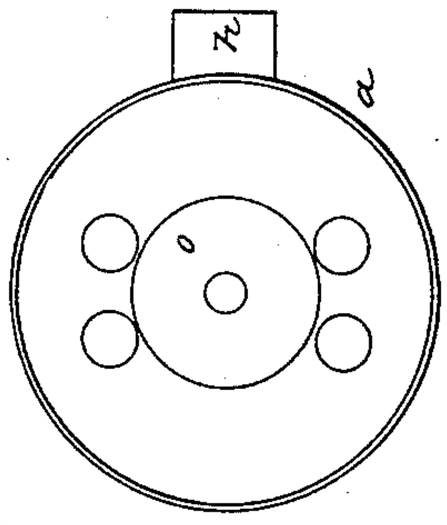
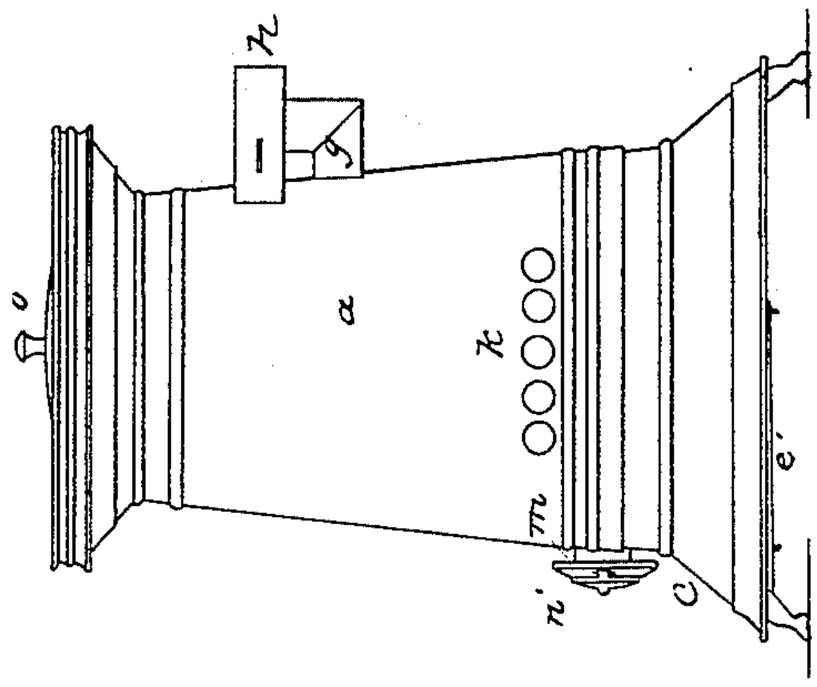


Fig. 1



UNITED STATES PATENT OFFICE.

EVENS BACKUS, OF BROOKLYN, NEW YORK.

STOVE.

Specification of Letters Patent No. 4,669, dated July 28, 1846.

To all whom it may concern:

Be it known that I, EVENS BACKUS, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Hot-Air Stoves, and that the following is a full, clear, and exact description of the principle or character thereof, which distinguishes it from all other things before known, and of the manner of making, constructing and using the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side elevation; Fig. 2, a top plan; Fig. 3, a vertical section; Fig. 4, a view of the interior of the stove with the outside case removed.

The same letters indicate like parts in all the figures.

It has long been considered a desideratum in stoves for heating apartments, to form them as compact as possible, while at the same time air is brought into contact with the greatest convenient amount of heating surface, by which economy and comfort are combined. By the construction I have invented (as hereinafter described) I have a compact pedestal or conical stove without any exterior flues, side pipes, or heaters, while a rapid and constant circulation of the air of the room is secured in contact with the heating surface.

The construction is as follows: The exterior of the stove presents the form of a circular pedestal, as shown in Fig. 1; within the outer case (*a*) there is a cylinder (*b*) lined with fire brick or other suitable substance; this cylinder extends down to a level with the lower enlargement or molding (*c*) of the stove, above which a grate (*e*) is situated, and is there joined by a conical hopper (*d*) that is terminated at the bottom by a sliding valve (*e'*) upon which the ashes of the grate descend. A space is left between the cylinder (*b*) and the outer case (*a*) which is divided by four vertical partitions (*f*, *f*), the space between the two front ones forms a descending flue which continues through the base on each side of the cone (*d*) above named and thence ascends up to the pipe (*g*) which conducts the draft to the chimney through the horizontal pipe (*h*) which serves for the direct draft and is furnished with a damper in the usual way; the side spaces (*i*) are for air to be admitted from the room through the apertures (*k*) in the case from whence it ascends up through two or more tubes (*k'*) situated in the flanch (*l*) that connects the upper edge of the inner cylinder (*b*) with the outer case, as clearly shown in Fig. 3; the tubes (*k'*) open through the top of the case into the room and thence outside come in direct contact with the heat, which causes a rapid upward current of air through the chamber (*i*) formed between the case and fire cylinder and thus extracting all the heat from the fuel passing the smoke and heat around three sides of the air chamber and entirely around the pipes (*k'*) leading therefrom.

The air is admitted to the fire through a pipe (*m*) that passes through the case (*a*) descending flue and cylinder (*b*), below the grate, the outer end of this pipe (*m*) is closed by a valve or door (*n*) when required and the fuel is supplied through an opening (*o*) in the top where a cover is fitted air tight.

By the above arrangement, compactness and efficiency are combined in an eminent degree forming an economical and ornamental air heater for parlors and other apartments.

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

The combination of the descending and ascending flues of the stove and air chamber (*i*) in the manner described and surrounded by a case substantially as herein set forth.

EVENS BACKUS.

Witnesses:

WILLIAM HAMILTON,

J. J. GREENOUGH.