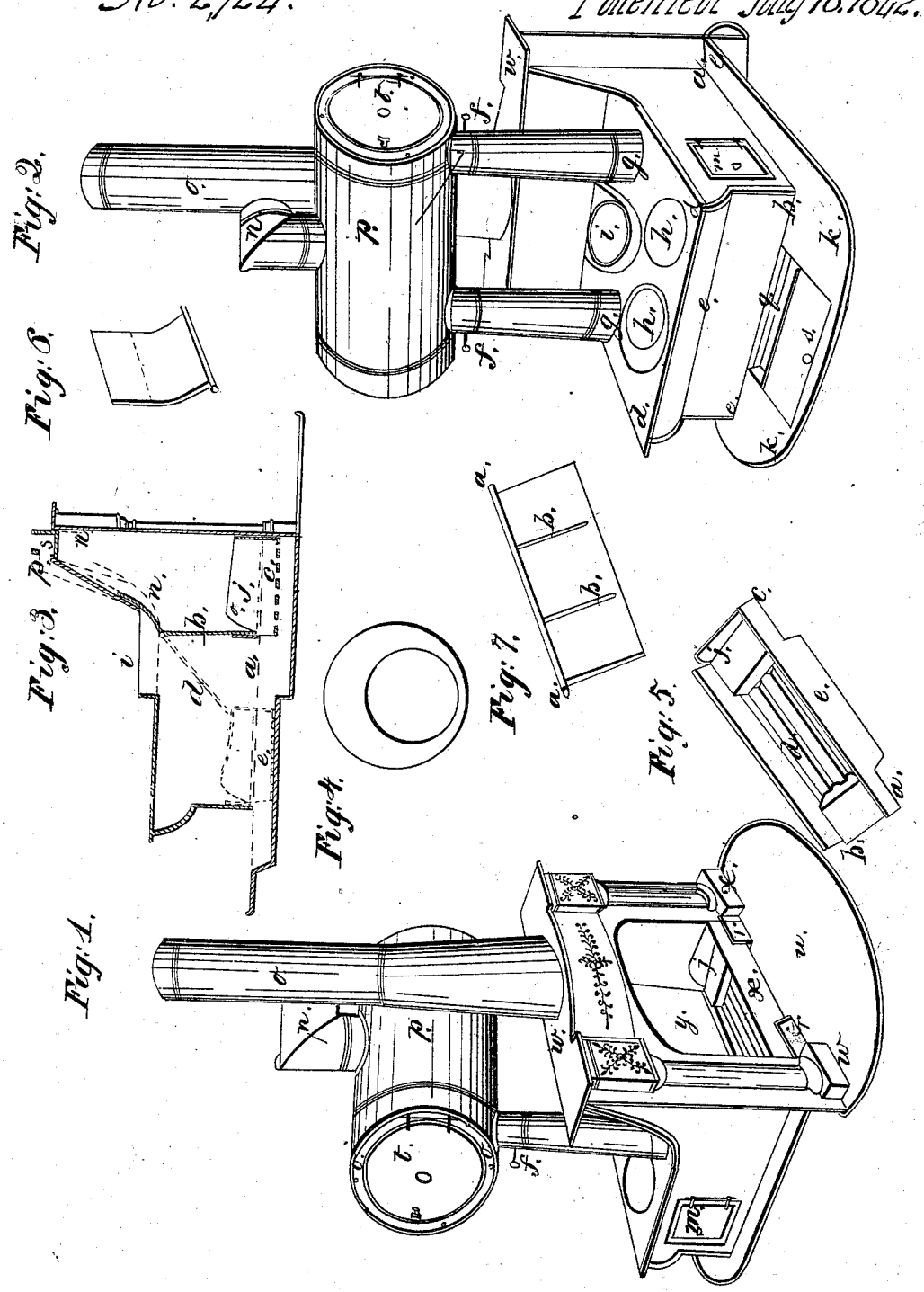
Cornell & Merchant,

Cook Stove.

No. 2,724. Patented July 16, 1842.



UNITED STATES PATENT OFFICE.

ABEL CORNELL AND NIRAM R. MERCHANT, OF GUILFORD, NEW YORK.

STOVE.

Specification of Letters Patent No. 2,724, dated July 16, 1842.

To all whom it may concern:

Be it known that we, ABEL CORNELL and NIRAM R. MERCHANT, of Guilford, in the county of Chenango and State of New York, have invented a new and Improved Mode of Combining the Open Franklin with the Elevated Oven Cooking-Stove; and we do hereby declare that the following is a full and exact description.

The nature of our invention consists of an open Franklin and an elevated oven cooking stove united back to back and provided with a car in which the fire is placed, said car together with the fire is moved into either part of the stove at pleasure.

To enable others skilled in the art to make and use our invention we will proceed to describe its construction and operation.

We make the body of the stove from (*a*) to (*b*) Fig. 2, two feet and two inches, from (*b*) to (*c*) 2 feet 2 inches, the height of the cooking part (*d*, *b*,) and (*d*, *c*) is 10 inches. The height of the open Franklin (*w*, *w*,) Figure 1, is two feet. The top of the cooking part of the stove Fig. 2, projects 2 inches at (*d*, *d*,) over the end (*e*) which curves outward to receive it, and is level to just past the oven flues (*g*, *g*,) where it forms a section of a curve of 4 inches radius upwards to the bead (*r*) whence it rises at an angle of about 25 degrees from a perpendicular to the top at (*w*,) and thus forming a part of the back of the open Franklin. There are three boiler holes as shown at (*h*, *h*, *i*) furnished with rings and covers. The opening through the rings are one side of the center as seen at Fig. 4, which by turning the ring allows the boiler to be moved more or less over the fire. The door opening into the fire chamber is seen at (*m*).

The hearth of the cooking part of the stove is shown at (*k*,) Fig. 2, its width (*b*, *k*,) (*c*, *k*,) 10 inches, its width (*b*, *b*, *a*, *l*,) 5 inches and is carried on the same level to the back part of the front of the open Franklin at (*l*) and (*r r*) Fig. 1 and also as shown by the dotted line (*a*) Fig. 3. The middle of the hearth or bottom in the cooking part of the stove is sunk 2 inches in depth and 16 inches in width and carried out into the hearth (*k*, *k*) the same width and depth and covered with a slide (*s*) by which the draft of air at (*q*) to the fire can be regulated at pleasure. The middle of the hearth or bottom within the open Franklin is sunk 1½ inches lower and the same width (16 inches) making 3½ inches deep to the level of the hearth (*u*) of the open stove shown at Fig. 1.

The car in which the fire is placed is seen at (*x*) and represented as drawn out into the open Franklin.

The partition between the cooking and open part of the stove is seen at (*y*). This partition which is hung on pivots at its upper edge is called the swinging back, and is shown more fully in section Fig. 3, where (*b*) shows its position and (*c*) the postion of the car when in the open Franklin, and the red dotted lines (*d*) shows the position of the swinging back and (*e*) the position of the car when in the cooking part.

The swinging back is shown in detail at Fig. 7 where (*a*, *a*) are the pivots and (*b*, *b*) the ribs to keep the plate from warping by the action of the fire and also to allow a free circulation of air between the back and the fuel.

The car is shown in detail at Fig. 5. The width from (*a*) to (*b*) is 10 inches and from (*a*) to (*c*) is 2 feet 1 inch so as to move freely within the stove. The height 3 inches. The middle of the bottom is sunk 2 inches and grated.

When the car is in the open Franklin the grated bottom is 1½ inches above the sunk hearth and allows a free draft of air up through the grates. When the car is in the cooking part the grates fit close to the bottom of the sunk hearth. It then admits the air only at (*q*) Fig. 2 through a corresponding opening as seen at (*d*) Fig. 5. The opposite side of the car (*e*) is solid for the purpose of forming a close partition between the two parts of the stove when the car is in the cooking part. The end of the car (*a b*) is open and is directly against the door, (*m*) when in the last named position. The opposite end is nearly closed as seen at (*j*) Figs. 1, 5 and 3.

The lower edge of the swinging back is kept from dragging in the fire in moving the car into the open Franklin by sliding along the upper edge of the part (*j*) of the car, until it arrives at the curve (*o*) Fig. 3; it then falls into the space as seen in the Figs. 1, 3 and 5. When the car is moved from this latter position the curve (*o*) raises the swinging back and keeps it in this position until the car arrives in its place. When in this position another fire may be kept in the open stove, at the same time the cooking is carried on in the other part of the stove.

The car can be used either with or without friction rollers.

The boiler hole (*i*), Figs. 2 and 3, is raised 2 inches and allows the smoke to pass over the swinging back into the open Franklin. This opening is closed at pleasure by the valve or damper (*m*), Fig. 3, which shows in section its shape and position when closed, and by dotted lines when open. It is hung on pivots at its lower edge and extended upward nearly to the flue of the open Franklin (*c*). This is also accomplished in another way by carrying an oblong square flue obliquely through the inclined back and into the main flue at (*p*) as shown by the red lines on Fig. 3. The valve in this case would be shortened one-half as seen by the dotted line across Fig. 6, where it is drawn in detail.

There is a valve or damper by which the mouth of the Franklin flue may be closed to insure a stronger draft through the elevated oven. This valve is shown in section as closed at (*s*), Fig. 3, and open by the dotted line (*n*).

The elevated oven (*p*), Figs. 1 and 2, is made of two concentric cylinders of sheet iron, the inner one 13 inches in diameter, the outer one 16 inches, leaving a space $1\frac{1}{2}$ inches between the cylinders for the smoke and heat to pass through. This space is closed at each end by a ring of cast iron, and the oven provided with doors as seen at (*t*).

In order to prevent the escape of heat from the oven into the room in warm weather we inclose it in another cylinder of zinc or other polished metal, leaving a space of about half an inch between the zinc cylinder and oven, the cast iron rings at each end of the oven being extended sufficiently wide to receive it. There are valves in the oven flues at (*f*, *f*,) which may be opened or closed at will. When the oven is in use the smoke and heat rise in the flues (*g*, *g*,), thence around the oven to (*n*) and escape at (*o*) in the Franklin pipe.

What we claim as our invention and desire to secure by Letters Patent is—

1. The combination of the open Franklin with the elevated oven cooking stove by means of the movable grate or car and swinging back.

2. We also claim in combination with the above arrangement the valve or damper (*m*) for the purpose of regulating the heat of the oven.

3. We do not intend to limit ourselves to the exact size, form or manner of constructing the respective parts aforesaid but to vary them as we may find expedient while they remain substantially the same as herein described.

ABEL CORNELL.
NIRAM R. MERCHANT.

Witnesses:
ERASTUS DICKINSON,
NATHAN W. CADY.