June 11, 1929.

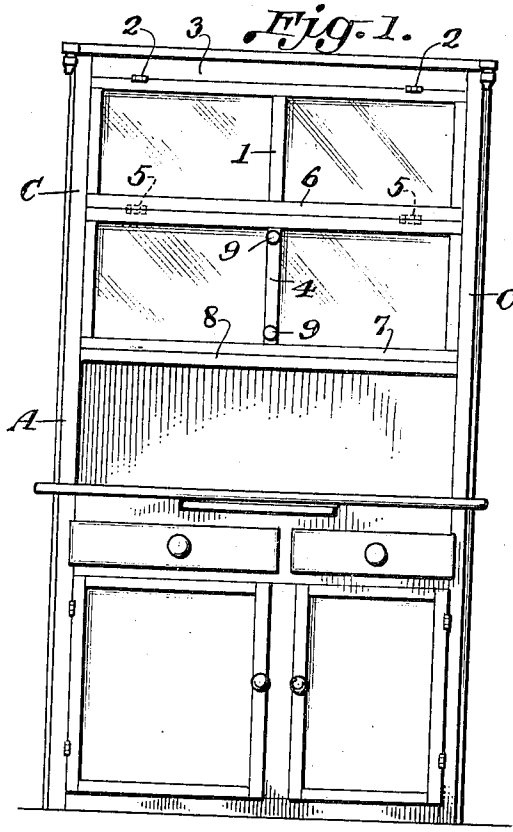
E. M. TRAMMELL

1,716,394

DOOR FOR KITCHEN CABINETS

Filed Dec. 2, 1927

Fig. 1.



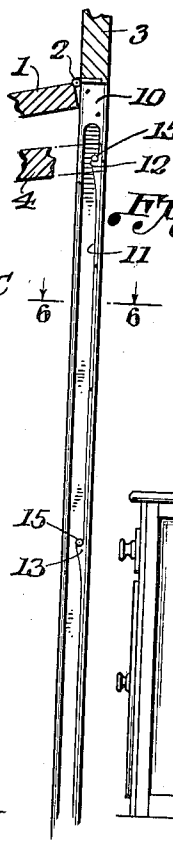


Fig. 3.

Fig. 2.

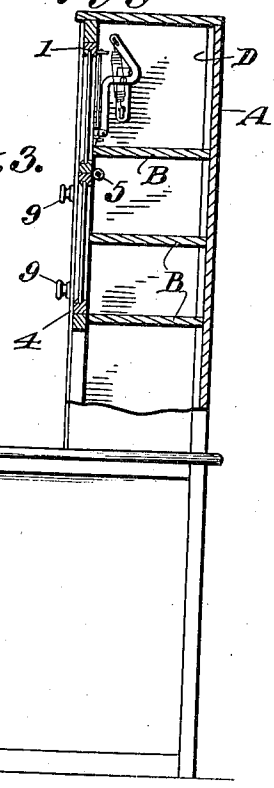


Fig. 4.

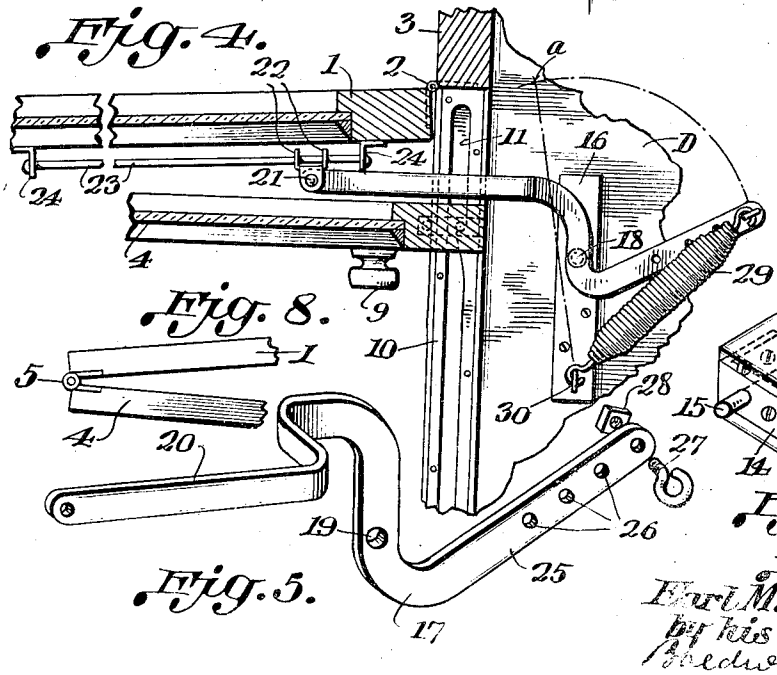


Fig. 8.

Fig. 5.

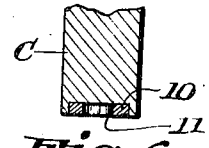


Fig. 6.

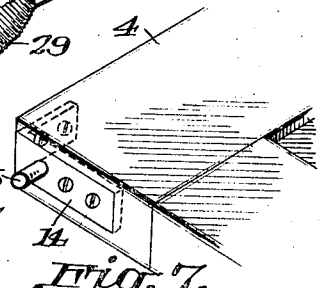


Fig. 7.

Inventor:
Earl M. Trammell;
by his Attorneys:
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Patented June 11, 1929.

1,716,394

UNITED STATES PATENT OFFICE.

EARL M. TRAMMELL, OF EL PASO, TEXAS, ASSIGNOR TO EL PASO SASH & DOOR CO., OF EL PASO, TEXAS.

DOOR FOR KITCHEN CABINETS.

Application filed December 2, 1927. Serial No. 237,216.

In the usual kitchen cabinet the front is provided with two doors which swing away from each other on vertical axes. Such construction is open to objections, since the doors necessarily swing out into the room and take up considerable space, and there is always danger of interference with the same. The present invention provides doors for the upper part of the kitchen cabinet especially which swing upwardly on horizontal axes so that when open they are well above the head of an ordinary person, and do not interfere with anything in the room. The invention also comprises means for guiding the doors from one position to another and a spring means so arranged that it tends to hold them from displacement in either the open or the closed position. The spring relieves the weight of the doors until they are partly closed and thereafter hastens the return of the doors to the closed position.

While illustrated in connection with the doors of a kitchen cabinet and while it may find its greatest utility in such use, nevertheless it is obvious that the same principle may be applied to doors in other articles of furniture, and the invention is not to be regarded as limited by the specific illustration.

In the drawings:

Figure 1 is a front elevation of a kitchen cabinet embodying the invention.

Figure 2 is a vertical section through the upper part of the same with the doors in closed position.

Figure 3 is a view of one side of the door casing showing in cross section a portion of the doors in open position.

Figure 4 is a fore and aft section of the upper part of the cabinet showing the doors in open position and the invention embodied therein.

Figure 5 is a perspective detached view of one of the brackets connected to the doors.

Figure 6 is a section on the line 6—6 of Figure 3.

Figure 7 is a perspective view of one of the corners of the lower door.

Figure 8 illustrates how the doors 1 and 4 are hinged together.

The drawings illustrate a kitchen cabinet A having shelves B in its upper portion and side frame members C at the front thereof. It is provided with the usual sides D. These parts may be of any ordinary or desired construction, so far as the invention itself is concerned.

An upper door 1 is hinged at 2 on a horizontal axis to the upper frame member 3 of the cabinet. A lower door 4 is hinged at 5 to the lower edge 6 of the upper door 1. The lower edge 7 of the lower door is adapted to fit against a frame member 8 when the door is closed. The lower door is provided with one or more knobs or finger pieces 9 for convenience in operating the same.

To the inside of each side member C is fastened a metal strip 10 having a cut-out or groove 11 running longitudinally thereof, and also provided with two shoulders 12 and 13. The lower corners of the lower door have right angle metal members 14 fastened thereto which carry projecting pins 15 that fit into the guideway 11 so that the lower door is guided in its movement to and from the closed position. When in the closed position, the pins 15 are adapted to contact with the shoulder 13, while in the upper position they may rest upon the shoulders 12 and prevent accidental displacement of the door.

The member 16 is fast to the inside of the side D of the cabinet, and a lever 17 is pivoted thereto by a screw or pivot member 18 which passes through a hole 19 in said lever. The outer arm 20 of the lever is pivoted at 21 to a metal member having arms 22 through which passes a rod 23 supported at its end by brackets 24 carried on the inside of the edge of the upper door 1. This provides for a sliding movement between the upper door and the outer end of the lever 17, and also permits the necessary pivotal movement of said lever.

The inwardly extending arm 25 of this lever is provided with a plurality of holes 26 through any one of which may be placed an eye-bolt 27 held in position by a nut 28. A spring 29 has one end attached to the bolt 27 and the other end is connected to a similar eye-bolt 30 carried by the member 16.

When the parts are in the open position shown in Figure 4 it will be noted that the spring 29 is exerting a downward pull on the outer end 25 of the lever 17, which at that time lies at the right hand side of the pivot 18, and therefore this tends to hold the parts in the Figure 4 position. When the doors are moved toward the closed position by pulling on the knob 9, the lever 17 will be swung

about the pivot 18 and the point of connection of the spring 29 at the eye-bolt 27 will move in the arc of the circle shown in Figure 4 in dot and dash lines until it reaches the point *a*. At this time, as shown by the straight line connecting the point *a* with the eye-bolt 30, the spring will lie on the left hand side of the pivot 18 and will therefore tend to hold the parts in the closed position shown in Figure 2. It is also to be noted that in the opening movement the spring travels from a position very slightly at the left of the pivot point 18 to a position located a considerable distance to the right of said pivot point. It is therefore obvious that the doors can be moved to a part-way open position where the lower shelf B will be exposed and allowed to remain in such position. The spring will at that time lie on the right hand side of the pivot and prevent the doors from returning to normal or closed position under their own weight, while at the same time the spring is not strong enough to move the doors of itself to the completely open position.

It will be obvious that the invention may be applied to kitchen cabinets or other articles of furniture of similar type which may differ widely in their specific characteristics. It is also apparent that various details of construction may be widely modified without in any way departing from the essential features of the invention, which are to be regarded as limited only by the scope of the appended claims.

I claim as my invention:

1. A cabinet having a door hinged thereto to swing on an axis, a second door hinged to the first to swing on a parallel axis, means on said cabinet for guiding the free end of the second door, a member pivotally connected intermediate its ends to the cabinet and having one end slidably connected to the first door, and a spring connected to the other end of said member and positioned so that the spring swings from one side to the other of the pivotal axis of said member during movement of the doors to or from open or closed position.

2. A cabinet having a door hinged thereto to swing on an axis, a second door hinged to the first door to swing on a parallel axis to fold against the first door in close relation, means on said cabinet for guiding the free end of the second door, and means normally located hidden from view inside the cabinet and adapted to have a portion thereof project from the cabinet between the doors when they are folded open and movable from one position to another during the folding and unfolding of the doors to hold the doors in either open or closed position.

3. A cabinet having a door hinged thereto to swing on an axis, a second door hinged to the first door to swing on a parallel axis to fold against the first door, means on said cabinet for guiding the free end of the second door, a lever member pivotally mounted inside the cabinet and normally hidden from view and slidably connected to the first door, and a spring connected at its ends to said lever and to the cabinet, said spring end connections being so positioned relatively to the lever pivot that the position of the spring relative to said lever is changed during the folding and unfolding of said doors whereby the said spring will tend to hold the doors closed or folded open accordingly as it is positioned.

4. A cabinet having a door hinged thereto to swing on an axis, a second door hinged to the first door to swing on a parallel axis to fold against the first door in close relation, means on said cabinet for guiding the free end of the second door, a lever pivoted to the inside of the cabinet and slidably connected to the first door, said lever being normally hidden from view inside the cabinet and having its slidably connected portion adapted to extend out of the cabinet between the folded doors when folded open and shaped to parallel the doors in close relation when closed.

5. A cabinet having a door hinged thereto to swing on an axis, a second door hinged to the first to swing on a parallel axis, means on said cabinet for guiding the free end of the second door, a member pivotally connected intermediate its ends to the cabinet and having one end slidably connected to the first door, and a spring connected to the other end of said member and positioned so that the spring swings from one side to the other of the pivotal axis of said member during movement of the doors to or from open or closed position, said lever having its slidably connected end shaped to project between the doors when folded open and to lie closely adjacent and parallel the doors when closed.

6. A cabinet having a door hinged thereto to swing on an axis, a second door hinged to the first to swing on a parallel axis, means on said cabinet for guiding the free end of the second door, a member pivotally connected intermediate its ends to the cabinet and having one end slidably connected to the first door, and a spring connected to the other end of said member and positioned so that the spring swings from one side to the other of the pivotal axis of said member during movement of the doors to or from open or closed position, said other end of the lever being offset to cause the spring to be positioned a greater distance to one side of the pivotal axis at one position of the doors than at the other position of said doors.

7. A cabinet having a door hinged thereto to swing on an axis, a second door hinged to the first to swing on a parallel axis, means on said cabinet for guiding the free end of the second door, a member pivotally connect-

ed intermediate its ends to the cabinet and having one end slidably connected to the first door, and a spring connected to the other end of said member and positioned so that the spring swings from one side to the other of the pivotal axis of said member during movement of the doors to or from open or closed position, said other end of the lever being offset to cause the spring to be positioned a greater distance to one side of the pivotal axis at one position of the doors than at the other position of said doors, said lever having its slidably connected end shaped to project between the doors when folded open and to lie closely adjacent and parallel the doors when closed.

8. A cabinet having a door hinged thereto to swing on an axis, a second door hinged to the first to swing on a parallel axis, means on said cabinet for guiding the free end of the second door, a member pivotally connected intermediate its ends to the cabinet and having one end slidably connected to the first door, and a spring connected to the other end of said member and positioned so that the spring swings from one side to the other of the pivotal axis of said member during movement of the doors to or from open or closed position, said cabinet having end walls extended beyond the side edges of the doors to provide at least one end recess, and said slidably connected lever ends being offset to enable positioning of the spring and remaining lever portions in an end recess.

In testimony whereof, I have hereunto subscribed my name.

EARL M. TRAMMELL.