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REFUSE DESTRUCTOR.

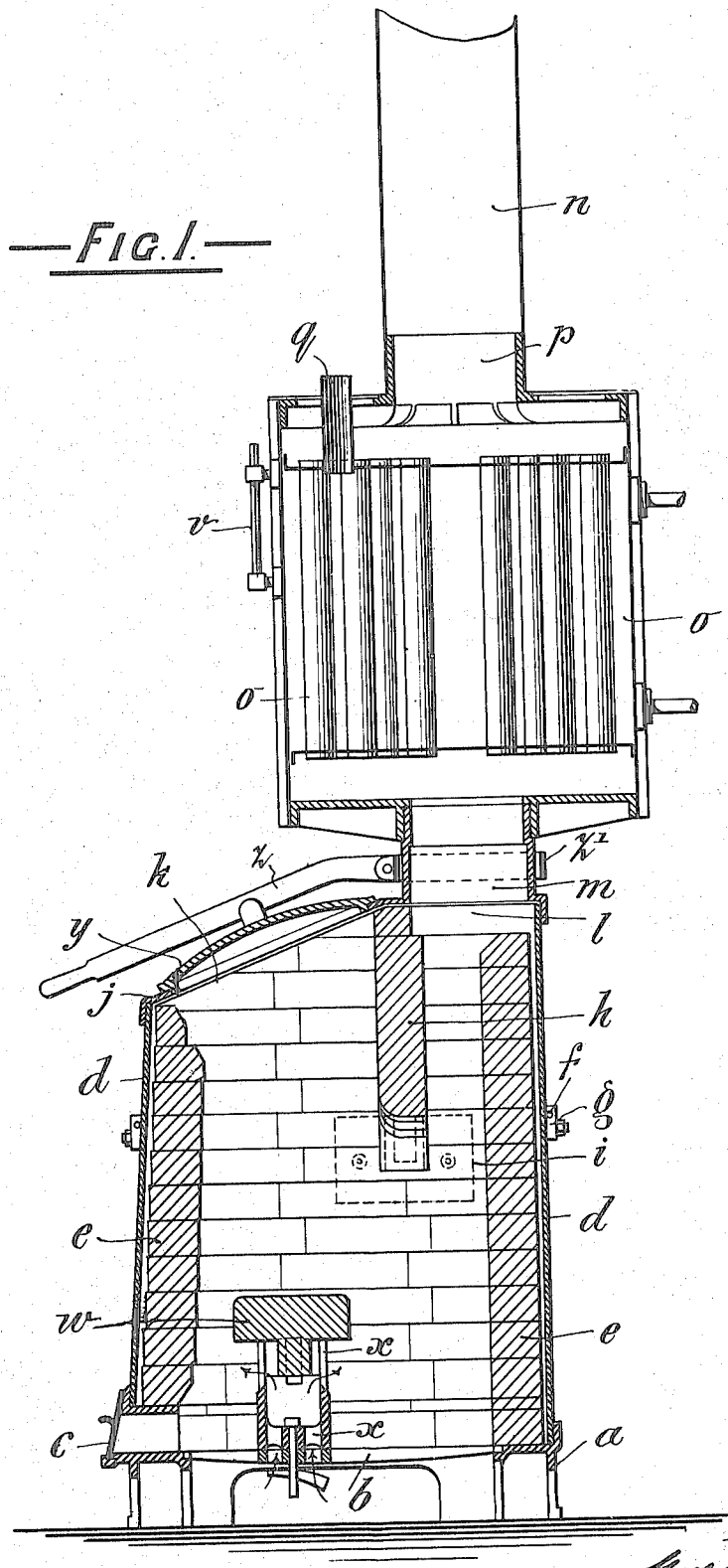
APPLICATION FILED MAR. 17, 1916.

1,270,574.

Patented June 25, 1918.

3 SHEETS—SHEET 1.

—FIG. 1.—



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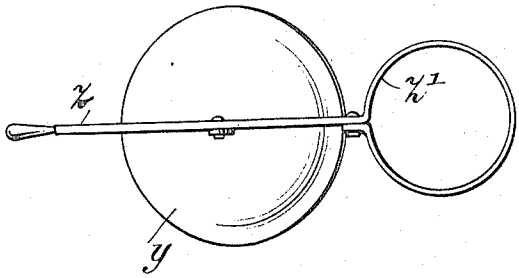
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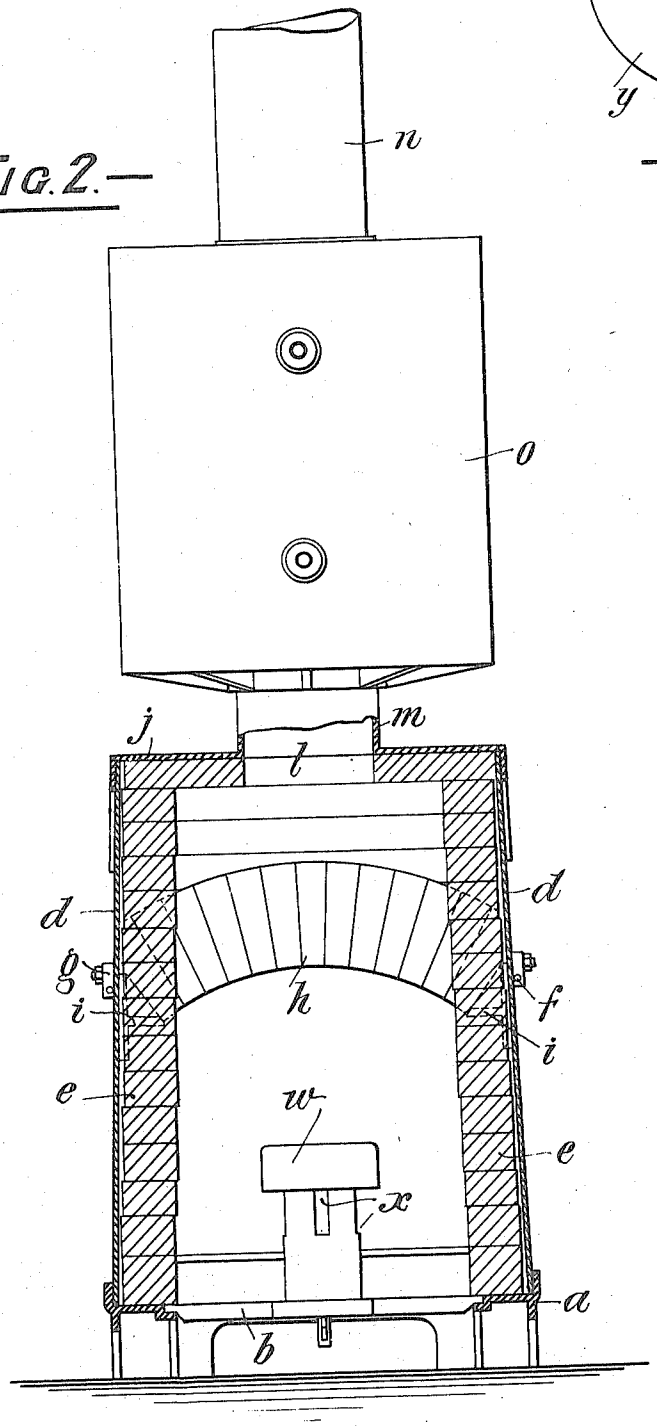
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3 SHEETS—SHEET 2.



—FIG. 4.—

—FIG. 2.—



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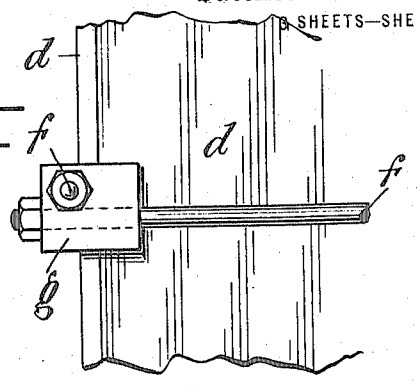
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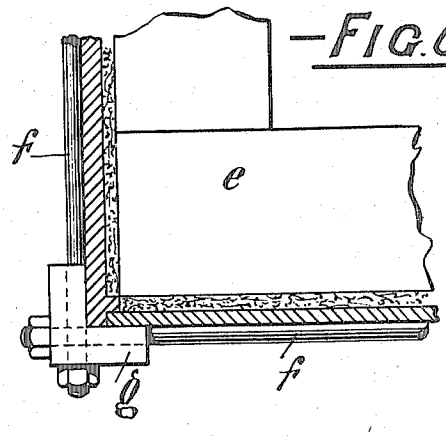
Patented June 25, 1918.

3 SHEETS—SHEET 3.

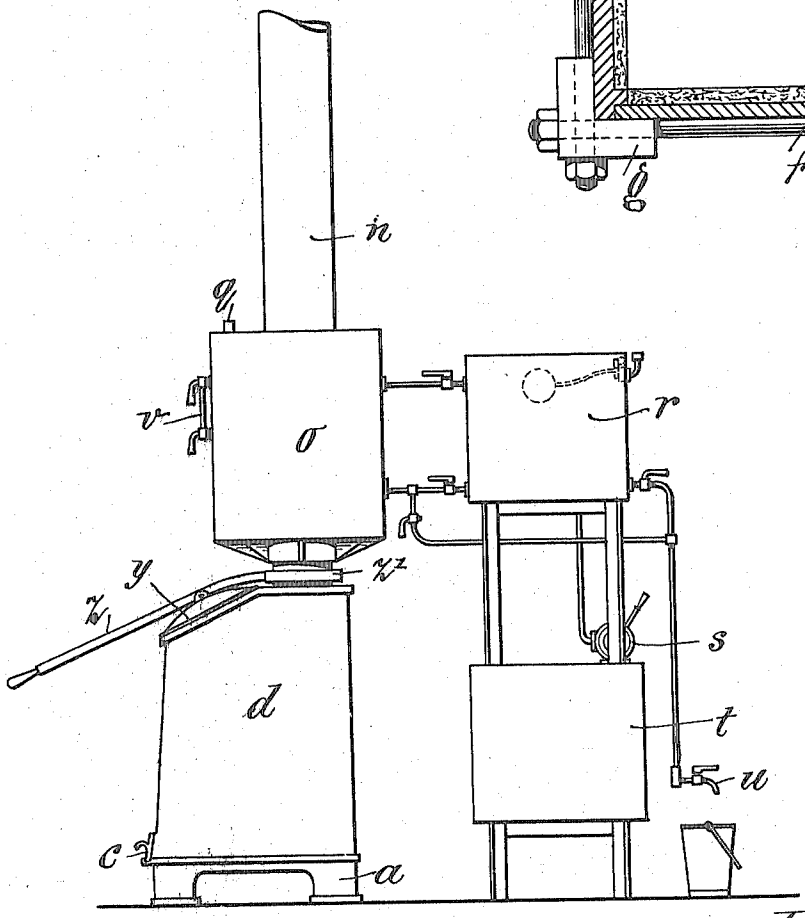
—FIG. 5.—



—FIG. 6.—



—FIG. 3.—



Inventor:-

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UNITED STATES PATENT OFFICE.

GEORGE WATSON, OF LONDON, ENGLAND.

REFUSE-DESTRUCTOR.

1,270,574. Specification of Letters Patent. Patented June 25, 1918.

Application filed March 17, 1916. Serial No. 84,825.

To all whom it may concern:

Be it known that I, GEORGE WATSON, a subject of the King of Great Britain, and resident of Walter House, Bedford street, Strand, London, England, have invented new and useful Improvements Relating to Refuse-Destructors, of which the following is a specification.

The present invention has reference to refuse destructors particularly those which are suitable for camp use and is directed to certain improvements which will promote the efficiency and utility thereof.

A destructor furnace embodying my present improvements comprises in common with previously known arrangements of the same class a structure of sheet metal lined with fire brick and furnished with a chimney or flue guarded with a fire brick bridge extending across the furnace; the furnace being provided also with a charging door and removable cover and with means for removing clinker and admitting air near the bottom of the furnace.

According to my present invention a destructor furnace embodies a device for obtaining a supply of hot water by utilizing the heat generated during the combustion of the rubbish now generally wasted. The structure of the furnace is such that the arched partition forms with the walls thereof a chute down which the garbage is sent to be burned and an outlet flue up which the heat and smoke ascend to heat the water.

My furnace, while strong and durable, is at the same time cheap and effective and its component parts can be easily transported and set up by unskilled labor. It embodies also a device which permits of wet rubbish being thrown into the furnace without endangering the extinction of the fire. The invention comprises also improved means for attaching the cover for the charging door and for supporting it when lifted from its seat. It comprises likewise constructional details in connection with the transverse bridge within the furnace which I now propose to make in the form of an arch with its ends supported on skew-back brackets secured to the furnace casing and in connection with the building up of the furnace, the casing of which I now propose to fit externally with a bridle which will keep the plates together both during and after construction of the furnace.

In the accompanying drawings:—

Figure 1 is a vertical section of the apparatus including the water heater or boiler.

Fig. 2 is an elevation at right angles to Fig. 1 with the furnace in section and the boiler in outside view.

Fig. 3 is an outside view on a small scale of the furnace and boiler fitted with a complete system of hot water circulation.

Fig. 4 is a detached plan view of the cover and lifting lever of the charging hole of the furnace.

Figs. 5 and 6 are side and sectional plan views of a corner of the furnace illustrating the rod and angle pieces constituting the bridle.

a is the furnace base of the usual type furnished with fire bars *b* and clinkering doors *c*. Upon this base is erected a casing of metal sheets *d* lined with fire brick *e* between which and the casing will preferably be a layer of slag wool or similar heat resisting material. The metal sheets *d* are retained by tie rods *f* and angle pieces *g* the fitting of which in an early stage of the erection will greatly facilitate the building up of the furnace.

h is a fire brick bridge now in the form of an arch the ends of which are supported on the skew-backs *i i* which consist of metal plates bolted to the casing on opposite sides which plates have inclined angular pieces arranged to underlie the end bricks of the arch. The furnace is covered with a top *j* having an aperture *k* for charging the furnace and another *l* situated behind the arch *h* and surmounted by a short pipe *m*. This pipe *m* would in the ordinary way be used as a socket to support the chimney *n* to which the latter would be directly applied. According to my invention I now interpose a water heater *o* between the pipe *m* and the chimney *n* so that the heat from the furnace usually lost will be made to heat the water. The water heater is a tubular one with compartments at top and bottom, above and below the water space. The chimney *n* is fitted onto a tube *p* leading out of the top chamber. *q* is an escape pipe fitted to the water heater which is left open when it is not desired to use the boiler for raising steam.

The water heater or boiler may be part of a hot water circulating system an example of which is illustrated at Fig. 3. In this ar-

rangement a circulating tank *r* is connected by pipes to the boiler *o*. This tank *r* may contain a ball cock where a constant water supply is available or it may be filled by a pump *s* from a tank *t* which is conveniently placed for filling by hand. Hot water is conveniently drawn from the tank *r* by the tap *u*. *v* is a water gage fitted to the boiler *o*.

Reverting to the furnace as seen in Figs. 1 and 2 it will be observed that there is a stool *w* fixed to the furnace bars *b*. This stool *w* is furnished with a flat or recessed top and is provided with passages *x* for admitting air through it into the furnace. Refuse thrown into the furnace through the charging door *k* falls first onto the stool *w* and is there supported and dried. This enables very wet material to be put into the furnace without choking it and putting out the fire. The cover for the charging hole *k* as above stated is shown in Fig. 4. This cover *y* is attached to a lever *z* the end of which is bent into a ring z^1. The ring z^1 is adapted to embrace the pipe *m*. The fitting of the ring z^1 on the pipe *m* is such as to permit free rotation and just sufficient up and down rocking movement of the lever *z* to enable the cover to be lifted and turned clear of the charging hole to a position where it will remain supported by the lever without the latter being held by hand.

What I claim and desire to secure by Letters Patent of the United States is:—

A combined portable refuse destructor furnace and water heater comprising a chimney, an incinerating chamber, an arched partition in the upper part of said chamber arranged with respect to the walls of the chamber to form therewith on one side a garbage chute and on the other side an outlet flue, a grate for said chamber, a mushroom shaped air feeding stool thereon, and a water heater interposed between the outlet flue and the chimney.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE WATSON.

Witnesses:

ALFRED S. BISHOP,

DOUGLAS ROGERS.