

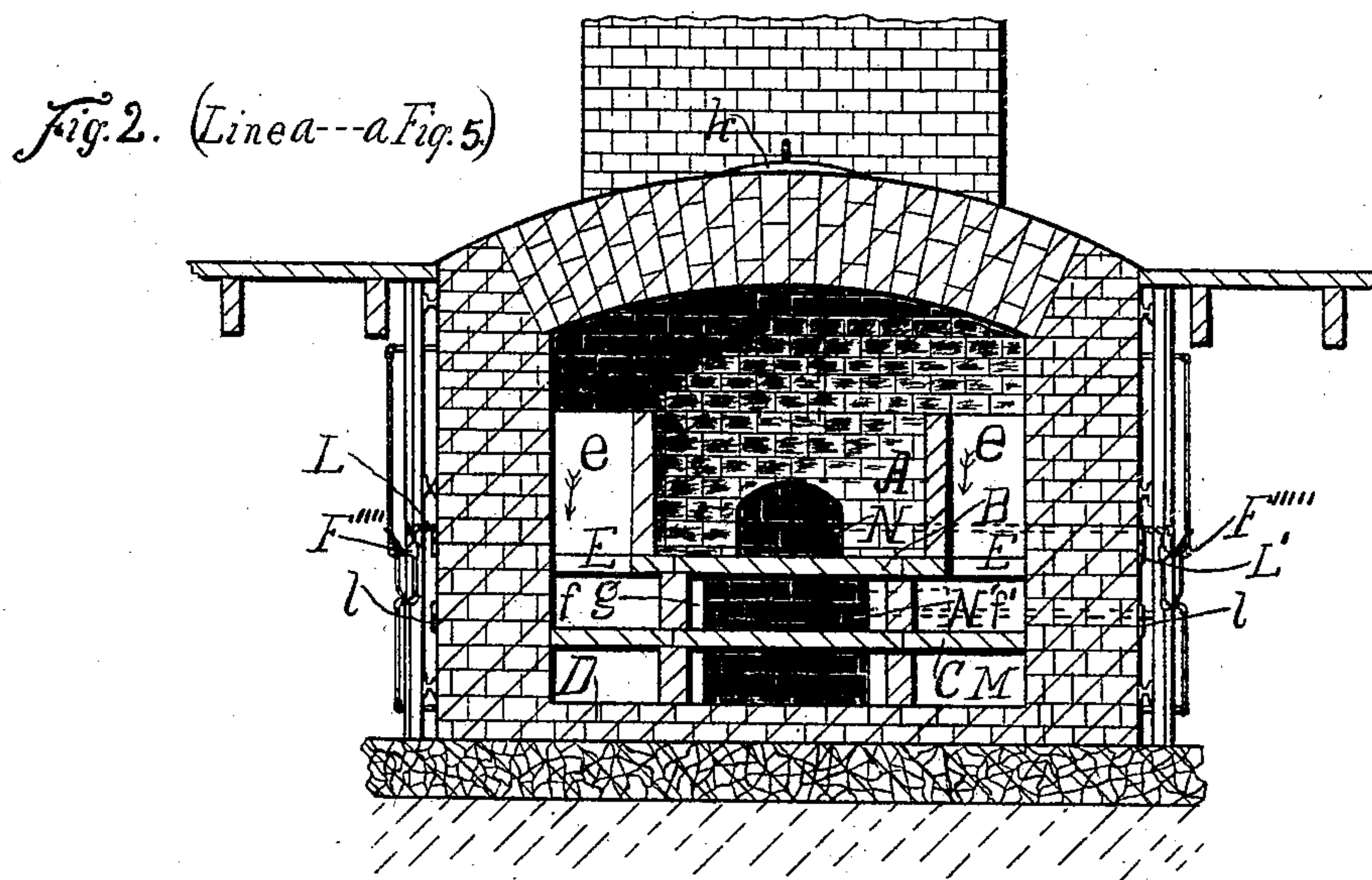
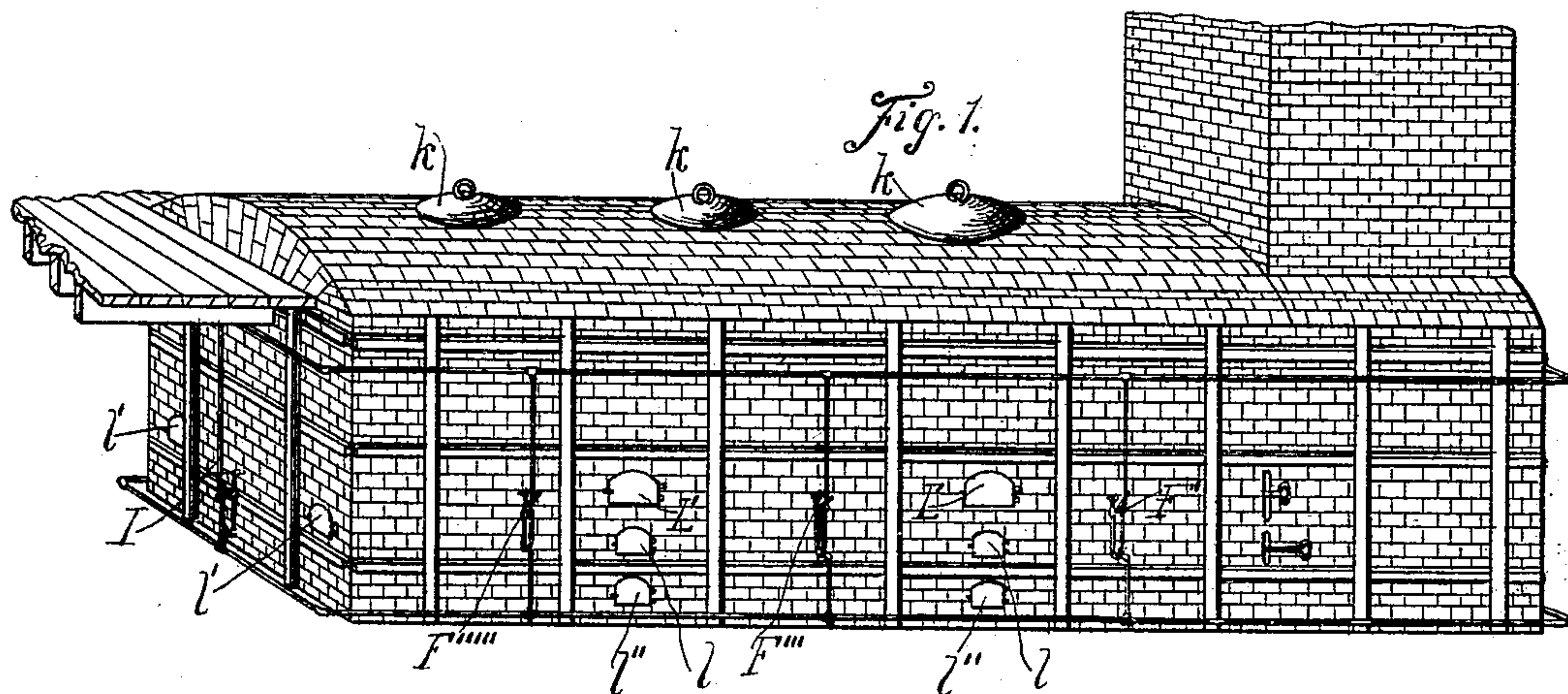
(No Model.)

3 Sheets—Sheet 1.

D. F. DONEGAN.
CREMATORY.

No. 496,046.

Patented Apr. 25, 1893.



Witnesses.

Inventor.

P. W. Harbison.

Daniel F. Donegan

J. M. Townsend.

Ward & Townsend
his attys.

(No Model.)

3 Sheets—Sheet 2.

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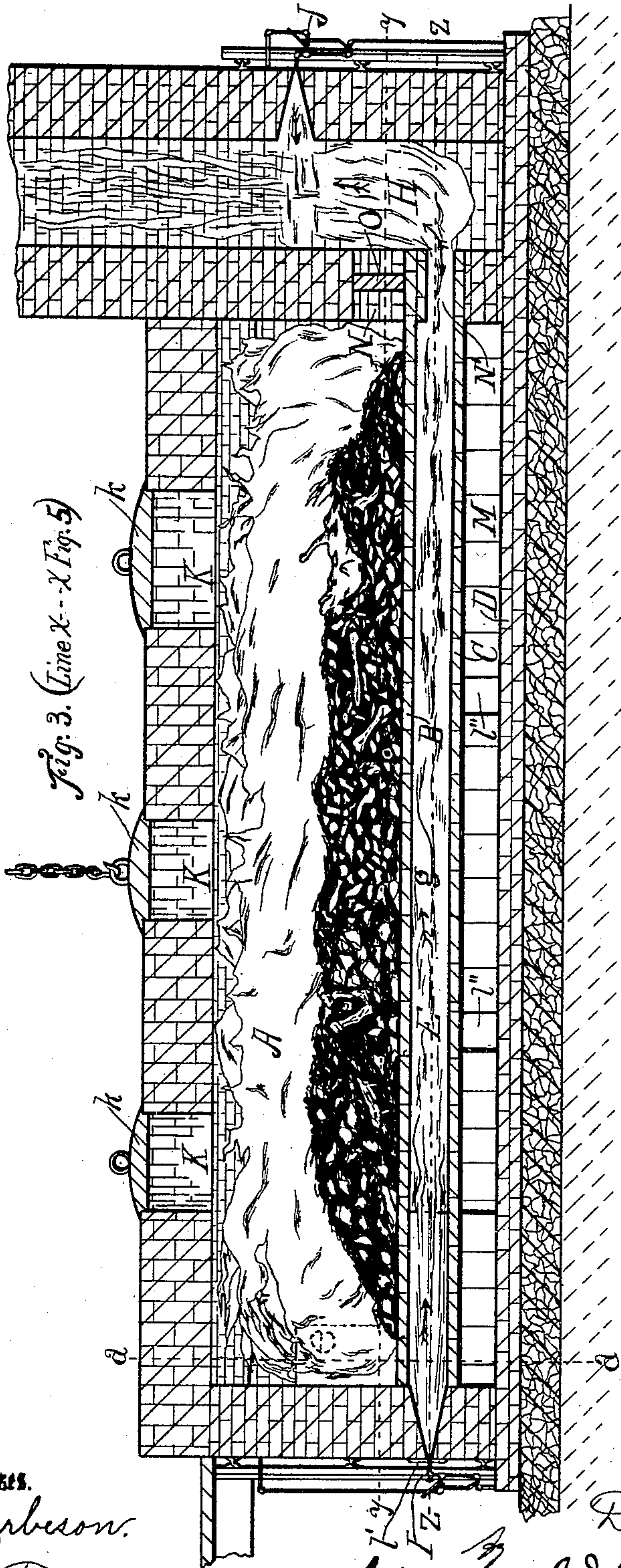


Fig. 3. (Line x--x Fig. 5)

Fig. 4. (Line b--b Fig. 6.)



Witnesses.

P. W. Harbison.

J. M. Townsend.

Inventor.

Daniel F. Donegan

Hazard & Townsend
his attys.

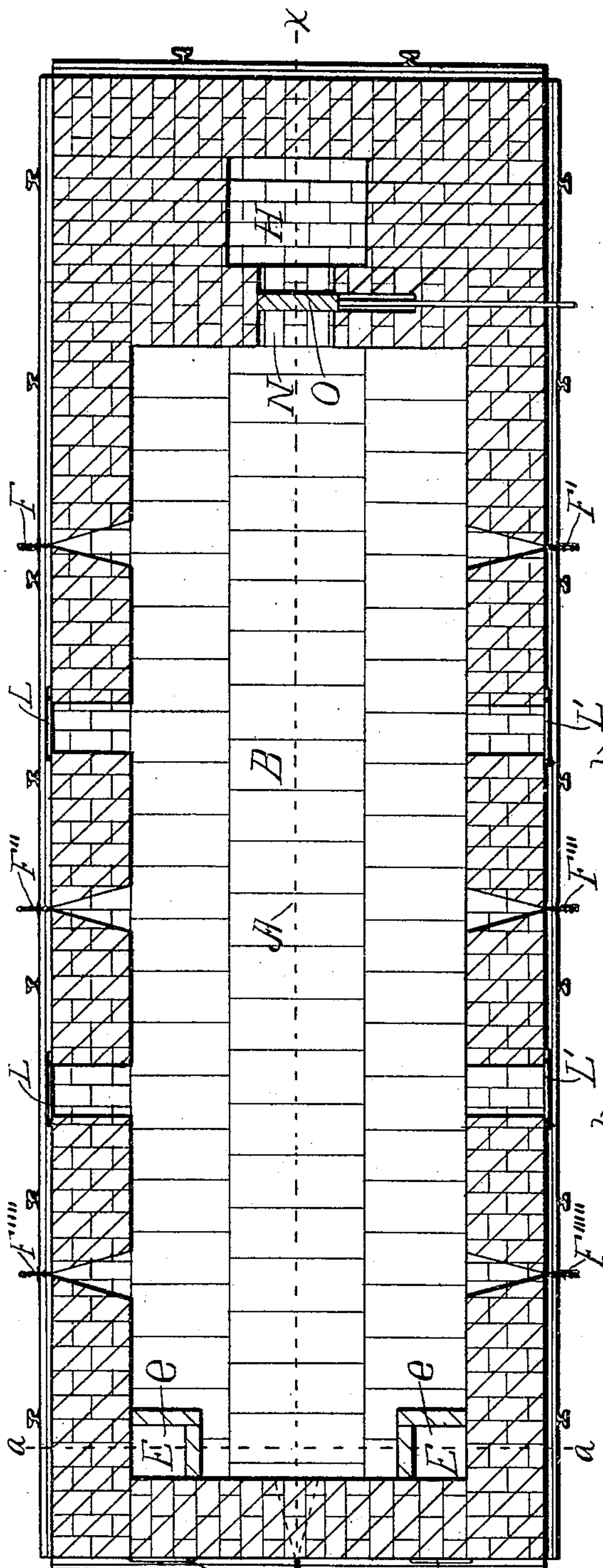
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Witnesses.
P. W. Hagbeson.
J. M. Townsend.

Fig. 5.
(Line y---y)
(Fig. 3.)

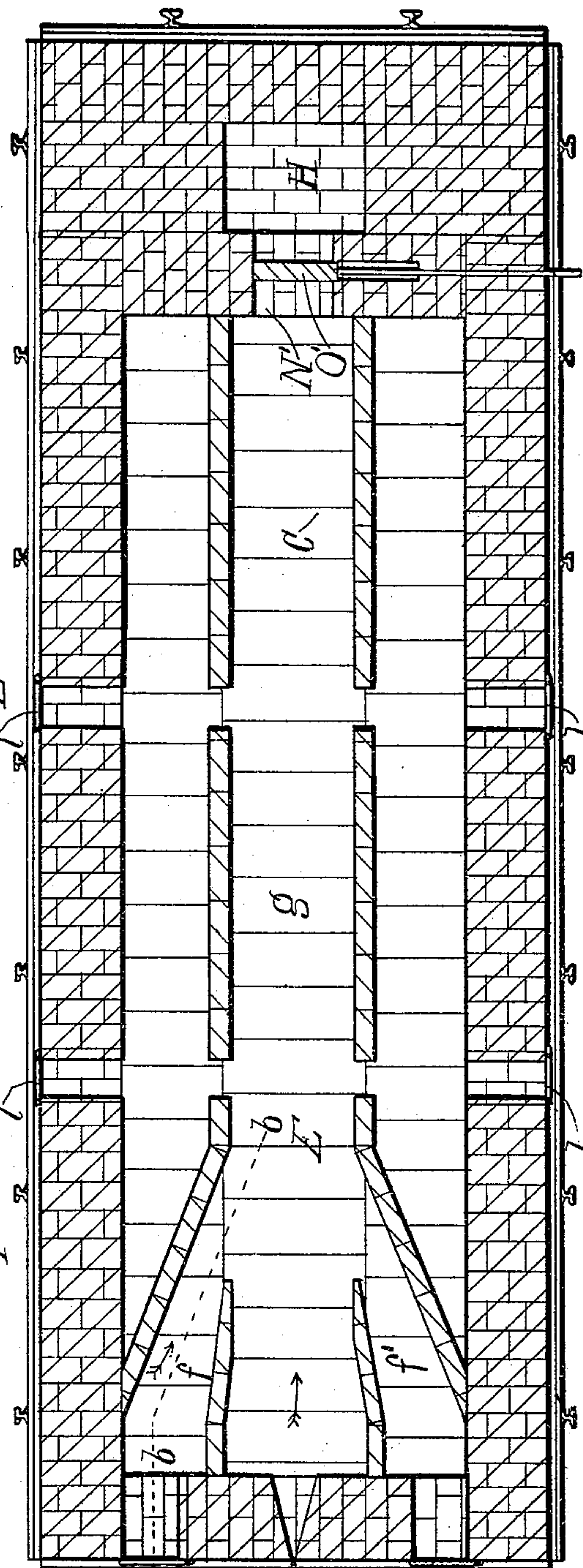


Fig. 6.
(Line z---z)
(Fig. 3.)
Inventor.
Daniel F. Donegan
by
Hazard Townsend
his atty.

UNITED STATES PATENT OFFICE.

DANIEL F. DONEGAN, OF LOS ANGELES, CALIFORNIA.

CREMATORY.

SPECIFICATION forming part of Letters Patent No. 496,046, dated April 25, 1893.

Application filed August 6, 1892. Serial No. 442,303. (No model.)

To all whom it may concern:

Be it known that I, DANIEL F. DONEGAN, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Improved Crematory, of which the following is a specification.

My invention relates to that class of crematories in which the matter to be incinerated is subjected to the action of ignited inflammables injected into the incinerating chamber through injector burners and in which the gases arising from such matter is utilized in the production of the heat to carry on the combustion.

My invention relates especially to the peculiar construction and arrangement of the incinerating chamber, the injector burners and the escape and draft flues, whereby the incineration is accomplished with greater economy, facility and effectiveness than heretofore.

My invention consists essentially in a crematory comprising the combination of an incinerating chamber provided with injector burners and adapted and arranged to normally have no draft passages or devices leading into or from such incinerating chamber except such injector burners for ingress and one or more restricted escape draft flues for egress; one or more of such injector burners arranged to inject ignited inflammables transversely the incinerating chamber near one end thereof, and one or more escape draft flues arranged near the other end of the incinerating chamber and having the receiving mouth or mouths thereof elevated above the level of the injector burners, and arranged to open downward from such chamber to allow restricted escape of the products of combustion.

It also embraces other features of construction hereinafter more particularly specified.

The accompanying drawings illustrate my improved crematory.

Figure 1 is a perspective view of the crematory which may be provided with an additional smoke stack if desired to increase the draft. I have secured excellent results with a crematory of this construction having a smoke stack sixty feet high, but such stack is not essential to the proper and satisfactory

operation of the apparatus. Fig. 2 is a vertical cross-section of the crematory on line $a-a$ Figs. 3 and 5. Fig. 3 is a vertical longitudinal mid-section on line indicated by $x-x$ Fig. 5. Fig. 4 is a vertical fragmental sectional view on line indicated by $b-b$ Fig. 6. Figs. 5 and 6 are horizontal sections respectively on lines $y-y$ and $z-z$ Fig. 3.

A indicates the incinerating chamber of firebrick and B its floor of tile.

C indicates a supplementary tile floor and D the base floor.

E E indicate restricted escape flues which are arranged to allow restricted escape of the products of combustion. These flues consist in part of the vertical passages $e e$ having their receiving mouths above the level of the injector burners F F', &c., which burners are arranged at slight distance above the floor B of the incinerating chamber so that the injected inflammables will strike upon the charge of matter to be cremated when the same is deposited upon the floor. The flues E further comprise a horizontal Y passage the arms or branches $f f'$ of which respectively communicate with the descending flues e, e ; and the stem g of which Y passage opens into the ascending flue H at the end of the crematory. An injector burner I is arranged to inject a blast of inflammables into the stem or throat g of the flue the discharge being toward the ascending flue H so that the blast from the injector I will assist in forcing the products of combustion toward the flue H and also add to the heat upon the floor B and assist in consuming escaping gases.

J indicates an injector burner arranged to inject a blast of inflammables transverse the ascending flue across the current of escaping products of combustion thus to complete the combustion of all the gases. This burner is only put into use in burning very refractory and offensive matter.

K K indicate openings through which the matter to be incinerated is deposited. $k k$ are the covers therefor.

L L' are doors giving access to the incinerating chamber.

$l l'$ are doors giving access to the horizontal flue g and $l'' l''$ are doors giving access to the lower chamber M which is arranged beneath the horizontal escape flue g to afford a

receptacle for fluids which might drip from a charge of matter deposited in the incinerating chamber when the burners are not lighted.

5 It is to be understood that the tiles which form the floors B and C are not designed to be laid so closely as to form water tight floors, and escape is thereby provided for liquids to flow into the lower chamber M from the incinerating chamber. The heat of the flame and products of combustion passing through the horizontal portions ff' and g of the flue is sufficient to evaporate and consume the liquids and combustible matter which may
10 find its way into the lower chamber.

The tile floor B is thin and in practice the flame and heat from the incinerating chamber, passing through the horizontal flue ff' and g , operate in connection with the heat in the incinerating chamber, to heat the floor to a white heat. The charge is thus heated on all sides and the flame from the burners and from the burning charge is fully utilized to incinerate the charge.

25 A passage N is arranged for direct communication between the incinerating chamber and the flue H.

O indicates a damper arranged to normally close the passage. When the fire is to be
30 started, however, the passage is opened as indicated in Fig. 2. When the burners are well in operation the damper is closed.

N' indicates a contracted passage communicating between the horizontal flue g and the ascending flue H, and O' indicates a damper arranged to close the same when desired to force all the escape through passage N or to prevent escape through the flue g .

In practice it is possible to create so hot a
40 fire with the injector that at times one burner will furnish sufficient heat to conduct the operation; but the best results are obtained when a series of opposed injectors are in operation. That is to say:—In ordinary practice I find that when the crematory is well
45 started into operation, the two burners F F'

which are at the end of the incinerating chamber farthest from the escapes e, e , will be sufficient to keep the crematory in satisfactory operation to incinerate the character of matter ordinarily constituting the garbage of cities. If these are found insufficient to prevent the escape of odors, the injector I is employed. If the incineration is not so rapid as desired more of the burners are brought into
55 action. Pairs of opposed burners should be operated at the same time for the reason that the flames will more effectually intermingle and cause more complete combustion within the chamber A. The action of the heat liberates the gases from the deposits of matter and owing to the large space above and around the charge (into which such gases ascend from the charge), and the restricted escape flues e, e , the gases are largely consumed before they
65 find exit through such flues e, e .

The injector burners which I have most successfully used have operated to inject carburated air into the crematory, but I do not limit myself to any particular style of injector
70 burner.

Now, having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination of the incinerating chamber; the two descending flues located at one end thereof on opposite sides thereof and provided with the elevated receiving mouths; the Y shaped passage ff' and g communicating with such descending flues by the branch
80 passages ff' ; the ascending flue opening from the passage g ; the injector burner arranged to discharge into the incinerating chamber near the end opposite the descending flues e and the injector burner I arranged
85 to discharge into the passage g between the branch passages ff' and toward the ascending flue.

D. F. DONEGAN.

Witnesses:

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ALFRED I. TOWNSEND.