

No. 849,010.

PATENTED APR. 2, 1907.

J. J. MURPHY.

OVEN.

APPLICATION FILED OCT. 3, 1906.

Fig 1.

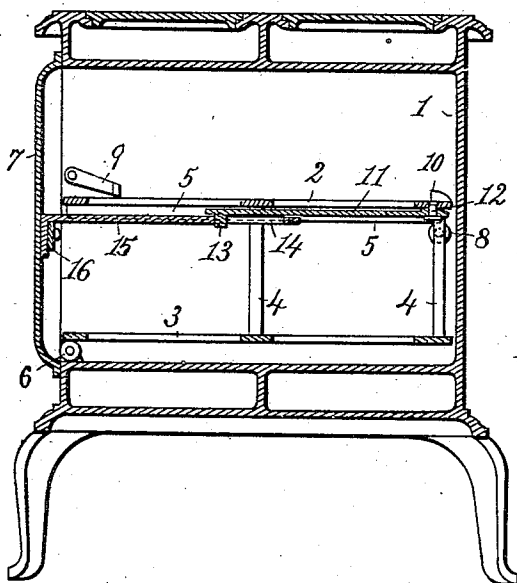


Fig 2.

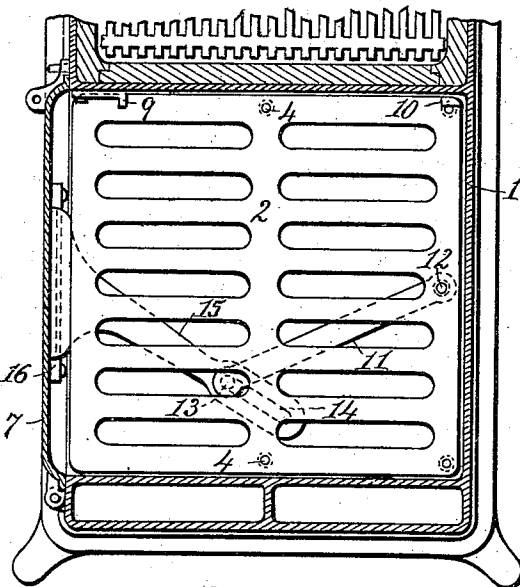
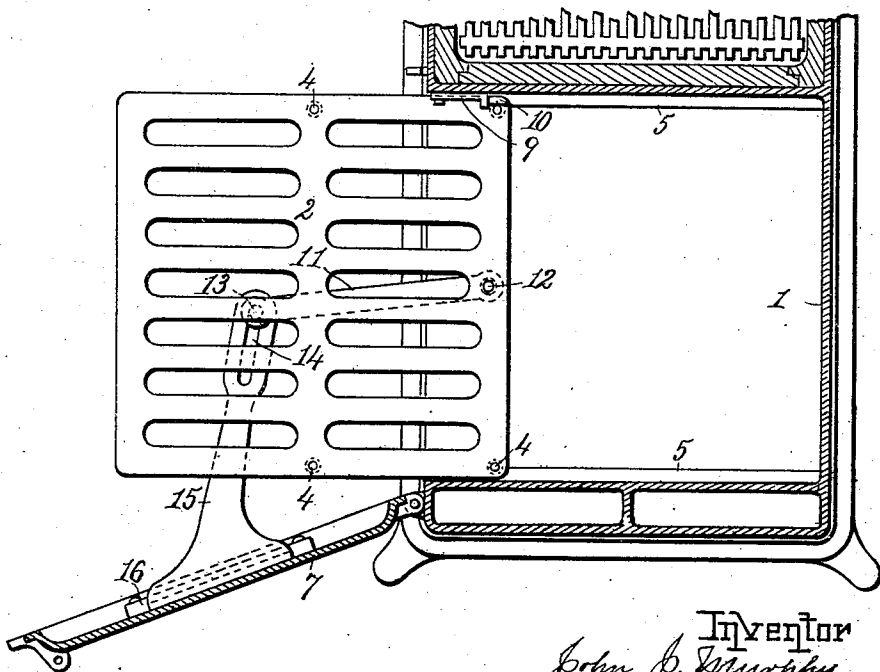


Fig 3.



Witnesses

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OVEN.

No. 849,010.

Specification of Letters Patent.

Patented April 2, 1907.

Application filed October 3, 1906. Serial No. 337,306.

To all whom it may concern:

Be it known that I, JOHN J. MURPHY, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Ovens, of which the following is a specification.

This invention relates to improvements in ovens for stoves or ranges of the kind which have movable shelves or pan-supports so connected with the hinged doors of said oven that said shelves will slide inward or outward by the mere act of closing or opening said doors. The specific improvement consists in the means provided for so operating said shelves, which is described below and set forth in the claim.

On the drawings, Figure 1 represents a vertical section of a stove, through the oven thereof, which stove is provided with my improved oven. Fig. 2 represents a partial horizontal section of the stove on a line just above the movable shelves, Fig. 1. Fig. 3 represents a section similar to that shown in Fig. 2, but showing the oven-door opened.

The oven 1 is provided with one or more shelves 2 and 3, which are capable of being moved into and from the oven. When two or more shelves are used, they are coupled or connected by means of rods 4, substantially as shown, or by any equivalent and well-known means, and so that all of the shelves will be moved in unison. The upper shelf rests upon inwardly-projecting lips or ledges 5 on opposite sides of the oven.

In order to reduce the friction of the shelves upon their supporting-ledges while they are being moved into and from the oven, I provide the oven with antifriction-rolls 6, which are located on the bottom of the oven, near the door 7 and upon which the lower shelf 3 rests. The upper shelf 2 is also preferably provided with antifriction-rolls 8, which are located near the inner edge of the shelf and so that the under side of the ledges 5 will travel upon them.

The oven is provided with a suitable hinged catch or pawl 9, which engages a projection 10 on the shelf 2 in order to limit the outward movement of the shelf or shelves, but which catch may be turned upon its pivot out of the path of the projection 10 whenever it is desired to draw the shelves entirely out from the oven.

The antifriction-rolls 6 and 8 are so arranged in relation to each other and to the catch that when the shelves are withdrawn

until the catch comes into contact with the projection 10 said rolls will act as supports to prevent the outer end of the shelves from falling or sagging. Although the use of the antifriction-rolls will relieve the shelves from friction while they are being moved into and from the oven, and are therefore preferably used, it is not essential to the movement of such shelves, as solid or rigid projections and lips might be substituted for said friction-relieving rolls and substantially the same result be obtained.

In order to automatically withdraw the shelves while the door of the oven is being opened and to automatically return the shelves to their proper place within the oven while the door is being closed, I connect the shelves to the door by substantially the following mechanism: A link 11 is pivotally attached at 12 to the under side of the inner end of the upper shelf about midway of the sides of the oven. The opposite end of this link is pivotally connected to the door by a pin or stud 13, traversing within a slot 14, which slot is made within a bracket arm or projection 15 on the inside of the oven-door 7. Said bracket-arm stands at an angle of about forty-five degrees relatively to the door, and its length is such that when the door stands open at right angles the further end of said slot 14 falls about on the central line of the shelves, where it engages the stud 13. It follows that the lengths and relative positions of the bracket-arm 15 and the link 11 are such that when the door is opened to the position shown in Fig. 3 the shelves 2 and 3 will be withdrawn from the oven sufficient to cause the bracket-arm 10 to come into contact with the pawl 9, and when in this position the stud 13 on the link 11 comes to the outer end of the slot 14 in the bracket-arm 15. The slot 14 is arranged at such an angle relative to the inner surface of the door 7—namely, at about forty-five degrees—that there will be a certain amount of lost motion before the opening of the door will cause the shelves to move from their inner positions; but when one commences to close the door this lost motion will quickly be taken up, so that the shelves will commence almost immediately to move inward when the door commences to be moved toward a closed position. By this lost motion when the door is being opened I am able to move the door sufficiently out of the path of the outer end of the shelves which is nearest to the hinges of the

door, and I am also able to inspect articles, such as cake, which would be liable to fall and become heavy if moved before being thoroughly baked, as the door can be opened
5 a certain amount without moving the shelves.

It sometimes happens that articles are to be baked which are too large to be placed between the shelves or between the upper shelf and the top of the oven, and therefore it is
10 necessary to remove the shelves from the oven. This is the case when it is desired to roast a very large turkey or a large piece of meat. In order to remove the shelves and to leave the oven clear from obstructions, I
15 make the bracket-arm 15 easily detachable from the inside of the door, and I also have the stud 13 on the link 11 rest loosely within the slot 14, so that the link 11 and the bracket-arm 15 may be easily disconnected
20 from each other. On the drawings I have shown the bracket-arm 15 as being inserted within a socket on the inside of the door formed by a strap or block 16, secured to the door at this place. After the bracket-arm 15
25 has been disconnected from the door and the

link the shelves may be easily withdrawn from the oven by raising the catch 9 out of the path of the projection 10 on the shelf. This will leave the oven clear from obstructions, so that an article which will fill the
30 oven may be roasted, if so desired.

I claim—

In an oven, sliding shelves having a link pivotally attached at the rear about midway of the sides of the oven, in combination with
35 a bracket-arm secured to the inner side of the oven-door and extending inward therefrom at an angle of about forty-five degrees therewith to a point near the central line of the shelves when the door is open at right angles, 40 said bracket-arm having a slot in its free extremity in which traverses a stud on the free end of said link, substantially as and for the purpose specified.

In testimony whereof I have affixed my
45 signature in presence of two witnesses.

JOHN J. MURPHY.

Witnesses:

HENRY CHADBURN,
CORA J. CHADBURN.