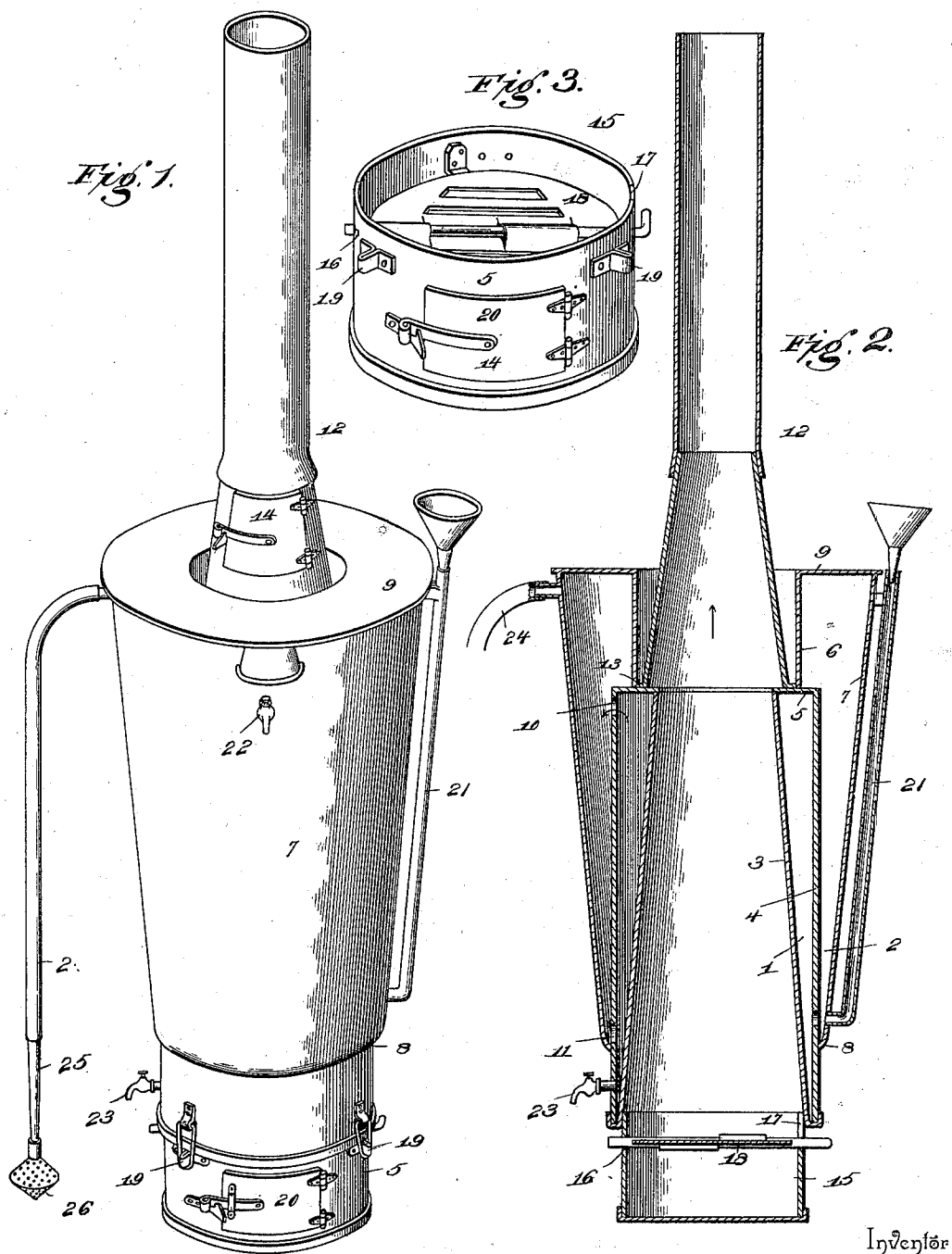


(No Model.)

E. R. GARRETT.
STEAMER.

No. 545,790.

Patented Sept. 3, 1895.



Inventor

Enoch R. Garrett,

By *his* Attorneys.

Witnesses

John Shaw.
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UNITED STATES PATENT OFFICE.

ENOCH R. GARRETT, OF APPLETON CITY, MISSOURI, ASSIGNOR OF ONE-FOURTH TO FRED A. LUCHSINGER, OF SAME PLACE.

STEAMER.

SPECIFICATION forming part of Letters Patent No. 545,790, dated September 3, 1895.

Application filed April 2, 1895. Serial No. 544,181. (No model.)

To all whom it may concern:

Be it known that I, ENOCH R. GARRETT, a citizen of the United States, residing at Appleton City, in the county of St. Clair and State of Missouri, have invented a new and useful Steamer, of which the following is a specification.

This invention relates to an improvement in steamers for heating or cooking feed for live-stock.

The object of the present invention is to provide a simple and inexpensive construction of steamer which shall be capable of preparing or steaming any desired amount of feed while the latter is in the mixing-trough.

A further object of the invention is to construct the steaming apparatus in such manner that it may be taken apart for cleaning, storage, or transportation.

To this end the invention consists in providing a steamer with two separate and independent annular chambers and in providing the same with upper and lower communicating apertures, thus providing for a proper circulation of water; in the manner of supporting the smoke flue or pipe within the steamer; in the manner of coupling the fire-box or furnace to said steamer, and in certain other features and details of construction and arrangement of parts hereinafter fully described, illustrated in the drawings, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a feed cooker or steamer constructed in accordance with my invention. Fig. 2 is a vertical sectional view showing the manner in which the annular chambers are combined and arranged, showing also the manner in which the smoke flue or pipe is supported in position and the steamer coupled to the fire-box or furnace. Fig. 3 is a detail perspective view of the separable fire-box or furnace.

Similar numerals of reference indicate corresponding parts in the several figures of the drawings.

The body of the steamer comprises two separate and independent annular chambers 1 and 2. The chamber 1 is composed of a tapering cylindrical inner wall or sheet 3, decreasing in diameter toward the top, and an

outer cylindrical wall or sheet 4 of approximately the same diameter throughout and surrounding the sheet 3. The inner and outer walls 3 and 4 are approximately the same diameter as their lower ends, where they are connected; but at their upper ends the diameter of the outer wall is considerably greater than that of the inner wall, thus necessitating an annular top or cap-plate 5, which completes the chamber 1. The chamber 2 is composed of an inner cylindrical sheet or wall 6, the diameter of which is approximately the same throughout its length and somewhat greater than the internal diameter of the chamber 1, upon the top plate 5 of which said sheet 6 rests, and said chamber 2 also comprises a tapering cylindrical outer wall or sheet 7, which surrounds the inner wall 6 and extends down over and surrounds the inner chamber 1, terminating at a point just above the bottom of said inner chamber and being united thereto, as shown at 8. The diameter of the outer wall or sheet 7 increases as it approaches the top, where it is connected by an annular plate or cap 9 with the upper end of the inner wall or sheet 6. Two separate and independent water-containing chambers are thus provided, one overlapping the other, and the intermediate wall 4 between said chambers is provided with an upper aperture 10 at the upper end of the inner chamber and a lower aperture 11 at the bottom of the outer chamber.

The smoke flue or pipe 12 is preferably made tapering at its lower end and provided with an annular flange 13, which rests upon the internal shoulder formed by the top of the inner chamber 1, and said pipe, just above the top 9 of the chamber 2, is provided with a hinged door 14, by means of which fuel is supplied to the fire-box or furnace. The furnace consists of a cylindrical box 15, which is provided at one side with a perforation 16 and at the opposite side with a notch or open slot 17, said perforation and notch being adapted to receive the shaft on which the dumping-grate 18 is supported. Suitable radially-projecting brackets 19 are attached to the exterior surface of the furnace-box at suitable intervals, the upper edges of said brackets being in the same horizontal plane with the

upper side of the grate-supporting shaft and adapted to receive the lower edge of the steamer and to support the same relatively to the fire-box. The grate-supporting shaft is thus held in place when the steamer is in position, but may be removed when the steamer is detached from said fire-box. A series of pivoted loops, connected to the lower end of the chamber 1 upon the exterior wall thereof, pass beneath and engage the brackets 18 on the fire-box, thus coupling the parts together. A hinged door 20 at one side of said fire-box provides for the removal of the ashes and affords the necessary draft. In operation, water is introduced into the chambers 1 and 2 through a supply-pipe 21 extending upwardly upon the exterior of the steamer. Said supply-pipe is provided with a suitable funnel at its top and enters the chamber 2 at the bottom edge thereof. Sufficient water is introduced into the steamer to fill the same up to the line of a suitable faucet 22, the purpose of which is to indicate when sufficient water has been introduced into the steamer. Another faucet 23, located at the bottom of the inner chamber 1, provides for drawing off the water when desired. A fire having been kindled in the furnace-box 15, the products of combustion pass up through the space within the inner chamber and thence out of the smoke flue or pipe 12. In their passage they heat the water in the chamber 1 to the boiling-point, when it passes out through the upper aperture 10 into the outer chamber 2, the cold water therein passing downward and through the lower aperture 11 into the inner chamber 1. By reason of the space at the bottom of the inner chamber being less than at the top of said chamber, the shallow body of water is adapted to be more easily heated. The steam finally escapes into the upper end of the outer chamber 2, from whence it is conveyed, through a flexible hose or pipe 24 to the desired point. The steam-pipe 24 is provided at its end with a metallic sleeve 25, which receives a detachable steam radiator or distributor 26, made of perforate sheet metal, which is adapted to be inserted into the feed for properly directing the steam thereto.

The feed cooker and steamer above described is simple in construction and may be manufactured at slight cost. It is also portable, will be found thoroughly efficient in use, and by means of the flexible steam-pipe the steam may be conducted to any desired point. The device may be used for heating water for bath-rooms, also for furnishing hot water and steam for laundry purposes, and is also well

adapted for use in connection with fruit-evaporators, &c.

It will be apparent that various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In a steamer for heating or cooking food for stock, the combination with a tapering inner chamber surrounding the central smoke flue and having its lower end contracted, of a tapering outer chamber surrounding said inner chamber and having its lower end also contracted, the upper and lower apertures connecting said chambers for providing for the proper circulation of the water, a furnace located at the bottom of the inner chamber, and a steam pipe or outlet communicating with the steam space of the outer chamber, substantially as and for the purpose described.

2. In a steamer for preparing feed for live stock, a cylindrical and tapering inner chamber, in combination with a tapering and cylindrical outer chamber surrounding said inner chamber and extending upwardly beyond the upper edge thereof, the upper and lower communicating apertures between said chambers, a removable smoke pipe arranged within the outer chamber and resting upon the top of the inner chamber, and a detachable fire box or furnace connected to the lower end of the inner chamber, in the manner and substantially as described.

3. In a steamer for preparing feed for live stock, a tapering annular inner chamber, and a tapering annular outer chamber surrounding said inner chamber and extending above the same, and the upper and lower communicating apertures between said chamber, in combination with a detachable fire box secured thereto in the manner described, a detachable smoke pipe provided with a flanged base resting upon the upper end of the inner chamber, a supply pipe communicating with the lower end of the outer chamber, and a flexible steam pipe communicating with the steam space at the upper end of the outer chamber, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ENOCH R. GARRETT.

Witnesses:

W. F. TUSSEY,
CHAS. G. HILTON.