

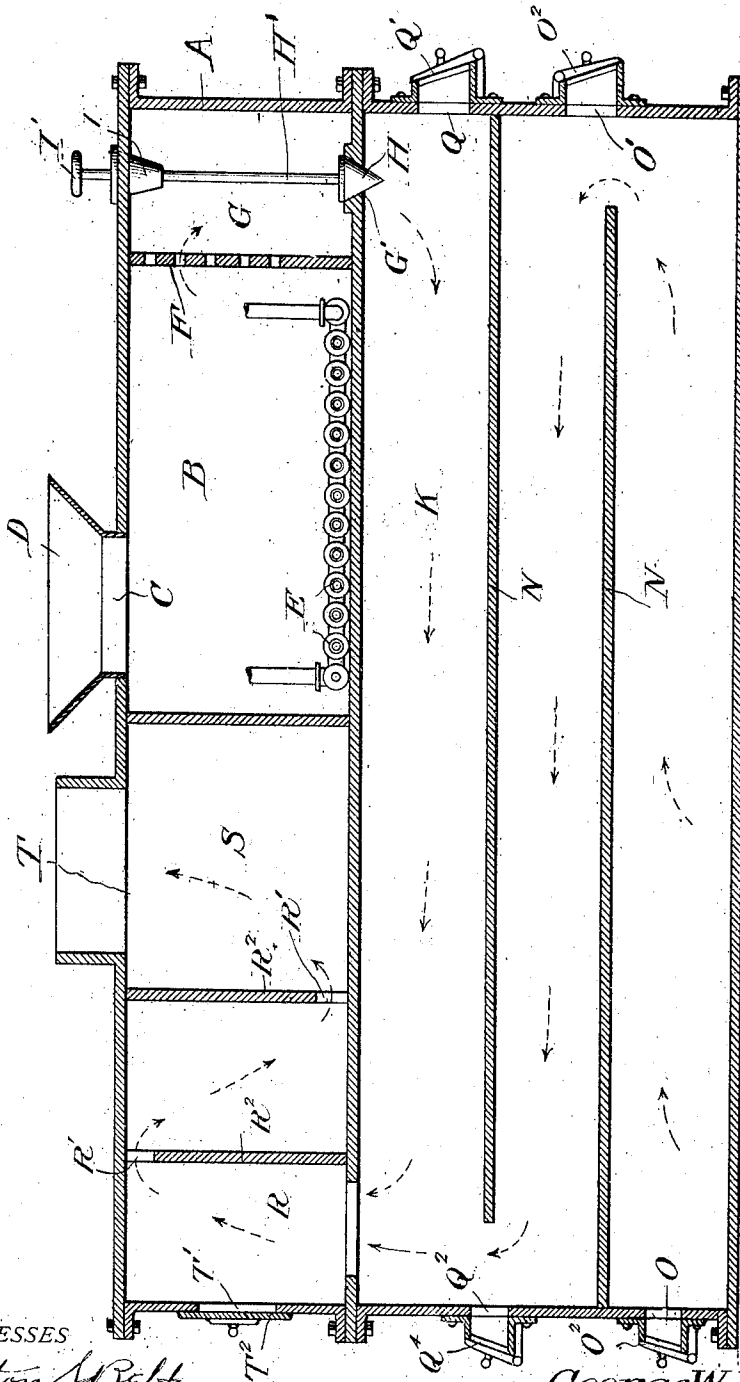
G. W. FORTIER.
 AUTOMATIC SULFUR BURNER.
 APPLICATION FILED MAY 22, 1912.

1,044,369.

Patented Nov. 12, 1912.

2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES

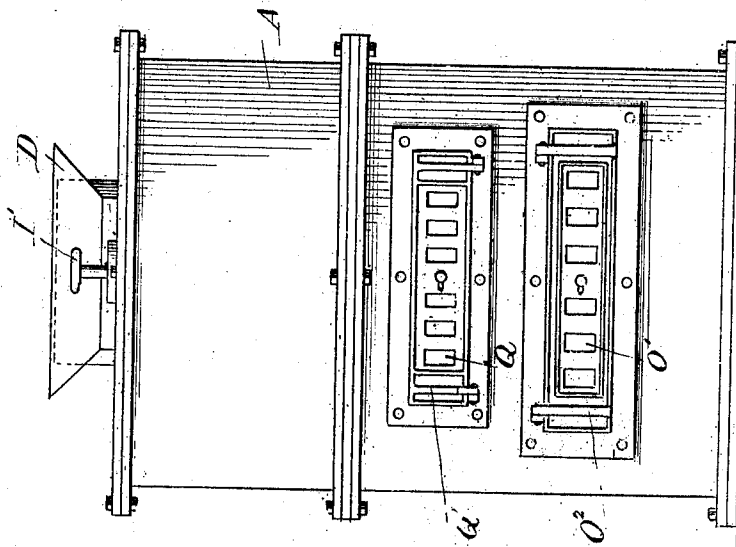
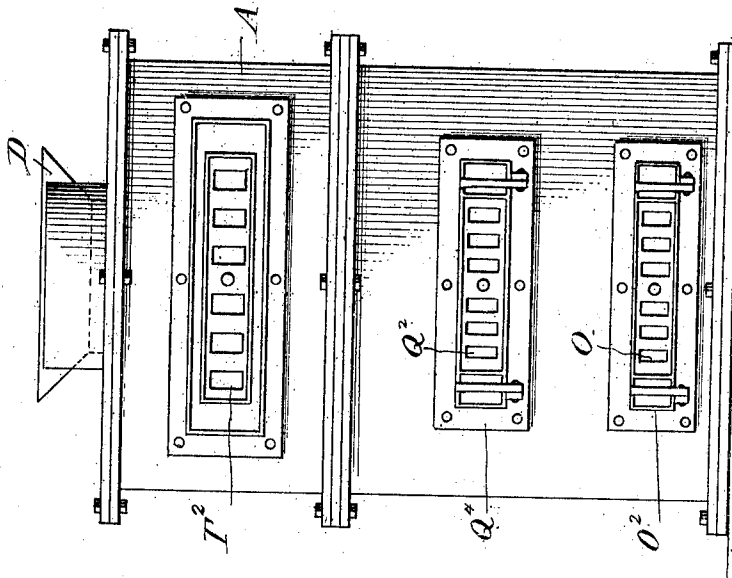
Anton Stelt
A. R. Fowler

INVENTOR

George W. Fortier
By Franklin H. Poy Attorney

1,044,369.

2 SHEETS—SHEET 2.



WITNESSES
Fenton S. Bell
A. R. Fowler

George W. Fortier
By Franklin D. Hoyt Attorney

UNITED STATES PATENT OFFICE.

GEORGE W. FORTIER, OF GRAND FALLS, NEWFOUNDLAND, ASSIGNOR OF ONE-HALF TO
E. B. BERWICK, OF GRAND FALLS, NEWFOUNDLAND.

AUTOMATIC SULFUR-BURNER.

1,044,369.

Specification of Letters Patent.

Patented Nov. 12, 1912.

Application filed May 22, 1912. Serial No. 698,972.

To all whom it may concern:

Be it known that I, GEORGE W. FORTIER, a subject of the King of England, residing at Grand Falls, in the Colony of Newfoundland, have invented certain new and useful Improvements in Automatic Sulfur-Burners; 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in sulfur burners, especially adapted for use in sulfite pulp mills and comprises various details of construction and combinations and arrangements of parts which will be hereinafter fully described and then specifically defined in the appended claim.

I illustrate my invention in the accompanying drawings, in which:—

Figure 1 is a central vertical sectional view through my improved sulfur burner. Fig. 2 is a front view, and Fig. 3 is an end view.

Reference now being had to the details of the drawings by letter, A designates the casing or closure of the apparatus which may be made of fire brick, steel or other material, and which is provided with a compartment B with an opening C therein having a funnel-shaped mouth D and through which opening the sulfur is adapted to be placed within the compartment B. Steam pipes E are positioned within said compartment, forming means whereby heat may be applied to the latter, and F designates a perforated partition dividing the compartment B from the compartment G, which latter has an opening G' in its bottom, the walls of which opening are tapered, and H designates a conical shaped valve designed to regulate the opening G'. A stem H' to said valve, extends through the bearing I formed in the top of the casing, and a hand wheel I' is fitted to said stem and forms means whereby the valve may be opened or closed.

Underneath the compartment B is a chamber K having a series of shelves N bolted or otherwise fastened to the wall of the casing, and having their exit ends alternately dis-

posed, as shown, in order to form an elongated passageway for the travel of the gas and fumes which take the course indicated by dotted lines. Openings, designated by letters O and O', are formed in the end wall of the casing and each of which is closed by a sliding door O², the former of which openings O forms means of access to the bottom of the casing whereby refuse may be withdrawn therefrom while the opening O' is slightly above the end of the lower partition and affords means whereby dry sulfur may be placed upon the shelf for starting the fire. A similar opening Q is positioned in one end of the casing, above the upper shelf and regulated by a sliding door Q', and at the opposite end is an opening Q² of a door Q⁴ opening opposite the free end of the upper shelf.

In the upper portion of the casing is a chamber R into which the gases as they rise are adapted to pass, thence through the openings R' in the partitions R² and into the compartment S having an exit opening in its top T. A suitable opening T' is formed in the side wall of the compartment R and is regulated by a door T².

In operation, the sulfur to be melted is placed within the compartment B and heat conducted through the pipes E. Dry sulfur is placed upon the various shelves and ignited in starting the fire after which, as the sulfur melts in the compartment B, it will pass through the partition F and through the opening G' which is controlled by the valve H. By the provision of said doors, the draft of the apparatus may be regulated as may be desired. The sulfur fumes will take the course indicated by dotted arrows and pass through the chamber R, thence through the openings into R' and into the compartment S and make exit in the top of the casing as will be readily understood.

What I claim as new and desire to secure by Letters Patent is:

A sulfur burner comprising a casing having in the lower portion thereof a combustion chamber provided with alternately arranged shelves extending nearly the length thereof, the upper portion of the casing having intercommunicating compartments, one of which has communication with said chamber and another with the atmosphere, a heating coil containing compartment in

the upper portion of the casing and provided with a filling opening, a compartment having communication through a perforated wall thereof with the coil containing
5 compartment, and having in its bottom a valve regulated opening communicating with the combustion chamber.

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

GEORGE W. FORTIER.

Witnesses:

WM. J. MCKAY,

WM. HAYNES.