C. GORTON.

Feed-Steamer and Generator.

No. 212,214. Patented Feb. 11, 1879.

Fig. 1.

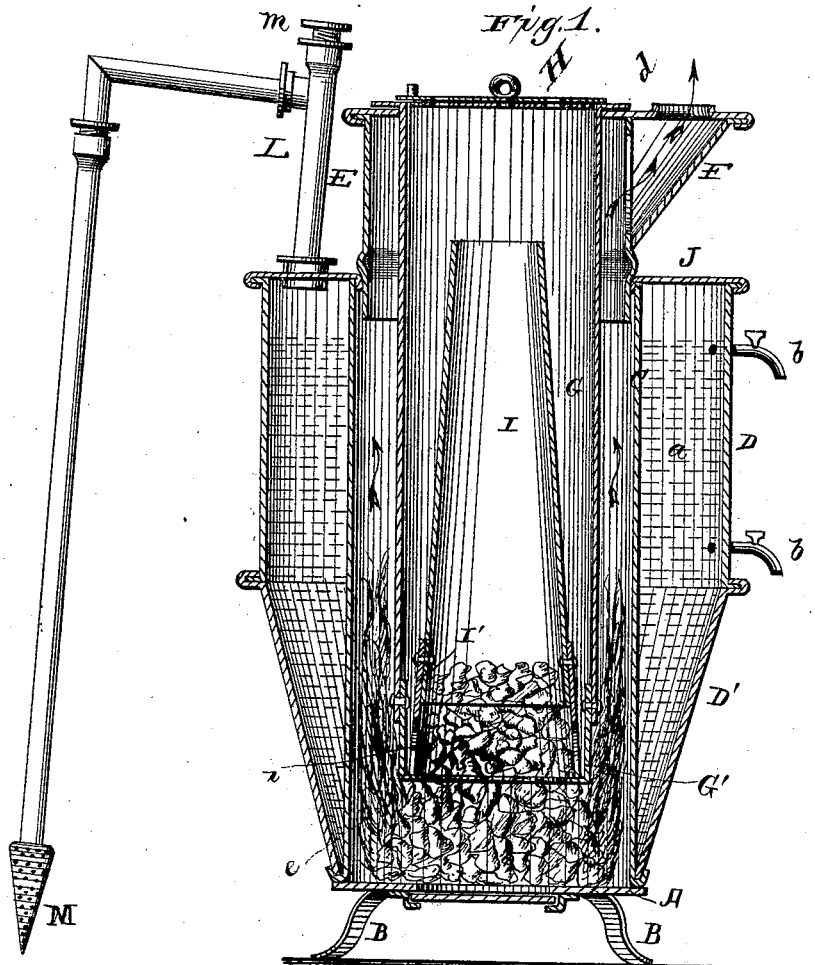
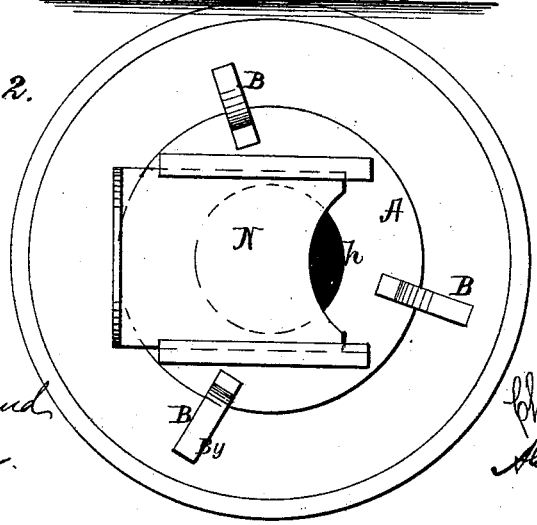


Fig. 2.



WITNESSES

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CHARLES GORTON, OF ADRIAN, MICHIGAN.

IMPROVEMENT IN FEED-STEAMER AND GENERATOR.

Specification forming part of Letters Patent No. **212,214**, dated February 11, 1879; application filed December 18, 1878.

To all whom it may concern:

Be it known that I, CHARLES GORTON, of Adrian, in the county of Lenawee, and in the State of Michigan, have invented certain new and useful Improvements in Feed-Steamer and Generator; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a steamer and generator for cooking feed, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a central vertical section of my feed-steamer. Fig. 2 is a bottom view of the same.

A represents the cast-iron bottom, supported upon suitable legs B B, and having a cylindrical fire-box, C, secured thereon at or near the edges of the bottom. The cylindrical fire-box C forms the inner shell of the steamer, and is surrounded by an outer shell, forming the water-chamber *a* between them. The upper part, D, of this outer shell is concentric with the fire-box, while the lower part, D′, contracts toward the bottom, so that its lower edge will be united with the lower edge of the fire-box or shell C, or with the bottom A at the lower edge of said fire-box.

It will thus be seen that the lower portion of the water-chamber *a* is made conical, and contracts toward the bottom, so that the space immediately surrounding the fire is very narrow, and hence the generation of steam is very rapid.

b b represent high and low water cocks or gages attached to the upper part, D, of the generator.

In the upper end of the inner shell or fire-box, C, is inserted a cylinder, E, which extends above the steamer, and is at one side provided with the smoke-exit F. Through this cylinder is passed the magazine G, which is cylindrical in form, and supported at the top of the cylinder E by a projecting flange, *d*. The lower end of the magazine G is provided with an extension, G′, of galvanized iron, against which the greatest heat operates. This magazine is intended to be used alone when wood is used as fuel, and the upper end of the magazine is provided with a register or damper, H, to regulate the downward draft.

When coal is used as fuel, a truncated cone, I, is placed inside of the magazine, and resting on a flange, *e*, formed on the inside around the lower edge of the extension G′. The cone I is also provided with a galvanized-iron extension, I′, provided in its lower edge with notches or openings *i* for the passage of the air.

The upper edges of the shells C and D are connected by an annular plate, J, which closes the top of the water-chamber; and in said plate is attached a tube, L, for conducting the steam to the barrel or other receptacle containing the feed to be cooked, the steam passing out in jets through a perforated cone, M, attached to the end of said tube L.

In the bottom A is made an opening, *h*, with a slide, N, so that when desired an upward draft can be obtained by opening said slide more or less.

The pipe L is made of several joints, as shown, and that portion which connects with the plate J is provided at its upper end with a screw-cap, *m*, and is to be used for filling the water-chamber.

If the outside shell of the generator were made cylindrical from top to bottom, it would, of course, require a large amount of water below the low-water cock which would not be used in the generation of steam, the only object of this water being to protect the inner shell adjacent to the fire; hence it would take a comparatively long time to get up steam. But by my construction of the outside shell, having the lower portion contracted to a point at the bottom, only a small amount of water is below the low-water cock, and while this answers all the purposes for which this water is intended, it facilitates and hastens the generation of steam.

Having thus fully described my invention,

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

1. In a feed-steamer, the combination, with the top plate, J, of the single pipe L, for the escape of the steam, provided with the screw-cap *m*, for admitting water, whereby only one opening is necessary in the plate, as set forth.

2. The combination of the bottom A with slide N, fire-box C, outer shell, D D′, cylinder E, magazine G G′, and truncated cone I I′, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 29th day of November, 1878.

CHARLES GORTON.

Witnesses:
H. AUBREY TOULMIN,
J. M. NELSON.