

No. 688,639.

Patented Dec. 10, 1901.

P. D. HARTON.

AUTOMATIC MEANS FOR OPERATING OVEN SHELVES.

(Application filed Mar. 7, 1901.)

(No Model.)

FIG. 1.

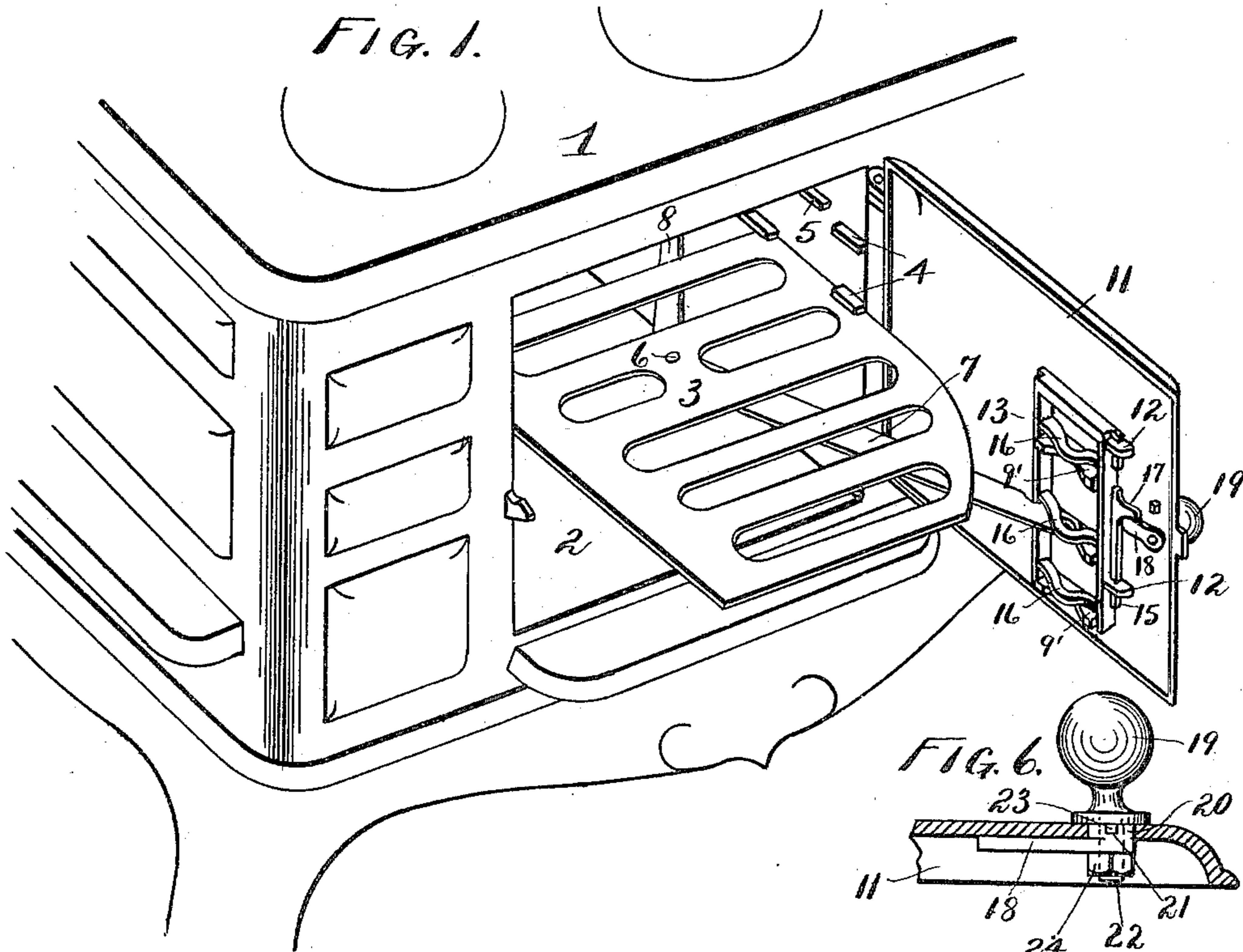


FIG. 6.

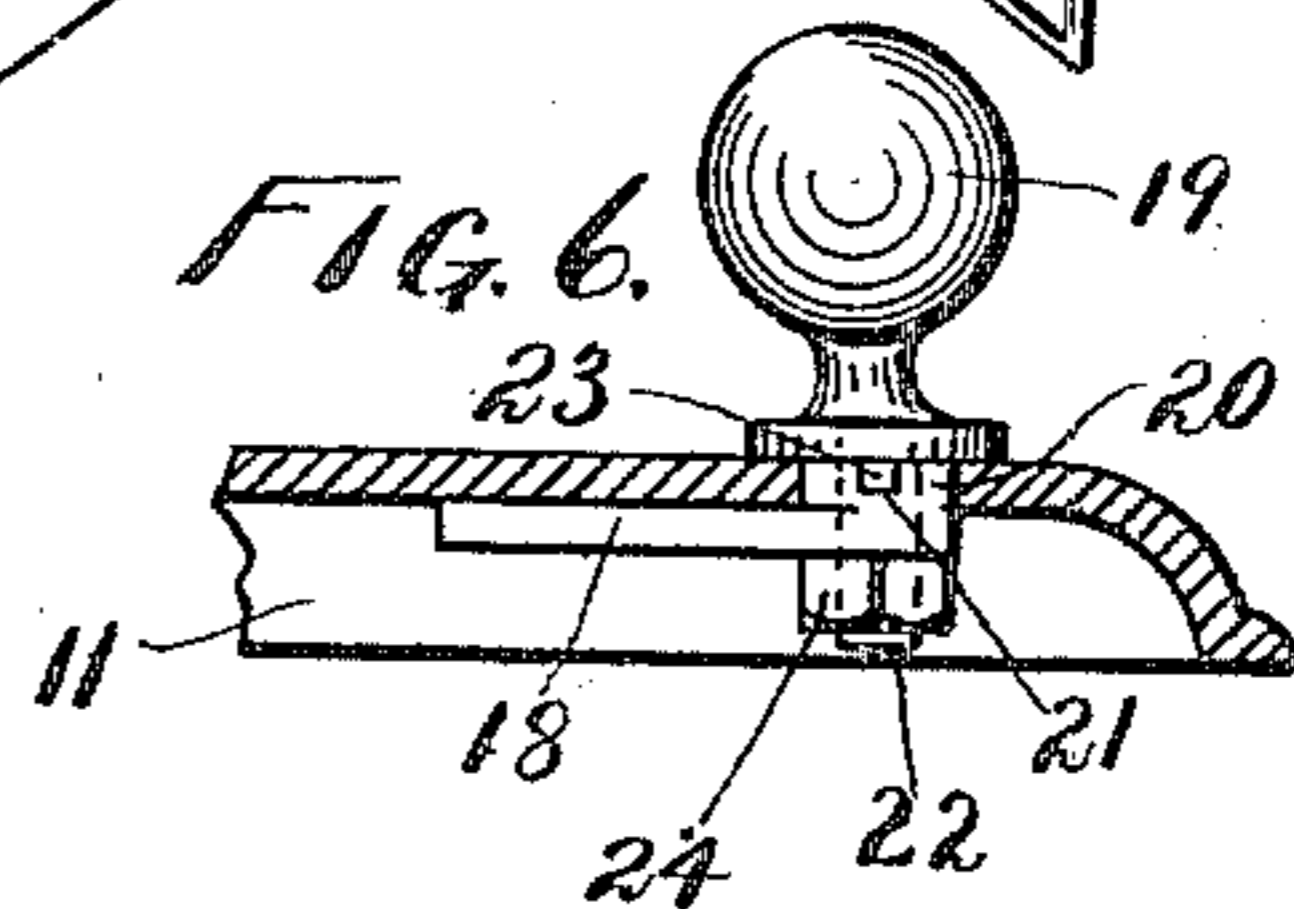


FIG. 3.

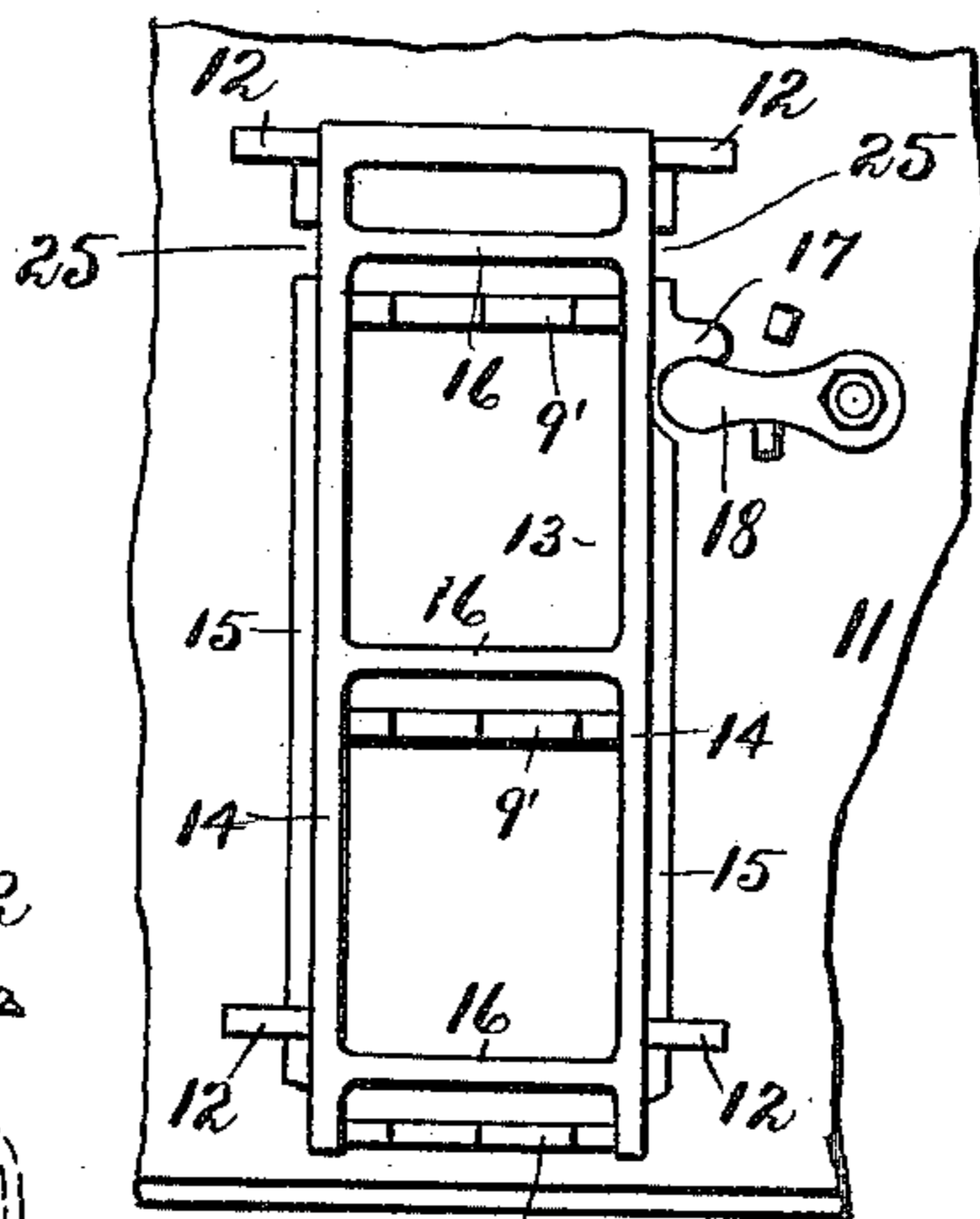


FIG. 4.

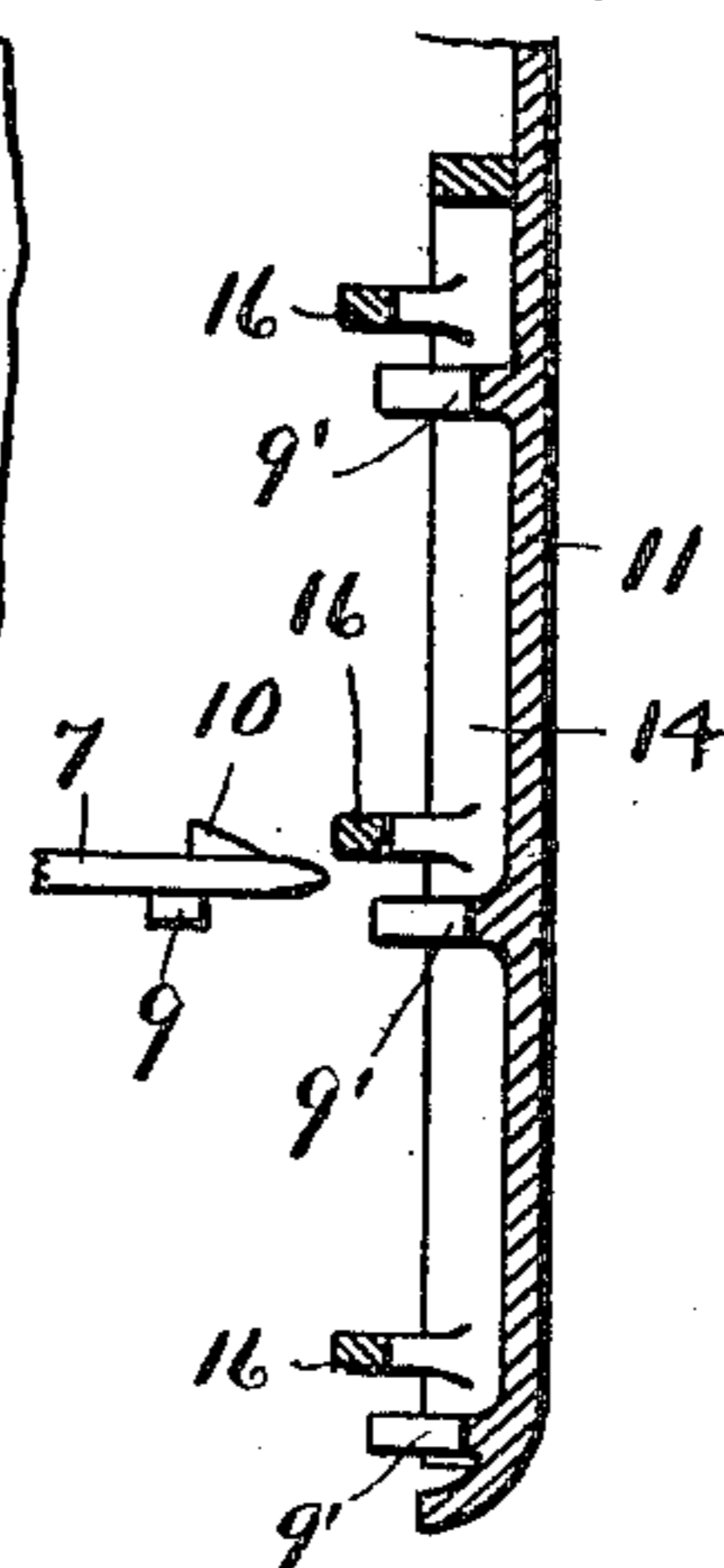


FIG. 2.

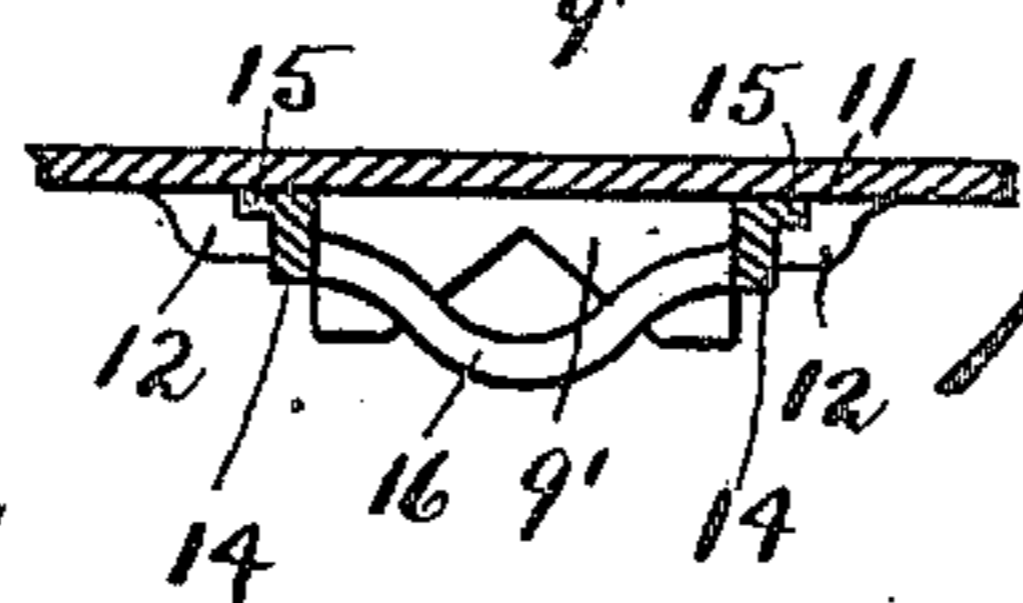
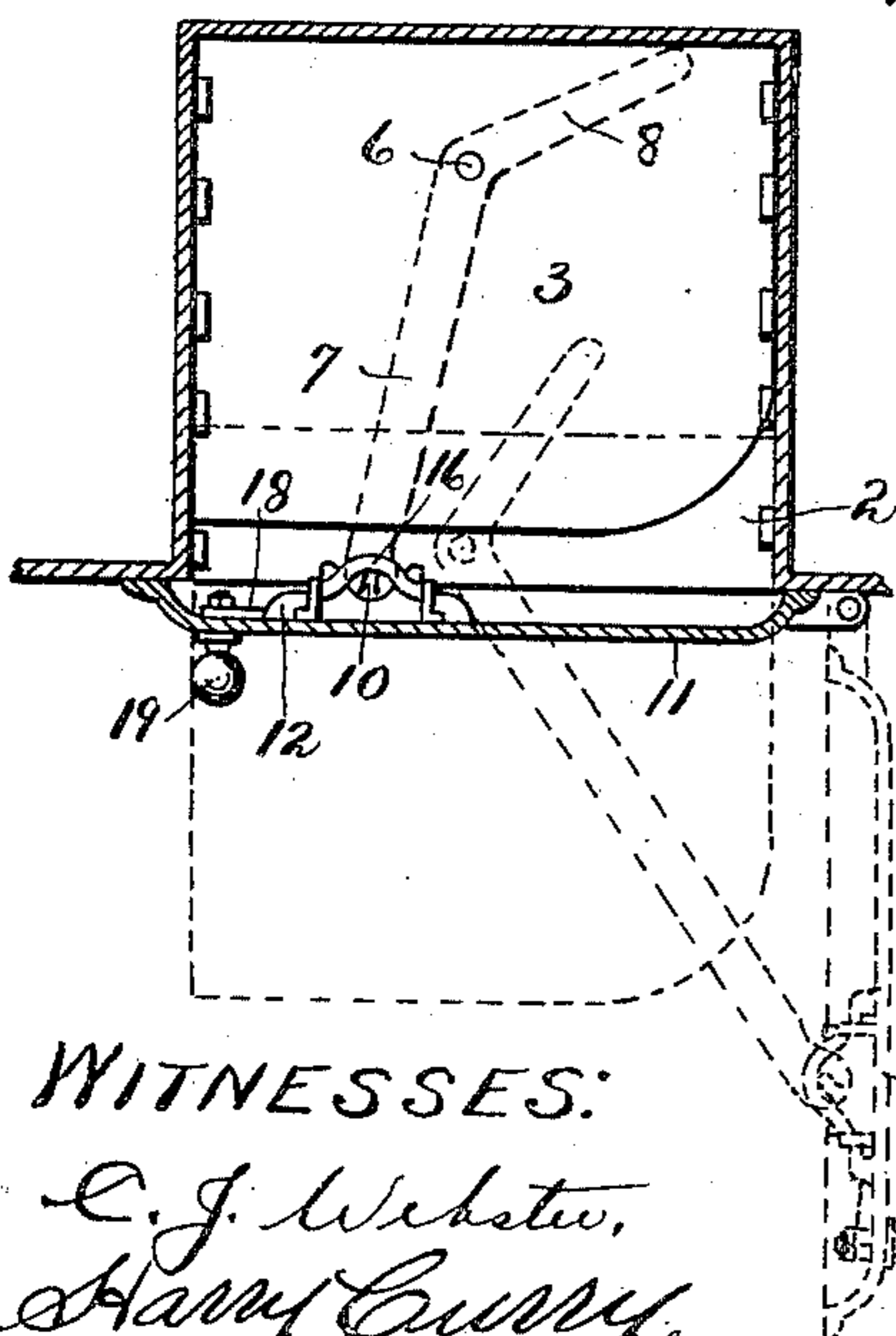


FIG. 5.

WITNESSES:

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AUTOMATIC MEANS FOR OPERATING OVEN-SHELVES.

SPECIFICATION forming part of Letters Patent No. 688,639, dated December 10, 1901.

Application filed March 7, 1901. Serial No. 50,184. (No model.)

To all whom it may concern:

Be it known that I, PEMBROKE D. HARTON, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Automatic Means for Operating Oven-Shelves, of which the following is a specification.

My invention relates to automatic means for operating oven-shelves, and has for its object to provide an inexpensive attachment to the oven door and shelf, whereby the shelf in the act of opening the door will be automatically withdrawn from the oven to a degree to allow of inspection of the article to be cooked to permit of basting and seasoning or withdrawal of the same and with means for conveniently detaching the attachment from the shelf to allow of opening the door without withdrawing the shelf.

A further object is to accomplish these results by means of an attachment of simplified construction and inexpensive manufacture.

A further object is to provide an attachment of this character adaptable to stoves and ranges of different styles.

My invention consists in the parts and combination of parts hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a perspective view of an oven, the shelf being withdrawn therefrom to its proper extent by means of the attachment. Fig. 2 is a horizontal section showing the door closed in full lines with the shelf in position and in dotted lines the door open and shelf withdrawn. Fig. 3 is an elevation of the catch, showing the arm for operating the same. Fig. 4 is an edge view of the door, shown in section, the catch being also shown in section. Fig. 5 is a sectional detail view showing the keeper of the door and the sliding relation of the catch therewith. Fig. 6 is a sectional detail showing a preferred means for connecting the knob and arm with the door.

1 designates the range, 2 the oven, and 3 the shelf.

Within the oven upon one side are cast rests 4 5 in staggered order, providing a guideway between which slides the shelf 3 to hold the shelf in horizontal order, and pivotally connected with the shelf at 6 is a bar 7, having

an angled end 8, which normally contacts with the rear side of the oven as the door is closed to force the bar 7 in alinement with the catch upon the door (to be presently described) to present the end of said bar in coincidence with the catch, whereby a projection 9 upon the under side of the bar shall contact with projections 9' upon the door, these projections 9' being recessed in V shape to further guide the catch into proper relation, and a projection 10 upon the upper side of the lever shall be engaged with the catch upon the door.

The arrangement so far described is to the shelf, means for guiding the shelf, and a bar to withdraw the shelf when in engagement with the door, the simplicity of arrangement of the bar being the essential feature of the description.

11 designates the door, having cast thereon keepers 12 to guide and hold the catch-plate 13 in alinement with the door in its vertical movement, there being preferably two keepers 12 upon each side. Catch-plate 13 is formed with side bars 14, with winged guides 15, to slide within the keepers and a plurality of cross-bars 16, which act as catches to engage with the catch 10 of bar 7 to withdraw the shelf, there being as many cross-bars 16 as there are guideways for the shelf, so that the shelf may be in any desired elevation within the oven and be engaged with a catch upon the catch-bar when the catch-bar is gravitated to its lowest point. The catch-bar being engaged normally and by gravitation automatically with the bar 7, it follows that to open the door results in withdrawing the shelf to a degree to allow of placing the article to be cooked upon the shelf and to replace the shelf within the oven by closing the door and subsequently to withdraw the shelf sufficiently to allow of inspection or seasoning the article thereon.

In order to provide convenient means for opening the door without withdrawing the shelf, there is a projection 17 cast upon the side bar of one side of the catch-plate, with which an arm 18 contacts, the arm 18 being connected with the knob 19 of the door, so that upon turning the knob slightly the arm is given a radial movement, thereby raising the catch-plate to a degree to disengage the

particular cross-bar that may be engaged with the bar 7.

One feature of my invention being economy of construction, I will describe the means employed for connecting arm 18 with knob 19. The arm 18 is cast with a hollow boss 20, which passes through an orifice in the door, and is provided with a recess 21. The knob 19 is formed with a stem 22, which passes through the boss, and is provided with a projection 23, which enters recess 21, thereby causing the boss and arm to turn in unison with the knob, the whole being held in close assemblage by means of a nut 24 upon the threaded end of the stem.

In operation, the door being closed, the catch-plate gravitates into engagement with the bar 7, and the act of opening the door withdraws the shelf to the proper degree, when upon closing the door the shelf is returned to its place within the oven. Should it be desired, however, to open the door without affecting the position of the shelf, the knob is given a slight turn, when the catch-plate is raised out of engagement with the bar 7 and the shelf remains intact. In order to insert the catch-frame within the keepers, the guideways are recessed at 25, as shown, which permits of ready insertion or removal of the frame.

It will be seen from the foregoing that I

have reduced the expense of the attachment proper and also the means for its connection with the door and shelf to a minimum.

What I claim is—

1. In automatic means for operating oven-shelves, the shelf, means for guiding the same within the oven, a bar pivotally connected with the shelf, having an angled end to contact with the inner surface of the oven, a projection upon the bar, and a gravitating catch upon the door of the oven to automatically engage therewith.

2. In automatic means for operating oven-shelves, the shelf, means for guiding the same within the oven, a bar pivotally connected with the shelf, having an angled end, and a projection upon the opposite end, a catch comprising a catch-frame formed with a plurality of cross-bars, guideways upon its vertical sides formed with recesses, keepers upon the oven-door in which the guideways slide, a projection upon the catch-frame and an arm connected with the knob of the door to engage with the projection.

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

PEMBROKE D. HARTON.

Witnesses:

WILLIAM WEBSTER,
PERCY SHELDON.