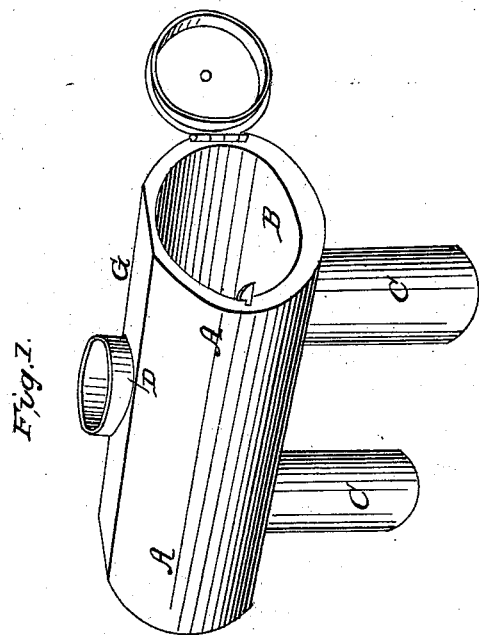
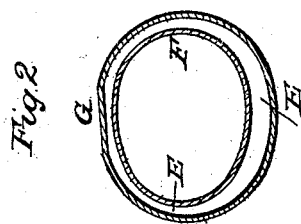


WILLISTON & ARNOLD.

Domestic Oven.

No. 1,740.

Patented Aug. 25, 1840.



# UNITED STATES PATENT OFFICE.

J. P. WILLISTON AND W. A. ARNOLD, OF NORTHAMPTON, MASSACHUSETTS.

## ELEVATED OVEN OF COOKING-STOVES.

Specification of Letters Patent No. 1,740, dated August 25, 1840.

*To all whom it may concern:*

Be it known that we, JOHN P. WILLISTON and WILLARD A. ARNOLD, of Northampton, in the county of Hampshire and State of Massachusetts, have invented an Improvement in the Manner of Constructing Elevated Ovens, which may be used on stoves of any kind to which elevated ovens can be attached; and we do hereby declare that the following is a full and exact description thereof.

In the elevated ovens heretofore constructed the body of the oven has been formed of two cylinders of unequal diameter, one of which is placed within the other at an equal distance both at the bottom and sides from the outside cylinder, thus constituting a flue into which the heated air and smoke are allowed to enter at the bottom, through two or more pipes, and to escape from the top through a pipe leading into the chimney.

It has been found by experience that with an oven so constructed, a much larger fire is required to bake in the oven, than is necessary for doing the ordinary work of the stove to which it is attached. This objection to elevated ovens, we have obviated by enlarging, at the bottom, the space between the interior and exterior cases of which the oven is formed, and narrowing it upon its sides and top. It has been usual to make the space about one and a half inch wide all around, we now make it two inches, at the bottom, and one inch on the sides and top. This allows the heated air and smoke more freely to enter below the oven, and still leaves sufficient space for it to ascend and pass out at the top. By thus bringing the cases nearer together, on the sides and top, no unnecessary space is left to consume a portion of the heat, and the heat also escapes through the cylinders in greater quantities than if they were farther apart. So great is the difference in the effect produced by this arrangement, that we do not hesitate to declare, that, so far as baking in the elevated oven is concerned, but little more than three fifths of the fuel is required to produce the effect in our improved oven that is necessary in that formerly used by us, and by others, with flues of equal dimensions surrounding it.

In the accompanying drawings, Figure 1, is a perspective view of the improved elevated oven, and Fig. 2, a transverse section thereof.

These ovens may be made cylindrical, as

is usually done, but we prefer to make them oval, and are of opinion that the effect is better when they are made in this form, than when made cylindrical.

Although we do not intend to confine ourselves to any particular dimensions of the parts of our oven, we will, as a general guide to the workman, give the measurements of those which we have made, and found to answer well.

A, A, Fig. 1, is the outer case, which we have made twenty eight inches long, thirteen inches high, and fifteen inches wide; the inner case B, we have made ten inches in height, and thirteen inches in width. The pipes C, C, we make five inches in diameter, and place them four inches from the ends of the oven; the exit pipe D, we make seven inches in diameter.

In the ovens as ordinarily made, the space between the two cylinders measures one and a half inch; in our oven, we make the space at the lower part E, Fig. 2, two inches, that at the sides and top F, F, one inch. For the convenience of placing plates, or other articles, on the top of the oven, we make the exterior case flat, along the whole length of the oven, and for six or seven inches in width, as shown at G.

The doors and connecting rims at each end, we make of cast-iron, in the usual way; but instead of fastening the heads together by rods running all through the flue space, we attach short rods at each end of the case, and fasten them by nuts on the faces of the rims, leaving the flue part to be more readily cleaned by scrapers. We sometimes, also, make the exterior case of cast-iron, instead of making both of sheet-iron.

Having thus, fully described the manner in which we construct our improved elevated oven, what we claim therein as our invention, and desire to secure by Letters Patent, is—

The enlarging of the capacity of the flue which surrounds the oven, at its lower side, and diminishing it on its sides and top, in the manner, and for the purpose, herein shown. The other parts described we do not claim, but limit ourselves, as above stated, to the construction of the flue, by which a new and useful result is attained.

JOHN P. WILLISTON.  
W. A. ARNOLD.

Witnesses:

SAML. F. LYMAN,  
JOSEPH LYMAN.