(No Model.) 2 Sheets—Sheet 1.

J. J. GRAVES.

STOVE SHELF.

No. 456,000. Patented July 14, 1891.

Fig. 1.

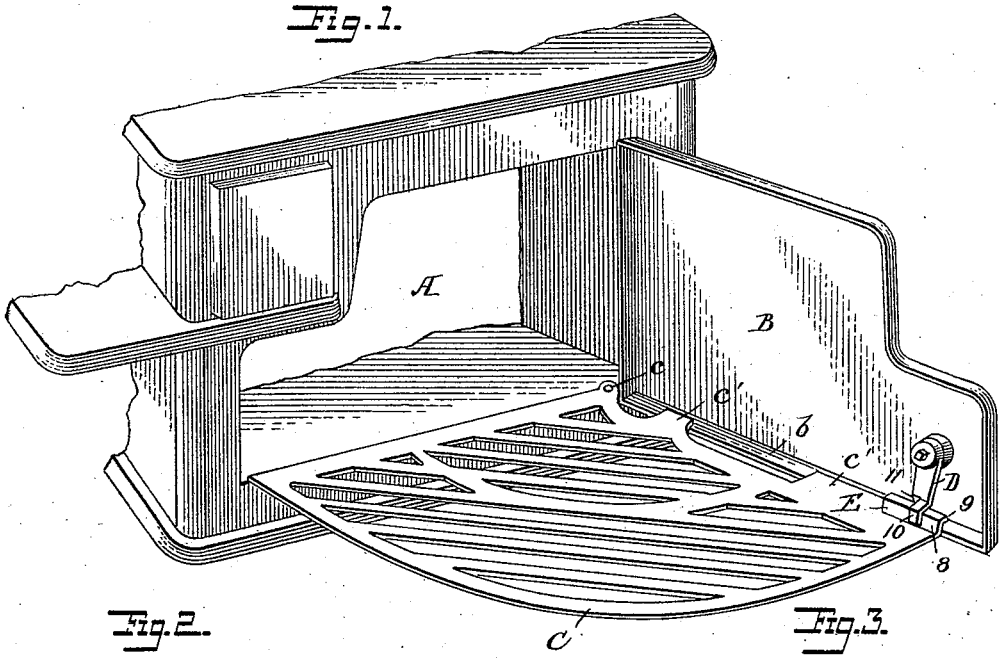


Fig. 2.

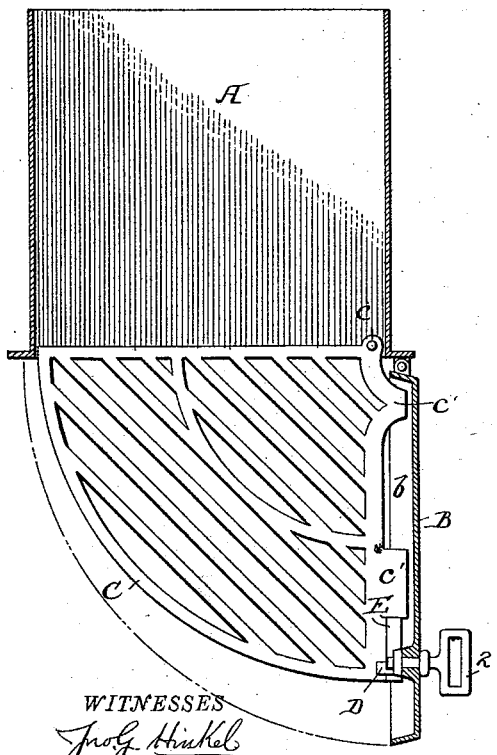
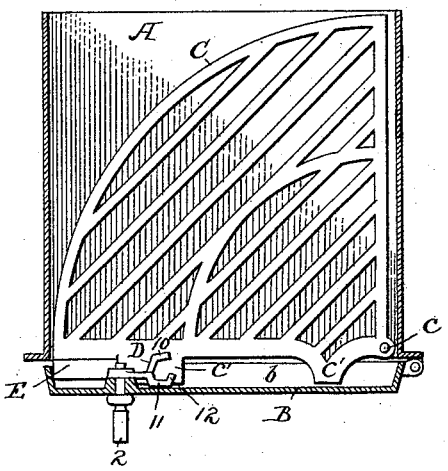


Fig. 3.



WITNESSES
Jno. G. Hinkel
G. C. Kramer.

INVENTOR
John J. Graves
by J. S. Barker.
his Attorney

(No Model.) 2 Sheets—Sheet 2.

J. J. GRAVES.

STOVE SHELF.

No. 456,000. Patented July 14, 1891.

Fig. 4.

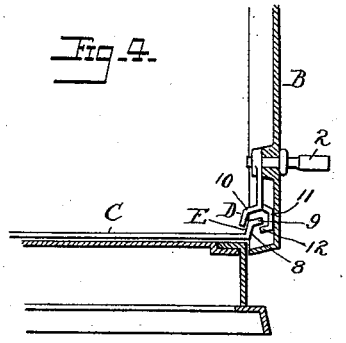


Fig. 5.

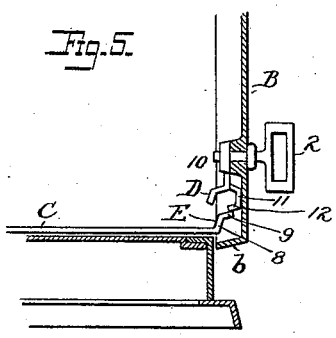


Fig. 6.

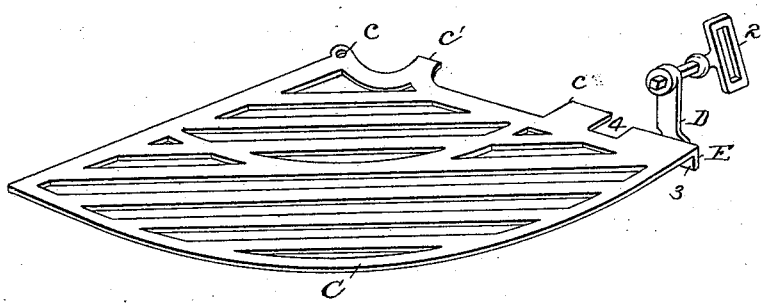
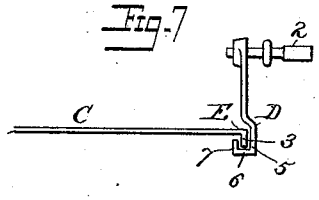


Fig. 7.



WITNESSES

Jno. G. Hinkel

G. P. Kramer

INVENTOR

John J. Graves,

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UNITED STATES PATENT OFFICE.

JOHN J. GRAVES, OF BUFFALO, NEW YORK, ASSIGNOR TO SHERMAN S. JEWETT & CO., OF SAME PLACE.

STOVE-SHELF.

SPECIFICATION forming part of Letters Patent No. 456,000, dated July 14, 1891.

Application filed December 17, 1890. Serial No. 375,017. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. GRAVES, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Stove-Shelves, of which the following is a specification.

This invention relates to the shelves or movable rests which are now commonly arranged in the ovens of stoves and are adapted to be drawn out and form a support for the objects being inserted into or withdrawn from the oven, and particularly to that class of such shelves or supports wherein the shelf has a detachable connection with the door of the oven, so that the shelf may be drawn out when the door is opened; and the invention consists of the connecting devices, to be hereinafter described, between the shelf and the door.

In the drawings, Figure 1 is a perspective view illustrating the invention, the oven-door being open and the shelf drawn out. Figs. 2 and 3 are plan views showing the shelf in the drawn-out and the closed positions, respectively. Figs. 4 and 5 are side views of the invention, parts of the stove being in section, showing the catch in two different positions; and Fig. 6 is a perspective view, and Fig. 7 a side view, showing a different form of the invention.

In the drawings, A represents the oven of the stove, B the door thereof, and C a shelf or support mounted in the oven and adapted to be moved entirely therein or to be drawn out therefrom to a greater or less extent. This shelf is preferably of quadrant shape and hinged to the oven-bottom at the corner *c*, adjacent to the hinging-line of the door, so that the door and shelf swing on different centers, although the distance between such centers is small. The door has an inward-projecting edge or rim *b*, upon which rests the edge of the shelf, which is therefore supported by the door when the shelf is drawn out. The entire edge of the shelf does not rest upon the door, but is preferably formed with one or more outward-projecting portions *c'*, which rest upon the rim. A catch D, mounted upon a shaft passing through the door, preferably near its outer edge, is adapted to be turned by the handle 2, and has a hooked end which may be brought into engagement with a flange E upon the shelf, and when thus brought into engagement cause the shelf to move with the door as it is opened and shut. This flange projects from the shelf at an angle approximating a right angle to the plane thereof. The catch is so formed as to have a portion which lies below the flange E and may act as a support for the shelf and other portions which are adapted to engage the flange on either side in order to move the shelf as the door is swung.

As shown in Figs. 6 and 7, the flange E may consist of a short downward-turned rib 3 along the outer edge of the shelf, which is cut away, as at 4, to permit the catch to be moved into and out of engagement therewith. The catch in this instance consists of a single arm formed into a sort of hook shape to engage with the flange and having the portion 6, which underlies the rib or flange 3, and the two parts 5 and 7, which embrace it on either side. When the catch is turned down by the handle 2, its hooked end passes by the inner end of the flange 3 and below the same until it is turned into the position shown in Fig. 7. If now the door be opened, the shelf will be drawn out with it, by reason of the engagement of the catch with the flange E, and the catch will slide along the flange toward its outer edge, by reason of the door and shelf turning on different centers. After the door is partially opened and the shelf drawn out part way it is impossible to disengage the catch from the flange without closing the door and sliding the shelf into the oven, because the catch has moved along the flange so far that the parts of the catch which embrace the flange cannot be turned past the end thereof next the cut-away portion 4. It will thus be seen that the shelf must be engaged by the catch so long as it is drawn out thereby and that the catch cannot be turned after the door has been opened to release the catch and leave the shelf unsupported. The door can of course be opened without at the same time causing the shelf to be drawn out by not turning down the catch so as to engage with the flange. I prefer, however, the form of the invention shown in Figs. 1 to 5, where the flange E con-

sists of a short upward-turned rib 8, which has along its outer edge a flange 9. With this flange engages the catch D, which is in the form of a bifurcated arm having two parts or members 10 and 11, which embrace the flange E on either side, and a portion 12, which underlies the portion 9 of the flange E. This catch operates in connection with the flange substantially as does the catch shown in Figs. 6 and 7 and already described, it having a portion underlying the flange and parts which embrace it on either side, and being arranged so that after the door is opened and the shelf partly drawn out the catch cannot be disengaged from the flange without closing the door and moving the shelf into the oven. The flange E need not of course be arranged at the extreme edge of the shelf, as it is shown, though that is the preferred location.

In Figs. 1 and 2 is shown the position which the catch occupies when the door is opened and the shelf drawn out, while in Figs. 3 and 5 the parts are shown in the position they occupy before the catch has been turned down into engagement with the flange.

A stationary catch of either of the forms shown might be used having permanent engagement with the flange; but such a construction is not so desirable as the movable detachable catches shown and described.

While this invention is particularly adapted for use in connection with stove-oven shelves, it will be understood that it is applicable wherever a shelf or support is drawn out as a door is swung open, and I wish it to be understood that I consider my invention to cover such adaptation thereof.

What I claim is—

1. The combination of a movable shelf having a flange projecting therefrom, a door, and a rotating catch having an end which is adapted to embrace the said flange on two sides, the said flange being relatively short, whereby the rotation of the catch will carry it into and out of engagement with the said flange, substantially as set forth.

2. The combination of a movable shelf having a relatively-short flange projecting therefrom, a door, and a rotating catch having an end adapted to be brought into engagement with the said flange and to embrace it on two sides and below, substantially as shown and described.

3. The combination, with a movable shelf having a flange and a swinging door, of a rotating catch having its end provided with two arms or parts which embrace the flange, one being on either side, and one of which arms is provided with a portion underlying the flange and which thereby serves as a support for the edge of the shelf, substantially as and for the purpose set forth.

4. The combination, with the stove-door, of the shelf pivoted adjacent to the hinging-line of the door and having the short upward-extending flange 8, with an outward-extending portion 9, and the catch mounted to turn in the door and consisting of an arm with the portions 10 and 11, which embrace the said flange on the opposite sides, and the portion 12, which underlies the part 9 of the flange, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN J. GRAVES.

Witnesses:
H. C. OLVER,
JAY C. DOWNER.