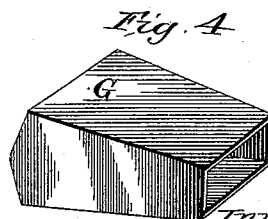
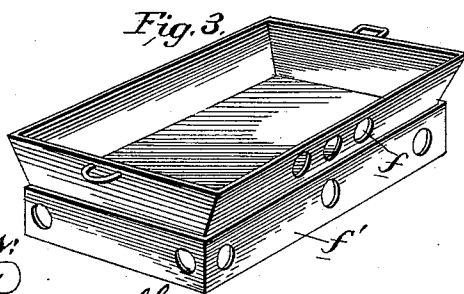
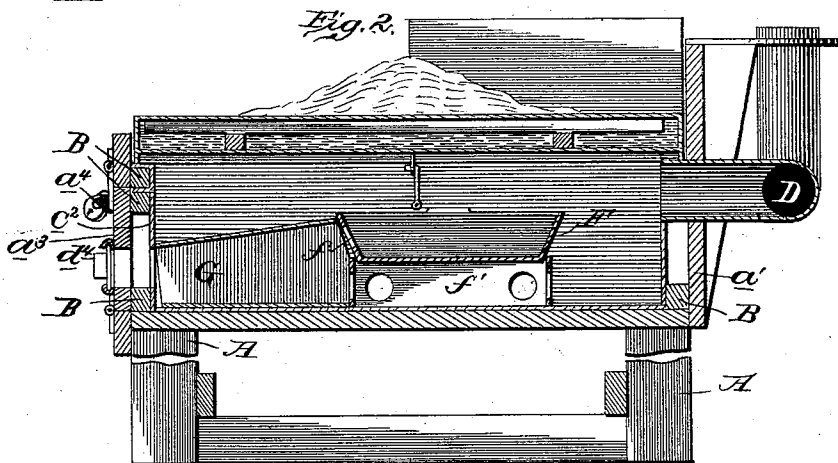
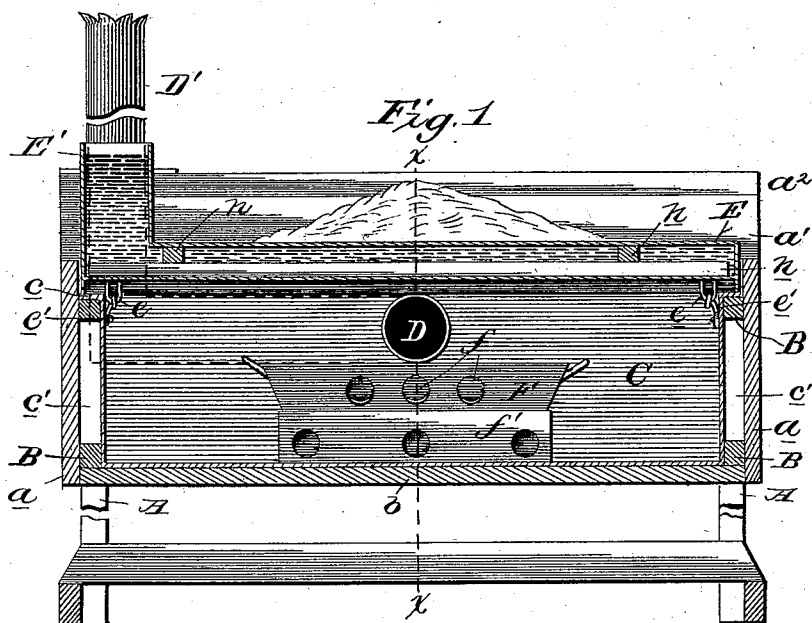


(No Model.)

H. PETRIE.
APPARATUS FOR HEATING MORTAR.

No. 466,425.

Patented Jan. 5, 1892.



Witnesses:
F. R. Cornwall
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att'y

UNITED STATES PATENT OFFICE.

HOMER PETRIE, OF OMAHA, NEBRASKA.

APPARATUS FOR HEATING MORTAR.

SPECIFICATION forming part of Letters Patent No. 466,425, dated January 5, 1892.

Application filed December 23, 1890. Serial No. 375,618. (No model.)

To all whom it may concern:

Be it known that I, HOMER PETRIE, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Apparatus for Heating Mortar; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, wherein—

Figure 1 is a vertical transverse section of a mortar-heater embodying my invention, the fire-pan being in elevation. Fig. 2 is a vertical section of the heater, taken on the line *xx* of Fig. 1. Fig. 3 is a detached elevation of the fire-pan, and Fig. 4 is a detached view of the auxiliary draft-funnel.

Like symbols refer to like parts wherever they occur.

My invention relates to the construction of heating apparatus for use by brick-layers, plasterers, and others for preventing the freezing of mortar, plaster, and the like while working the same during cold weather.

My invention consists, generally stated, in the combination, with a box provided with an opening, of a fire-pan in the box for generating heat and provided with openings in its side, and an auxiliary removable draft-funnel for connecting the opening in the door with the openings in the fire-pan.

I will now proceed to describe my invention so that others skilled in the art to which it appertains may apply the same.

In the drawings, A A indicate uprights or posts, and B B cross-bars, the whole suitably framed together to form a support for the mortar-bed and the closed air-chamber beneath the same. At its upper part this frame is closed on the two opposite sides by boards *a a*, which extend above the sill-pieces; at its rear by a board *a'*, which may extend above the sill-piece and be provided with a cap-piece *a''*, which will form a rest for hods or other implements, and at its front by a hinged section or drop-door *a³*, the box being completed by a suitable board bottom *b*. The box thus formed at the upper part of the framing constitutes the receptacle for the closed air-chamber C, which may be formed of sheet metal, galvanized sheet metal, heavily tinned sheet metal, or other suitable material

flanged above, as at *c*, and supported on or secured to the sills of the frame, so as to leave a suitable air-space *c'* between said box C and the surrounding case or box *a a*.

The drop-door *a³*, before described, and which closes one side of the outer box or casing of the closed chamber C, has its inner surface protected by a sheet of metal *c²*, which, when the door *a³* is closed, forms one wall of the closed chamber C. Through the said door *a³* and its covering *c²* is an air-port or draft-opening provided with a slide *d⁴* or its equivalent, and in the opposite wall of the box C is a flue-opening D, which may be provided with a suitable damper and which is connected by suitable pipes (shown in dotted lines in Fig. 1) with an uptake D' of any desired height and removable, if desired. This door *a³* may be provided with a lock *a⁴*.

Supported upon and arranged as a cover for the closed chamber C is a receptacle E for the heat-retaining medium, which receptacle constitutes the heat receiving and transmitting bed, and on its under surface this receptacle or cover E may be provided with eyes *e*, adapted to engage hooks *e'*, attached to the inside walls of the closed chamber, whereby the removal of the cover from above can be prevented. By means of said hooks *e'* and the lock *a⁴* the closed chamber C may be secured against unwarranted entrance, and thus the apparatus, when not in use as a heater, may be employed as a locker to secure the tools of the workmen.

The cover or receptacle E, or, in other words, the heat receiving and transmitting bed, may, if desired, be a simple pan for the reception of either a liquid or solid heat retaining and transmitting material, but is preferably a closed chamber or shell, such as shown in the drawings, provided with a filling-tube E', of considerable size and adapted to hold water, which is the preferable heat retaining and transmitting material, because water can be used to thaw out and clean off the tools, and said filling-tube E' is therefore to be of a shape and size which will permit the introduction of such tools as are commonly used by brick-layers and plasterers.

F indicates a fire-pan adapted to hold a moderate supply of charcoal or its equivalent, said pan provided on its front side with draft-

openings *fff*, and preferably supported on a perforated flange *f'* to permit a circulation of air beneath the pan.

For ordinary occasions the diffused air-currents which enter the closed air-chamber C through the draft-opening in the door *a*³ will be sufficient to keep alive the coals in the fire-pan F; but in case it is desired to concentrate the draft and force the fire, an auxiliary draft-funnel G may be used, which funnel has one end adapted to fit the opening in the door *a*³ and the other to inclose the draft-openings *fff* of the fire-pan F. When not required to force the fire, the auxiliary draft-funnel G may be removed from the position shown in Fig. 2 of the drawings.

In order to support the mortar on the heat retaining and transmitting bed or cover E without injury thereto, I prefer to arrange on the interior of the cover a series of cross-bridging *h h*, which rests upon the bottom and supports the top or mortar board E.

When in use as a heater, the mortar to be preserved from freezing is placed on the heat receiving and transmitting bed or cover E, which has been previously filled with water or other suitable liquid or solid heat retaining and transmitting material through the filling-tube E', and if water is used the liquid is allowed to rise in the tube E' to serve as means for thawing out tools. The fire-pan F is filled with ignited charcoal or other suitable live coals inserted in the closed cham-

ber C and the several dampers properly set to maintain the proper draft and obtain the requisite heat in the closed chamber C and the bed or cover E. If the draft is not sufficient to give the desired heat, the auxiliary draft-funnel G is inserted, as indicated in Fig. 2, to force the draft through the fire-pan.

In addition to its use as a mortar-heater, the closed chamber C can be used as a receptacle for lunch-pails when it is desired to heat the workman's lunch, and when the fire has been drawn and the apparatus is not in use as a mortar-heater it can be used as a locker for the reception of the tools of the workmen.

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

In a mortar-heater, the combination, with the box having air-openings therein and a slide for said openings, of a fire-pan provided with openings in its side, and an auxiliary removable draft-funnel for connecting the opening in the door with the openings in the fire-pan, substantially as and for the purposes described.

In testimony whereof I affix my signature, in presence of two witnesses, this 17th day of December, 1890.

HOMER PETRIE.

Witnesses:

C. W. DOUD,
J. W. ELLER.