

P. LE GOULLON.
GRAVEL AND SAND HEATER.

No. 110,861.

Patented Jan. 10, 1871.

Fig. 1.

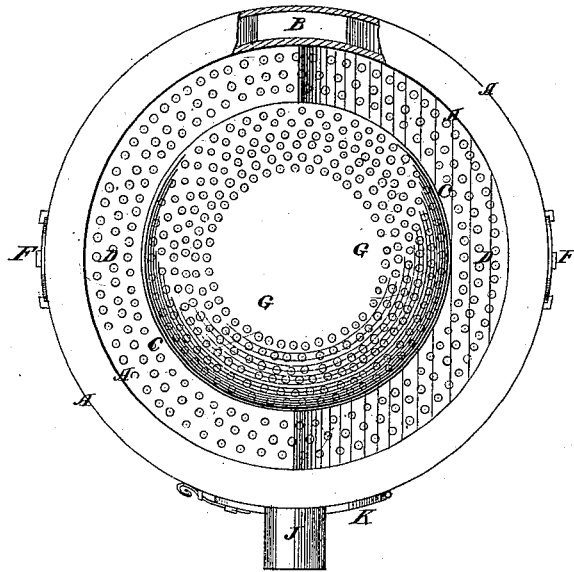
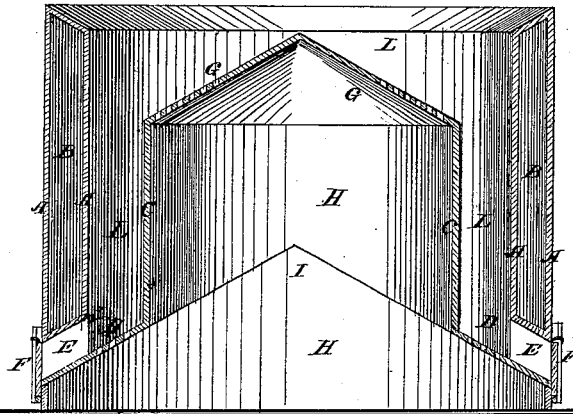


Fig. 2.



WITNESSES.

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PHILIP LE GOULLON, OF PITTSBURG, PENNSYLVANIA.

Letters Patent No. 110,861, dated January 10, 1871.

IMPROVEMENT IN GRAVEL AND SAND-HEATERS.

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

To all whom it may concern:

Be it known that I, PHILIP LE GOULLON, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Gravel and Sand-Heater; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is top view of my improved heater.

Figure 2 is a vertical cross-section of the same.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved heater for heating gravel, sand, and similar substance, which shall be simple in construction, easily operated, and effective in operation, heating the material quickly and uniformly and with a comparatively small amount of fuel; and

It consists in the construction and combination of the various parts of the heater, as hereinafter more fully described.

A is the outer case of the heater, the walls of which are made double, so as to form a ring-shaped space or flue B all around the heater.

C is the inner case of the heater, the lower edges of which are connected with the outer double-walled case A by the ring-shaped flanges D, the outer edges of which are connected with the inner wall of the said outer case A.

The flanges D incline downward from the front and rear of the heater, and at their lowest points, at the sides of the heater, are formed passages, E, leading through the double walls of the outer case A, and provided with doors, F, at their outer ends, through which the substance being heated may be allowed to escape when sufficiently heated.

The top G of the inner case C is made conical in form, as shown in figs. 1 and 2.

The conical top G and the flanges D are finely perforated, to allow the sand to pass through as the

gravel is being heated and is passing down to the discharge opening.

When sand or other fine material is to be heated the said holes may be omitted, or they may be covered with close or non-perforated caps or plates.

The fire is built upon the ground within the inner case C, which space thus becomes the fire-chamber H.

The smoke and other products of combustion pass through the opening I in the inner wall of the double-walled outer case A, and passing to right and left, circulate around the air-chamber or flue B, and escape through the smoke-pipe or flue J.

Access is obtained to the fire-chamber H through a passage formed through the lower part of the front of the double-walled outer case A, which opening is closed by a door, K.

The space above the conical top G and above the flanges D thus becomes the heating-chamber L, in which the gravel or sand is heated.

The gravel or sand to be heated is thrown upon the conical top G of the inner case C, and flows down the flanges D to the discharge-openings, being all the time fully exposed to the heat of the fire and of the smoke and other products of combustion passing through the flue or chamber B.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

An improved gravel and sand-heater formed by the combination of the outer double-walled case A, inclined ring-flanges D, and inner case C G, forming the ring-flue or chamber B, heating-chamber L, and fire-chamber H, and provided with the doors F and K, draught-opening I, and smoke-pipe or flue J, with each other, substantially as herein shown and described, and for the purpose set forth.

PHILIP LE GOULLON.

Witnesses:

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NELSON MORRIS.