

May 1, 1945.

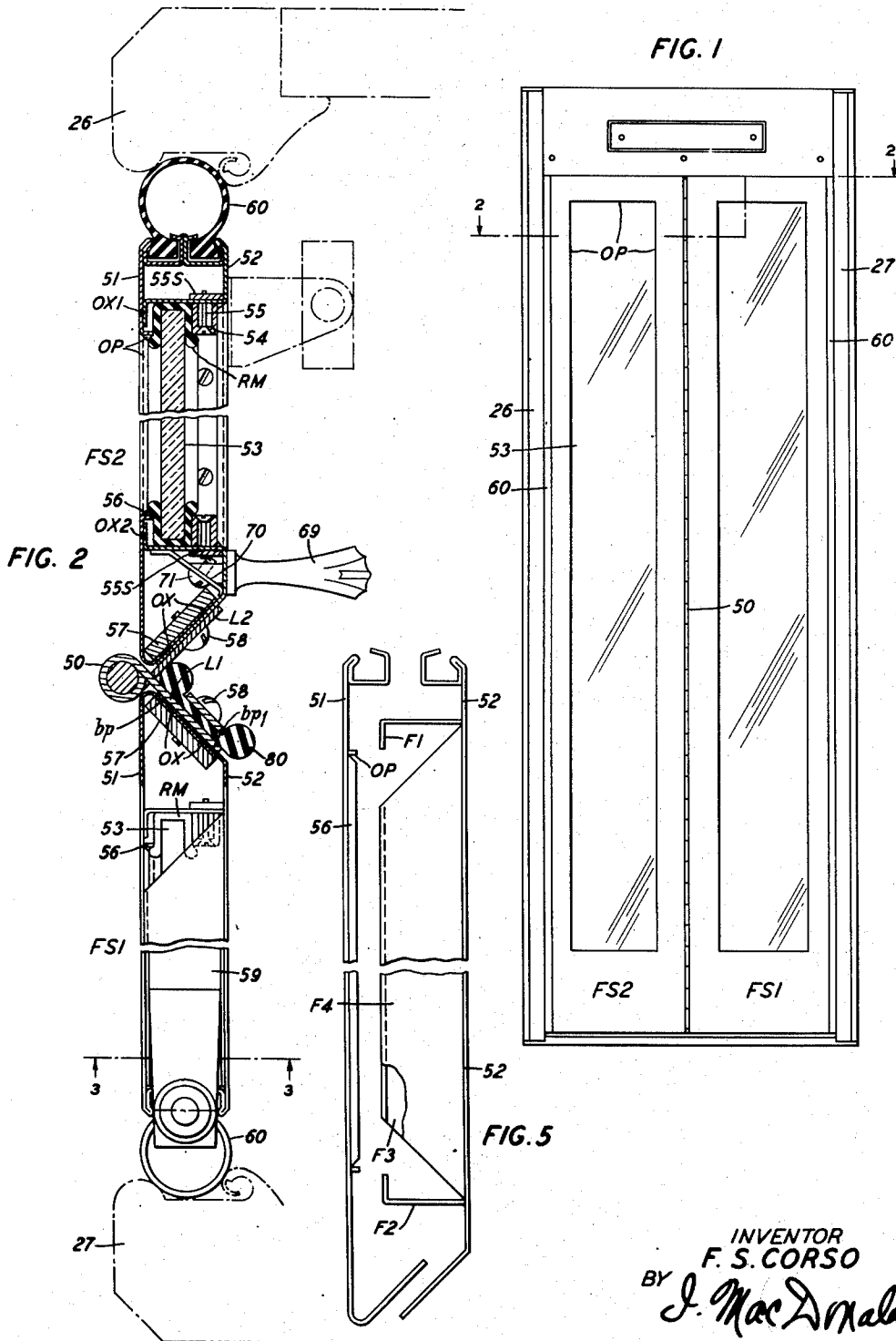
F. S. CORSO

2,374,925

FOLDING DOOR

Original Filed Dec. 4, 1941

3 Sheets-Sheet 1



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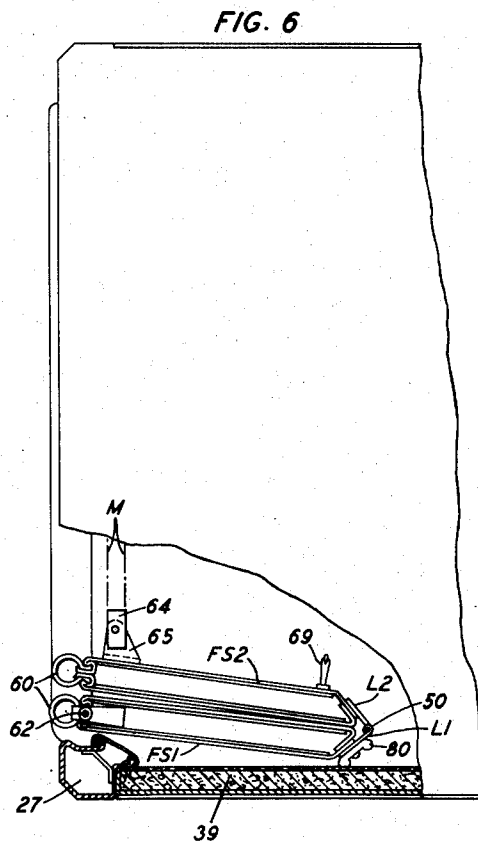
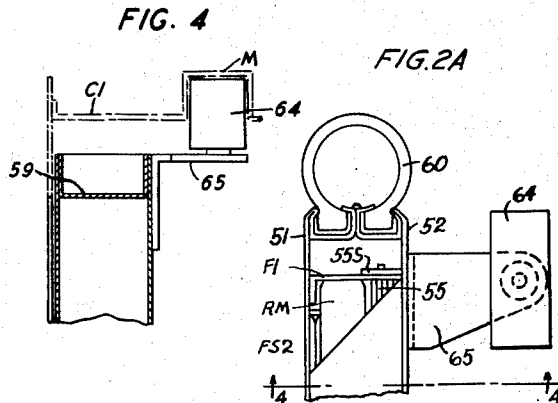
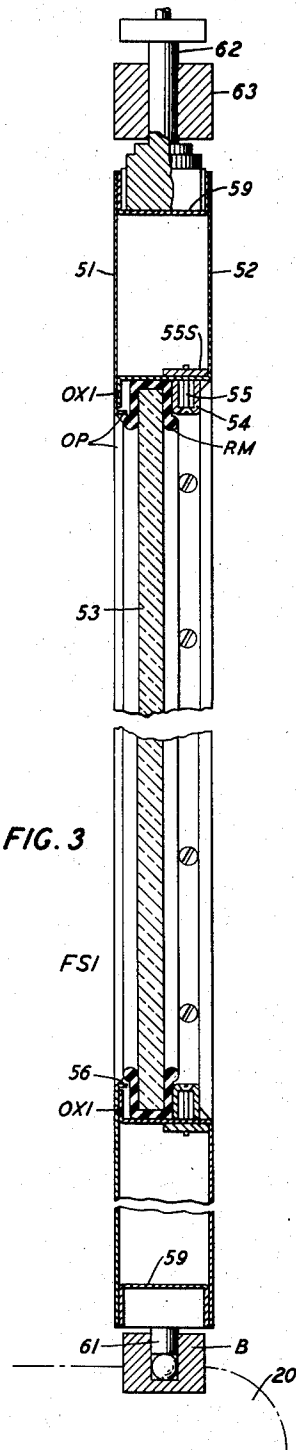
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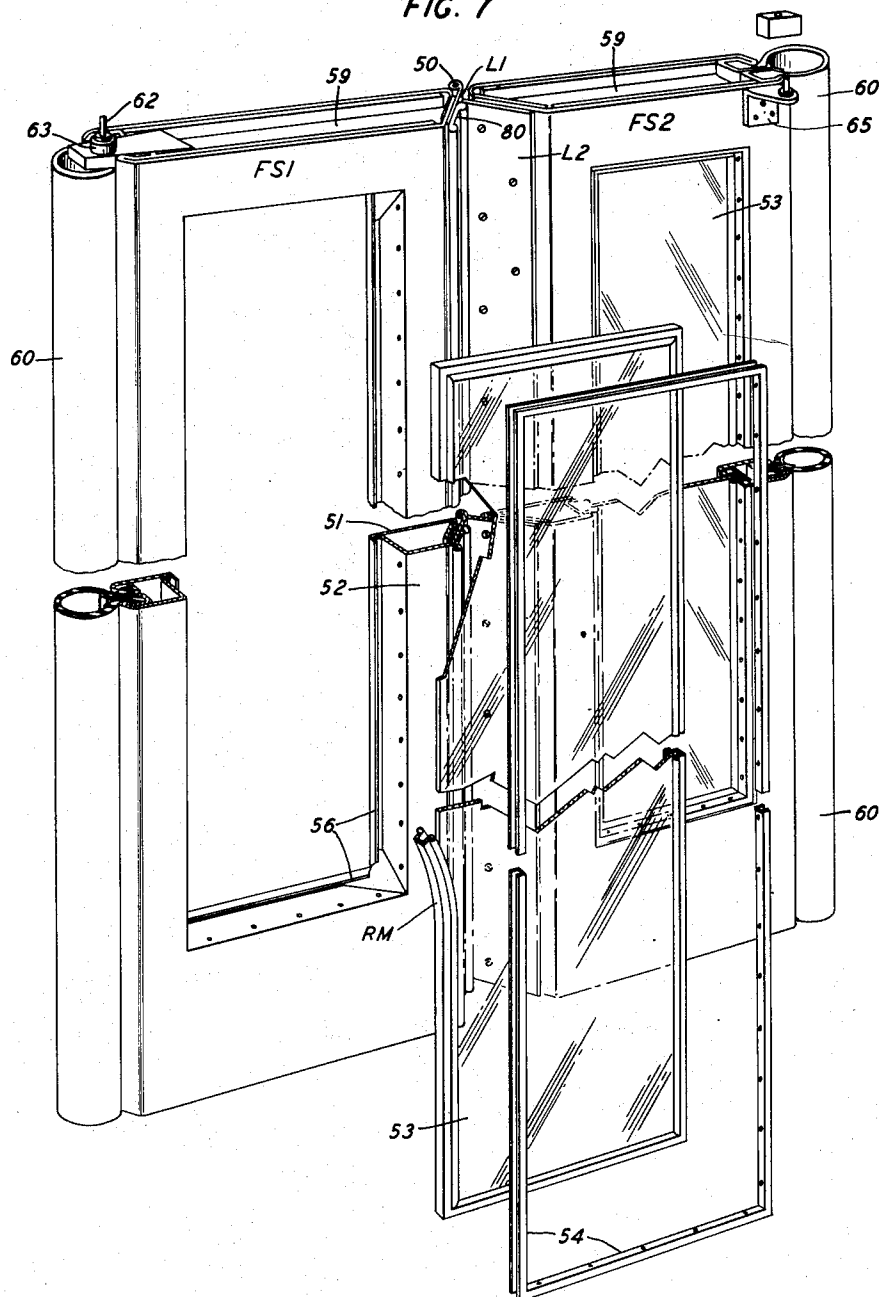
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FIG. 7



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UNITED STATES PATENT OFFICE

2,374,925

FOLDING DOOR

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Original application December 4, 1941, Serial No.
421,561. Divided and this application July 13,
1943, Serial No. 494,455

3 Claims. (Cl. 160—229)

This invention relates to telephone booths and more particularly to a folding door for use in such booths.

It is a division of my pending application filed December 4, 1941, Serial No. 421,561.

The door of this invention is formed when used in connection with telephone booths, for example, of preferably two folding sections each section constructed of two metallic plates having interengaging rim elements which when the plates are secured, as by so-called spot welding in flatwise relation, form a mounting frame for a glass plate and portions for receiving a flap of a piano hinge and dovetail joint elements for receiving means in the form of a rubber cushion or other non-metallic material, the cushion in each section thus formed serving in cooperation with longitudinal portions of adjacently disposed supports or corner posts for the booths' air-seals for reducing extraneous sound interference from reaching the interior of the booth, while means in the form of a rubber strip or other non-metallic material moulding disposed adjacent the hinged point of the door sections serves as a bumper against one of the walls of the booth for arresting the movement of the folding door toward its folded position and an air-seal at the pivot of the piano hinge of the sections.

Other novel features and advantages of this invention will appear from the following description and by the claims appended thereto, reference being had to the accompanying drawings in which:

Fig. 1 is a front elevation of a telephone booth equipped with the folding door of this invention;

Fig. 2 is an end view of the door partly in horizontal section taken on line 2—2 of Fig. 1 revolved clockwise 90 degrees;

Fig. 2A is a partial view showing a portion of the top disposed end of a section of the door.

Fig. 3 is a vertical section taken on line 3—3 of Fig. 2;

Fig. 4 is a partial view shown in section taken on line 4—4 of Fig. 2A;

Fig. 5 is a view showing the two plates of one of the door sections before assembly;

Fig. 6 is a partial view of the telephone booth shown with portions of the ceiling and roof cut away showing the door sections in folded position; and

Fig. 7 is an assembly view of the door sections showing one of the glass plates and its securing strip exploded from that door section.

As shown in Figs. 1, 2, 6 and 7, the door of

this invention, when used as, for example, in connection with a telephone booth, may comprise two folding sections FS1 and FS2 which are pivoted to each other as by a so-called piano hinge 50, the flaps L1 and L2 of which are secured to chamfered portions of the sections so as to permit relative movement of the sections when assembled to an angle of substantially 180 degrees, that is, from unfolded position shown in Figs. 1, 2 and 7 to folded position shown in Fig. 6.

Each folding section consists of two flatwise interengaging plates 51 and 52, best seen in Figs. 2 and 5, the plate 51 having a rectangularly shaped opening OP bounded by a peripherally disposed rim 56, interfitting with the edges of flanges F1, F2, F3 and F4 stamped from plate 52 in a manner to form, in cooperation with the peripheral rim 56 of plate 51, a frame for receiving a glass plate 53, best seen in Figs. 1, 2, 3 and 7. The glass plate 53 of each folding section is held in adjusted position in the frame thus formed by a peripheral rectangular rim 54 of U-shaped cross-section secured to the flanges F1, F2, F3 and F4 as by a number of similar screws 55 engaging a reinforcing metallic strip 55S and abutting against one side of a soft rubber or other non-metallic moulding RM of U-shaped cross-section fitted over the peripheral edge of the glass plate 53, as shown in Figs. 2, 3 and 7, while the opposite side of moulding RM abuts against the rim 56 forming the rectangular opening OP of plate 51. Plates 51 and 52 are held in assembled relation to each other by so-called spot welding along their rectangular registering portions at points as OX, OX1 and OX2 as shown in Figs. 2 and 3. The welds OX extend through the chamfered or bevelled portions bp of plates 51 and 52 to a reinforcing strip 57 provided for receiving screws such as 58, serving for securing the flaps L1 and L2 of the piano hinge 50 to the door sections FS1 and FS2, the opposite ends of the door sections being closed by cover-like elements 59 shown in Figs. 2, 3, 4 and 7 secured as by welding to the plates 51 and 52 forming the door sections FS1 and FS2.

The plates 51 and 52 of sections FS1 and FS2 are provided along their longitudinal edges opposite the piano hinge with registering portions which, when the two plates are in assembled relation, form a dovetail joint for receiving similarly shaped portions formed at the longitudinal edges of a rubber strip 60, the latter forming when in position in the joint a tubular cushion to serve as an air-seal between the door sections FS1 and FS2 and the booth supports or corner

posts 26 and 27 upon the closing of the door thus constructed. The door section FS1, as shown in Figs. 2, 3 and 4, is pivoted on a stud 61 resting on an end thrust bearing B secured to the booth base 20, shown diagrammatically in Fig. 3, while a pivot 62 carried by this door section at the top end thereof extends through a bushing 63 secured to the lower disposed wall of a casing element C1, shown partially in Fig. 4, for mounting a crank element serving for actuating a switching device, as, for example, a mercury contact for controlling the operation of a lamp, not shown, upon the closing and opening movement of the booth door as effected under control of an inverted U-shaped guiding member M formed with the lower wall portion of casing element C1 and engaged by a slider member 64 pivoted on a bracket 65 welded as shown in Fig. 2A to the top end of the door section FS2, while a handle 69 secured to a reinforcing bracket 70, best seen in Fig. 2, as by a number of screws 71 serves for moving the door in its closed or open position from the interior of the booth.

As shown in Figs. 2, 6 and 7 a moulded rubber strip 80 is secured to door section FS1 to form a seal at the hinged point of door sections FS1 and FS2 upon the unfolding of the door and a cushion between the door sections and the right side wall 39 of the booth so as to prevent noise and the damaging of the enamel finish at the surface of this wall upon the folding movement of the door.

Doors constructed according to this invention for general use have been found to be convenient in operation, durable and practically free from repair and up-keep.

What is claimed is:

1. A door for a telephone booth, said door comprising folding sections, each of said sections consisting of two metallic plates welded in flatwise parallel spaced relation, rims and flange elements formed with each of said plates, said rims and said flange elements interengaging each other to form a frame, a glass plate, a strip of resilient material fitted at the peripheral edge of said glass plate, and means for securing said glass plate in position in said frame with said resilient material bearing against the edge of said rims in one of said plates.

2. A door for a telephone booth, said door having a plurality of folding sections, each of said sections comprising two rectangularly shaped metallic plates welded to each other in flatwise

spaced parallel relation, one of said plates having a stamped rim forming a rectangular opening and a portion forming a dovetail joint element at one of its longitudinal edges and a bevel portion at its opposite longitudinal edge, the other of said plates having rectangularly disposed stamped flange portions extending at right angles to the plane of said plate and having bent portions fitting over the periphery of the rim of the first-mentioned plate to form therewith a frame, the second-mentioned plate having a laterally bent portion registering with the bevelled portion of the first-mentioned plate and a dovetail element at its opposite longitudinal edge, said rim and said flange portions cooperating to form a frame, a glass plate fitted in said frame, a rubber moulding fitted at the periphery of said glass plate having one of its sides abutting against said rim, a metallic moulding for securing said glass plate to said frame, a hinge for said door sections having its flaps secured to the bevelled longitudinal edges of said plates, and a rubber moulding having portions at its longitudinal edges registering with said dovetail elements and forming in cooperation with elements of the booth an air-seal for preventing extraneous sound reaching the interior of the booth.

3. A door for a telephone booth, said door comprising a plurality of folding sections, each of said sections consisting of two metallic plates, one of said plates having a stamped rim extending perpendicularly to one side thereof, the other of said plates having flanged portions bent at their free edge for registering with said stamped rim upon the assembly of said plates to form a rectangularly shaped frame, a glass plate mounted in said frame, said metallic plates having longitudinally disposed dovetail joint elements, a rubber moulding having its longitudinal edge formed with portions for engaging said dovetail joint elements to form by the medium of its elasticity a geometrical figure of circular tubular cross-section, said moulding serving as seals between the front corner posts of the booth and said door sections, the plates of each of said door sections having portions forming a longitudinally bevelled edge opposite to said dovetail joint elements, a hinge secured to said bevelled edges for pivoting said door sections to each other and means for pivoting one of said door sections to a base and a support element of the ceiling of the booth.

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