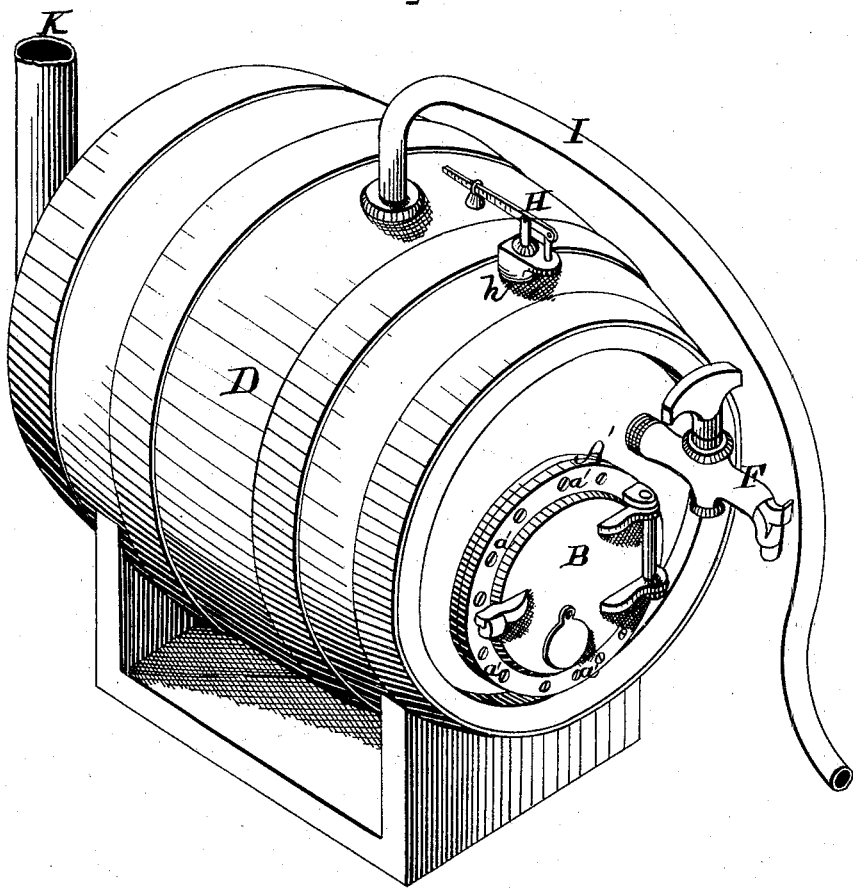
2 Sheets--Sheet 1.

W. A. SWARTHOUT.

Agricultural Boiler.

No. 165,382. Patented July 6, 1875.

Fig. 1.



WITNESSES:

Jas. E. Hutchenson

John R. Young

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Wm. A. Swarthout, by

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2 Sheets--Sheet 2.

W. A. SWARTHOUT.

Agricultural Boiler.

No. 165,382. Patented July 6, 1875.

Fig. 2.

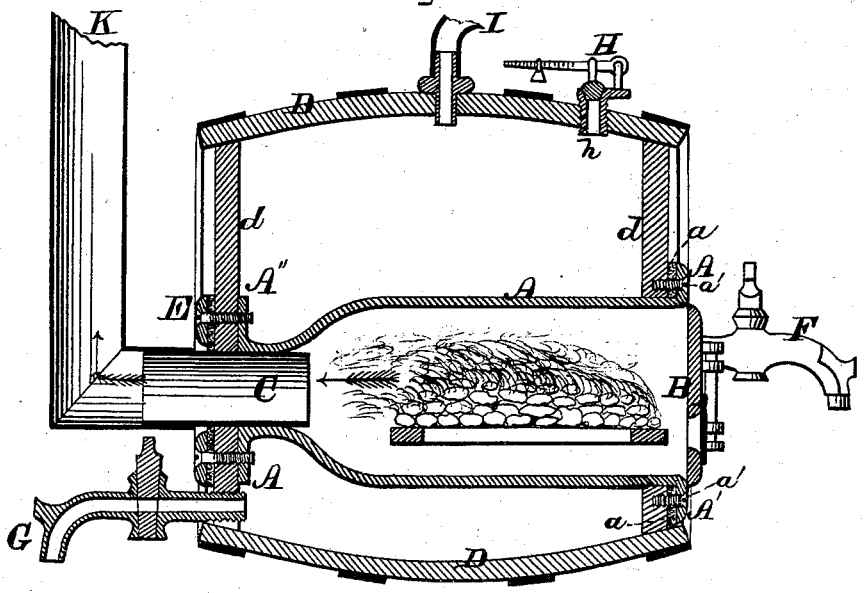
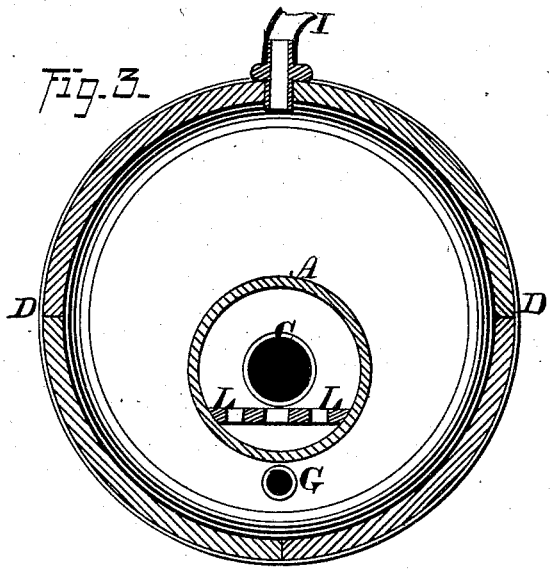


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM A. SWARTHOUT, OF AURORA, ILLINOIS, ASSIGNOR TO HIMSELF AND ROSWELL W. GATES, OF SAME PLACE.

IMPROVEMENT IN AGRICULTURAL BOILERS.

Specification forming part of Letters Patent No. **165,382**, dated July 6, 1875; application filed June 18, 1875.

To all whom it may concern:

Be it known that I, WILLIAM A. SWARTHOUT, of Aurora, in the county of Kane and in the State of Illinois, have invented certain new and useful Improvements in Agricultural Boilers; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings making a part of this specification, in which—

Figure 1 is a perspective view of my improved apparatus as arranged for use; and Figs. 2 and 3 are, respectively, a vertical longitudinal section upon a central line and a vertical central cross-section of the same.

Letters of like name and kind refer to like parts in each of the figures.

The design of my invention is to simplify the construction and lessen the cost of a steam-generator for farmers' use; to which end it consists in the peculiar construction and combination of parts, substantially as and for the purpose hereinafter specified.

In the annexed drawings, A represents a cylindrical metal furnace, the forward end of which is provided with an annular flange, A′, and is inclosed by means of a hinged door, B, while its rear end is contracted to form an exit-flue, C. The furnace thus constructed is placed within the lower portion of a barrel, D, of ordinary construction, an opening being provided within one head, *d*, sufficient to admit the body of said furnace, and within the opposite end of such size as to permit of the outward passage of the contracted rear end C, after which a rubber or other gasket, *a*, is placed between the flange A′ and the contiguous face of said barrel-head, and said parts connected together by means of a number of horizontal bolts, *a′* and *a′*, so as to form at such point a steam and water joint. The rear end of the furnace A is provided with a flange, A″, which bears against the inner face of the rear barrel-head *d′*, while an annular collar, E, is placed upon the outer face of the latter, and the two bolted together, so as to closely confine between the same said barrel-head and suitable interposed packing-gaskets. The barrel D is provided with a gage-cock, F, for determining the height of water within the same, a discharge or blow-off cock, G, an inlet-opening, *h*, for supplying water to said barrel, and for receiving a safety-valve, H, and a flexible pipe, I, for conveying steam to the point where it is to be used, all of usual form and construction. A smoke-pipe, K, attached to the exit-flue C, and from thence extending upward to a suitable height, and a grate, L, placed within the lower side of the furnace, completes the device, which operates in the usual manner.

The advantages obtained by this construction are as follows: First, the water-reservoir is a better non-conductor of heat than is metal, so that when the boiler is in use there is a smaller percentage of heat lost by radiation than would be the case were metal employed; second, the cost of the device is much less than would be possible were the boiler constructed from metal; third, any ordinary workman, having the furnace furnished, can attach the same to a barrel, while, by providing several sizes of furnaces, a farmer would be able to utilize old barrels for this purpose, and thereby effect a material saving in cost; fourth, the boiler is more easily handled, and is less liable to injury from transportation than would be the case were it constructed from metal.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

In combination with the barrel D, provided with the gage-cock F, blow-off cock G, safety-valve H, and steam-tube I, the furnace A, provided with the flanges A′ and A″, the door B, and the grate L, said parts being constructed in the manner and for the purpose substantially as specified.

In testimony that I claim the foregoing I have hereunto set my hand this 14th day of June, 1875.

WILLIAM A. SWARTHOUT.

Witnesses:

ROBERT B. GATES,

IRA B. TRIPP.