

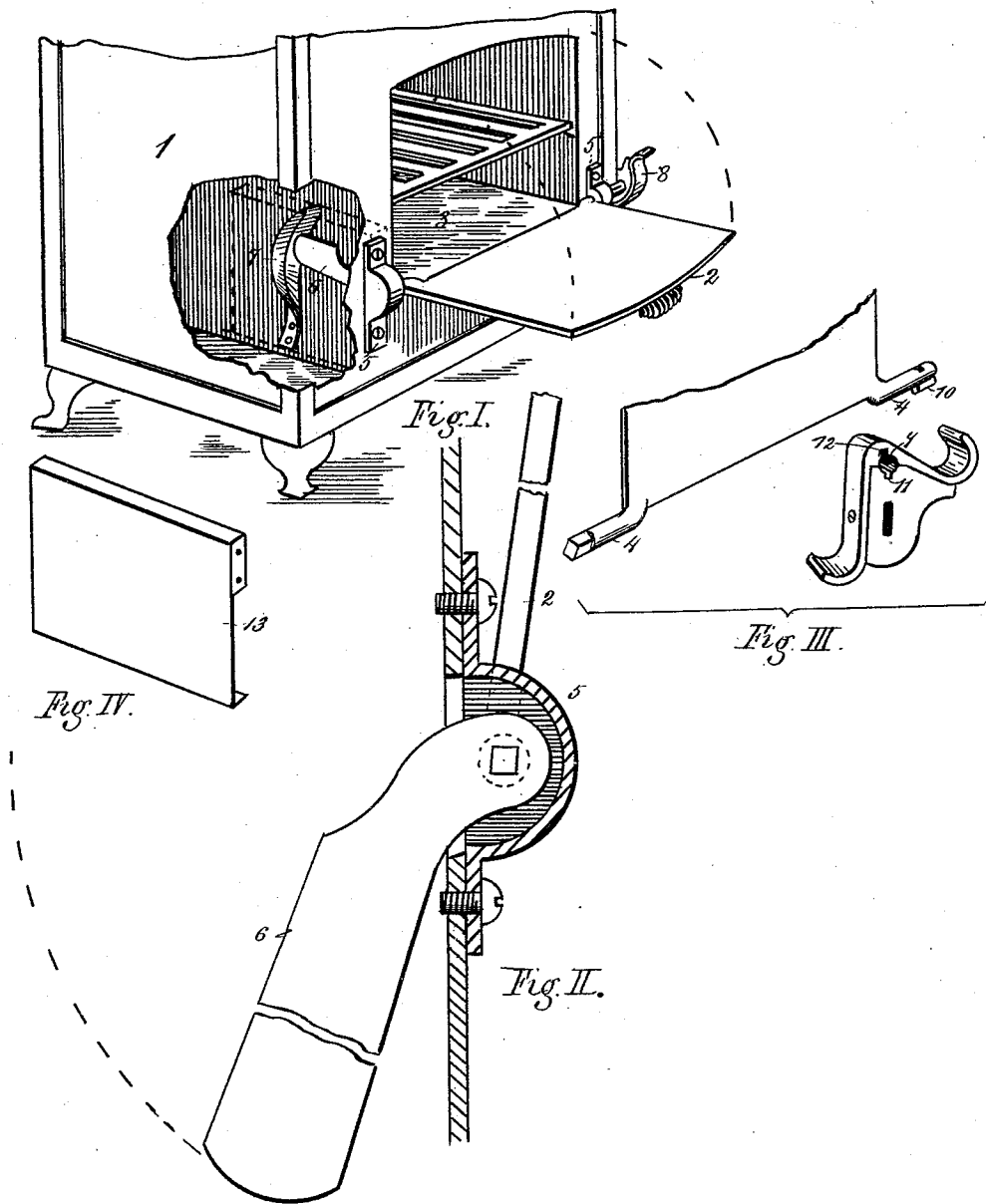
(No Model.)

F. V. KNAUSS.

OVEN DOOR FOR COOKING STOVES OR RANGES.

No. 483,117.

Patented Sept. 20, 1892.



Witnesses

R. S. Millar
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UNITED STATES PATENT OFFICE.

FRANK V. KNAUSS, OF PORTSMOUTH, OHIO, ASSIGNOR TO THE PORTSMOUTH
STOVE AND RANGE COMPANY, OF SAME PLACE.

OVEN-DOOR FOR COOKING STOVES OR RANGES.

SPECIFICATION forming part of Letters Patent No. 483,117, dated September 20, 1892.

Application filed June 4, 1892. Serial No. 435,548. (No model.)

To all whom it may concern:

Be it known that I, FRANK V. KNAUSS, a citizen of the United States, residing at Portsmouth, in the county of Scioto and State of Ohio, have invented a new and useful Improvement in Oven-Doors for Cooking Stoves and Ranges, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure I is a general perspective view, partly in section, of a cooking-range provided with my improved oven-door and its adjuncts; Fig. II, an enlarged side elevation of the same, showing the counterbalancing arm or lever and its connection with the oven-door; Fig. III, a detail view of my improved pedal attachment or tumbler and its relation to the door, and Fig. IV a case or box which is inserted between the oven and the outer shell of the range and covers the counterbalancing-lever and the friction-spring which engages the same.

My invention relates to improvements in the construction and operation of oven-doors for ranges and cooking-stoves; and its object is to provide a simple, inexpensive, and efficient device designed to obviate the defects and facilitate the working of stove-doors which are adapted to swing vertically on pivots or trunnions and have a pedal attachment or tumbler, whereby they may be operated by the foot instead of the hands.

The essential features of my device consist of a simple and practical appliance adapted to prevent the startling and hideous noise which ensues when the door is thrown open and falls upon its supports, means whereby the door is automatically retained in closed position without the aid of a latch or other appliance usually employed for the purpose, and an improved form of pedal or tumbler by which the door may be readily closed or opened at will by the foot of the operative.

Referring to the accompanying drawings, 1 designates a cooking-range of the usual form, having an oven-door 2. (Represented in open position and suitably supported on a plane with the bottom of the oven 3.) The door swings vertically on pivots or trunnions 4, which are journaled in brackets 5. The extremity of one of the trunnions is squared

and fitted in a corresponding aperture in the outer end of a swinging arm or lever 6, designed to counterbalance the door. It will be observed that the bracket is recessed for the counterbalancing-arm, and it is thus prevented from becoming accidentally disengaged from the trunnion. An adjustable friction-spring 7 is suitably attached to the side of the oven and is designed to engage the free end of the counterbalancing-arm and control the movement of the door when thrown open.

It has been experimentally ascertained that ordinary hoop-iron doubled and bent in the form as shown in the drawings is peculiarly adapted for the construction of the friction-spring. It may be easily adjusted to produce the desired degree of friction and is not affected by the heat to which it is exposed. It is, however, understood that any suitable material in any desirable form may be employed for the purpose. The trunnion on the opposite side of the door carries a pedal or tumbler 8, which may be conveniently made in two sections and afterward united by screws or other suitable means. An aperture 9 receives the end of the trunnion, provided on its nether side with a spline 10, which engages a groove 11 in the lower part of the aperture 9. The trunnion is thus prevented from turning in the tumbler. In order to make the connection additionally secure, a key 12 may be driven into a keyway formed on the end of the trunnion. A sheet-metal case 13 is suitably attached between the oven and the ash-pit of the range and protects the spring and swinging arm from the ash-pan or accumulations of ashes which might impede their free action.

The operation of the device will be readily understood. The door is opened by applying the foot to the lower end of the tumbler and thrusting it backward. It is evident that when the door approaches the horizontal position it will overcome the counterbalance or swinging arm; but in this device the spring, being properly adjusted, engages the arm and checks the movement of the door sufficiently to prevent a noisy rebound when it falls into position. In order to close the door, the foot is applied to the upper end of the tumbler. It will also be observed that no latch or other

appliance is required to secure the door when closed, the swinging arm being then in such position that it overbalances the door and renders any other fastening unnecessary. If
5 desired, the door may be provided with a suitable knob, so that it may be operated by hand.

What I claim as new is—

The combination, with a cooking range or stove, of the herein-described oven-door pro-
10 vided with a counterbalancing lever or arm, a friction-spring adapted to engage the arm

and control the falling movement of the door, and a double-acting pedal or tumbler adapted to open or close the door, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand, this 28th day of May, 1892, in the presence of witnesses.

FRANK V. KNAUSS.

Witnesses:

L. W. BAKER,
W. S. TODD.