No. 843,007. PATENTED FEB. 5, 1907.

A. W. DRAGOO.

FURNACE DOOR.

APPLICATION FILED JUNE 8, 1906.

Fig. 1.

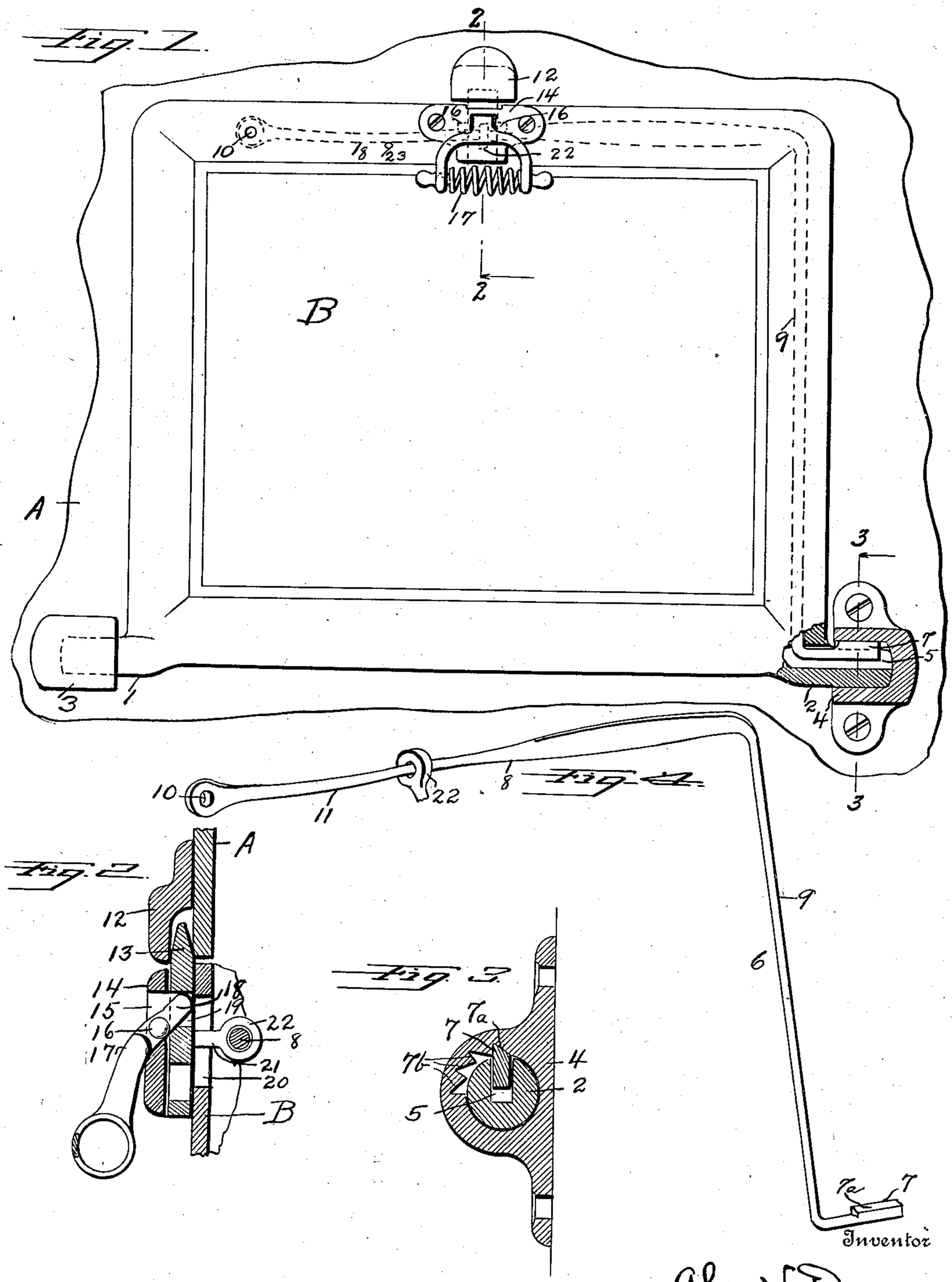

Fig. 4.

Fig. 2.

Fig. 3.

Witnesses
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ALVA W. DRAGOO, OF MURDOCK, ILLINOIS.

FURNACE-DOOR.

No. 843,007. Specification of Letters Patent. Patented Feb. 5, 1907.

Application filed June 8, 1906. Serial No. 320,863.

To all whom it may concern:

Be it known that I, ALVA W. DRAGOO, a citizen of the United States, residing at Murdock, in the county of Douglas and State of Illinois, have invented certain new and useful Improvements in Furnace-Doors, of which the following is a specification.

This invention relates to new and useful improvements in furnace-doors; and it contemplates a structure capable of use with furnaces, tanks, manholes, &c.

The primary object of the present invention is to provide novel means for locking a door at any desired point upon its pivot.

A further object of the invention is to provide a novel handle by which the door is moved upon its pivot, and which handle controls the adjustable locking means above referred to as well as a sliding bolt for maintaining the door in a closed position.

The detailed construction will appear in the course of the following description, in which reference is had to the accompanying drawings, forming a part of this specification, like numerals designating like parts throughout the several views, wherein—

Figure 1 is a front elevation illustrating a door constructed and applied in accordance with my invention. Fig. 2 is a central longitudinal section of the handle and locking elements on the line 2 2 of Fig. 1. Fig. 3 is a longitudinal section on the line 3 3 of Fig. 1, illustrating the means for locking the door at any desired point in its pivotal movement; and Fig. 4 is a perspective view of a spring element forming a part of the construction disclosed in Fig. 3.

In the practical embodiment of my invention the letter A designates the front of a stove, and B the stove-door. The door B is formed adjacent to its lowermost corners with horizontal laterally-offset studs 1 and 2. The studs 1 and 2 form elements of a hinge connection for the door, and to this end are received in respective socketed brackets 3 and 4, mounted upon the front of the stove. The stud 2 is provided with a recess 5 longitudinally thereof, in which the enlarged toothed end 7 of a spring 6 has movement. The spring 6 is illustrated in Fig. 4 and is of substantial L shape, comprising a horizontal arm 8 and a vertical arm 9, from which the end 7, formed with the inclined face 7^a, is laterally offset. The arm 8 is formed with a flattened apertured end 10, by which the spring 6 as an entirety has rigid connection with the inner surface of the door. Said arm 8 is formed adjacent to the end 10 with a flattened portion 11, by which construction the arm possesses the property of resiliency with relation to its point of rigid connection 10 with the door.

Mounted upon the front of the stove is an offset keeper 12 for the reception of a vertical sliding bolt 13, which has movement in the space between the door B and a strap 14 secured thereto. The strap 14 is formed with an opening 15 extending therethrough, within which is fulcrumed upon integral studs 16 a handle 17. The handle 17 is of approved form and terminates in a rearward extension 18, which projects through a slot 19, formed in the bolt 13. The door B is provided with a vertical slot 20 adjacent the bolt 13, through which projects a rearwardly-extending shank 21, carried by the bolt 13 and terminating in an eye 22, which surrounds and has positive connection with the spring 6 at a point approximately central of the arm 8, as is shown in Fig. 4. Movement of said spring is restricted by a stop-pin 23, carried by the door and disposed beneath the flattened portion 11.

In practical use it is assumed that the door is closed, as shown in Figs. 1 and 2. The bolt 13 is forced to the limit of its upward movement within the keeper 12 by the engagement therewith of the extension 18 of the handle 17, which drops on its pivot by gravity to its lowermost position. In such disposition of the bolt 13 and handle 17 the toothed end 7 of the spring 6 engages in any one of a series of properly-formed notches 7^b, located within the inner circumference of the socket in the bracket 4. When it is desired to open the door, the handle 17 is raised. This operation depresses the extension 18 and the bolt 13 until the latter is disengaged from the keeper 12. Simultaneously with this movement the downward movement of the bolt 13 through the connecting-shank 21 depresses the spring 6, which yields under its own resiliency from its point 10 of rigid connection with the door. When the spring 6 is depressed in the manner described, the toothed end 7 thereof has downward movement in the recess 5 of the stud 2 until said toothed end is disengaged and out of the path of the notches 7^b. The door is then free to be swung on the studs 1 and 2 as a fulcrum.

By releasing the handle the resiliency of spring 6 restores the parts to initial position

and locks the door at any desired point in its pivotal movement.

While the elements herein shown and described are well adapted to serve the purposes set forth, it is obvious that various minor changes may be made in the proportions, shape, and arrangement of the several parts without departing from the spirit and scope of my invention as defined in the appended claims.

Having fully described my invention, I claim—

1. The combination with a hinged door, of a handle pivotally mounted therein, a sliding bolt carried by said door and operated by said handle, one of the hinges of said door being formed with notches, a resilient member having rigid connection with said door and terminating in a toothed end, designed for engagement with said notches, and a positive connection between said bolt and said resilient member whereby movement of the former is transmitted to the latter.

2. The combination with a hinged door, of a handle pivotally mounted therein, a sliding bolt carried by said door and operated by said handle, one of the hinges of said door being formed with notches, an L-shaped resilient member having rigid connection at one end to said door and terminating at its opposite end in a tooth formed with an inclined face and designed for engagement with said notches, and a positive rigid connection between said bolt and said resilient member whereby movement of the former is transmitted to the latter.

In testimony whereof I affix my signature in presence of two witnesses.

ALVA W. DRAGOO.

Witnesses:
J. P. KENT,
A. J. VISE.