(No Model.)

D. W. BOVEE.

AGRICULTURAL BOILER.

No. 420,330. Patented Jan. 28, 1890.

Fig. 1.

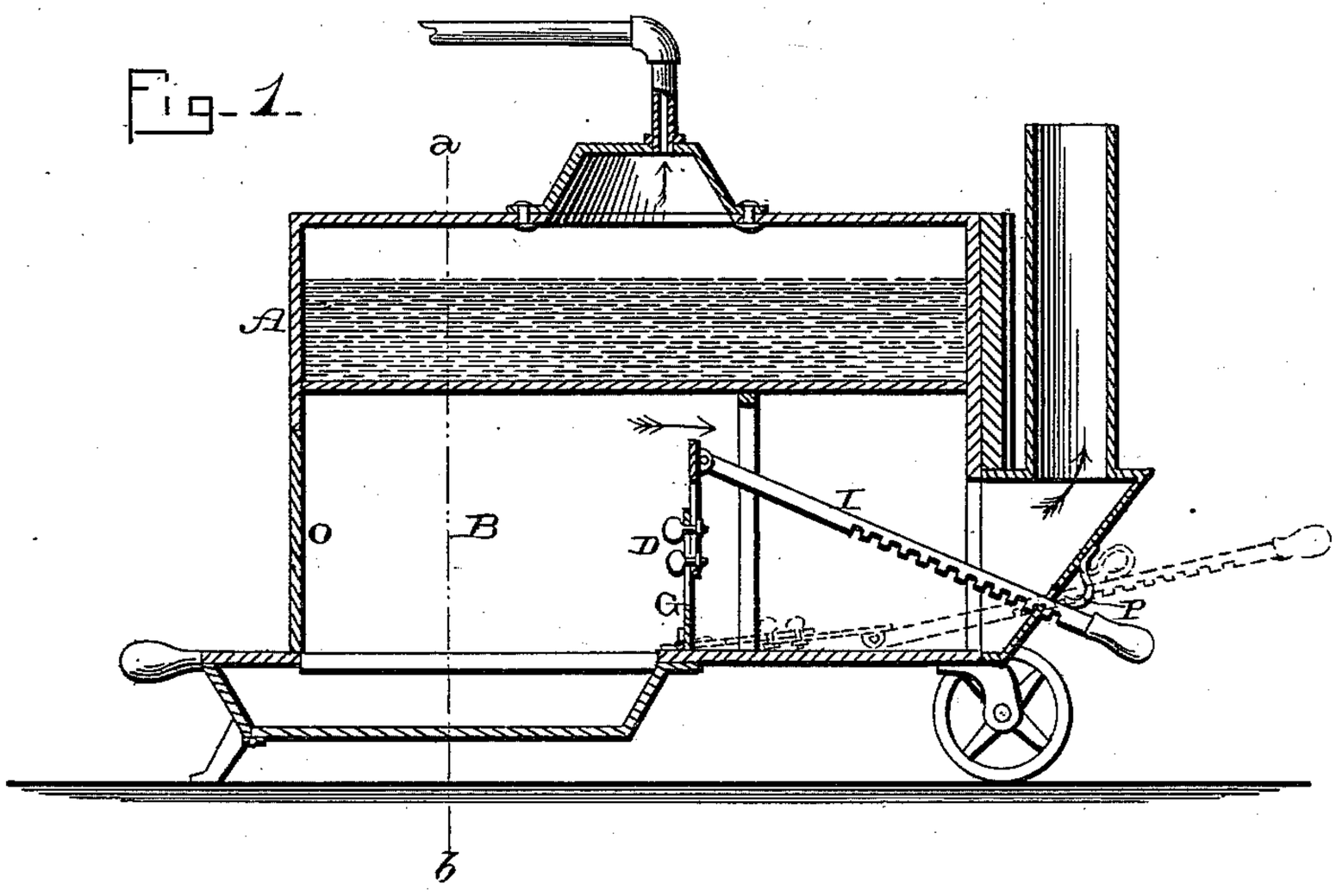
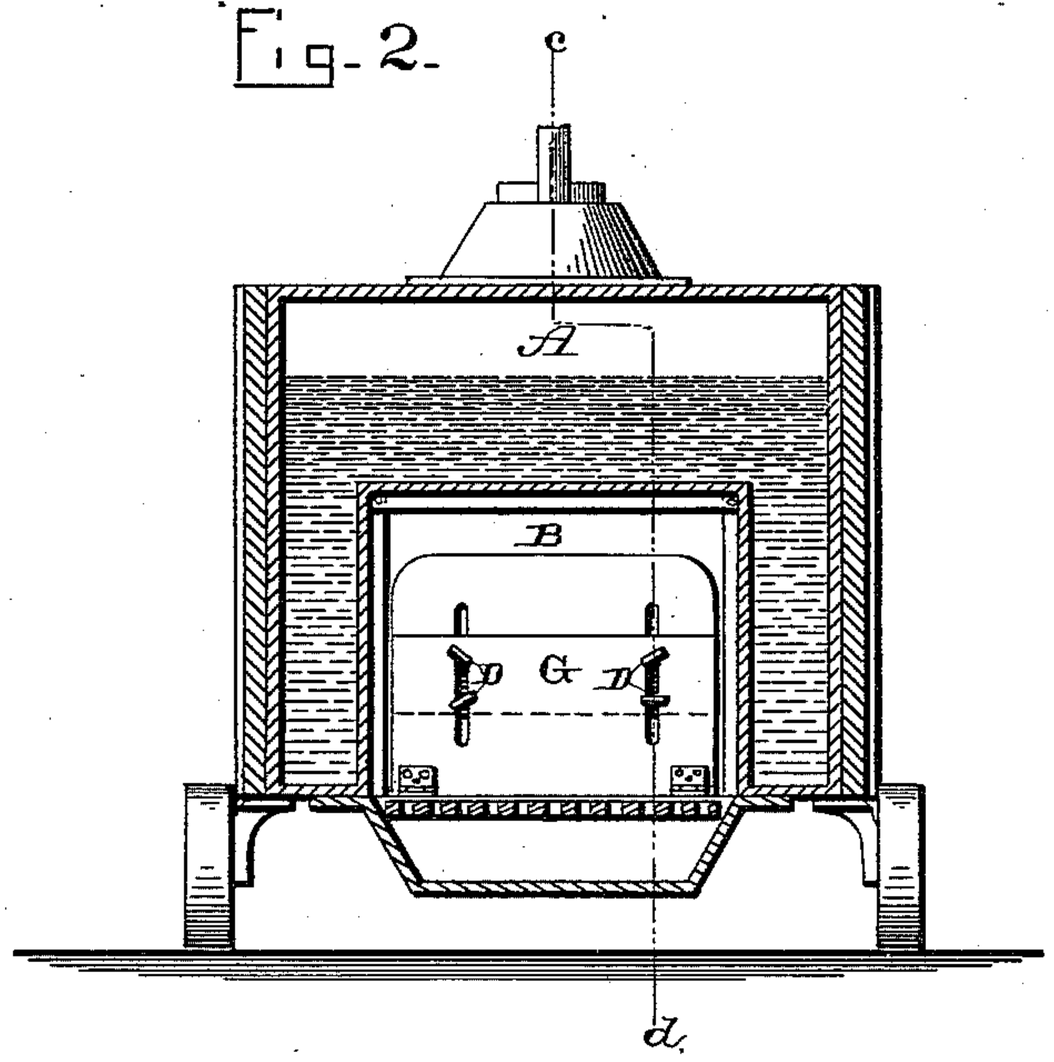


Fig. 2.



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per
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UNITED STATES PATENT OFFICE.

DAVID WILLIAM BOVEE, OF TAMA, IOWA.

AGRICULTURAL BOILER.

SPECIFICATION forming part of Letters Patent No. 420,330, dated January 28, 1890.

Application filed August 27, 1889. Serial No. 322,151. (No model.)

To all whom it may concern:

Be it known that I, DAVID WILLIAM BOVEE, of Tama, in the county of Tama and State of Iowa, have invented certain new and useful Improvements in Agricultural Boilers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in agricultural boilers; and it consists in the combination of the fire-box of the boiler with a movable partition which is pivoted at any suitable point, and to which an operating-rod is connected, as will be more fully described hereinafter.

The object of my invention is to place a partition in the fire-box, whereby the fire-box can be contracted or enlarged to correspond to the particular kind of fuel that is being used.

Figures 1 and 2 are vertical sections of a boiler which embodies my invention, taken at right angles to each other, the sections being taken on the lines *a b* and *c d*, respectively.

A represents the boiler or water-heater, which may be of any desired shape, size, or construction, and which is adapted to have a covering of tongue-and-grooved boards applied to its outer sides, so as to protect it during the winter months and prevent the water left in it from freezing. This covering of boards is to be removed during the summer months, so as to prevent the outside of the boiler from rusting. The ends of the boards catch under suitable flanges, which are formed upon opposite ends of the boiler for this special purpose.

The fire-box B will be of any desired shape and size, but is enough smaller than the outer shell of the boiler to allow a water-leg to be formed upon opposite sides of the fire-box, and thus enable the largest possible quantity of water to be heated from a given amount of fuel. The fire-box will be braced inside by suitable braces at or near its center, so as to prevent the box from collapsing or being strained by the pressure of steam.

Pivoted in the bottom of the fire-box at the inner ends of the grate-bars is a partition G, which is formed of two solid plates, which can be adjusted vertically in relation to each other, so as to be made higher or lower at the will of the operator and according to the amount of fuel that is to be used. If coal is to be used in heating the water, the partition will be lowered; but if straw or other similar fuel is to be used the two parts of the partition will be adjusted so as to make the partition nearly fill the fire-box, and thus prevent the products of combustion from passing too rapidly up the chimney.

Pivoted to the upper portion of the partition is a notched rod I, which has its outer end to pass through a slot in the end wall of the fire-box, and by means of which rod the partition can be raised and lowered, according to the kind of fuel that is to be used in heating the water. If long wood is to be used, the partition will be drawn backward by its operating-rod, so as to rest upon the bottom of the fire-box, and thus allow the inner ends of the pieces of wood to rest directly upon its top. If hay or straw is to be used as fuel, the partition is first laid down upon the bottom of the fire-box, and then after the box has been filled with the hay or straw the partition is raised and forced as far as possible toward the door O, so as to compress the hay or straw as compactly as possible, and by remaining in an upright position in the fire-box prevent the products of combustion from passing off too readily. If short pieces of wood are to be used as fuel, the partition will be made to extend nearly to the top of the fire-box, and thus keep the wood directly over the grate. If coal is to be used in heating the water, the partition will be made as narrow as possible, and thus allow the products of combustion to pass off more freely than is done where wood is used.

The adjustment of the partition so as to stand higher or lower in the box is or can be made as follows: Each of its parts is provided with two or more slots through which are passed clamping bolts or rods D, which hold the parts or plates in any desired relation to each other. These bolts are tightened just enough to prevent the plates from sliding on each other, but not enough to prevent the

upper plate from being moved back and forth on the lower one when a positive push or pull is exerted upon it by the rod I, while the partition is in the position shown in dotted lines in Fig. 1. While the partition is lying upon the bottom of the fire-box the outer end of the lever I is raised in the slot in the end of the fire-box, so that it can be moved freely endwise, and then a positive pull is exerted upon the rod if the top plate is to be raised, or a push is given if the top plate is to be lowered. The spring P bears against the top edge of the rod I, so as to force its teeth to positively engage with the lower edge of the slot through which the rod passes, and thus prevent any accidental displacement.

Having thus described my invention, I claim—

The combination of the fire-box of an agricultural boiler with a partition which is pivoted therein and formed of two parts which are adapted to be adjusted in relation to each other, and an operating-rod which is connected to the partition at its inner end, and which passes through a slot in the fire-box at one end, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

DAVID WILLIAM BOVEE.

Witnesses:

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