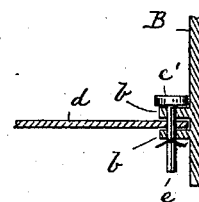
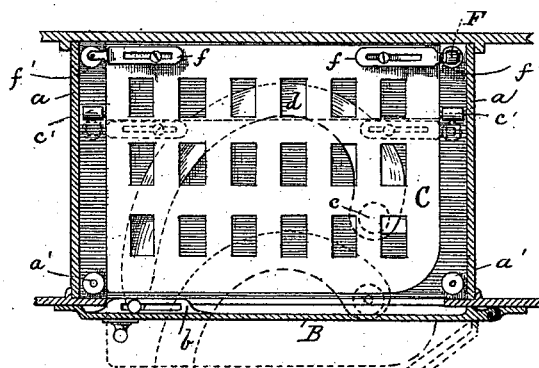
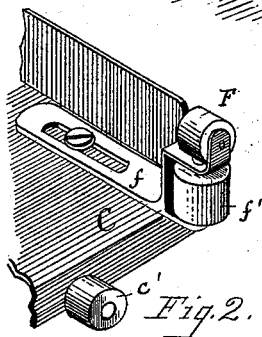
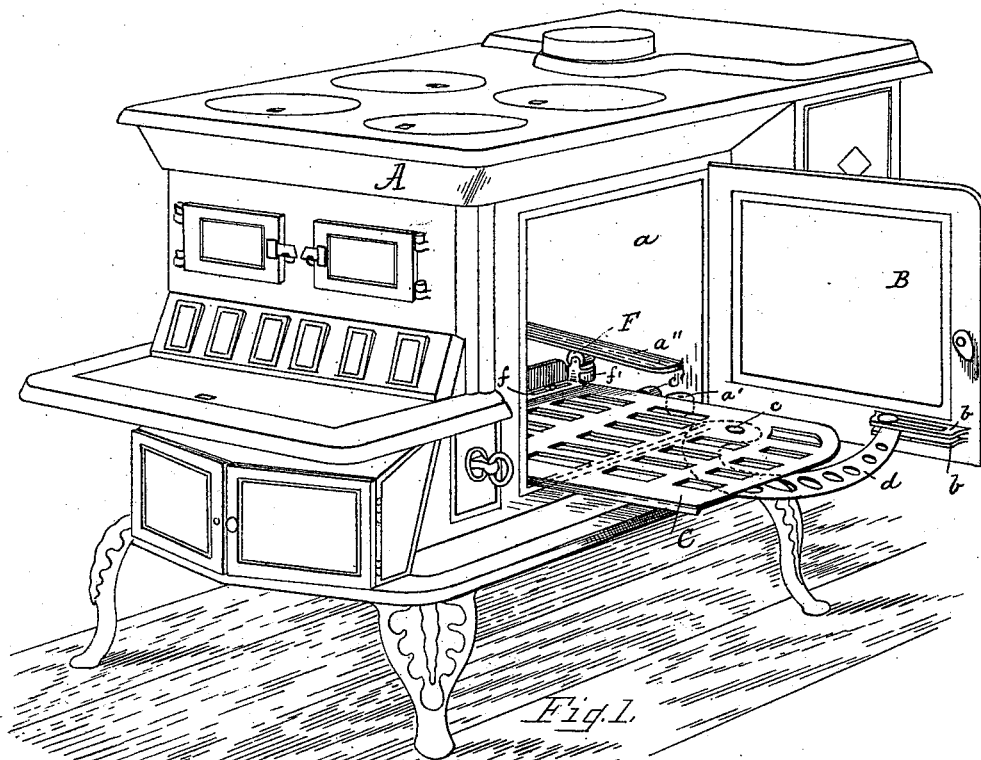


(No Model.)

P. HOOGERZEIL, Jr., & G. F. HINKLEY.
STOVE OVEN.

No. 418,721.

Patented Jan. 7, 1890.



Witnesses
Geo. W. White
Martha J. Jackson.

Inventors:
Peter Hoogerzeil, Jr.
and George F. Hinkley,
by Abraham Andrew their atty.

UNITED STATES PATENT OFFICE.

PETER HOogerZEIL, JR., AND GEORGE F. HINKLEY, OF BEVERLY,
MASSACHUSETTS.

STOVE-OVEN.

SPECIFICATION forming part of Letters Patent No. 418,721, dated January 7, 1890.

Application filed October 30, 1889. Serial No. 323,729. (No model.)

To all whom it may concern:

Be it known that we, PETER HOogerZEIL, Jr., and GEORGE F. HINKLEY, citizens of the United States, and residents of Beverly, in the county of Essex and State of Massachusetts, have jointly invented new and useful Improvements in Stove-Ovens, of which the following, taken in connection with the accompanying drawings, is a specification.

10 This invention relates to improvements on that class of stove-ovens in which the oven-door is connected to a plate or grating, so as to cause the latter to be automatically and partially drawn out of the oven when the
15 door is swung open and pushed inward during the closing movement of such door; and this our present invention relates particularly to improvements on the United States Letters Patent granted to us May 28, 1889, No.
20 403,938, for stove-ovens, and it is carried out as follows, reference being had to the accompanying drawings, where—

Figure 1 represents a perspective view of a stove provided with our improvement. Fig.
25 2 represents a detail perspective view of the rear inner corner of the movable grating. Fig. 3 represents a detail vertical sectional view of the oven-door and its connection to the metal bar that unites the door and grating; and Fig. 4 represents a horizontal section of the oven, showing in dotted lines the door as partially swung open.

Similar letters refer to similar parts wherever they occur on the different parts of the
35 drawings.

A represents a stove of any well-known make, and *a* is the oven therein, as usual.

B is the oven-door hinged to one side of the oven in the usual manner.

40 C is the in-and-out movable grating, to which is loosely pivoted at *c* the curved link or bar *d*, the outer end of which is connected to the inside of the door B as follows: To the inside of said door are secured or cast in one
45 piece with it a pair of slotted ears *b b*, between which the outer perforated end of the link or bar *d* is inserted. A vertical pin *e* passes loosely through the slotted ears *b b* and the perforated outer end of the link or
50 bar *d*, and by this arrangement the said link is free to adjust itself relative to the swing-

ing movement of the door, and thereby causing the grating C to move more properly and easily in the oven as the door is operated.

For the purpose of relieving the friction between the pin *e* and the slotted ears *b b*, we provide said pin with an anti-friction roller *e'*, which may be rigidly attached to such pin or journaled thereon, said roller being adapted to roll against the inside of the door B during
60 the opening and closing movements of said door, thus allowing the outer end of the link or bar *d* to adjust itself with a minimum of frictional resistance relative to the door during the movements of the latter.

The grating C is provided at its sides with rollers *c' c'*, adapted to roll on the bottom of the oven as the said grating is moved in or out. Near the forward end of the oven we locate anti-friction rollers *a' a'*, journaled on
70 stationary pins secured to the oven in any suitable manner, which rollers serve two purposes—namely, to serve as anti-friction bearings for the sides of the movable grating C, and also as stops to limit the outward motion of said grating, such outward motion being
75 limited by the grating-rollers *c' c'* coming in contact with the oven-rollers *a' a'*.

To the rear ends of the grating C are secured the bearings *f f*, to the outer ends of
80 which are journaled the anti-friction rollers *f' f'*, adapted to roll against the insides of the oven, and said bearings are preferably made laterally adjustable to compensate for variations in the sizes of the ovens in a manner
85 shown and described in our above-mentioned previous patent, such rollers serving as anti-friction guides for the grating as it is moved in or out of the oven. One of said bearings
90 *f*, preferably the right-hand one, as shown in Figs. 1, 2, and 3, has journaled to it a horizontal anti-frictional roller F, adapted to roll against the under side of an inclined rib *a''*, attached to or forming a part of the oven *a*, as
95 shown in Fig. 1. Said rib and roller serve to prevent the grating from being tipped downward in its outer end, particularly if for any reason the link or bar *d* should be disconnected from the door. The said rib *a''* is made inclined upward from the front of the
100 oven, so as to permit the grating C to be moved freely forward and back without the

roller F coming in contact with said rib *a''*, except when the grating is drawn nearly out, when the said roller is made to bear against the under side of said rib *a''*, thus serving as
5 a rest or fulcrum to prevent the outer end of the grating from being tipped downward.

Having thus fully described the nature, construction, and operation of our invention, we wish to secure by Letters Patent and
10 claim—

1. The oven or box *a* and its hinged door B, having the slotted ears *b b*, combined with the movable grating C, the link or bar *d*, and the hinge-pin *e*, having anti-friction roller *e'*,
15 adapted to roll against the inside of the door during the in-and-out movement of the said grating, substantially as described.

2. The oven or box *a* and its hinged door B, and the movable grating C, connected to
20 said door and grating, as described, combined with the anti-friction supporting-rollers *c' c'*

on the grating C and the anti-friction and stop rollers *a' a'* on the oven, substantially as and for the purpose set forth.

3. The oven or box *a* and its hinged door 25 B and movable grating C, connected to said door and grating, as described, combined with the laterally-adjustable side rollers *c' c'* on the grating, the anti-friction and stop rollers *a' a'* on the oven, the stationary inclined rib 30 *a''*, and anti-friction roller F on the said grating, all arranged and combined substantially as and for the purpose set forth.

In testimony whereof we have signed our names to this specification, in the presence of 35 two subscribing witnesses, on this 18th day of October, A. D. 1889.

PETER HOOGERZEIL, JR.
GEORGE F. HINKLEY.

Witnesses:

ALBAN ANDRÉN,
KARL ANDRÉN.