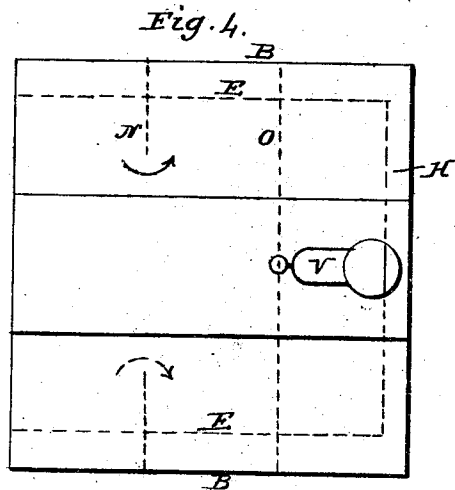
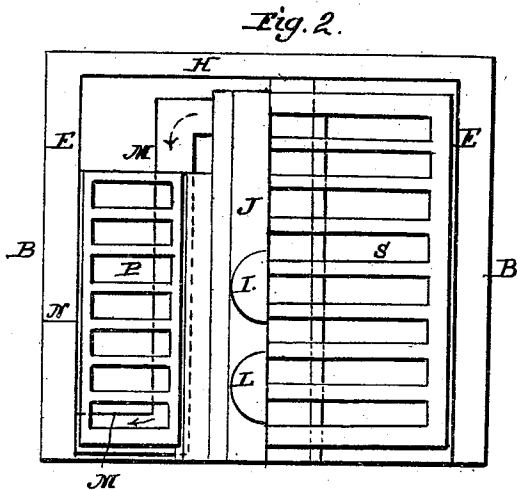
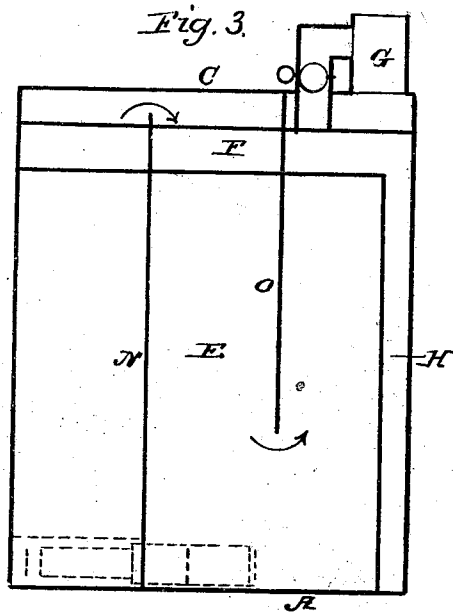
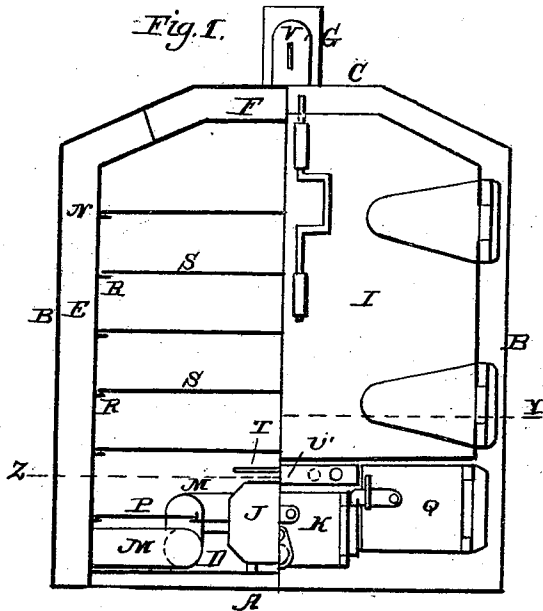


J. A. FREY.
Portable Oven.

No. 41,914.

Patented March 15, 1864.



Witnesses:

J. Dennis Jr.
J. E. Dennis.

Inventor:
J. A. Frey.

UNITED STATES PATENT OFFICE.

JOHN A. FREY, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN PORTABLE OVENS.

Specification forming part of Letters Patent No. 41,914, dated March 15, 1864.

To all whom it may concern:

Be it known that I, JOHN A. FREY, of Washington, in the District of Columbia, have invented a new, useful, and Improved Portable Oven for Baking, Broiling, Roasting, and Cooking; and I do hereby declare that the same is described and represented in the following specification and accompanying drawings.

The nature of my invention and improvements in portable ovens consists in a fire-box arranged centrally in the bottom of the oven, with return-pipes to convey the smoke from the fire from the rear of the oven to the front near the bottom and convey it into the space between the inside and outside cases of the oven, and in the arrangement of partition between the inside and outside cases of the oven to conduct the smoke up and down between the cases; also, in arrangement of a plate over the fire-box to spread the heat and disseminate it in the oven.

To enable others skilled in the art to make and use my improved oven, I will proceed to describe its construction and the mode of using it, referring to the drawings, in which the same letters indicate like parts in each of the figures.

Figure 1 is an elevation of the front of my oven, the front of the left-hand half being omitted to show the interior. Fig. 2 is a horizontal section, the left-hand half below the line *z* of Fig. 1 and the right-hand half below the line *y*, Fig. 1. Fig. 3 is a side elevation without the outside case. Fig. 4 is a plan or top view with the inside case and partitions shown by dotted lines.

In the drawings, A is the bottom, B B the sides, and C the top, of the outside case of the oven. D is the bottom, E E the sides, and F the top, of the inside case, placed a little distance within the outside case to leave room at the sides and top for the smoke to pass to the escape-pipe G at the top. This oven may be made of sheet or plate metal, and the plates of the rear end set a little distance apart, as shown at H, and the smoke allowed to pass between them or not, as may be preferred. The front of the oven is made open and provided with doors, one of which is shown at I, Fig. 1. I make a fire-box, J, eight-square or oval, and put some short legs under it to hold the under side a little dis-

tance from the bottom plate D, and make an opening in the lower part of the front to correspond with the opening in the fire-box, so as to insert fuel and remove the ashes, and provide this opening with a door, K, (partially shown in Fig. 1.) There are some pot-holes, L L, in the top of the fire-box, and a hole on each side, near the rear end, for the pipes M, (one of which is shown in Fig. 2,) which conduct the smoke from the rear to the front, near the bottom, and then through the sides E, when it passes up between the front and the partition N to the top, when it passes around the end of the partition, as shown by the arrows in Fig. 4, and descends between the partition N and the partition O, and around the end of the partition O and up between it and the rear end to the escape-pipe G.

There are flanges on each side of the fire-box, which support one edge of the roasting-racks P, and the opposite edges are supported by ledges on the sides E. These racks P, being over the smoke-pipes and by the sides of the fire-box, are admirably adapted to roasting, and the condition of the meat being roasted may be examined through the small doors Q, when desired, without opening the large doors. There are a series of ledges, R R, on the side E for the racks S S, upon which the articles to be baked are placed. T, Fig. 1, is a movable plate supported by ledges on the rear and front, which hold it a little distance above the fire-box to disseminate the heat uniformly. This plate can be removed when it is desirable to place pots in the holes L L. The slide U in front is provided with holes which correspond with holes in the front, which may be opened when the oven is too hot or bakes too fast to let in cool air; and there is a pipe, V, from the inside of the oven, provided with a damper to conduct the steam and heat into the escape-pipe. There should be one or more openings in the sides B, as shown by dotted lines in Fig. 1, for the removal of the soot which may collect between the inside and outside cases of the oven. In my improved oven the heat is generated at the bottom of the oven, in the center, and conducted across the bottom on each side and then up and down the sides, so that it heats the oven very uniformly with very little fuel.

I believe I have described and represented

my improved oven so as to enable any person skilled in the art to make and use it without further invention or experiment.

I will now state what I desire to secure by Letters Patent, to wit.

1. The arrangement of the inside and outside case of the oven with the partitions N and O, fire-box J, with its flanges to support the roasting-racks, return-pipes M, and removable plate T, as described, for the purposes set forth.

2. The combination of a fire box having a smoke-pipe connection at each side thereof with a portable oven having double walls to provide flues with which the smoke-pipes connect, substantially as shown.

JOHN A. FREY.

Witnesses:

I. DENNIS, JR.,
D. ROWLAND.