M. & P. MADSEN.

RANGE DOOR CONSTRUCTION.

APPLICATION FILED FEB. 10, 1917.

1,279,737.

Patented Sept. 24, 1918.

Fig. 1.

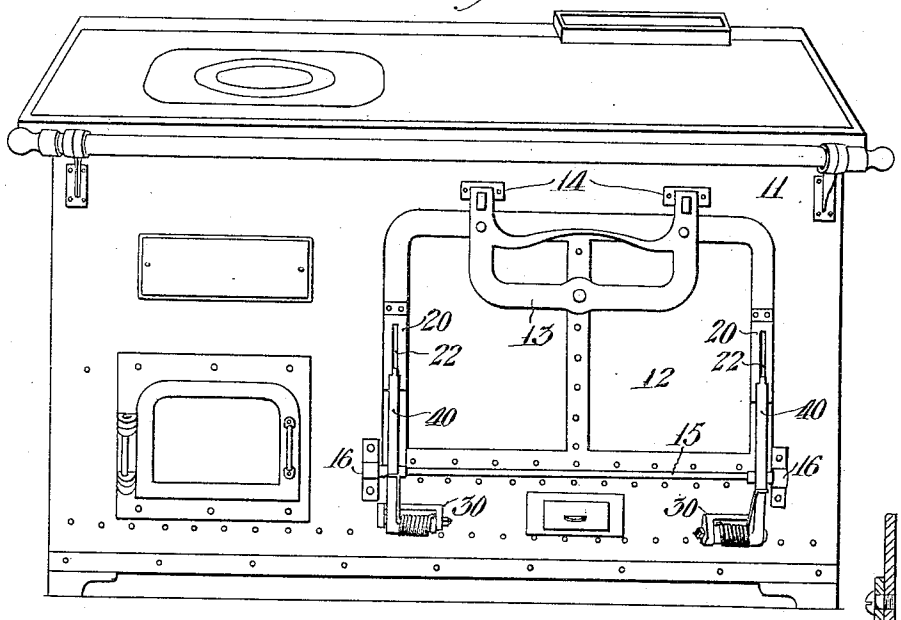


Fig. 2.

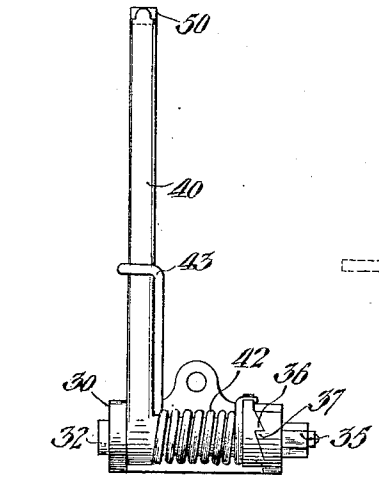


Fig. 4.

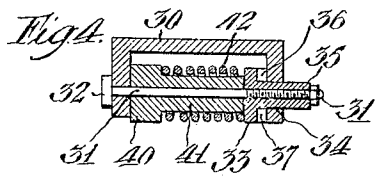


Fig. 5.

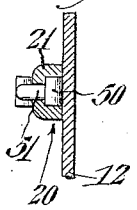


Fig. 3.

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UNITED STATES PATENT OFFICE.

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RANGE-DOOR CONSTRUCTION.

1,279,737. Specification of Letters Patent. **Patented Sept. 24, 1918.**

Application filed February 10, 1917. Serial No. 148,253.

To all whom it may concern:

Be it known that we, MARTIN MADSEN and PETER MADSEN, both citizens of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Range-Door Construction, of which the following is a specification.

Our invention relates to range construction and the principal object of the invention is to provide a means for so controlling the operation of a range door that it can be opened and closed readily.

Further objects and advantages will be made evident hereinafter.

Referring to the drawings which are for illustrative purposes only:

Figure 1 is a perspective view of a range equipped with our invention.

Fig. 2 is a view, on an enlarged scale of a spring arm and spring with their connected parts.

Fig. 3 is a side view of a portion of a range in which our invention is embodied.

Fig. 4 is a partial cross-section through the pivot of the spring arm.

Fig. 5 is a section on a plane represented by a line 5—5 of Fig. 3.

In the form of our invention, illustrated in the drawing, a range 11 is shown equipped with a door 12, this door having a handle 13 equipped with suitable locking devices 14. The door 12 is hinged on a door pivot bolt 15 which is carried in brackets 16. Secured on either side of the door is a spring arm plate 20, this plate having a channel section as shown at 21 in Figs. 3 and 5, and having a slot 22 in the center of the front thereof. Secured to the front of the range 11 directly below the door and at either side thereof, is a spring bracket 30. Passing through each of the spring brackets, is a spring pivot bolt 31, this bolt having a head 32 at one end and being threaded at the other end in a ratchet 33. Each of the ratchets 33 is provided with a ratchet shank 34 which extends through the bracket 30 and is provided with a square or hexagonal end 35. Formed on the ratchet 33 are a series of ratchet teeth 36 which are of such a shape as to engage co-acting teeth 37 formed on the bracket 30.

Turning on each of the bolts 31, is a spring arm 40 which is provided with a hub 41. Surrounding each of the hubs 41 is a coil spring 42 having one end secured at 43 to a spring arm 40 and having the other end secured in the ratchet 33.

The extreme upper end of each of the arms 40 is provided with a T-head 50, this T-head fitting inside the plate 20 and having a throat 51 passing through the slot 22.

The method of operation of our invention is as follows:

The handle 13 being raised, the locking devices 14 are released and the door 12 may be pulled forward swinging about the door pivot bolt 15. As the weight of these doors is very considerable, they would tend to fall forward quite violently were it not for the spring arms 40. The springs 42 are so arranged that the door is normally held in the closed position and the tension of the springs 42 may be adjusted by turning the ratchet 33, the teeth 36 and 37 holding the ratchet in any position in which they are placed. In practice, the tension of the springs 42 is so adjusted that the door is practically balanced. The purpose of the spring arm plate 20 is to provide a stop so that when the door 12 is in the position shown in dotted lines in Fig. 3 it forms a shelf which is stopped by the spring arms 40 in the position shown.

We claim as our invention:—

In combination, a range; a range door; a door pivot bolt fixed to said range and about which said range door pivots; two spring arm plates each fixed to one side of said door, each of said plates being of channel section and having a slot in the center of the front thereof; two spring brackets, each secured to the front of said range directly below said range door and at the side thereof; a spring pivot bolt passing through each of said spring brackets, said bolts each having a head at one end and being threaded at the other; a ratchet threaded on each of said bolts and passing through said spring bracket; the end of said ratchet which projects through said bracket having a square head formed thereon, the other end of said ratchet having ratchet teeth formed thereon; teeth formed on said bracket coöperat-

ing with said ratchet teeth; a spring arm turning freely on each of said spring pivot bolts and having a hub extending concentrically with said bolt; T shaped heads formed on the end of each of said spring arms and engaging said slots in said spring arm plates; and a coil spring surrounding each of said hubs and having one end secured to said spring arm and the other end secured to said ratchet.

In testimony whereof, we have hereunto set our hands at Los Angeles, California, this 3rd day of February, 1917.

MARTIN MADSEN.
PETER MADSEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."