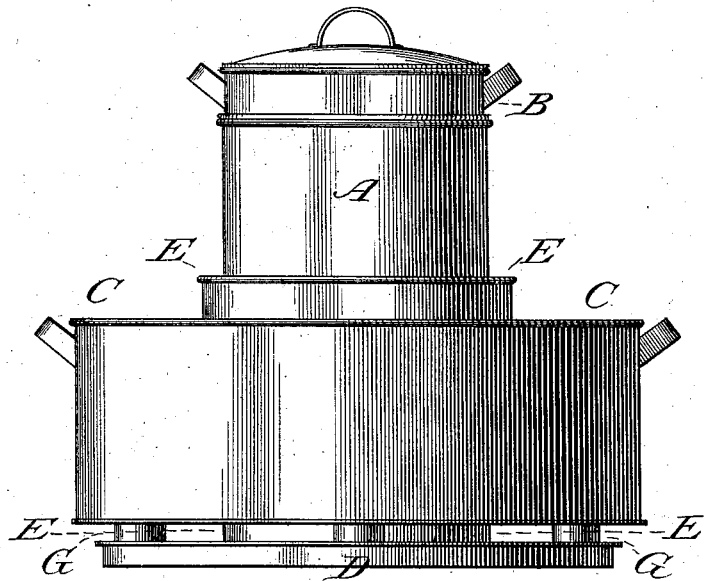


W. E. ARNOLD.  
Boiler for Cooking.

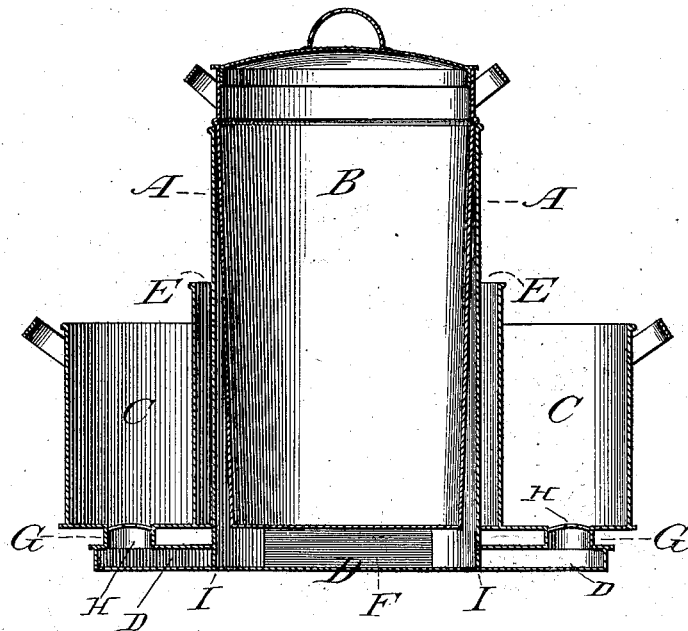
No. 217,314.

Patented July 8, 1879.

*Fig. 1.*



*Fig. 2.*



*Attest:*

*Robert G. Arnold*  
*Harriet W. Arnold.*

*Inventor.*

*William E. Arnold.*

# UNITED STATES PATENT OFFICE

WILLIAM E. ARNOLD, OF ROCHESTER, NEW YORK.

## IMPROVEMENT IN BOILERS FOR COOKING.

Specification forming part of Letters Patent No. **217,314**, dated July 8, 1879; application filed September 12, 1878.

*To all whom it may concern:*

Be it known that I, WILLIAM E. ARNOLD, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in a Boiler for Cooking Grains and Farinaceous Food, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

In the drawings, Figure 1 is an elevation of my improvement. Fig. 2 is a central vertical section of the same.

My improvement relates to boilers for culinary and domestic use, and is designed to avoid the loss of time and fuel which is necessary in heating a large body of water. To this end I employ, in connection with the boiler and kettle, an external water-reservoir and a heating-reservoir beneath it, so arranged that the water is fed down from the upper into the lower reservoir, where it becomes heated in a small body, and thence passes to the boiler.

The invention consists in the construction and arrangement hereinafter more fully set forth.

In the drawings, A represents the boiler, and B the kettle. The boiler is open-topped, and the kettle, which sits therein and contains the material to be cooked, is closed, and may be of any desired form, but preferably substantially as shown.

C is the supply-reservoir, located outside of the boiler, and consists of outer and inner rims and a closed bottom, which hold the main body of water. D is the heating-reservoir, consisting of a thin vessel, which rests over the fire and receives the direct action of the heat. G G are connections or bearings between the heating and the supply reservoirs, so formed by swaging or otherwise as to leave a space, E, between said parts. Said space may extend only inward horizontally so far as the boiler, and may be closed at that point, or it may extend upward between the sides of the inner rim of the supply-reservoir and the boiler, as may be desired.

The bearings G G are most conveniently made by swaging or stamping up bulbs or bosses from the top of reservoir D and cutting out openings in the bottom of reservoir

C, which fit over the bosses, and then soldering the parts together. Small holes H H are made through the bosses, leading from the upper to the lower reservoirs, so that as fast as the water in the heating-reservoir is exhausted by steam or evaporation its place is supplied by the water running down from the upper reservoir. By this means the small body of water in the lower reservoir becomes highly heated in very little time, while that in the upper reservoir remains comparatively cool.

The heating-reservoir D communicates with the bottom of boiler A by suitable passages F, which allow the heated water to rise in boiler A to the same height that it stands in reservoir C. The open bottom of the boiler A may be carried down only on a level with the top of the heating-reservoir D, leaving the whole passage between the boiler and heating-reservoir open; or, if desired, flanges may be run down from the bottom of the boiler to the bottom of the reservoir, closing a portion of said passage, but leaving a sufficient number of the openings F to allow proper ingress of the hot water. Where such flanges are used they serve as stops to the direct passage of the heated water, and cause the latter to take an indirect or circuitous route, by which it becomes more highly heated. Where the flanges are not used a greater number of the bearings G and holes H may be distributed over the bottom of the supply-reservoir to equalize the heating effect.

What I claim as new is—

1. The combination of the supply-reservoir C and heating-reservoir D, located one above the other, and holes or passages H H connecting the two without valve or stop-stock, whereby the water is fed automatically from the supply-reservoir to the heating-reservoir, as herein shown and described.

2. The combination, with the boiler A and kettle B, substantially as described, of the supply-reservoir C and heating-reservoir D, connected by the holes or passages H H, as and for the purposes specified.

WILLIAM E. ARNOLD.

Witnesses:

HOBART G. ARNOLD,  
HARRIET H. ARNOLD.