Jan. 15, 1924. 1,481,239

S. J. FOLLAND

DOOR

Filed July 22, 1922 2 Sheets-Sheet 1

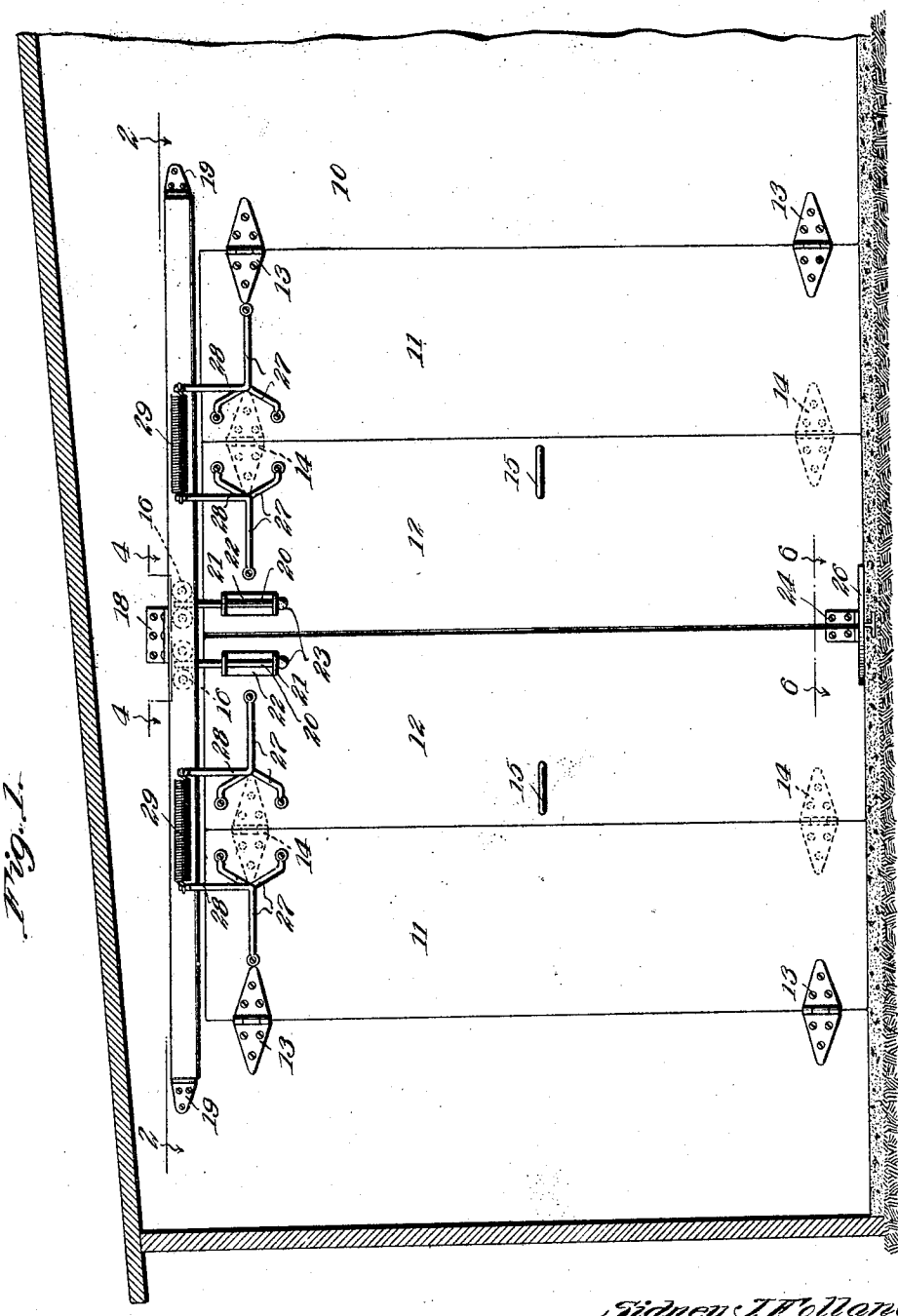


Fig. 1.

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Fig. 2.

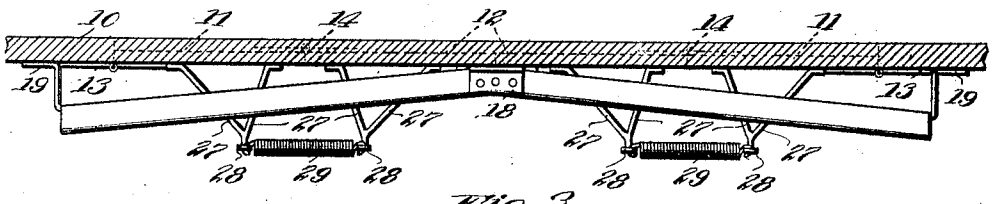


Fig. 3.

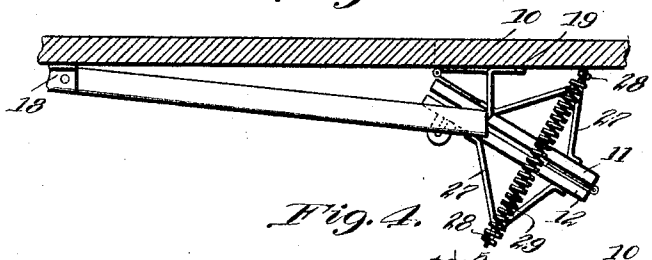


Fig. 4.

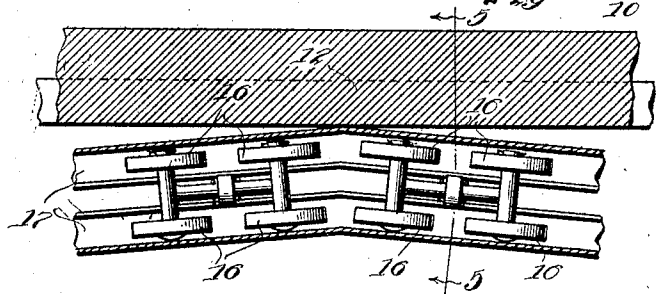


Fig. 5.

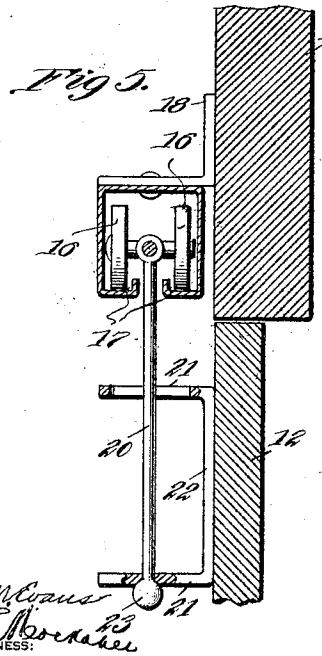


Fig. 6.

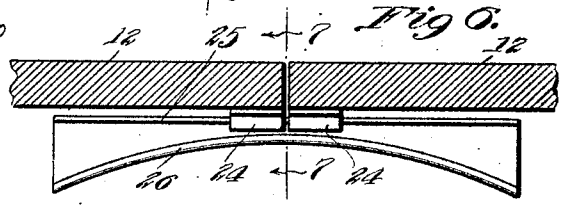
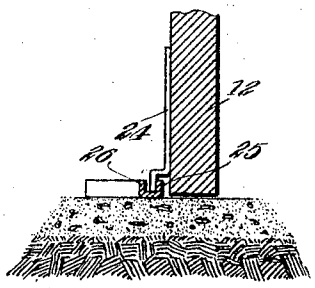


Fig. 7.



WITNESS:

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Patented Jan. 15, 1924. 1,481,239

UNITED STATES PATENT OFFICE.

SIDNEY JAMES FOLLAND, OF MALAD CITY, IDAHO.

DOOR.

Application filed July 22, 1922. Serial No. 576,842.

To all whom it may concern:

Be it known that I, SIDNEY JAMES FOLLAND, a citizen of the United States, residing at Malad City, in the county of Oneida and State of Idaho, have invented new and useful Improvements in Doors, of which the following is a specification.

This invention relates to improvements in doors and has for an object the provision of a collapsible door formed of foldable sections supported in a manner to prevent sagging and provide for easy and convenient operation.

Another object of the invention is the provision of novel means for holding the doors against accidental opening and closing, the said means aiding in both the closing and opening operations.

Another object of the invention is the provision of a novel form of keeper for holding the free end of the door in place when the latter is closed.

With the above and other objects in view, the invention further includes the following novel features and details of construction, to be hereinafter more fully described, illustrated in the accompanying drawings and pointed out in the appended claims.

In the drawings:—

Figure 1 is an elevation showing a double arrangement of doors constructed in accordance with the invention.

Figure 2 is a section on the line 2—2 of Figure 1, showing the invention in top plan view with the doors in the position shown in Figure 1.

Figure 3 is a view similar to Figure 2 but showing one of the doors open.

Figure 4 is an enlarged sectional view on the line 4—4 of Figure 1.

Figure 5 is a similar view on the line 5—5 of Figure 4.

Figure 6 is a sectional view on the line 6—6 of Figure 1.

Figure 7 is a fragmentary section on the line 7—7 of Figure 6.

Referring in detail to the drawings, wherein like characters of reference denote corresponding parts, the reference character 10 indicates a portion of a structure or building, for example a portion of a garage, for which the doors are especially useful in that they provide an unobstructed opening when in open position and lie conveniently close to the building.

The doors are made up in sections, each door shown comprising an inner section 11 and an outer section 12, the former being hingedly connected to the building as shown at 13, while the abutting edges of the door sections are hingedly connected together as shown at 14. The arrangement of the hinges permits the doors to be folded back one upon the other when in open position as shown in Figure 3. The outer door section 12 is provided with a handle 15 to facilitate the closing and opening operations.

The outer ends of the doors are supported by hangers in the form of rollers 16, which operate in tracks 17, the said tracks having their inner ends arranged relatively close to the face of the building while their outer ends are spaced an appreciable distance from the building so that the tracks are disposed at an angle with respect to the face of the building as shown in Figures 2 and 3. The tracks are secured in place by any convenient means such as is illustrated at 18 and 19. Extending downwardly from the rollers 16 are hanger rods 20, the said rods passing through spaced apertured ears 21 provided in a substantially U-shaped bracket 22 secured to the sections 12 of the doors near their upper outer ends. The rods 20 are provided at their lower ends with heads 23 which form stops and hold the rods and brackets 22 connected in a manner to permit of relative pivotal movement. The openings in the lower ears of the brackets 22 are of a size to prevent the passage of the heads 23, while the openings in the upper ears are of a relatively large size and permit swinging movement of the rods 20 therein, so as to permit free swinging movement of the door sections. The doors may thus be swung to an open position as shown in Figure 3, while their outer ends will be hung or supported from the track 17.

The lower outer ends of the door sections 12 are provided with a guide 24, herein shown in the form of a strip secured to the door and having one end projecting below the latter. This guide is adapted to enter a keeper which includes spaced flanges 25 and 26, the last mentioned flange being so shaped as to provide a flared open mouth which is located in the path of the guide 24 so that the said guide will enter the keeper when the door is in closed position.

Secured to each of the door sections 11 and 12 upon opposite sides of their hinged connection 14 is a bracket which includes

outwardly extending legs 27 which are connected together at their outer ends, while extending from these outer connected ends of the legs are arms 28. These arms are connected by springs 29 which are under tension.

During the opening movement of the doors, the sections will be folded due to the connection between the outer door sections 12 and the track 17 and when the doors reach a partially open position, the action of the spring will serve to complete the opening operation. The same is true when the doors are being closed.

The invention is susceptible of various changes in its form, proportions and minor details of construction and the right is herein reserved to make such changes as properly fall within the scope of the appended claims.

Having described the invention what is claimed is:—

1. A collapsible hinged door comprising a plurality of door sections hingedly connected together at their abutting edges, a stationary track, a hanger engaging said track, a substantially U-shaped bearing bracket connected to one section of the door and including spaced apertured ears, a rod included in said hanger, a ball upon the lower end of the rod and engaging one of the spaced apertured ears for supporting the outer end of the door in a manner to provide universal pivotal movement, while the other spaced ear is provided with a relatively large opening to permit of swinging movement of the rod.

2. In combination with a door formed of separate sections hingedly connected together at their abutting edges, a bracket secured to each of the door sections upon opposite sides of the hinged connection and including outwardly extending legs connected at their outer ends, an offset arm extending from the point of connection of the legs and springs extending across the hinged connection and having their opposite ends secured to the opposite arms.

In testimony whereof I affix my signature.

SIDNEY JAMES FOLLAND.