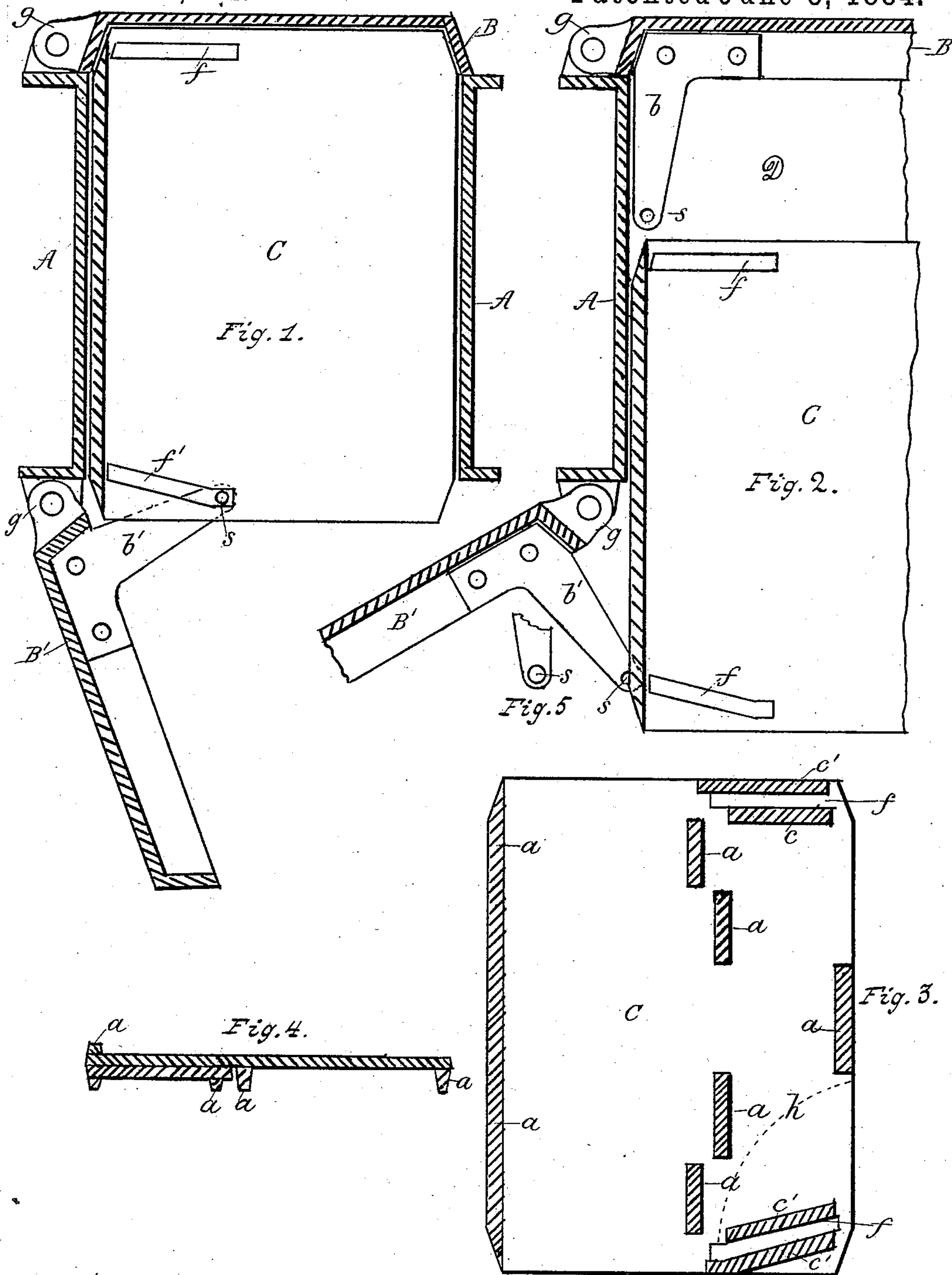


(No Model.)

L. T. NEWELL.  
AUTOMATIC OVEN SHELF.

No. 299,672.

Patented June 3, 1884.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

LEWIS T. NEWELL, OF ALBANY, NEW YORK.

## AUTOMATIC OVEN-SHELF.

SPECIFICATION forming part of Letters Patent No. 299,672, dated June 3, 1884.

Application filed April 19, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, LEWIS T. NEWELL, of the United States, residing at Albany, in the county of Albany and State of New York, have invented certain new and useful Improvements in Automatic Shelves for Stove-Ovens, of which the following is a full and exact description.

My invention consists of a sliding shelf placed within the stove-oven and adapted to operate by the oven-door, to which is attached an arm, the free end of said arm being provided with a stud which engages with a groove on the under side of the shelf and traversing said groove while the door is being swung on its hinges, the arm with the stud on the free end of the same and the groove on the under side of the shelf being so arranged that the stud will not engage with the groove until the door is opened to a position nearly at a right angle with the side of the stove, thereby allowing an inspection of the contents of the oven without drawing the shelf from the oven.

In the accompanying drawings, which form a part of this specification, and to which reference is herein made, Figure 1 is a horizontal section of a stove-oven, showing a portion of my improvements. Fig. 2 is a portion of the same, showing the sliding shelf protruding from the oven; Fig. 3, the under side of shelf, showing the position of the legs *a* of shelf, the ribs *c* forming the grooves, and the dotted lines *h* showing the direction the stud on the free end of arm moves while the oven-door is being opened and before the stud engages with the groove *f*. The diagonal position of groove, as shown by ribs *c' c'*, is for the purpose of increasing the throw of the arm, thereby projecting the shelf more than if the groove were parallel with the edge of shelf, and enabling a shorter arm to be used than would be required to project the shelf the same distance when the groove is made parallel with the edge of shelf. Fig. 4 is a sectional view of shelf *C*, showing the relative thickness of ribs *c*, forming the grooves, and height of legs *a*. Fig. 5 shows the position of free end of arm when the door is swung back parallel with side of stove.

The operation of my invention is as follows: When the door or doors are closed, these several parts will be in position as shown by shelf *C*,

Fig. 1, door *B*, Fig. 1, door *B*, Fig. 2, arm *b*, Fig. 2, and oven-bottom *D*, Fig. 2. On opening either oven-door the arm *b* or *b'* will swing freely under the shelf until the door is in the position indicated by *B'*, Fig. 1. The continued opening draws the stud *s*, Fig. 1, against the outer side of groove *c'*, Fig. 3, and moves in said groove until it reaches the position indicated by *s'*, Fig. 2. During the passage of the stud through the groove the shelf is projected from the oven, leaving it as shown in Fig. 2. By continuing the opening movement of door the arm is swung clear of the shelf, as shown in Fig. 5, allowing the shelf to be removed from the oven for the convenience of cleaning both the shelf and oven bottom. On closing the door the stud *s'*, Fig. 2, enters groove at the edge of shelf, and, traversing the groove, pushes the shelf nearly back to its place in the oven; but as the inner side of the groove *c* is made shorter so that the stud may enter the groove when the door is being opened, the stud passes out of the groove before the shelf is pushed back to its place. To complete the movement of shelf, the free end of arm engages with or comes in contact with one of the legs of shelf, continuing the movement of shelf until the arm passes by the leg, when the door, coming in contact with the outer edge of shelf, pushes it back to its position previous to the door being opened.

By the devices herein shown and described the shelf can be projected through either doorway; but it is plain that it can be applied to one door only. I do not confine myself to the exact position of the groove on the shelf. It may be parallel to edge of shelf, or make such an angle to the edge of shelf as the judgment of the constructor may decide. Neither do I confine myself to the exact position of the legs of shelf; but they shall be so put onto the shelf as to admit of the arm attached to the door moving freely under the shelf, except at such times as the movement of the door is utilized automatically for the movement of the shelf.

I am aware that oven-doors provided with arms connected by means of rods to sliding oven-shelves for the purpose of automatically moving said shelves have heretofore been constructed; but in these earlier constructions the shelves have either been connected to the

door in such a manner that any movement of the door would produce a simultaneous movement of shelf, or operated by rods attached to an arm in case the shelf was moved only a part of the time the door was being opened or shut; but

What I claim as my invention is—

The combination of shelf C, having open-ended grooves *f*, and legs or supports *a* on its under side, as herein described, with the oven door or doors B, each provided with an arm having at its free end a stud, *s*, adapted to

traverse in said groove during a part only of its forward and backward movement, whereby the said shelf is slid forward and backward by the said arm by a partial movement of the door, and is out of engagement therewith at the beginning and end of its movement, as and for the purpose set forth. 15

LEWIS T. NEWELL.

Witnesses:

HENRY G. SCHLINGLOFF,  
CHARLES SELKIRK.