

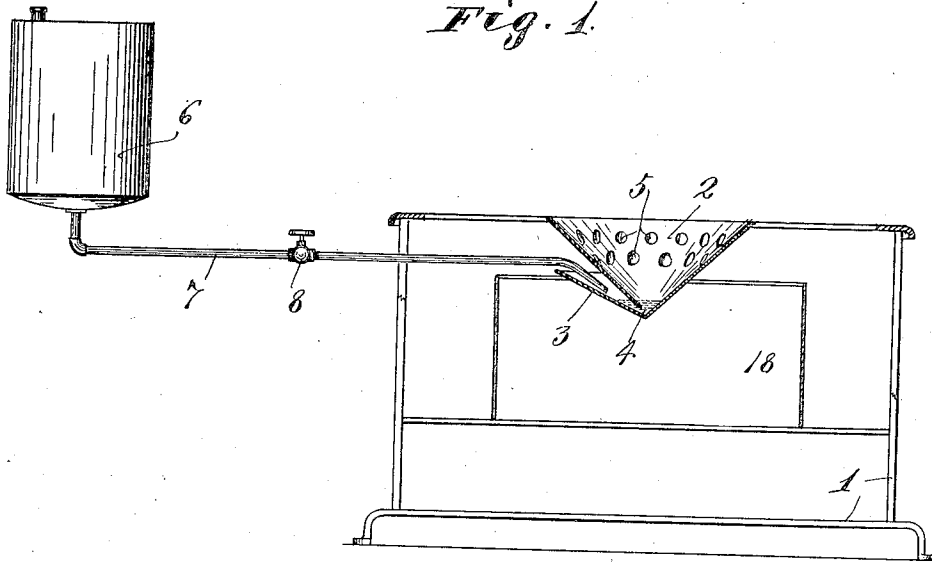
No. 880,836.

PATENTED MAR. 3, 1908.

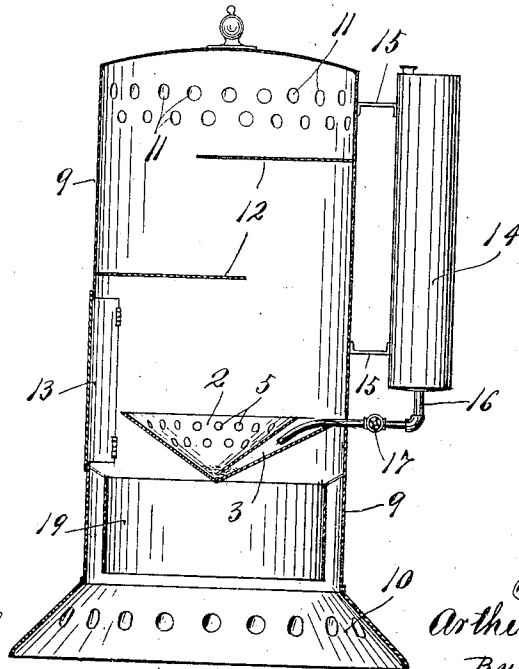
A. W. SWANBERG.  
ALCOHOL STOVE.

APPLICATION FILED OCT. 8, 1906.

*Fig. 1.*



*Fig. 2.*



*Witnesses.*  
*A. H. Opsahl.*  
*Malie Hoel.*

*Inventor*  
*Arthur W. Swanberg.*  
*By his Attorneys*  
*Williamson Merchant.*

# UNITED STATES PATENT OFFICE.

ARTHUR W. SWANBERG, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR OF ONE-THIRD  
TO CHARLES A. BOHLIN AND ONE-THIRD TO HANS C. PETERSON, BOTH OF MIN-  
NEAPOLIS, MINNESOTA.

## ALCOHOL-STOVE.

No. 880,836.

Specification of Letters Patent.

Patented March 3, 1908.

Application filed October 8, 1906. Serial No. 337,923.

*To all whom it may concern:*

Be it known that I, ARTHUR W. SWANBERG, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Alcohol-Stoves; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its especial object to improve the construction of alcohol stoves, and to this end it consists of the novel devices and combinations of devices herein-after described and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Referring to the drawings, Figure 1 is a view partly in elevation and partly in vertical section, showing a cooking stove designed in accordance with my invention; and Fig. 2 is a vertical section with some parts left in full, showing a heating stove designed in accordance with my invention.

Referring first to the construction illustrated in Fig. 1, the numeral 1 indicates the body of the stove. Secured to the top of the stove body 1 and depending therefrom is a conical combustion chamber 2 which, at one side, is provided with an eccentric conical or laterally offset wing 3. The space within the wing 3 communicates with the space within the conical chamber 2 through an opening 4, the adjacent wall of said chamber 2 being terminated short of the bottom of the said wing 3 to afford the said passage 4. The conical wall of the combustion chamber 2, above the wing 3, is provided with a multiplicity of quite large air passages 5.

The numeral 6 indicates an elevated tank which is adapted to contain the alcohol and which is provided with a delivery pipe 7, the end of which opens into the pocket formed within the wing 3. The flow of alcohol through the delivery pipe 7 may be regulated by means of a valve 8.

The alcohol delivered from the pipe 7 into

the bottom of the combustion chamber 2 and into the bottom of the pocket or wing 3, rises above the passage 4.

It is a well known fact that alcohol when lighted will burn from its upper surface only. The alcohol is lighted and is caused to burn within the combustion chamber 2, but will not spread into the pocket 3. The necessary air to support the combustion of the alcohol will be supplied through the air passages or perforations 5. A griddle, kettle or other article to be heated, may be placed directly over the combustion chamber 2.

In the heating stove shown in Fig. 2, the conical combustion chamber 2 with pocket 3 is employed, and these are rigidly secured in any suitable way within the vertical shell 9. This shell 9 is shown as provided with a perforated flaring base 10, and near its top is perforated at 11.

The numeral 12 indicates deflecting plates secured within the shell 9 to increase the heating efficiency of the stove.

The numeral 13 indicates a door applied in front of the shell 9.

The numeral 14 indicates a fuel magazine which, as shown, is rigidly secured to the shell 9 by brackets 15 and in such manner that it is adapted to serve as a hand piece.

A delivery pipe 16 leads from the bottom of the tank or magazine 9 and opens into the tank 3 of the said heating stove. The pipe 16 is provided with a valve 17.

In Fig. 1, the numeral 18 indicates an annular rim secured within the body 1 and spaced apart therefrom, the same being concentrically located with respect to the combustion chamber 2.

In Fig. 2, the numeral 19 indicates a similar annular rim which is secured within the shell 9 and is spaced apart therefrom, being located concentrically with, but below the combustion chamber 2.

The stove above described, while especially designed to burn alcohol may, nevertheless, be found efficient for burning other liquid fuel or liquid hydro carbon.

What I claim is:

In a stove of the kind described, a conical combustion chamber 2 having the outset seg-

mental pocket 3 partly surrounding said chamber 2, and communicating therewith at its bottom through a feed opening in the apex of said conical combustion chamber, said  
5 chamber 2 having a multiplicity of air passages 5 located above its bottom and running completely around said chamber, a tank for containing the liquid fluid, and a valved pipe leading from said tank to the said outset seg-

mental pocket of said combustion chamber, 10 substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ARTHUR W. SWANBERG.

Witnesses:

MALIE HOEL,  
F. D. MERCHANT.