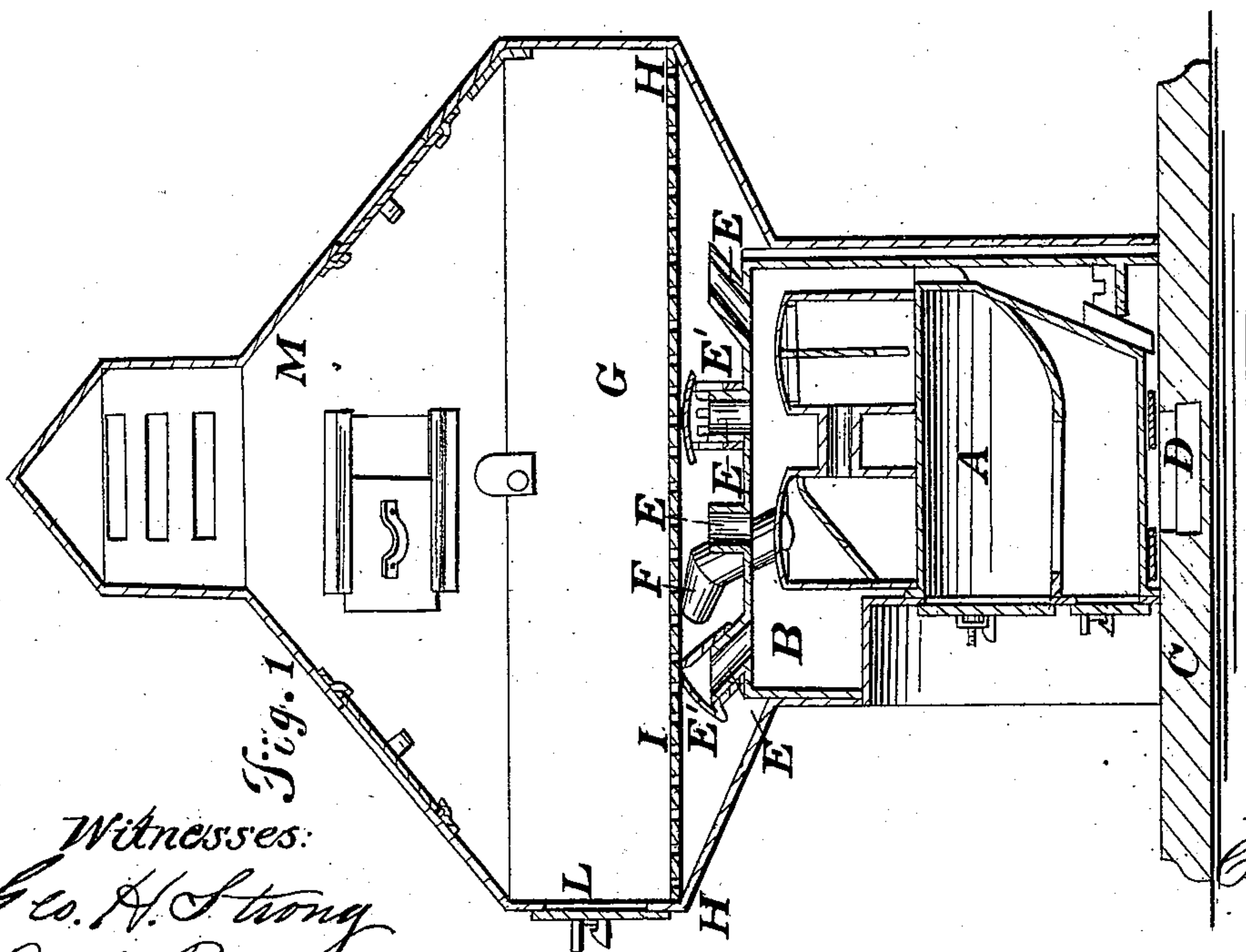
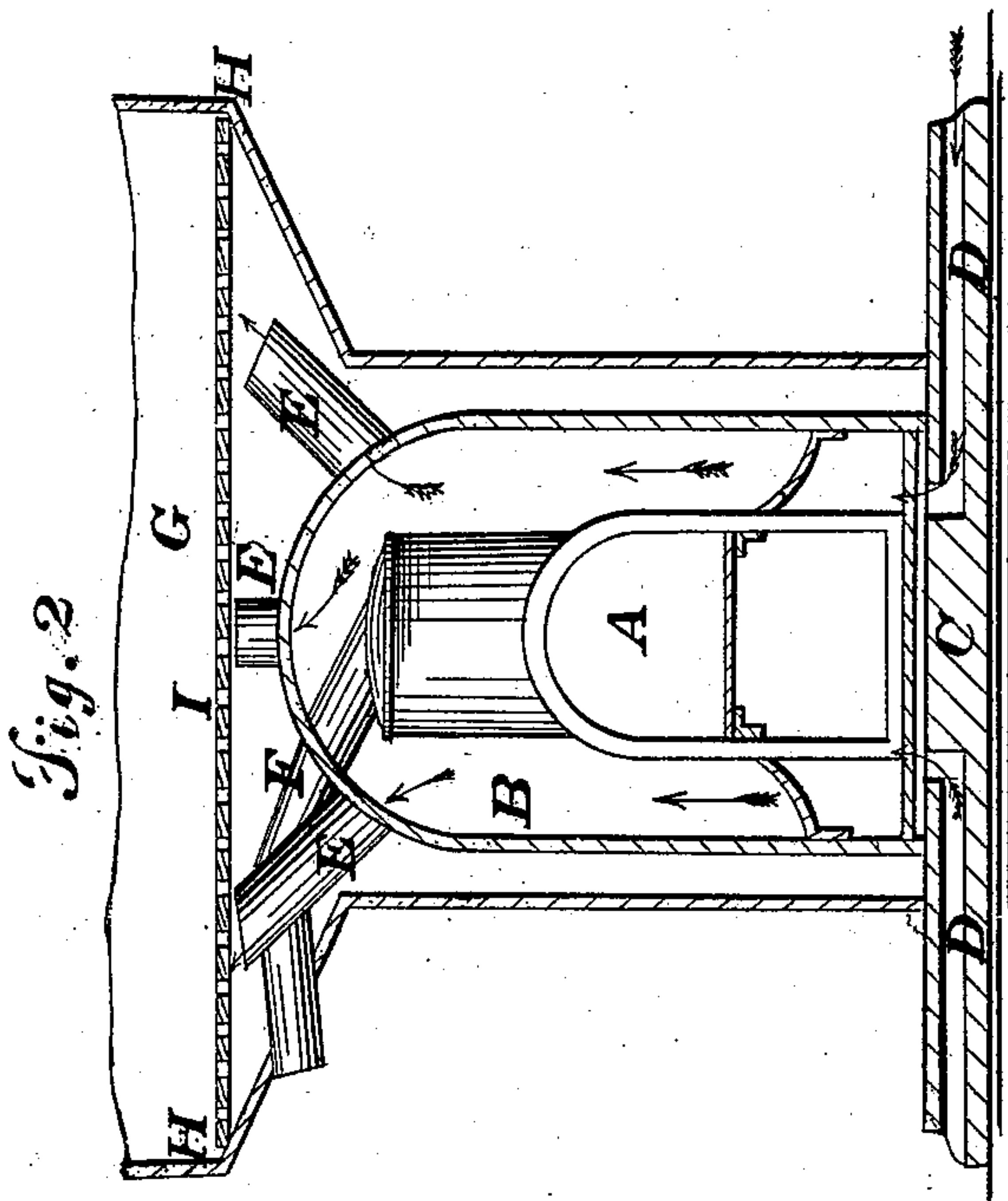
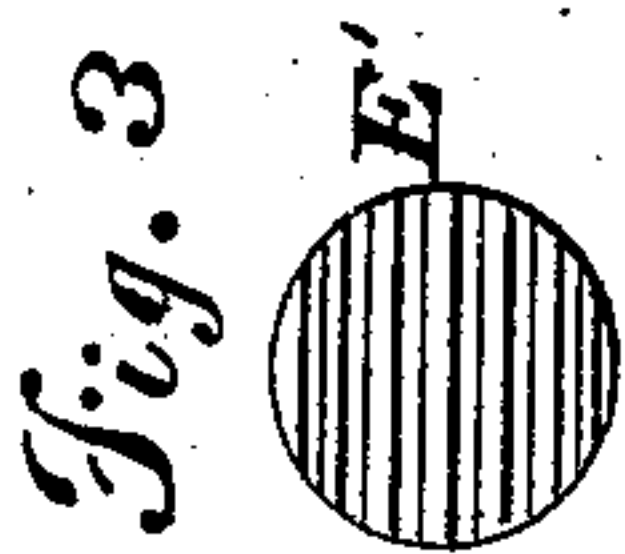
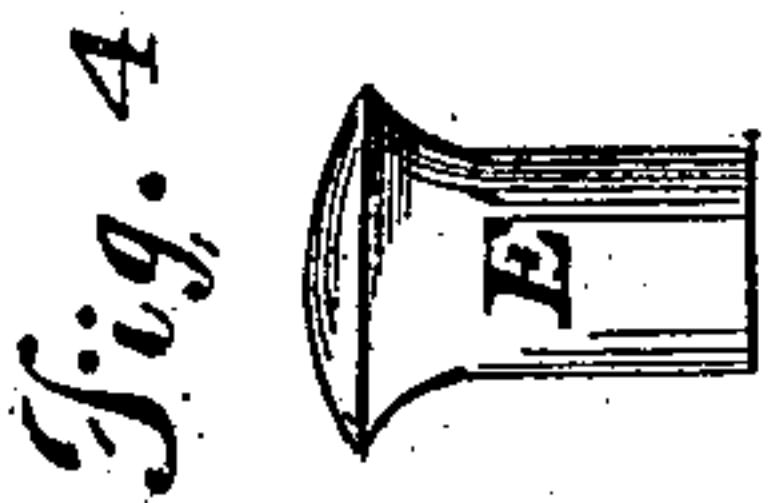


# WIEFINGER & GRUPP.

Malt Drier.

Patented April 7, 1868.

No. 76,508.



Witnesses:

Geo. H. Strong  
J. L. Boone

Inventors:

Wiefinger and  
Grupp  
By their attorney  
Dewey & Co.

# United States Patent Office.

CHRISTIAN OEFINGER AND SEBASTIAN GRUPP, OF SAN FRANCISCO, CALIFORNIA, ASSIGN-  
ORS TO THEMSELVES AND HENRY STEMPELMAN, OF SAME PLACE.

*Letters Patent No. 76,508, dated April 7, 1868.*

## IMPROVED KILN FOR DRYING MALT.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that we, CHRISTIAN OEFINGER and SEBASTIAN GRUPP, of the city and county of San Francisco, State of California, have invented an Improved Kiln for Drying Malt; and we do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use our said invention or improvements, without further invention or experiment.

The object of our invention is to provide a kiln for drying malt, in which a great saving of time will be had, while economy and convenience will be one of its features.

Our invention consists of a furnace constructed in the usual manner, having an arch-work of masonry or iron over it, which forms an air-chamber entirely around the furnace. The furnace is placed upon a bed having openings in its sides leading under the centre of the furnace, for the purpose of supplying cold air, to be heated for the purpose of drying. The arch-work has radiating from its top, directly under a perforated metal plate, pipes or tubes, for the purpose of equally distributing the heated air from the furnace, in order that the malt placed upon the screen or perforated plate may be quickly and evenly dried.

In order to more fully illustrate my invention, reference is had to the accompanying drawings, forming a part of this specification, of which—

Figure 1 is a side sectional elevation of our furnace.

Figure 2 is an end sectional elevation.

Figures 3, 4, and 5 are views of the distributing-caps.

A is a furnace, of any construction, having an arch-work of masonry or iron, B, entirely around it. This furnace, with its surrounding arch-work, is placed upon a bed, C, made of any material, having openings, D D, on either side, passing to its centre, and up under the furnace, for the purpose of supplying cold air.

On top of this arch-work are pipes, E E E, radiating in different directions, for the purpose of distributing the heated air. These pipes are provided with caps or valves, E', which are used to cut off the heat at any point where the drying is completed, and increase it where it is not. A flue, F, proceeds from the furnace through the arch, and is bent in any direction suitable for carrying the smoke to a convenient place for discharging it.

A drying-room, G, is placed over the furnace and arch, having a square frame, made to fit over the whole. At the top of the furnace the frame widens at an angle, until it is of a proper or convenient size, when the sides again resume a perpendicular direction, forming a joint at H, upon which a perforated metal plate, I, is placed, for the purpose of receiving the malt to be dried.

A small door, L, for discharging the malt when dry, is placed on one of these perpendicular sides, and the whole is covered by a suitable roof, M, which is provided with ventilators, for the purpose of allowing the air to escape after passing through the screen.

The operation of our kiln is as follows: The malt is spread upon the perforated plate I, and the fire in the furnace kindled, when the heated air arising from the pipes E E E produces a partial vacuum, which causes a draught of cool air to rush in through the openings D D on the sides of the bed, which may be made to give the air any desired temperature, thus increasing the drying-capacity, and preventing the malt from burning and becoming bitter.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

The openings D D, for the passage of cold air to the chambers C, in which the cold and hot air are combined, and the pipes E E E, provided with caps or valves E', for conveying it to different parts of the perforated plate, the whole constructed and arranged substantially as and for the purpose specified.

In witness whereof, we have hereunto set our hands and seals.

CHRISTIAN OEFINGER, [L. s.]  
SEBASTIAN GRUPP. [L. s.]

Witnesses:

C. W. M. SMITH,  
GEO. H. STRONG.