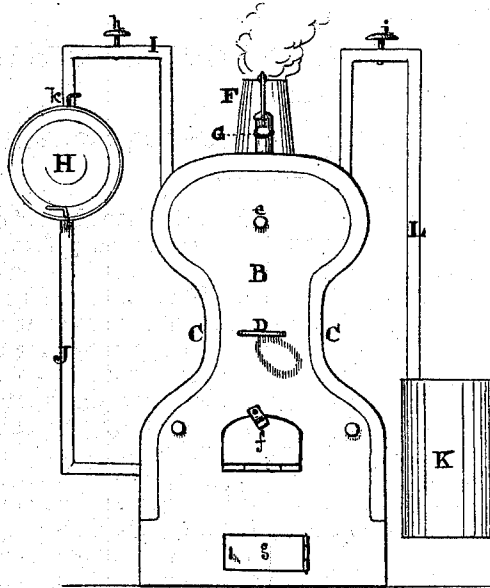


W. M. GORDON.  
Agricultural-Steamers.

No. 129,729.

Patented July 23, 1872.



Scale, 1/2 inch to  
one foot.

Fig. 1.

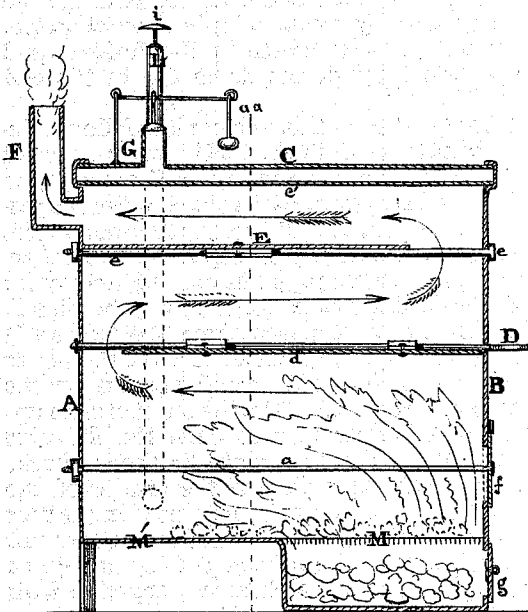
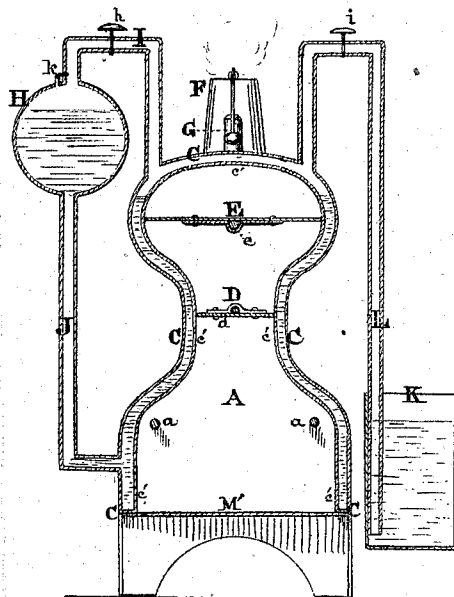


Fig. 2.

(Sec. thro' centre of fig. 3.)



(A Section thro' a-a-a-a-fig. 2.)  
Fig. 3.

Showing also, a  
sec. of the structure  
of H and K, etc. etc.  
The latter are not in  
this view.

Witnesses  
Mr. Campbell  
Martin Rankell.

William M. Gordon,  
by Edmund Thurston,  
his Attorney in fact.

# UNITED STATES PATENT OFFICE.

WILLIAM M. GORDON, OF MINONK, ILLINOIS.

## IMPROVEMENT IN AGRICULTURAL STEAMERS.

Specification forming part of Letters Patent No. 129,729, dated July 23, 1872.

*To all whom it may concern:*

Be it known that I, WILLIAM M. GORDON, of Minonk, in the county of Woodford, in the State of Illinois, have invented an Improvement in Boilers or Steamers for Steaming or Boiling Cattle-Feed, &c.; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawing making part of this specification, in which like letters of reference refer to like parts, and in which—

Figure 1 represents a front elevation; Fig. 2, a longitudinal vertical section; Fig. 3, transverse vertical section.

This invention consists of two parallel shells of boiler-iron, which are placed about half an inch apart, and between which the water is placed; and steam is generated, the whole curved, and spanning and inclosing the fire-box and flues or fire-passage. The ends are riveted to the shells, and further braced with rods. From the steam-space a pipe with a cock passes into a supply or water reservoir, and from whose bottom another pipe passes into the water-space of the boiler to inject water into the latter. A steam-pipe passes from the steam-space, also fitted with a cock, into a vessel for cooking feed.

Letter A represents the back end of the boiler, through which the smoke-pipe F passes; B, the front end of said boiler, in which are the fire-doors *f g*. These two ends may be of cast-iron, and molded with a groove near the outer edge, the ends of the side plates or boiler-shell *C c'* to pass into said groove, and are further secured by longitudinal braces or rods *a a D e*. Letter C is the outer plate of the boiler proper; *c'*, the inner plate. Between these the water is contained and steam generated. They are parallel with each other, and are about half an inch apart, and constructed in this manner by placing a wrought-iron bar of the thickness of half an inch between the two shells *C c'*, and riveting through the whole. The ends of the shell are set in the grooves of the respective plates A B. A safety-valve, G, is set in the top of the said outer shell. Letter D is a horizontal iron rod, passing through the center of the front and rear end plates A B, in which it is set loosely, so as to turn the attached damper *d*, which closes up to the front plate B of the boiler, and extends

from shell to shell *c' c'*, leaving a fire-passage at its rear end between it and the rear plate A. Letter E is a stationary damper or heat-conductor, attached to the horizontal brace-rod *e*, and closes the fire-space at this height, except a passage for heat or flame between it and the front plate B; letter F, the smoke-pipe; letter G, safety-valve; letter H, reservoir for water to supply boiler through the pipe J, which leads thence downward into the water-space of the boiler. The upper part of this reservoir H communicates with the steam-space of the boiler by the pipe I. Letter K, a reservoir or cooking vessel to contain the cattle-feed, into which the steam-pipe L runs, and terminates near the bottom of the same; letter M, the fire-box, made of cast-iron, and attached to the lower edges of the shells *C c'* on both sides of the boiler, and extending from end to end by means of a horizontal extension, *M'*. The entrance to the fire-box and ash-pit is through the doors *f g* in the end plate B.

The operation of this steamer is as follows: Before raising steam the boiler *C c'*, except a small steam-space, and the reservoir H are charged with necessary water, and the cock *k* of the reservoir is closed, and the fire may then be started. When it is necessary to replenish the boiler, the valve *h* in the pipe I is opened, and water will descend into the boiler along the pipe J. The flame or heat passes from the fire-box M along the lower vertical surfaces of the boiler *C c'*, and is thence deflected upward by the damper *d* on the rod D; thence it passes upward and horizontally between the dampers *d* and E to the front plate B; thence back, along the under surface of the shell *c'* of the boiler *C c'*, and away by the pipe F in the rear plate A. In this manner a great fire-surface and draught, with a large economy of fuel and quick raising of steam, are obtained, together with perfect safety in the use of the apparatus conferred by the attached safety-valve. The feed is cooked in the reservoir K to any extent by means of the boiling-pipe or injector L from the boiler *C c'*, the supply of steam being regulated by a valve, *i*.

What I claim as my invention is—

1. The boiler or feed-steamer, when constructed with the outer and inner plates or shells *C c'*, inclosing the water and steam-space,

and canoping or inclosing a fire-space and fire-box, and closed at either end by plates to which the shell is secured, substantially as described, and for the purposes set forth.

2. In combination with the shell C *c'* or boiler, the steam-pipe L and cock *i* and feed-vessel K, also the steam-pipe I, cock *k*, water-tank H, and pipe J, substantially as and for the purposes described.

In testimony that I claim the foregoing boiler or steamer for cooking feed I have hereunto set my hand this 27th day of May, A. D. 1872.

WILLIAM M. GORDON.

Witnesses:

JAMES M. FORT,  
JAMES MORSE.