Sept. 22, 1931. E. P. JACOBS 1,824,209

DOOR RETAINING DEVICE

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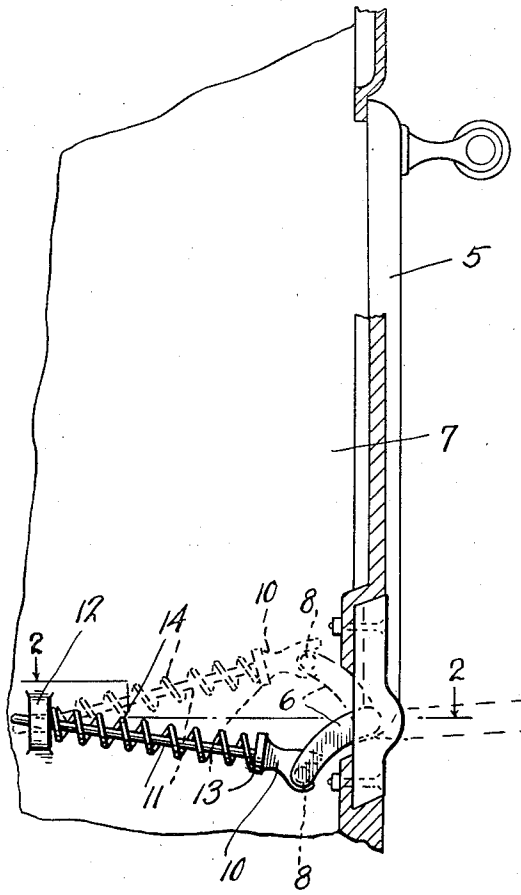
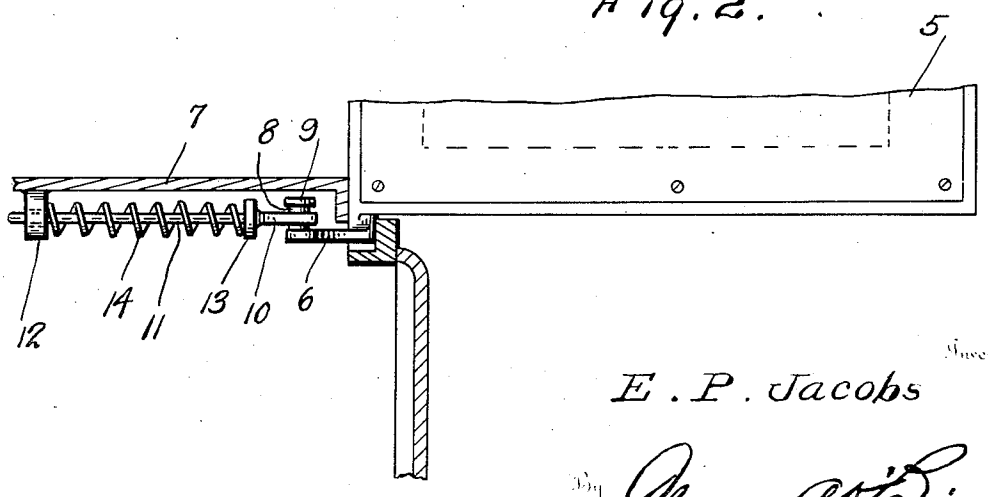


Fig. 1.

Fig. 2.



Inventor

E. P. Jacobs

By Clarence A. O'Brien.

Attorney

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Fig. 3.

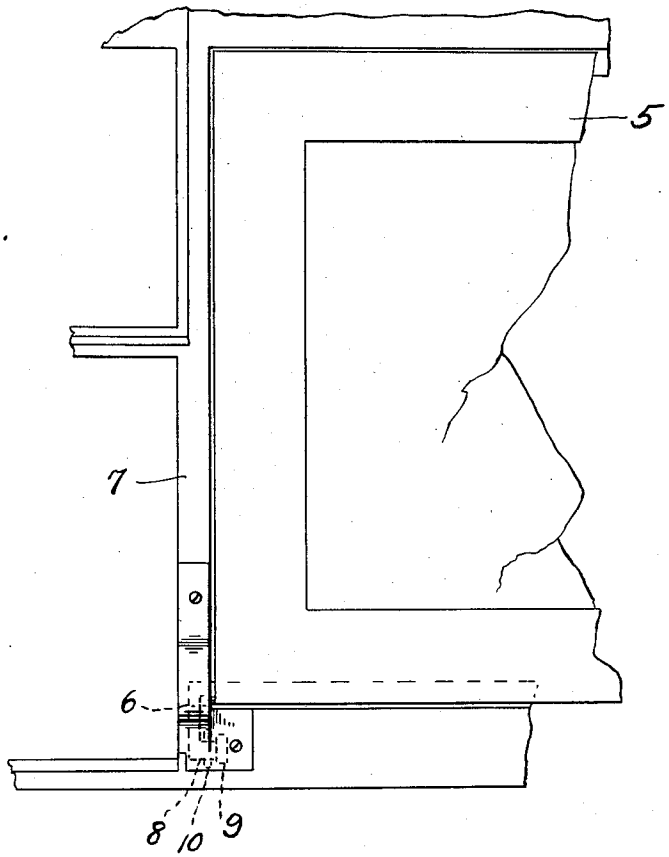


Fig. 4.

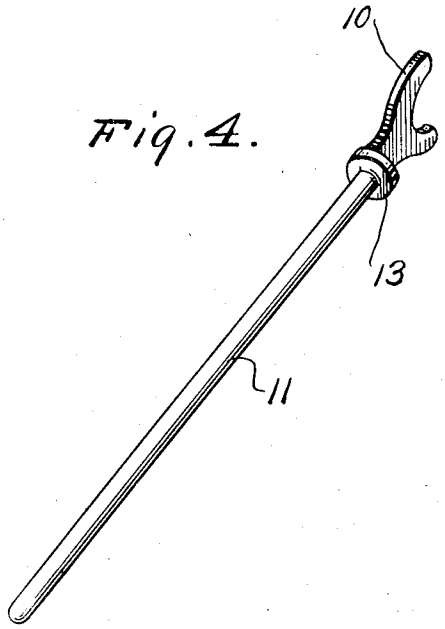
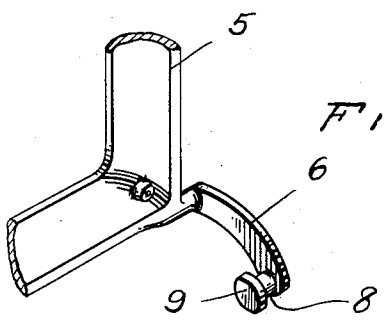


Fig. 5.



Inventor

E. P. Jacobs

By Clarence A. O'Brien.

Attorney

Patented Sept. 22, 1931 1,824,209

UNITED STATES PATENT OFFICE

ELMER P. JACOBS, OF BRIDGEPORT, ALABAMA

DOOR RETAINING DEVICE

Application filed March 7, 1923. Serial No. 259,786.

The present invention relates to door retaining devices, adapted for engaging the door whereby to yieldingly retain the same in either an open or a closed position.

An object of the invention is to provide a device of this character, for use in connection with oven doors or the like, wherein the door is arranged to swing upwardly from a horizontal into a vertical position, the retaining device comprising my invention being adapted to secure the door in either its horizontal position or vertical position.

A further object of the invention is to provide a device of this character, of a simple and practical construction, which is strong and durable, which may be readily attached to the oven or other door without necessitating any material changes in the construction or alteration thereof, which is inexpensive to manufacture, and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the special construction and combination of the various elements comprising the invention, reference being had to the accompanying drawings, forming a part hereof, wherein:

Figure 1 is a fragmentary side elevational view of an oven door, showing my invention in operative position with respect thereto.

Figure 2 is a sectional view, taken substantially along the line 2—2 of Figure 1.

Figure 3 is a front elevational view.

Figure 4 is a perspective view of the spring actuated rod, and

Figure 5 is a fragmentary perspective view of a corner of the door to which the arcuate rod engaging arm is attached.

Referring now to the drawings in detail, I have shown my invention adapted for use in connection with the oven door of a stove, indicated at 5, the door being mounted for swinging movement along its lower edge. At one of the lower corners of the door is arranged an arcuate arm 6, exterior of the oven as shown in Figure 2 of the drawings, the oven wall being indicated at 7.

The arm 6 is disposed at a downwardly inclined angle when the door is arranged in closed position and is adapted to swing upwardly to an upwardly inclined position when the door is opened, the opposite positions of the arm being indicated by the full and dotted lines shown in Figure 1 of the drawings.

Extending laterally from one side of the arm at its free end is arranged a pin 8 having a flange 9 formed on its end and against which pin is arranged the yoke head 10 of a rod 11, extending inwardly from the arm and having its rear end slidably inserted in an opening formed in a lug 12, extending outwardly from the wall 7 of the oven. Adjacent the head 10 of the rod is formed a flange 13, against which one end of a coil spring 14 carried on the rod abuts, with the opposite end of the spring arranged against the lug 12, whereby to normally urge the rod in a forward direction so that the yoke head 10 will be constantly maintained in engagement with the pin 8.

The lug 12 is disposed on a horizontal plane with the pivoted or hinged lower edge of the door 5, so that when the door is raised in closed position, the rod 11 will be inclined downwardly in order to maintain its engagement with the inner end of the arm 6 and through the action of the spring 14 will serve to retain the door in its closed position.

Upon the opening of the door into the position as shown by the dotted lines in Figure 1, the rod 11 will swing upwardly in accordance with the movement of the arm and since the inner end of the arm passes beyond the center line of the lower edge of the door and the plug 12, the door accordingly will be retained in its open position through the action of the spring.

It will be understood from the foregoing that the arm 6 is fixed with respect to one of the trunnions of the door 5, as clearly shown in Figures 2 and 5 of the drawings.

It is obvious from the foregoing that the invention is susceptible of various changes and modifications, without departing from the spirit or scope of the invention or sacrificing any of its advantages, and I accordingly claim all such forms of the device to which I am entitled.

Having thus described my invention, what I claim as new is:

In combination, an oven having a door opening and also having on the outer side of one of its side walls an apertured lug, a swingable door complementary to said opening and having a trunnion and an arm fixed to said trunnion and disposed and movable at the outer side of and alongside said oven wall and provided at its free end with a lateral pin extending toward said oven wall and equipped with a head, said arm in all positions extending rearwardly from said trunnions, a rod slidable through said apertured lug and disposed at the outer side of said oven wall and alongside and adjacent to the same and having a yoke pressing outwardly against said pin on the arm and confined in its movement between the arm and the head of the pin and also having back of said yoke an abutment, and a spring mounted on and coiled about said rod and interposed between said apertured lug and said abutment.

In testimony whereof I affix my signature.

ELMER P. JACOBS.