

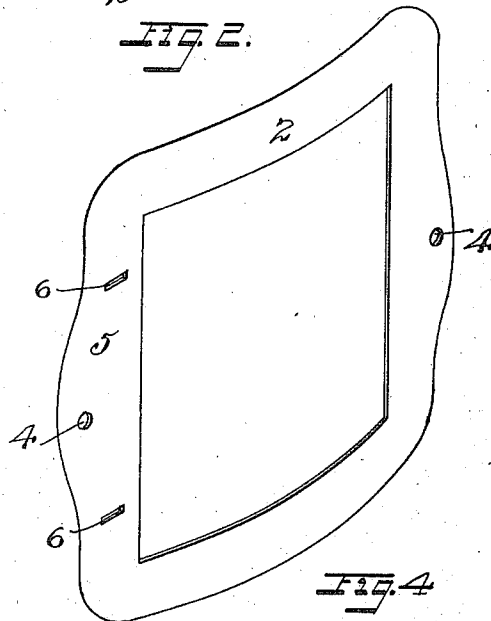
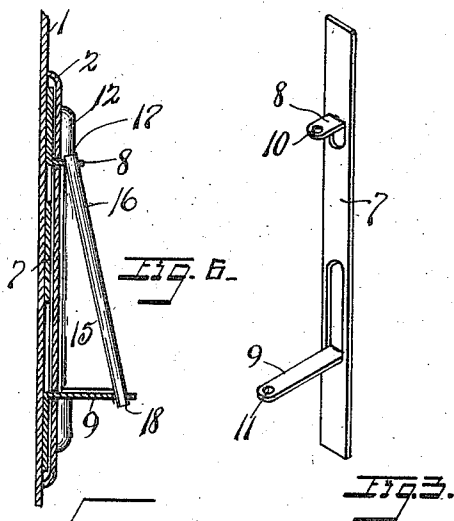
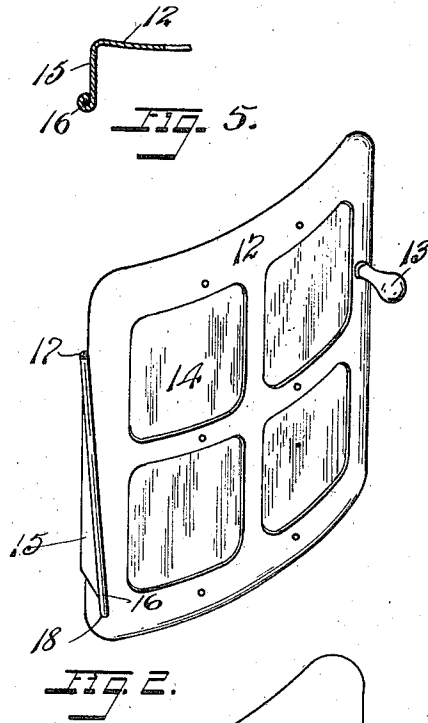
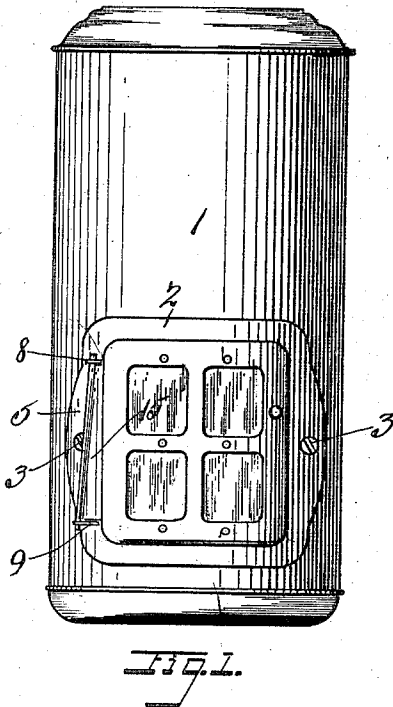
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DOOR.

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1,038,590.

Patented Sept. 17, 1912.



Witnesses

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DOOR.

1,038,590.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM R. JEAUVONS, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Doors, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates to doors of the self-closing type, and more especially to doors which are applied to curved or cylindrical objects, such as the drums for heating stoves and burners.

It is the purpose of this invention to provide a door of this type which, while being exceedingly efficient in operation, will be economical of production and easy of application to and removal from the object with which it is to be used.

Generally speaking, the invention may be defined further as consisting of the combinations of elements embodied in the claims annexed hereto and illustrated in the drawings forming part hereof wherein—

Figure 1 represents an elevation of a burner drum having the door of my invention applied thereto; Fig. 2 represents a perspective view of the door; Fig. 3 a perspective view of the door hanger; Fig. 4 a perspective view of the door frame; Fig. 5 a sectional detail of the hinged portion of the door; and Fig. 6 a vertical sectional view through the door hinge and frame.

Describing by reference characters the parts illustrated herein, 1 denotes the object to which the door is applied, the object in this case being a cylindrical drum such as is employed with burners of the type shown in my Patent No. 848,828, issued April 2nd, 1907. The drums for these burners are provided each with a door whereby access may be had to the wick for lighting the same. It frequently happens that the operator neglects to latch the doors of these drums when closing the same, with the result that the burner will not operate efficiently. By the door construction disclosed herein, the door, if opened to its fullest width, will stay open properly for the purpose of lighting, but will automatically close from any point less than ninety degrees from its shut posi-

tion, thus insuring a proper closure of the door without the agency of a latch.

The aperture through which access is had to the interior of the drum is surrounded by a frame 2 of sheet metal, said frame being curved transversely to conform to the curvature of the drum. The frame is secured in place by any convenient fastening means, as by bolts 3 extending through apertures 4 in said frame. One of the vertical sides of the frame is provided with a pair of slots 6, and between such side and the body of the drum there is interposed a plate 7, preferably of sheet metal, having arms 8 and 9 struck therefrom and bent outwardly, said arms extending through the slots. It will be observed that the arm 9 is considerably longer than the arm 8, for a purpose to be described hereinafter. The outer ends of the arms 8 and 9 are perforated, as shown at 10 and 11, said perforations being provided for the door hinge pintle.

The door proper comprises generally a sheet metal frame 12 having at one side an operating handle 13 by means of which it may be opened and having a suitable number of panes 14 of transparent material, as mica. At its pivoted or hinged edge, the frame is provided with an integral extension of somewhat less length than the height of the frame, the body of said extension being shown at 15. The bottom of the extension is longer than the top and the outer end of the extension is longer than the body portion 15 thereof, the extension projecting above and below the intermediate or body portion. This elongated edge portion of the extension is rolled upon itself, whereby an inclined pintle or pivot 16 is provided for the door, having the upwardly projecting end 17 and the downwardly projecting end 18. The body portion of the door extension will be sufficiently shorter than the distance between the arms 8 and 9 to permit this portion to swing freely between the arms when the ends of the pintle or hinge pivot are inserted in place in the apertures of the arms. The pintle may be conveniently applied to the arms by merely bending downwardly the lower arm 9 to permit the lower end 18 of the pintle to be brought thereabove when, by bending the arm upwardly, the lower

end of the pintle may pass freely through the aperture 11. Owing to the inclination of the pivot or pintle 16, when the door is opened its center of gravity will be raised and the door will tend to return by gravity to closed position.

The construction by which a door of this type is provided is extremely simple, is economical of production, and has been found to be efficient in operation. The door needs no latch or other fastening device, as it will be held in closed position by gravity.

Having thus described my invention, what I claim is:—

1. The combination of a door frame, an upper and a lower projection extending therefrom, and a door having at one edge a projection which is inclined outwardly from the top to the bottom, said projection having an upper and a lower pivoted extension operatively supported by the former projections.

2. The combination of a door frame, an upper and a lower projection extending therefrom, the lower projection being longer than the upper projection, a door having at one edge a lateral projection the upper end of which is offset a shorter distance from the edge of the door than the lower end, and means pivotally connecting the ends of said door projection with the former projections.

3. The combination of a door frame, an upper and a lower projection extending therefrom, the lower projection being longer than the upper projection, a door having at one edge a lateral projection the upper end of which is offset a shorter distance from the edge of the door than the lower end and having an inclined edge portion extending between and above and below the offset ends thereof and forming pivots by which the door is supported from said projections.

4. The combination of a door frame, a pair of vertically spaced projections adjacent to one edge thereof and extending therefrom, the lower projection being of greater length than the upper and each of said projections having an aperture near its outer end, and a door having at the edge complementary to the said door-frame edge a sheet metal projection, said projection being of greater lateral extent at the bottom than at the top and having its outer edge portion of greater length than the body portion and rolled upon itself to form a pintle or pivotal connection between the door and the apertures in the first mentioned projections.

5. As a new article of manufacture, a sheet metal door having at one edge a lateral extension the bottom whereof is longer than the top and the outer edge portion

whereof is of greater vertical extent than the body portion, said edge portion being rolled upon itself to form a pintle with ends projecting above and below the body portion of such extension, a frame combined with said door, and a pair of supports extending from the frame and adapted to receive the ends of the pintle.

6. The combination, with a drum having an aperture therein, of a door frame surrounding said aperture and having one of its sides provided with vertically spaced slots, a strap interposed between the drum and the slotted side of the frame and having lateral arms projecting through said slots, and a door pivotally connected to the said arms.

7. The combination, with a drum having an aperture therein, of a sheet metal door frame surrounding said aperture and having one of its sides provided with vertically spaced slots, a strap interposed between the drum and the slotted side of the frame and having lateral arms projecting through said slots, one of said arms being flexible, and a door pivotally connected to the said arms.

8. The combination, with a drum having an aperture, of a sheet metal frame surrounding said aperture, said frame having in one of its sides vertically spaced slots, a strap interposed between such side of the frame and the drum and having arms struck therefrom and projecting through said slots, and a door pivotally connected to said arms.

9. The combination, with a drum having an aperture, of a sheet metal frame surrounding said aperture and having in one of its sides a pair of vertically spaced slots, a strap interposed between such side of the frame and the drum and having arms projecting through said slots, the lower arm being of greater length than the upper and each of said arms having an aperture near its outer end, and a door comprising a sheet metal frame having at the edge complementary to the slotted side of the frame an integral lateral extension, said extension comprising a body portion the lower edge of which is of greater length than the upper edge and an edge portion which is of greater vertical length than the body portion and rolled upon itself to form an upper and a lower pivot adapted to enter the apertures in the corresponding arms of the strap, one of the strap arms being of flexible material.

10. The combination, with a drum having an aperture, of a sheet metal frame surrounding said aperture and having in one of its sides a pair of vertically spaced slots, a strap interposed between such side of the frame and the drum and having arms projecting through said slots, the lower arm being of greater length than the upper and

each of said arms having an aperture near its outer end, and a door comprising a frame having at the edge complementary to the slotted side of the sheet metal frame a lateral extension, said extension comprising a body portion the lower edge of which is of greater length than the upper edge and pivots projecting above and below the lateral extension and adapted to enter the ap-

ertures in the corresponding arms of the 10 straps.

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

WILLIAM R. JEAVONS.

Witnesses:

J. B. HULL,

BRENNAN B. WEST.