(No Model.)

F. KAEMPEN, Jr.

DEVICE FOR OPERATING OVEN SHELVES.

No. 519,606. Patented May 8, 1894.

Fig. 1.

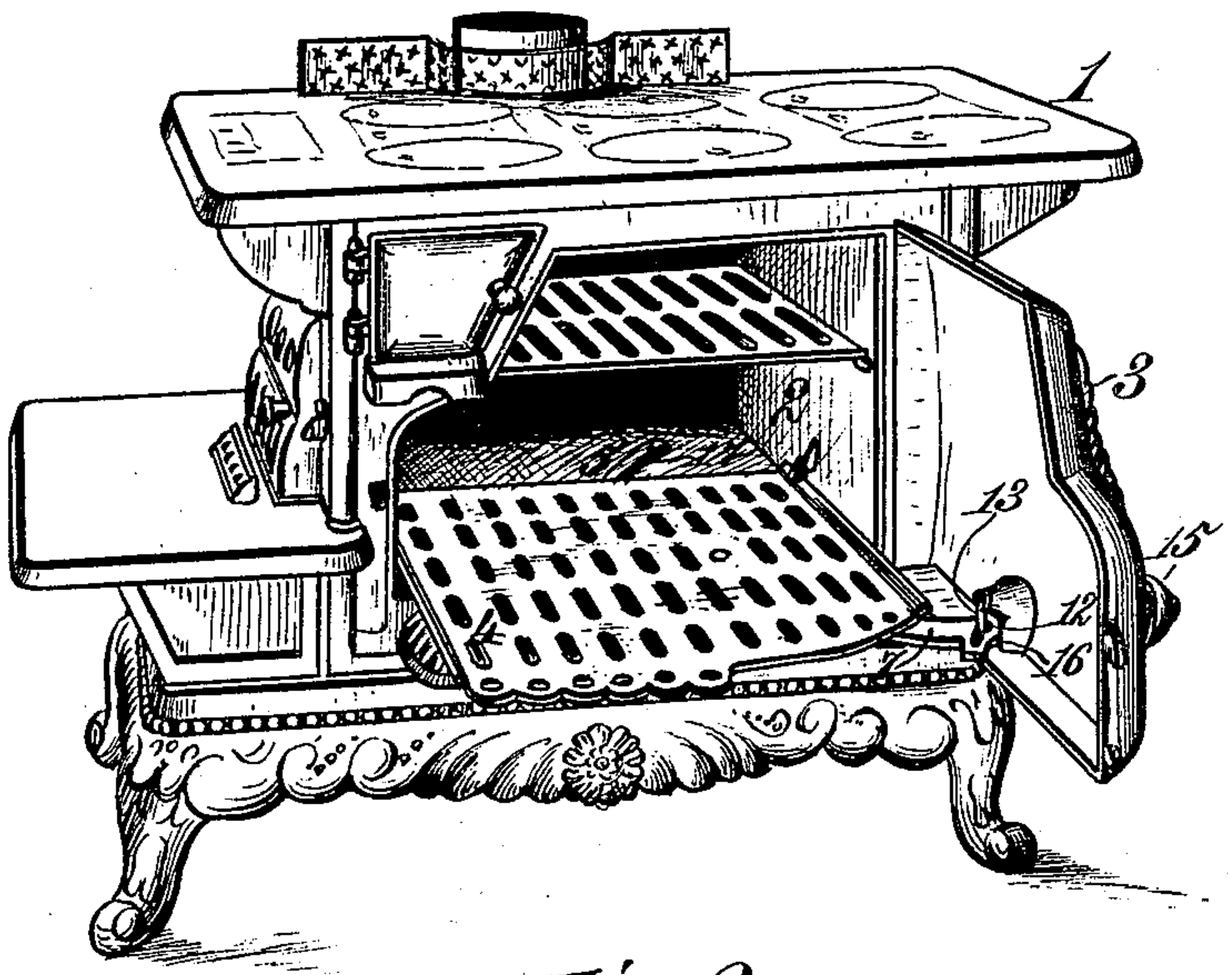


Fig. 2.

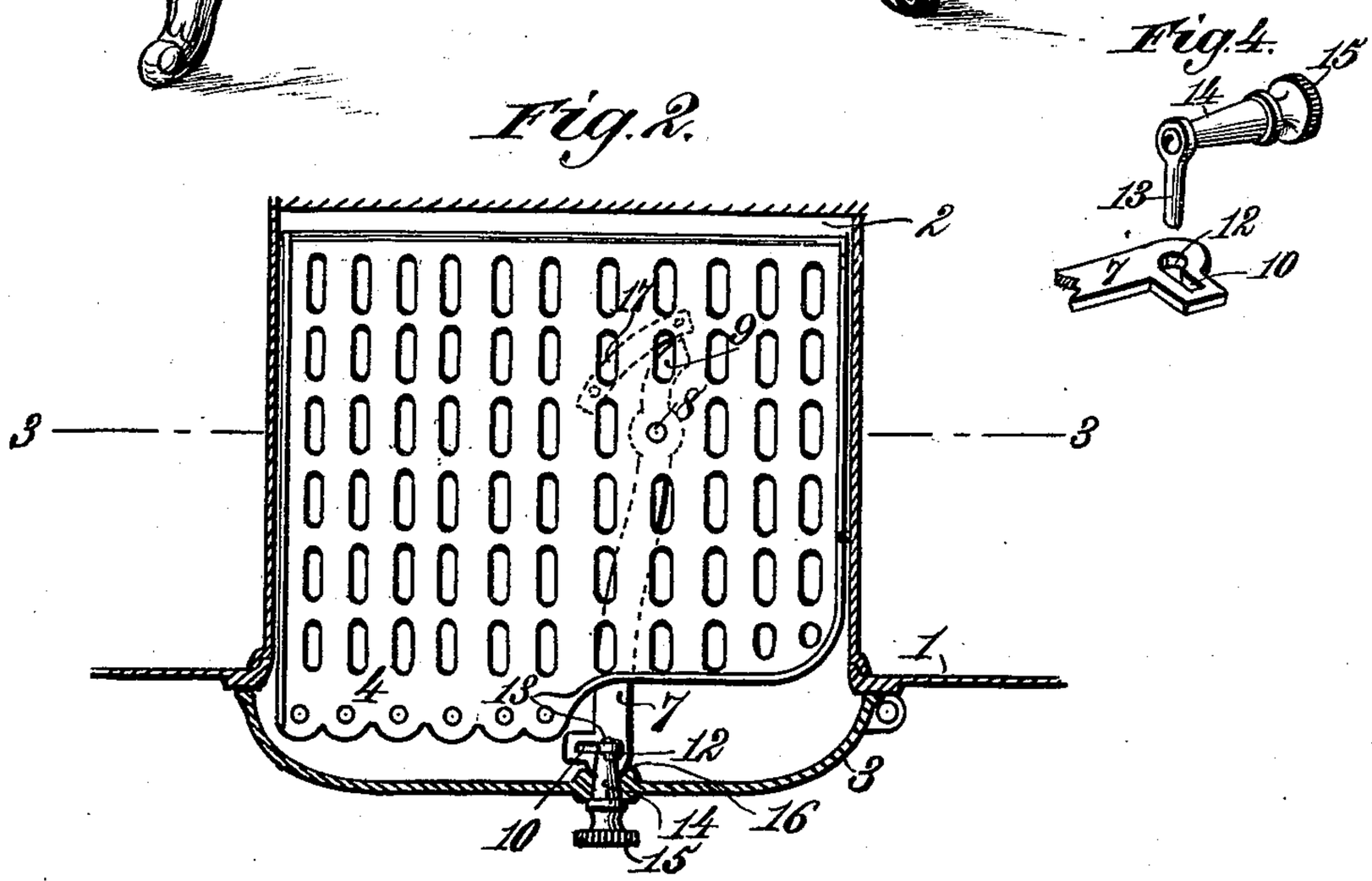
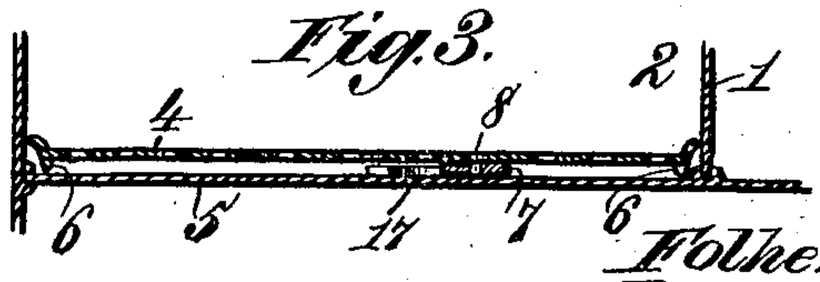


Fig. 4.

Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

FOLHERT KAEMPEN, JR., OF QUINCY, ILLINOIS, ASSIGNOR TO THE GEM CITY STOVE MANUFACTURING COMPANY, OF SAME PLACE.

DEVICE FOR OPERATING OVEN-SHELVES.

SPECIFICATION forming part of Letters Patent No. 519,606, dated May 8, 1894.

Application filed January 11, 1894. Serial No. 496,528. (No model.)

To all whom it may concern:

Be it known that I, FOLHERT KAEMPEN, Jr., a citizen of the United States, residing at Quincy, in the county of Adams and State of Illinois, have invented new and useful Improvements in Devices for Operating Oven-Shelves, of which the following is a specification.

This invention relates to stoves or ranges having ovens provided with shelves or pan supports which are slid or moved outward by a device detachably connected with the hinged doors of the oven.

The objects of my invention are to provide novel, simple, efficient, durable, and economical means for moving the shelves or pan supports outward in a straight line as the oven door is opened, without danger of any binding of the parts; and to provide means whereby the shelf-operating device, when disconnected from the door, and the shelf is withdrawn or slid outward, may be automatically set or shifted into correct position to connect with the door, by the inward sliding movement of the shelf.

To accomplish these objects my invention consists in the features of construction and the combination or arrangement of parts hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a perspective view of a stove or range provided with my invention, and showing the oven door in its open position with the shelf or pan support drawn outward. Fig. 2 is a detail sectional plan view, showing the shelf or pan support, the shelf-operating devices, and portions of the stove or range. Fig. 3 is a detail sectional view taken on the line 3—3, Fig. 2; and Fig. 4 is a detail perspective view, showing the axially rotatable spindle and a portion of the shelf-operating lever.

In order to enable those skilled in the art to make and use my invention, I will now describe the same in detail, referring to the drawings, wherein—

The numeral 1 indicates a stove or range having an oven chamber 2, and a hinged oven door 3, all of which parts may be of any construction suitable for the conditions required, for which reason I do not deem it necessary to more fully describe the same.

The movable or sliding shelf or pan support 4 is preferably in the form of a grating, but it may be composed of an imperforate plate, and is supported in the oven by any suitable means, but where the shelf or pan support is the one next the bottom plate 5 of the oven, I prefer to provide the shelf or pan support on its under side with flanges 6 adapted to rest and slide upon the said bottom plate 5. The shelf or pan support 4 is adapted to be withdrawn or moved outward from the oven when the oven-door 3 is opened, and to accomplish this purpose a shelf-operating lever 7 is mounted intermediate its extremities on a fixed pivot 8 secured to the shelf. The pivot 8 is preferably formed of a pin riveted to the shelf, and is arranged between the extremities of the lever 7, for the purpose of providing the latter with a curved tail-piece 9, indicated by dotted lines in Fig. 2. The outer or front end of the lever 7 is provided with a transverse slot 10, terminating at one end portion in an enlargement which constitutes a pin-hole 12 for receiving and retaining the pin 13 on an axially rotatable spindle 14 journaled at the center of the hinged door 3 in juxtaposition to the lower edge thereof. The spindle 14 is provided at its outer extremity with a button-head or handle 15, by which to rotate the spindle, for the purpose of moving the pin 13 into and out of the pin-hole 12. The hinged door is provided with a semi-circular cavity or socket 16 to receive the rounded outer end of the lever 7, so that when said rounded outer end of the lever is seated in the cavity or socket 16, the pin 13 of the spindle 14 can be caused to enter the slot 10 and engage the pin hole 12. By providing the outer end of the lever 7 with a transverse slot 10, terminating at one end in a pin-hole 12, I am enabled to make the spindle 14 comparatively short and mount the pin 13 directly on the inner end of the spindle, so that such pin stands substantially at right angles to the axis of the spindle, thereby making a very compact structure which is more desirable than a spindle having a crank-arm at its inner end provided with a pin to engage a pin-hole

in the lever. When the lever 7 is engaged with the pin 13 of the spindle 14, the shelf or pan support 4 will be withdrawn or moved outward from the oven whenever the door is opened; but, obviously, the pin on the spindle can be readily disengaged from the lever and thus enable the door to be opened without imparting movement to the shelf or pan support. If the door is disengaged from the lever, and the door is opened, and the shelf or pan support is moved outward more or less by any cause whatever, it would be difficult to connect the door with the lever, as the latter would not likely remain in the proper position for its slot 10 and pin-hole 12 to register with the pin 13 on the spindle 14. To avoid this objection, and to automatically set or shift the lever into correct position to connect with the door when the shelf or pan support is slid or moved inward, I provide an abutment 17 rigidly secured to the bottom plate 5 of the oven, and composed of a curved or segmental plate arranged in the path of the tail end 9 of the lever 7, in such manner that when the shelf or pan support is moved inward, the abutment 17 will so act upon the tail piece 9 as to shift the lever 7 and place its outer rounded end in proper position to enter the cavity or socket 16 when the door 3 is closed, after which the pin 13 can be engaged with the lever 7 by axially rotating the spindle 14 and causing the pin 13 to enter the slot 10 and lie in the pin-hole 12.

By the construction and arrangement described and shown I am enabled to employ a fixed pivot-pin 8 for the lever 7, and to rivet this pivot to the shelf; and, further, in the operation of the parts, the shelf is moved inward and outward in right lines without any binding of the parts, which is very advantageous in this type of devices.

Having thus described my invention, what I claim is—

1. The combination with a door having a lever-engaging device, a shelf or pan support, and a lever pivoted to the shelf or pan support and detachably connected with the lever-engaging device on the door, of a curved abutment for automatically setting or moving the lever into correct position to connect with the lever-engaging device, substantially as and for the purpose described.

2. The combination of a door having a cavity or socket 16 on its inner side, a sliding shelf or pan support, a lever 7 mounted on a fixed pivot secured to the shelf or pan support and having its outer end rounded and provided with a slot 10 terminating at one end in a pin-hole 12, and a spindle 14 journaled in the door and provided with the pin 13 adapted to enter the slot 10 and engage the pin-hole, substantially as described.

3. The combination with a door, and a sliding shelf or pan support, of a lever 7 pivoted to the shelf or pan support and having a tail piece 9 at its inner end, and a slot 10 terminating in a pin-hole 12 at its outer end, a spindle 14 journaled in the door and having a pin 13, and a curved abutment 17 adapted to strike the tail piece of the lever for automatically setting the outer end thereof in correct position to engage the pin of the spindle, substantially as described.

4. The combination with a door having a lever-engaging device, a shelf or pan support, and a lever pivoted to the shelf or pan support, detachably connected with the lever-engaging device on the door and having a tail piece at its inner end, of a stationary plate arranged in the path of the said tail piece of the lever for automatically setting the outer end thereof in correct position to engage the lever engaging device on the door, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

FOLHERT KAEMPEN, JR.

Witnesses:
N. A. GRIMMER, Jr.,
H. A. SPRICK.