(No Model.)

L. P. KNOLL.

STOVE DOOR.

No. 594,138. Patented Nov. 23, 1897.

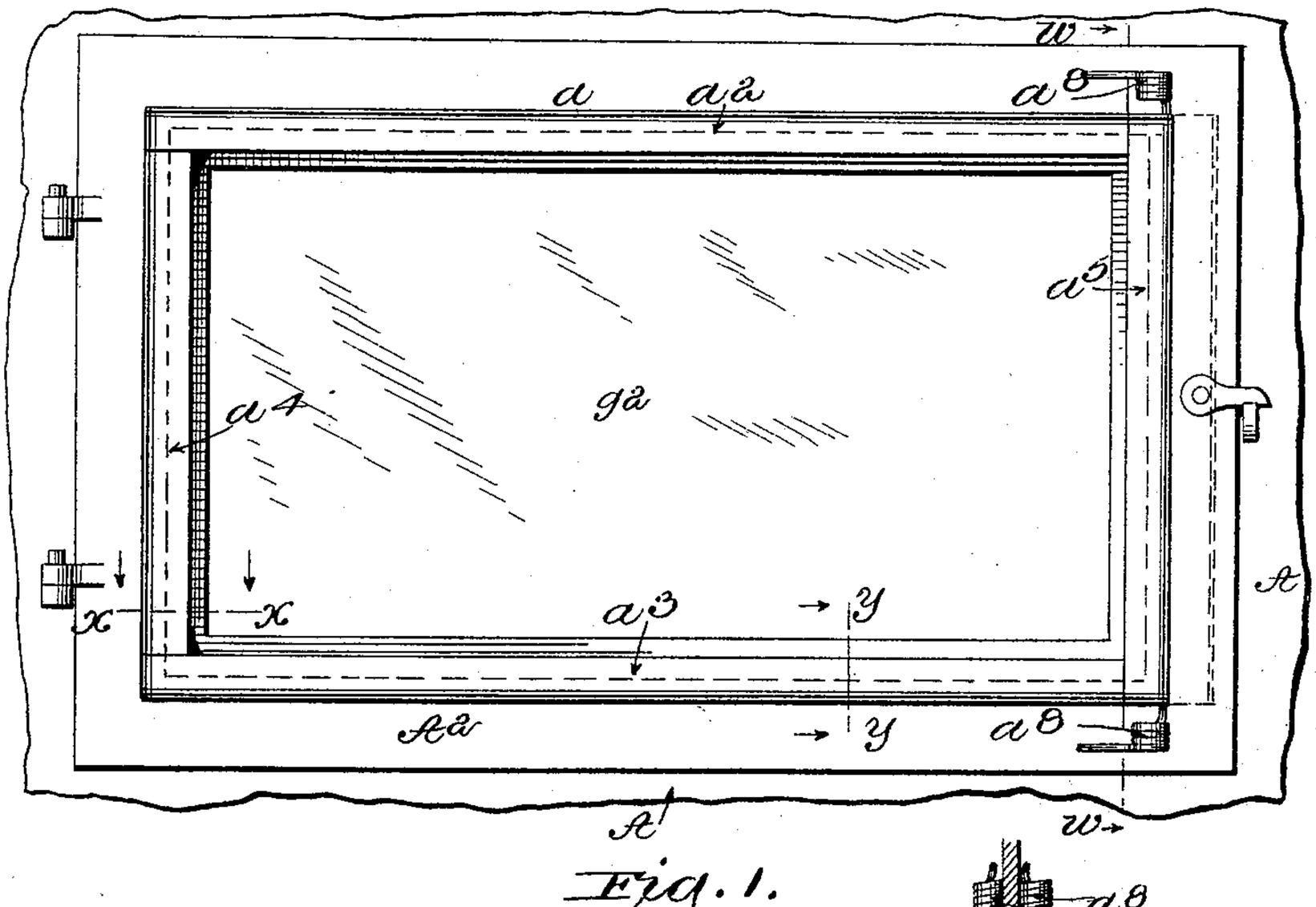

Fig. 1.

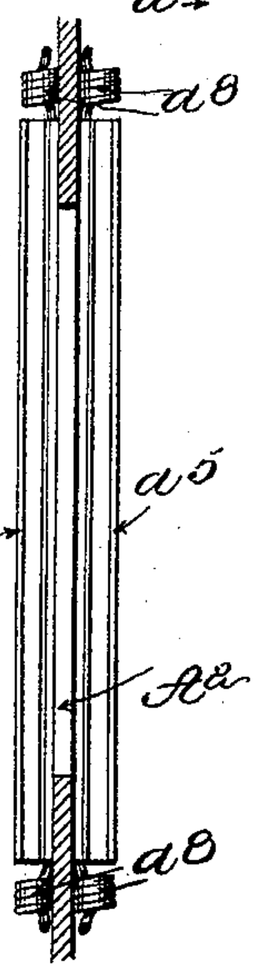

Fig. 2.
On line w-w

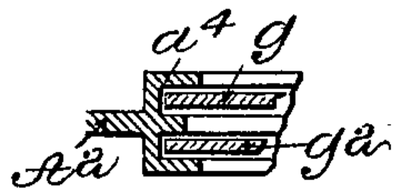

Fig. 3.
On line x-x

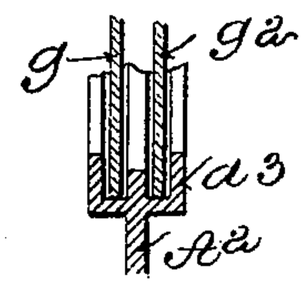

Fig. 4.
On line y-y

Witnesses:
Arthur Ashley
Horace A. Dodge.

Inventor:
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UNITED STATES PATENT OFFICE.

LOUIS PHILIP KNOLL, OF MONTROSE, PENNSYLVANIA.

STOVE-DOOR.

SPECIFICATION forming part of Letters Patent No. 594,138, dated November 23, 1897.

Application filed October 19, 1893. Serial No. 488,569. (No model.)

To all whom it may concern:

Be it known that I, LOUIS PHILIP KNOLL, a citizen of the United States, and a resident of the borough of Montrose, in the county of Susquehanna, in the State of Pennsylvania, have invented a new and useful Stove-Door, of which the following is a description.

The invention relates particularly to improvements in that class of stove-doors which are provided with an opening (one or more) which is closed by a transparent section or plate of glass or mica, thereby permitting observation of the contents of the interior space to which the door is applied, whether it be the combustion-chamber of an ordinary heating-stove or, as is more common, the baking-oven or the warming-chamber of a cooking-stove or a range.

It has long been common to apply a single plate of glass or of mica to the door of a stove-oven, and various means have been adopted for securing the window in place in such manner that it will not fracture under the application of a high degree of heat and in such manner that it may be readily inserted in or removed from position. A single sheet of mica is objectionable, because by reason of its extreme thinness heat is readily passed through and lost, and a single sheet of glass is objectionable, because, although it does not receive heat rapidly, it radiates it rapidly when at last it has become thoroughly heated. It is further objectionable because of its liability to accumulate moisture upon its inner surface and thereby become practically non-transparent. In the construction which I have devised to obviate the difficulties which have been thus partially indicated grooved ways or bearings are provided, one upon each surface of the door, to readily receive each a single plate of glass. The space between the two plates of glass thus becomes practically a non-conducting chamber, and loss of heat by radiation is thus avoided, while at the same time condensation of moisture upon the surface of either of the two plates is prevented. An additional advantage is found in the provision of an automatically-acting hinged holding-plate or securing-door at the unhinged end of the oven-door and upon each face thereof, whereby each plate of glass is yieldingly held in place and fracture of the plate through expansion is effectually precluded.

In the accompanying drawings, which constitute a part of this specification, Figure 1 represents a front elevation of a stove-door in which one form of my invention is embodied. Fig. 2 is vertical section on the line *w w* of Fig. 1, looking in direction of the arrow. Fig. 3 is a detail sectional plan as in the line *x x* of Fig. 1. Fig. 4 is a detail vertical section as in the line *y y* of Fig. 1.

The door A^2 is hinged to the body of the stove or range A in any ordinary or approved manner. Along the inner margin of the frame *a* of the door A^2 are the top groove a^2, the bottom groove a^3, and at the hinged extremity of the door A^2 the end groove a^4. These are provided upon the outer as well as upon the inner surface of the door and under the construction represented in Fig. 1 are cast integrally with the same. At the opposite or free extremity of the door A^2 its frame is provided upon each face with the spring-door or automatically-acting holding-plate, as a^5 a^6, having coil a^8, which when the window-plate has been inserted endwise in its ways bears lightly but firmly against the end thereof, and while maintaining it in its position serves to permit it to expand freely while under the effect of a high degree of heat, and thus insures it against fracture through such influence. It will be noted that under this construction it is practicable readily to remove either of the two plates separately—that is, without interfering with the other. Thus a window may be detached and cleansed and replaced when necessary without sensibly retarding the operation of baking, for it will be seen that by reason of the location of the automatic holding-strips at the free end of the main door the removal of the inner window-plate may be effected by opening but slightly such main door, while the outer window-plate may be detached and renewed without opening the door at all.

As shown in the drawings, S represents the lower section or sash, S^2 the upper section, and S^3 the inner section, which is nearest the hinge end of the door. At their opposite extremity the plates *g* and g^2 are maintained in position by spring-doors a^5 and a^6, essentially, as already described.

I do not herein broadly claim a stove-door which is provided with a double window; but,

The invention having been thus described, what is claimed is—

1. A stove-door which embraces a frame which corresponds with the opening of the oven, or other chamber of the stove or range, and which has inner and outer grooves or ways; a window-plate in the inner grooves or ways; a window-plate in the outer grooves or ways; and yielding stops or holding-plates one of which automatically bears against the outer extremity of one window-plate.

2. A stove-door which embraces a frame which at one extremity is hinged to the body of the stove; and which is provided upon its inner and outer surfaces with window ways or grooves; a window-plate in the inner way or groove; a window-plate in the outer way, the two windows inclosing an intervening air-chamber; and spring-stops, or automatically-acting holding-doors, at the free end of the stove-door, operating to permit expansion of the window-plates, while preventing their displacement from position.

LOUIS PHILIP KNOLL.

Witnesses:
WM. C. COX,
W. H. TURRELL.