No. 674,453. Patented May 21, 1901.

J. R. CARTER & J. E. HAUSFELD.

STOVE DOOR.

(Application filed Dec. 3, 1900.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

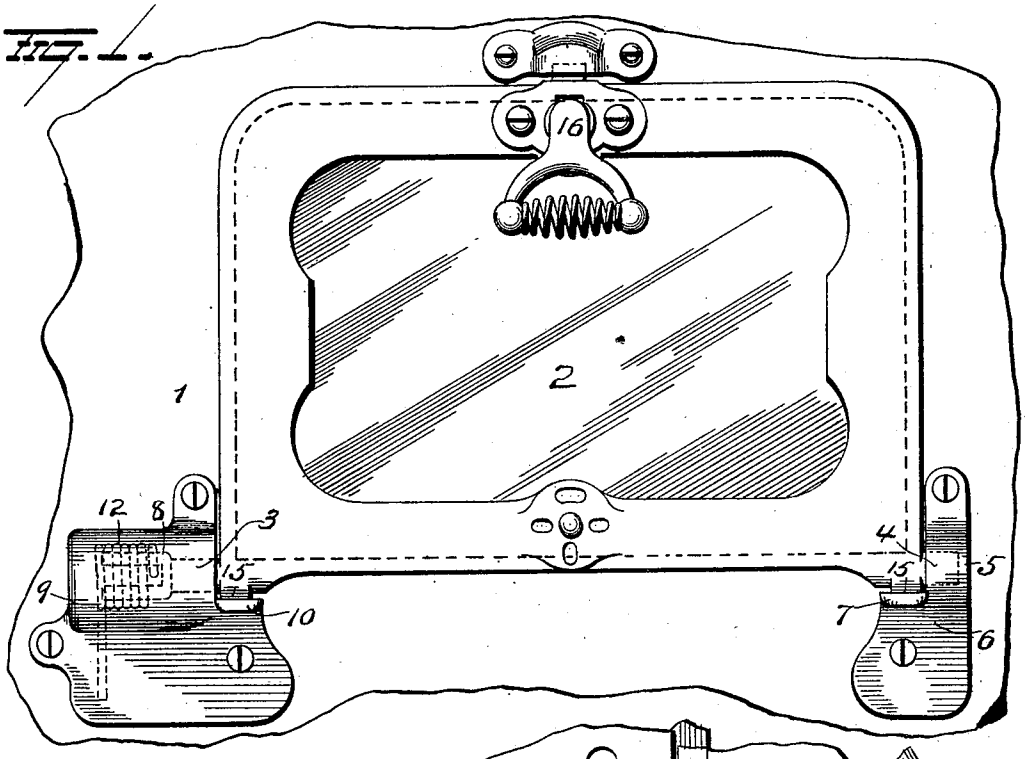
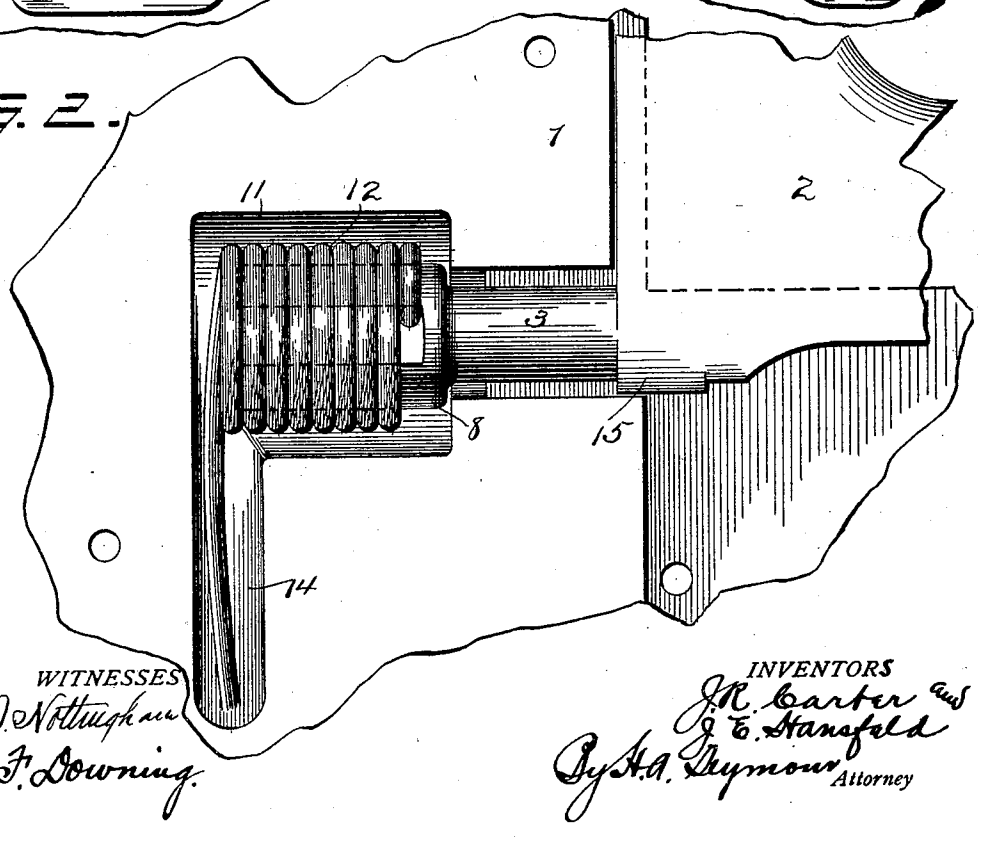


Fig. 2.



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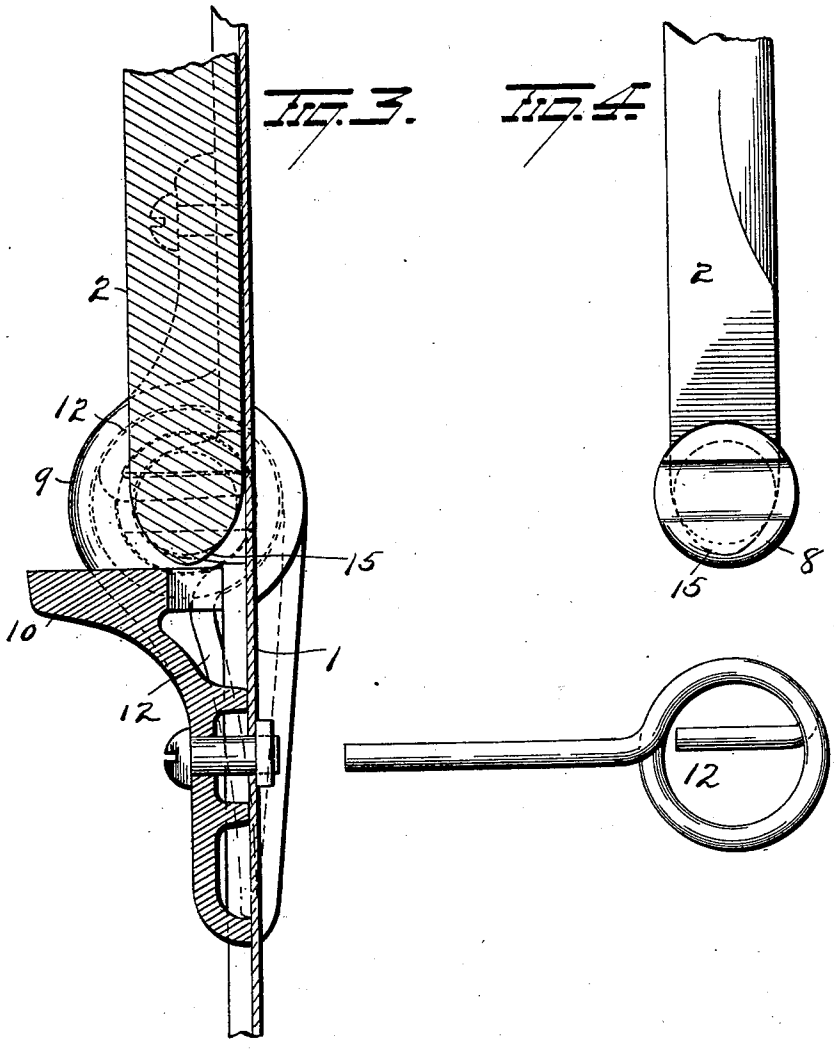


Fig. 3. Fig. 4.

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UNITED STATES PATENT OFFICE.

JOHN R. CARTER, OF AUGUSTA, KENTUCKY, AND JOSEPH E. HAUSFELD, OF CINCINNATI, OHIO, ASSIGNORS TO ERNST H. HUENEFELD, OF CINCINNATI, OHIO.

STOVE-DOOR.

SPECIFICATION forming part of Letters Patent No. 674,453, dated May 21, 1901.

Application filed December 3, 1900. Serial No. 38,534. (No model.)

To all whom it may concern.

Be it known that we, JOHN R. CARTER, of Augusta, in the county of Bracken and State of Kentucky, and JOSEPH E. HAUSFELD, of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Stove-Doors; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to an improvement in stove-doors, and more particularly to doors hinged at their lower edge, the object of the invention being to provide a door of this character with improved means for returning it to its closed position when opened and with improved means for holding it in its lower open position.

With this object in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view illustrating our improvements. Fig. 2 is a view, partly broken away, illustrating the spring for closing the door. Fig. 3 is a view in section of the same, and Fig. 4 is a view of the door removed.

1 represents a stove-front having an opening therein and forming in effect a door-frame, and 2 our improved door provided at its lower corners with oppositely-disposed trunnions 3 and 4, respectively. The trunnion 4 is mounted in a semicircular bearing 5 in a housing 6, secured to the stove-front by screws or bolts, as shown, and made with an outwardly-projecting lug 7, forming a shoulder or stop, against which the door 2 strikes when in its lowest open position and forms a rest or support therefor. The other trunnion 3 is provided with a cylindrical bifurcated enlargement 8 and is supported in a housing 9, removably secured to the stove-front by means of screws or bolts, as shown, and provided with an outwardly-projecting lug 10, similar to lug 7, to assist the latter in supporting the door in its open position.

The stove-front 1 and housing 9 are made with opposite semicylindrical recesses 11 to receive a coiled spring 12, one end of which is bent to extend across one end of the spring-coil and disposed in the bifurcated enlargement 8, and the other end 13 of the spring extends downwardly at right angles to the coil and is held in an elongated recess 14 in the stove-front 1 by the housing 9. It will thus be seen that the parts can be readily assembled, as the spring 12 can be inserted in the housing 9 and the latter secured to the front of the stove and when so secured will hold the trunnion and spring firmly in their proper positions.

The lower edge of the door, adjacent to the trunnions 3 and 4, is provided with cam-faces 15, and the housings 6 and 9 are made with openings to permit the free passage of the cams; but the latter will when the door is almost to its full-open or lowest position closely engage the front of the stove and owing to the close binding of the cams against the stove-front will hold the door in its open position.

A latch 16, of any desired construction, is provided on the door to engage a keeper on the stove-front and hold the door in its closed position.

The operation of our improvements is as follows: When the door 2 is opened, the enlargement 8 is turned and contracts spring 12, which latter, if the door is released before it reaches its extreme open position, will close the same; but if the door is forced down to its full-open position the cams 15 will wedge against the stove-front and hold the door open until raised slightly to release its cams, when the spring will complete the closing of the door. It will thus be seen that while the cams serve to hold the door open they likewise serve to prevent jarring and rattling thereof when thrown with force to its open position, for the cams will begin to engage the stove-front before the full-open position is reached, and thus relieve the shock incident to a sudden stop thereof by the lugs 7 and 10, and the binding of the cams will prevent any rebound.

Various slight changes might be resorted to in the general form and arrangement of the

several parts described without departing from the spirit and scope of our invention. Hence we would have it understood that we do not wish to confine ourselves to the exact construction herein shown and described; but,

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination with a door-frame and a door, of trunnions on the door, bearings on the frame for the trunnions, a cam on the door to engage the frame when the door is opened and a spring for closing the door when the cam is released.

2. The combination with a door-frame and a door, of trunnions on the door, bearings on the frame for the trunnions, a bifurcated enlargement on one trunnion, a coiled spring loose on said enlargement, one end of the spring extending across the coil thereof and disposed in the bifurcated enlargement, means on the frame for securing the other end of the spring against movement, and a device on the door coöperating with the frame to retain the door fully open.

3. The combination with a stove-front having an opening therein, and a door for closing said opening, of oppositely-disposed trunnions on the lower corners of the door, housings removably secured to the stove-front to form bearings for the trunnions, an enlargement on one trunnion, a coiled spring secured against rotation on said enlargement, the housing and stove-front recessed to receive the enlarged end of the trunnion and spring thereon, cams on said door to engage the stove-front and act in opposition to the spring to retain the door open, and lugs or shoulders on both of said housings to limit the opening of the door.

4. The combination with a stove-front having an opening therein, and a door for closing said opening, of oppositely-disposed trunnions on the lower corners of the door, housings removably secured to the stove-front to form bearings for the trunnions, an enlargement on one trunnion, a spring connected at one end to the enlargement, the housing having a recess to receive the spring and enlargement, cams on said door to engage the stove-front and act in opposition to the spring to retain the door open, and lugs or shoulders on both housings to limit the opening of the door.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

JOHN R. CARTER.
JOSEPH E. HAUSFELD.

Witnesses:
GEO. W. CORMANY,
CHARLES E. PFAU.