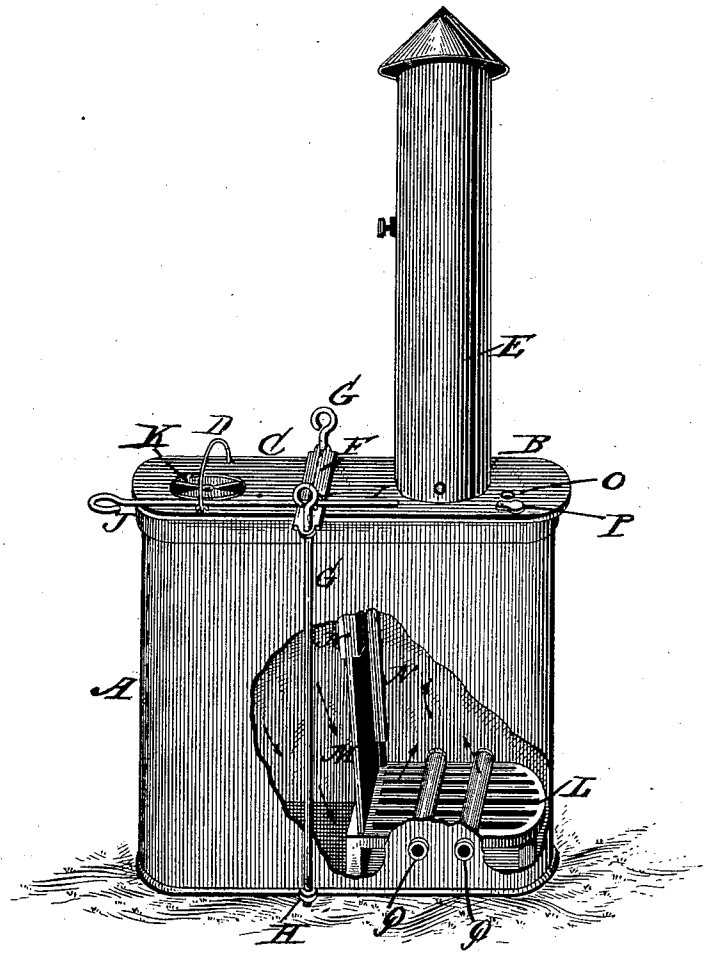
(No Model.)

A. McGOWEN.

HEATER FOR WATERING TANKS.

No. 428,124. Patented May 20, 1890.



Witnesses
L. C. Hills
E. H. Bond

Inventor
Alexander McGowen
By his Attorneys
Chas. J. Fowler,

UNITED STATES PATENT OFFICE.

ALEXANDER McGOWEN, OF INDEPENDENCE, IOWA.

HEATER FOR WATERING-TANKS.

SPECIFICATION forming part of Letters Patent No. 428,124, dated May 20, 1890.

Application filed November 9, 1889. Serial No. 329,789. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER McGOWEN, a citizen of the United States, residing at Independence, in the county of Buchanan and State of Iowa, have invented certain new and useful Improvements in Heaters for Watering-Tanks; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawing, making a part of this specification, and to the letters of reference marked thereon.

This invention relates to certain new and useful improvements in heaters for watering-tanks; and it has for its object to provide a simple and cheap device of this character, as more fully hereinafter described and claimed.

The invention consists in the peculiarities of construction and the combinations, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the drawing, and then particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawing, which is a perspective view of my improved heater with portions broken away to better illustrate other parts.

Referring now to the details of the drawing by letter, A designates the body of the heater, of suitable size and shape and of any suitable material, preferably of sheet metal, with the upright seam on the front of the ash-chamber. This body is provided with two covers B and C, the one over the fire-box and the other over the ash-chamber. The smoke-pipe E is secured to the cover B in any suitable manner, and the cover C is provided with a suitable handle or bail D, by which it may be lifted off when desired. To hold both of these covers in position I have devised the following means: F is a cross-bar arranged over the adjacent ends of the two covers and having its ends extended beyond the side walls of the body A, and through holes in these extended ends pass the vertical rods G, formed at their upper ends into suitable eyes or handles, as shown, and at their lower ends screw-threaded to engage screw-threaded lugs H—one on each side of the body A at the bottom thereof. This cross-bar is provided with an aperture through which is designed to pass a staple or eye I on one of the covers, and through this staple or eye the poker J is designed to pass to hold the cross-bar F down.

The cover C is provided with a suitable draft-damper K.

Within the fire-box is arranged a grate L, suitably supported above the bottom thereof, and M is a slanting partition between the two chambers and held in suitable guides N, as shown in the drawing. The partition and grate may be removed, if desired.

The cover B has an opening O, covered by a pivoted damper or cover P, and through this hole the poker may be inserted to stir up the fire without removing the cover.

In lieu of a circulating coil of pipes in the fire-pot, which are so liable to spring a leak from the expansion and contraction incident to the water rising and falling in the tank, and are so expensive to replace, I use two small gas-pipes Q, which pass through the fire-pot directly over the grate and are preferably supported upon the grate and through which the water flows and is kept in constant circulation. These pipes add nearly one-half to its heating capacity. It will be seen that by this arrangement the water is warmed with the fire direct on the pipes and against the outside iron, not with hot air, as heretofore, thus heating the same in much less time and at a less expense and with less heat.

The arrows in the drawing indicate the passage of the heated air through the device.

By withdrawing the poker from the cover and the rods G from the lugs H the cover can be lifted off and the ashes drawn out from under the grate into the ash-chamber and allowed to remain there till they become cold, thus utilizing all the heat.

What I claim as new is—

1. The combination, with the metal body provided with guides N, of the grate supported above the bottom of the body within the same, the removable covers, and the slanting partition above the grate at one side thereof, held in said guides with its lower edge resting on the top of the grate, substantially as described.

2. The combination, with the body formed at its bottom with lugs H and provided with removable covers, of the cross-bar F over the joint between the two covers and having apertured extended ends, the vertical screw-threaded rods passed through the holes in the ends of

said bar and engaging the lugs on the bottom of the body, said cross-bar being apertured to receive a staple on one of the covers and the poker passed through said staple above the cross-bar, substantially as shown and described, and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

ALEXANDER McGOWEN.

Witnesses:
M. W. HARMON,
E. B. ABBOTT.