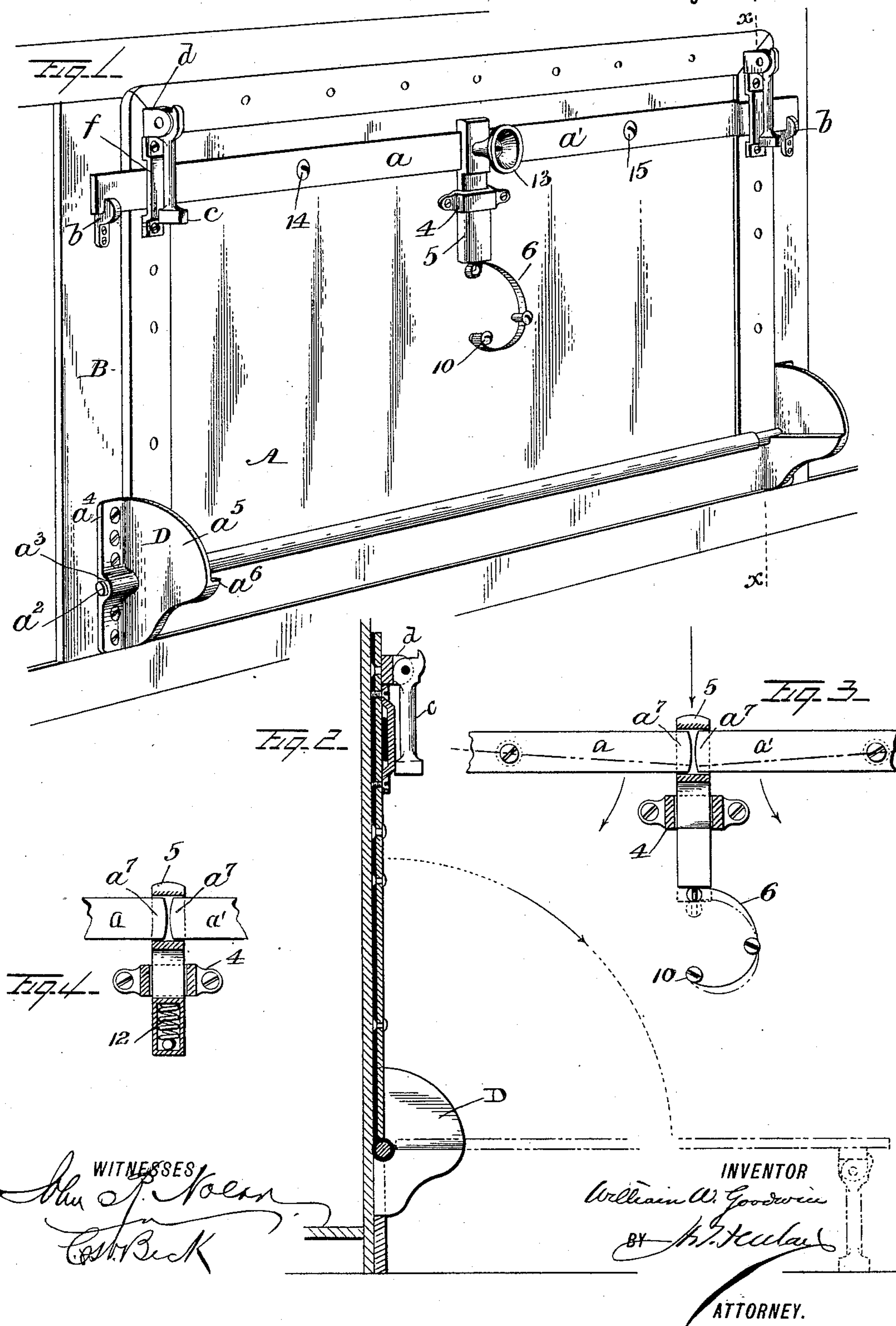


(No Model.)

W. W. GOODWIN.
RANGE DOOR.

No. 432,267.

Patented July 15, 1890.



UNITED STATES PATENT OFFICE.

WILLIAM W. GOODWIN, OF BORDENTOWN, NEW JERSEY.

RANGE-DOOR.

SPECIFICATION forming part of Letters Patent No. 432,267, dated July 15, 1890.

Application filed March 10, 1890. Serial No. 343,260. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. GOODWIN, a citizen of the United States, residing at Bordentown, county of Burlington, in the State of New Jersey, have invented certain new and useful Improvements in Range-Doors, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to range-doors, and is particularly applicable to large gas and other ranges.

The principal objects in view are, first, to provide means for automatically springing the latch into the hooks in each side of the frame when the door is thrown upward into its normal position, and, second, a combined supporting-bearing and stopping device when the door is let down; and for these purposes my invention consists of the mechanism and its combination and arrangement with the door and door-frame, as hereinafter fully set forth.

Referring to the drawings, Figure 1 is a front elevation of a range-door embodying the several elements of my invention, and a part of the frame of the range showing the connection of the door therewith. Fig. 2 is a vertical sectional view through the line xx of Fig. 1. Fig. 3 is a front view, partly in section, intended to illustrate more clearly the construction and operation of the spring-latch, and Fig. 4 is for the same purpose intended to illustrate a modified form of spring.

The door A is provided at its base with laterally-extending shaft-bars a^2 , which have their bearings in the hinge-piece D, secured to the frame B of the range. This hinge-piece D is an important feature of my invention, and is constructed, as shown in the drawings, as follows—viz., a narrow flat side a^4 is screwed or otherwise secured to the frame B, and has a thickened center a^3 , which is recessed laterally to provide a bearing for the door-shaft a^2 . Extending out at right angles with the flat side a^4 is a projecting piece a^5 , the shaft-bearing recess extending through it, the said extended projection a^5 being provided with a shoulder a^6 on its inner side, the function of which is to serve as a stop for the door when the latter is let down, the said ex-

tended projecting side a^5 serving as a guide for directing the door in its downward movement to its seat upon the stop-shoulder a^6 and keeping it at right angles with the door-frame. From this description and the illustration thereof in the drawings it will be seen that I am enabled to construct in a single piece of casting both the hinge-bearing for the door and a supporting, guiding, and stopping device therefor. To prevent too great a strain on the same, the door is also provided at its upper front side with a swinging arm c , loosely pivoted in a socket d affixed to the door.

The other and important feature of my invention consists of the automatic spring-latch. Secured to the frame of the range on each side of the door are catch-hooks $b b$ to receive the latch, which moves in guides f , fastened to the door. The latch proper consists of two parts or bars $a a'$, with curved ends a^7 terminating and having their terminal pivotal bearings in a bar 5, recessed at its top end to receive them. This bar is guided in its vertical movement by a bracket 4, secured to the door. Fastened at its upper end to the lower end of the bar 5, and at its lower end permanently to the door at 10, is a bent spring 6, or in lieu thereof a spiral spring 12. (Shown in Fig. 4.)

The operation of this construction and arrangement of devices is that when the latch-bars $a a'$, which have their fulcrums on the screw-bars 14 and 15, passing through the same into the door, are depressed at their inner ends by a moving downward of the bar 5 by pressure on the handle 13 thereof, the said latch-bars are released from their catch-hooks $b b$, and in return, when the door is hastily thrown upward in the movement of closing it, the spring, acting upon the bar 5 and the latter upon the latch-bars $a a'$, will automatically throw the said bars into the catch-hooks $b b$. The movement of the door upward and downward in a tangent of a circle will be guided accurately by the hinge-piece D, as hereinbefore described.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination and arrangement, with

a door-frame and a door having bearing-shafts a^2 , of the hinge-piece D, consisting of a flat side a^4 , secured to the frame and provided with a recessed bearing a^3 , a projecting front
5 piece a^5 at right angles thereto and provided on its inner side with a supporting-shoulder a^6 , substantially as described.

2. The combination and arrangement, with a supporting-frame B, having catch-hooks b ,
10 of a door provided with a latch a a' in two parts, a guiding-bar 5, adapted to move ver-

tically in a bracket 4, secured to the door, and a spring 6, connected at its upper end with said bar 5 and at its lower end with the door, substantially as described. 15

In testimony whereof I have hereunto affixed my signature this 18th day of February, A. D. 1890.

WILLIAM W. GOODWIN.

Witnesses:

GEO. W. REED,

II. T. FENTON.