

Oct. 30, 1934.

F. A. KUNTZ

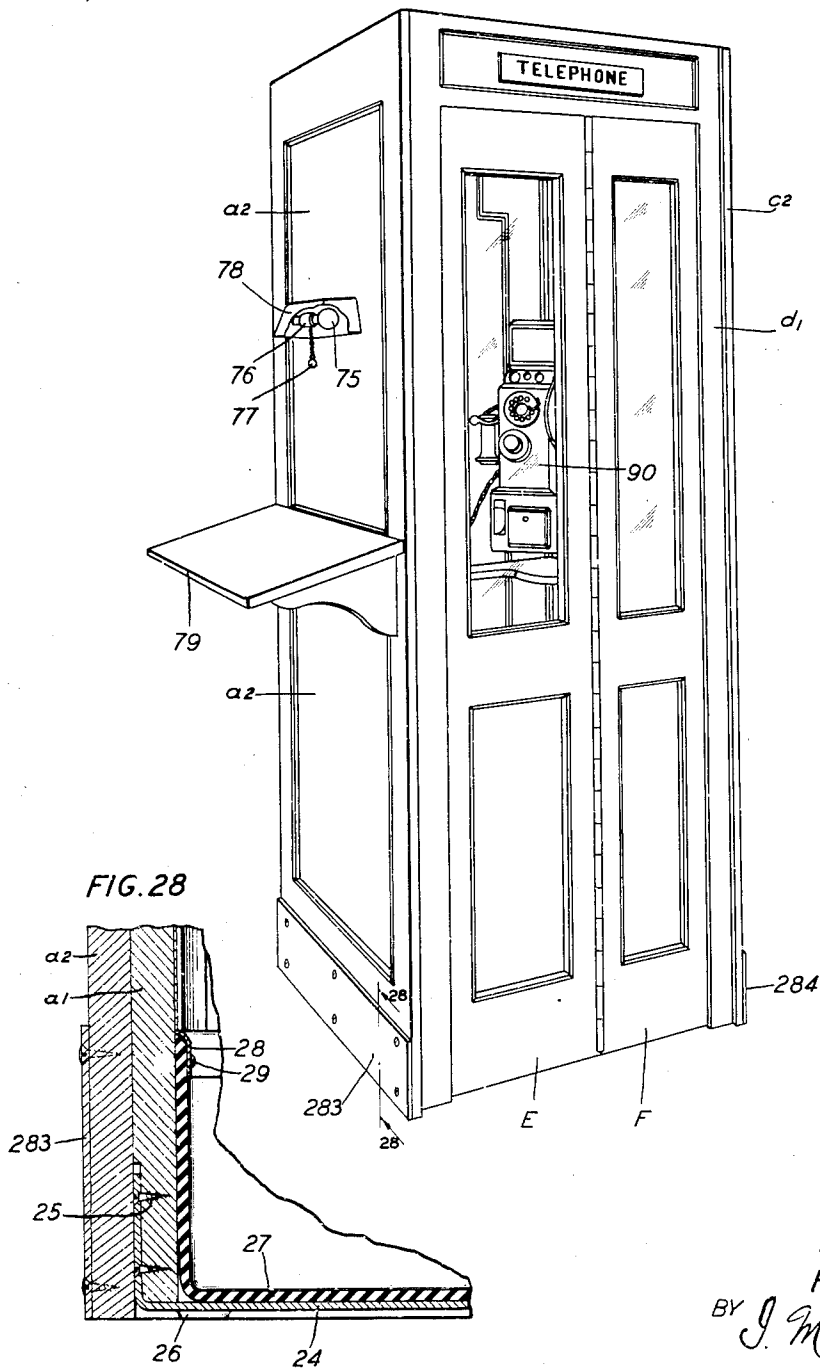
1,979,072

TELEPHONE BOOTH

Filed April 24, 1931

9 Sheets-Sheet 1

FIG. 1



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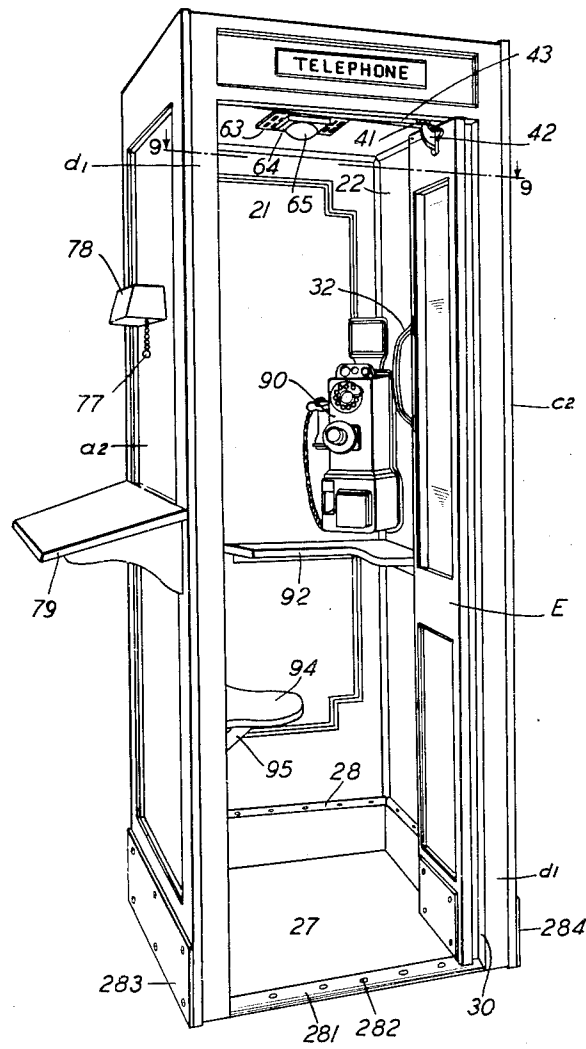
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TELEPHONE BOOTH

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9 Sheets-Sheet 2

FIG. 2



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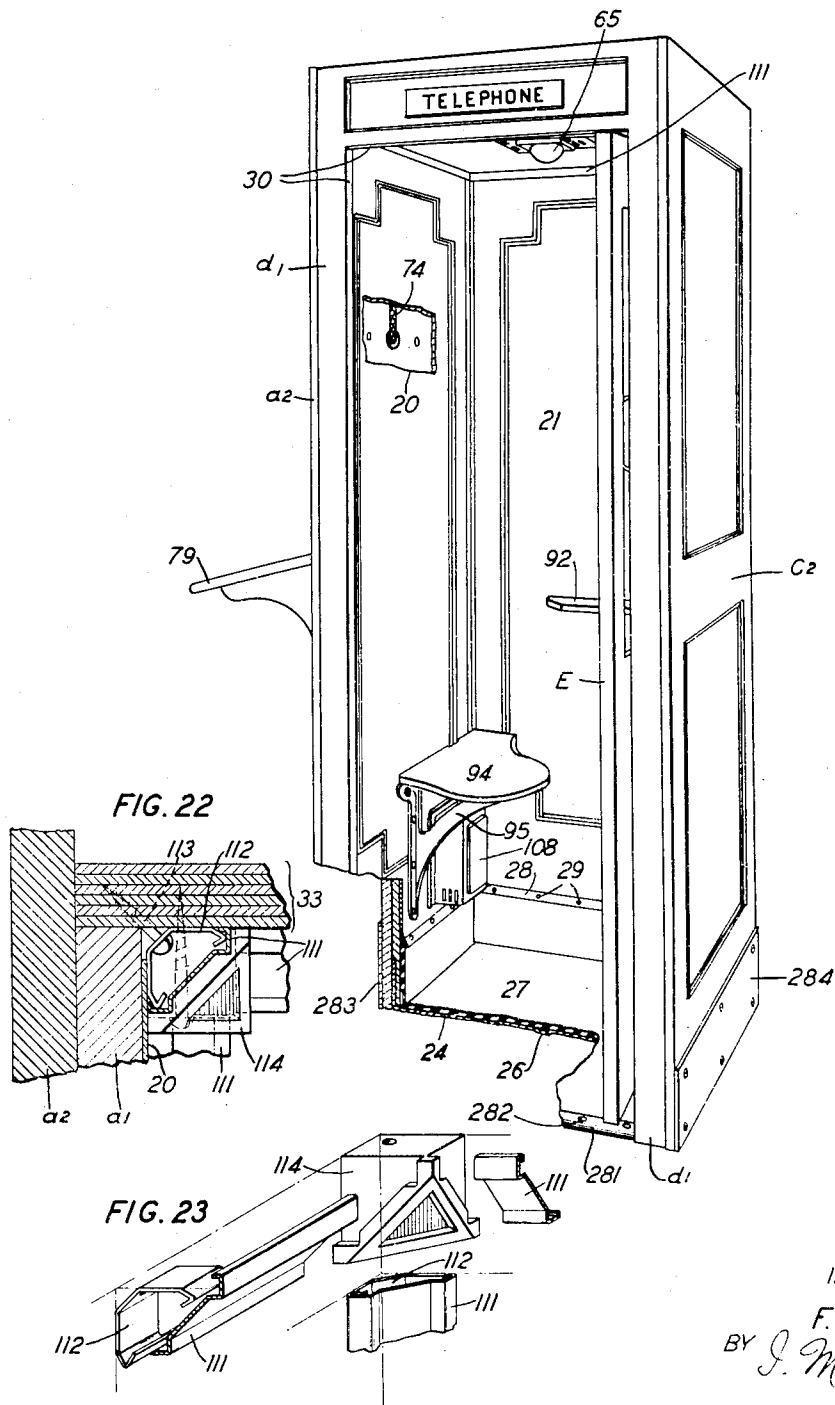
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TELEPHONE BOOTH

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9 Sheets-Sheet 3

FIG. 3



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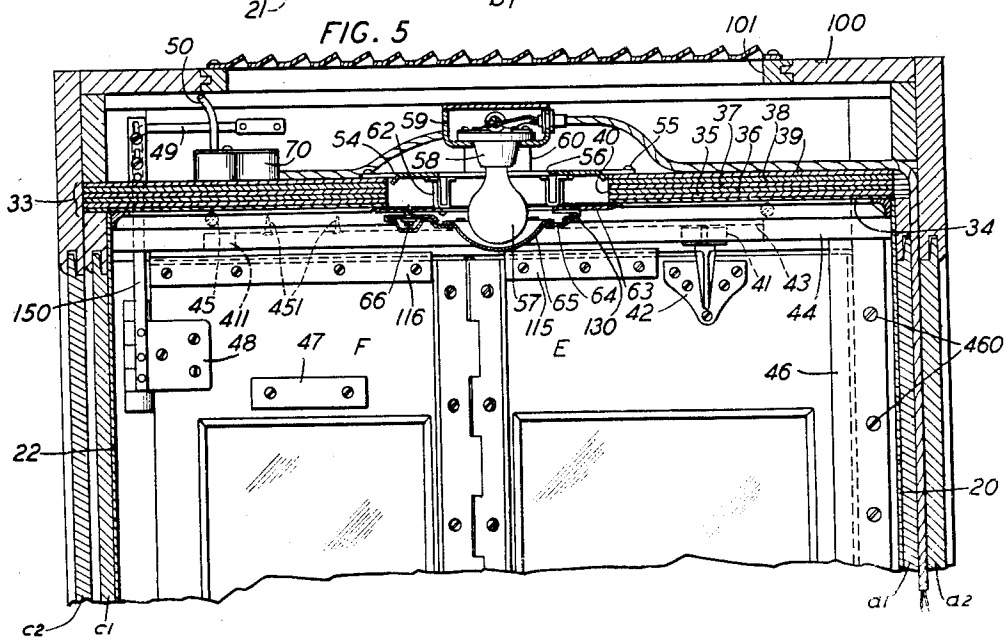
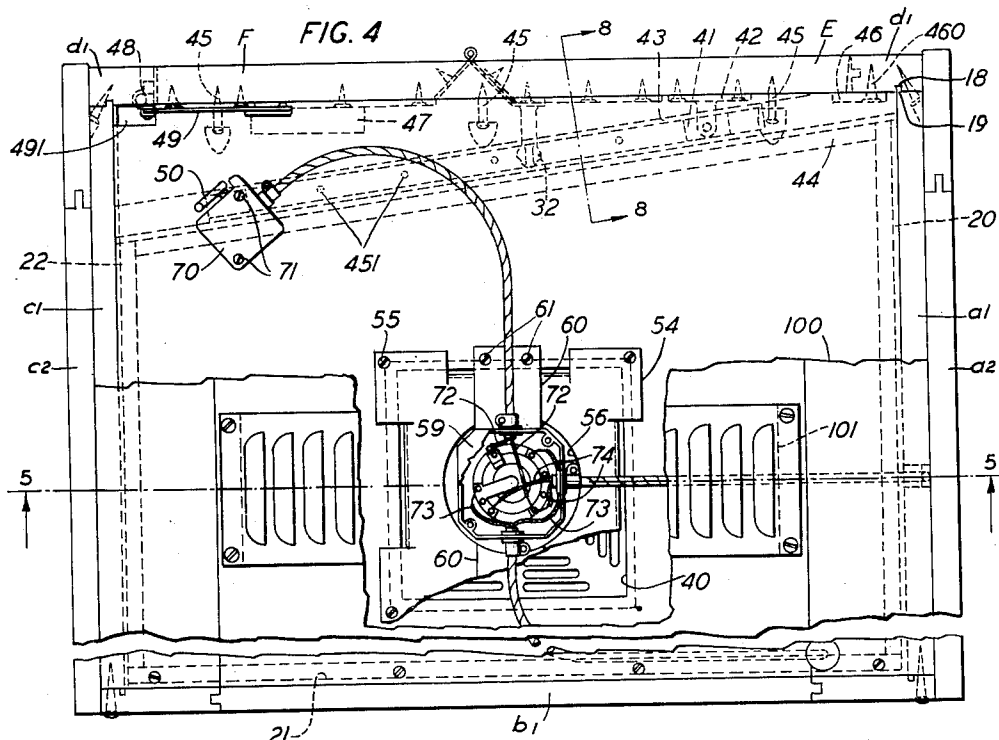
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TELEPHONE BOOTH

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9 Sheets-Sheet 5

FIG. 6

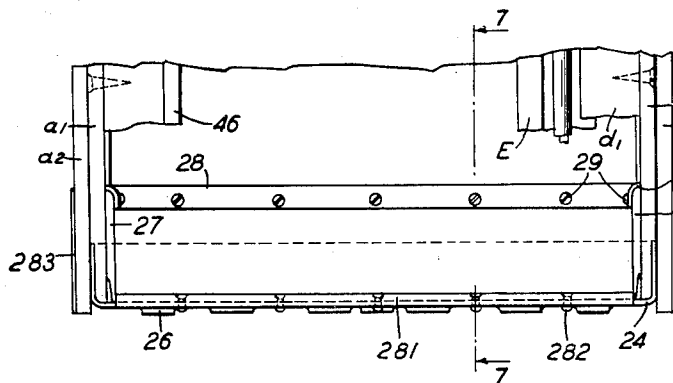


FIG. 7

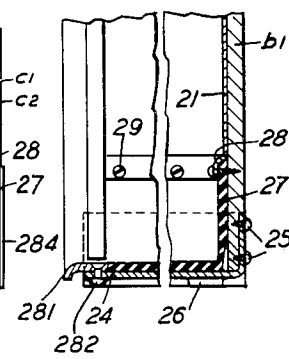


FIG. 8

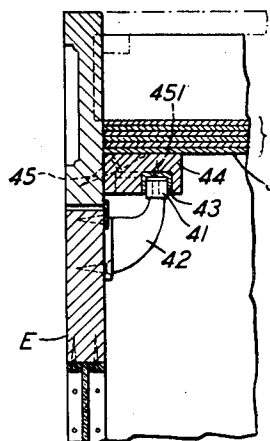
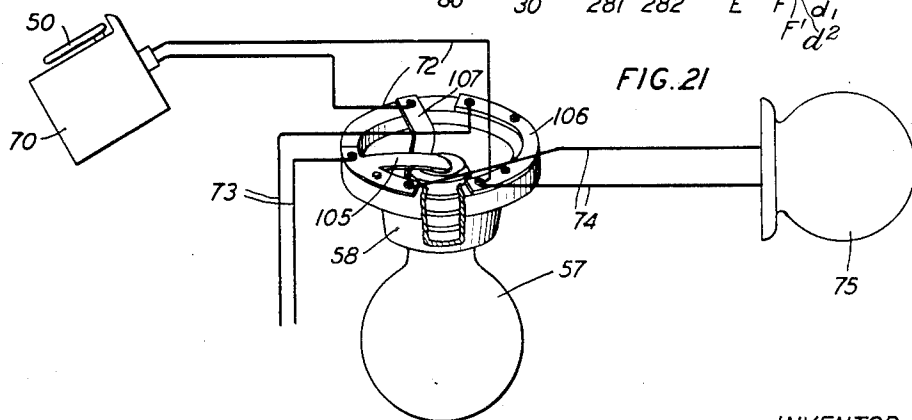
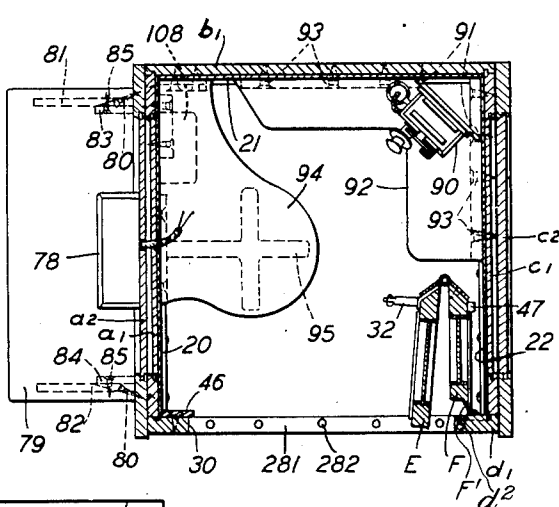


FIG. 9



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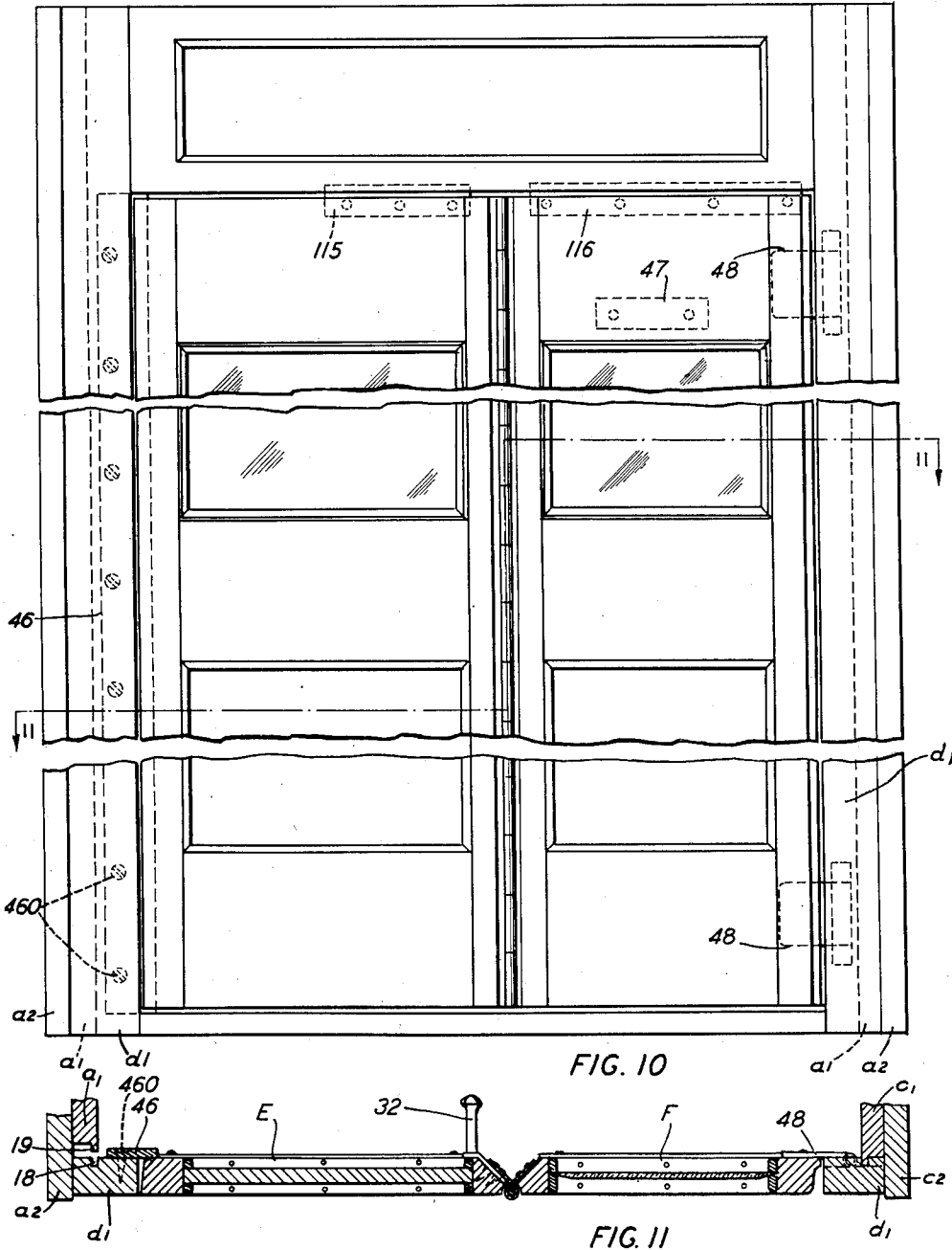
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9 Sheets-Sheet 7

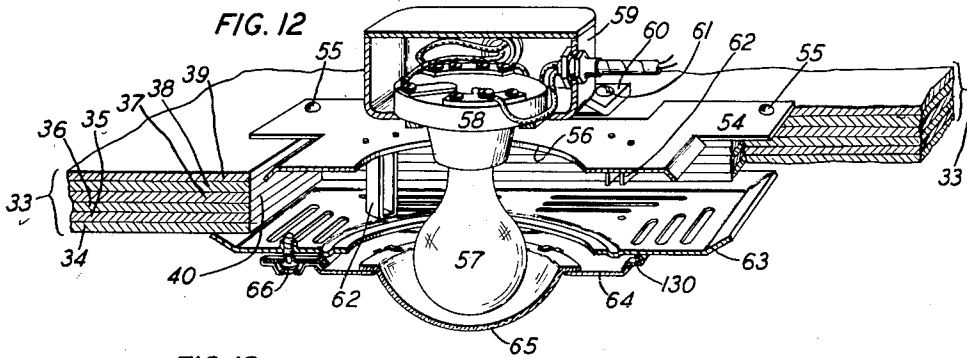
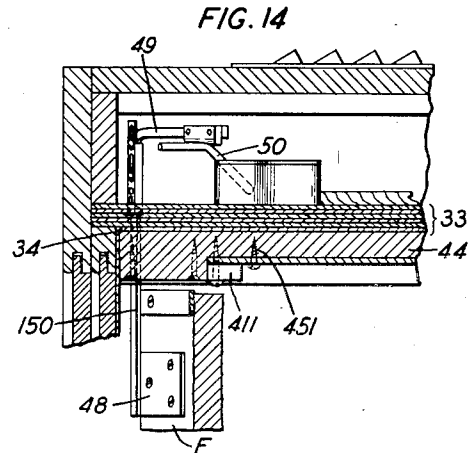
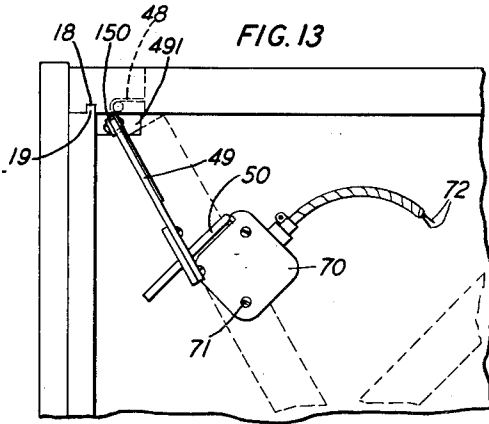
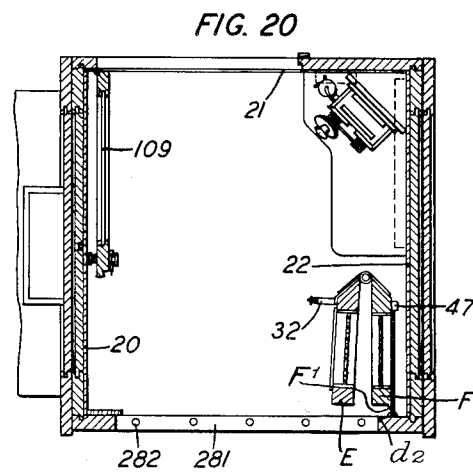
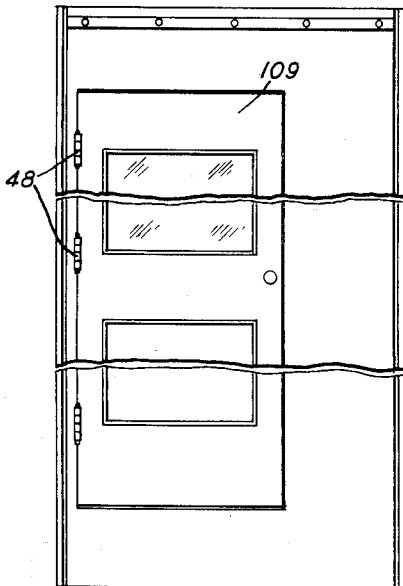


FIG. 19



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TELEPHONE BOOTH

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9 Sheets-Sheet 8

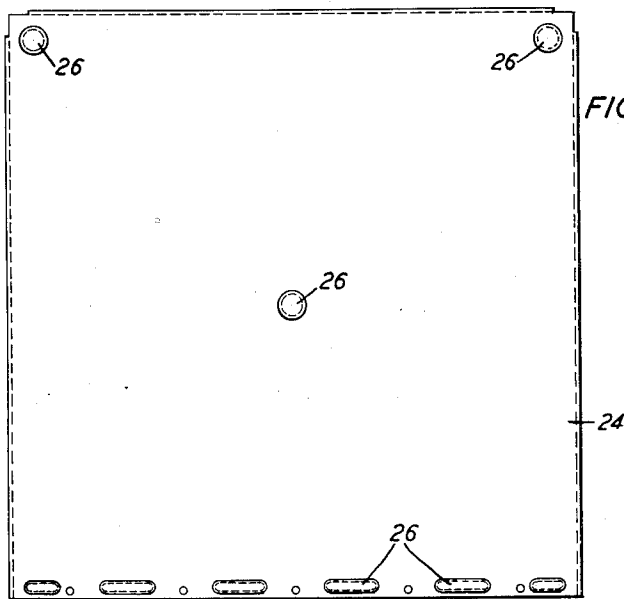


FIG. 15

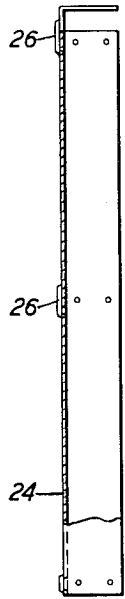


FIG. 16

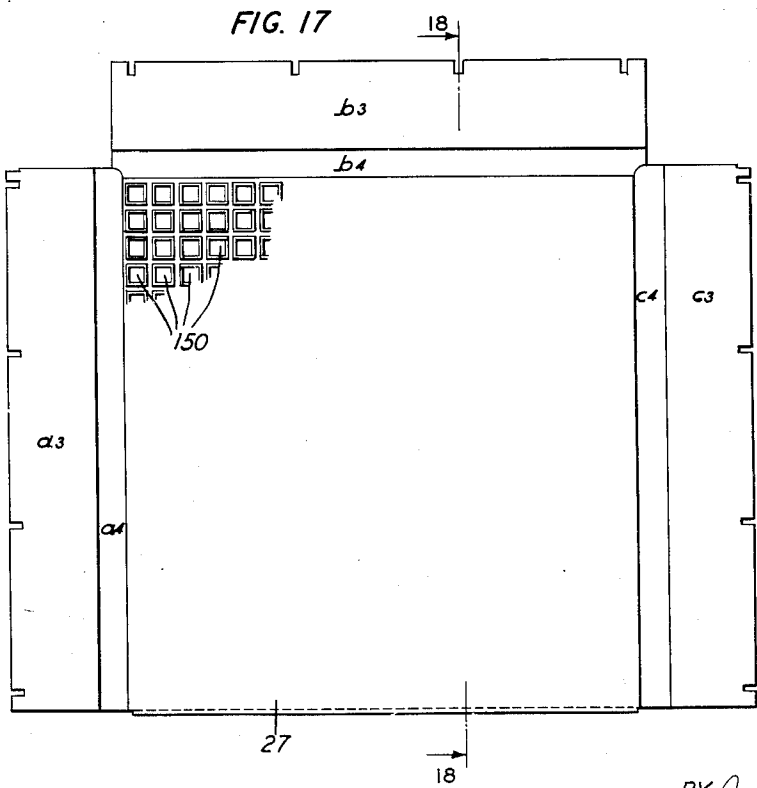
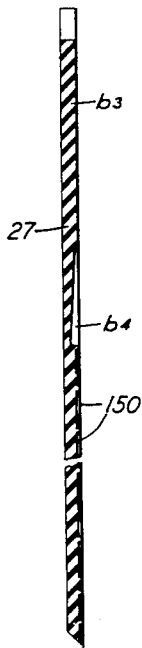


FIG. 17

FIG. 18



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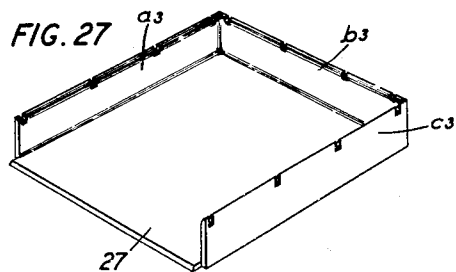
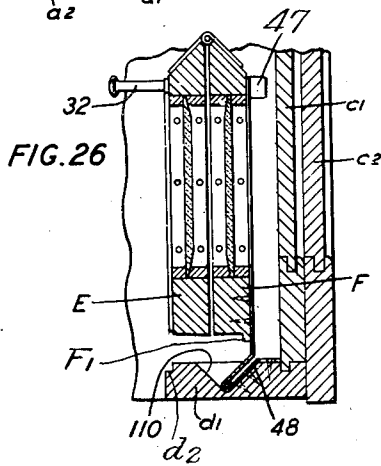
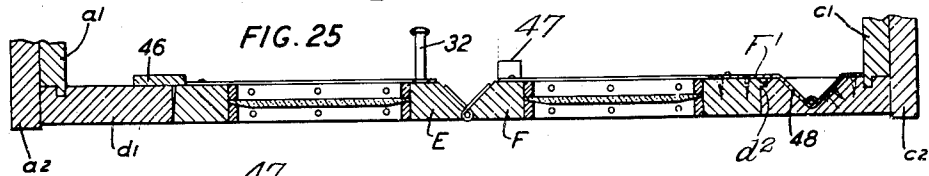
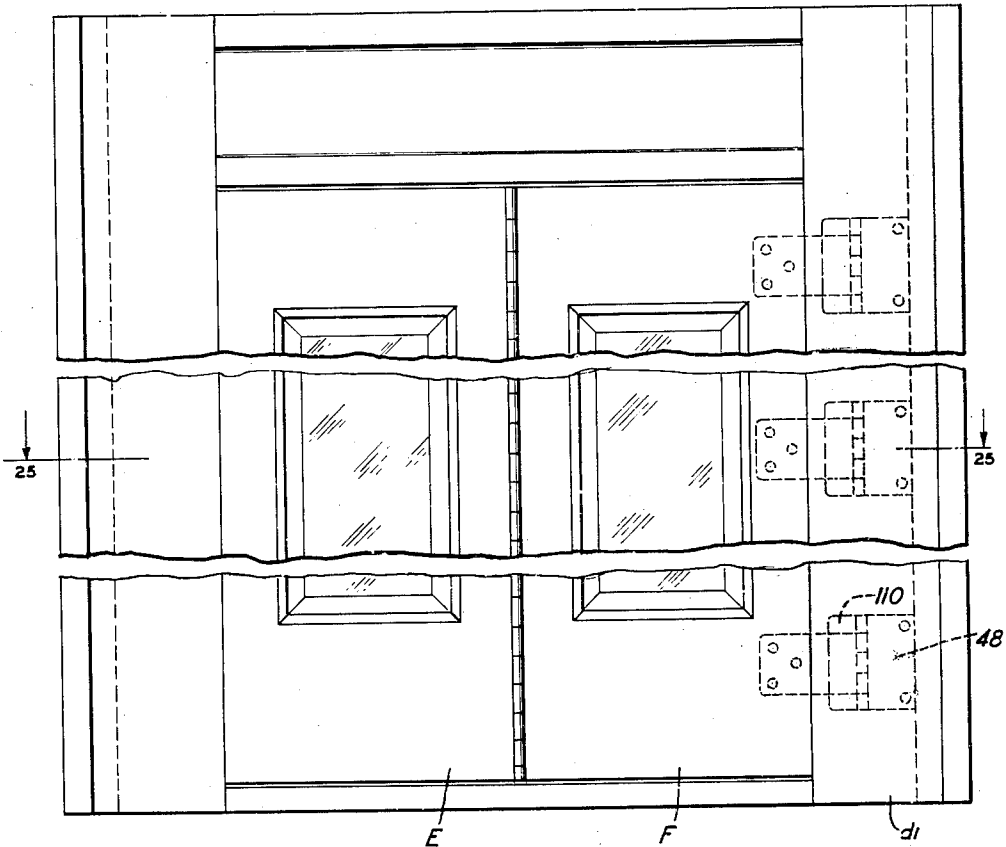
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TELEPHONE BOOTH

Filed April 24, 1931 9 Sheets-Sheet 9

FIG. 24



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UNITED STATES PATENT OFFICE

1,979,072

TELEPHONE BOOTH

Frank A. Kuntz, Woodhaven, N. Y., assignor to
Bell Telephone Laboratories, Incorporated,
New York, N. Y., a corporation of New York

Application April 24, 1931, Serial No. 532,448

12 Claims. (Cl. 20—3.5)

This invention relates to telephone booths and its object is to improve the construction of such booths.

A feature of the invention is an improved folding door so hinged that the sections thereof when moved to the folded position entirely disappear in the rear of the front wall thus removing the liability of the door catching the clothes of the user when entering the booth. Another feature is an improved switching mechanism actuated by the movement of the door for controlling the operation of a lamp used to illuminate the booth, the switching device being concealed above the ceiling to prevent tampering with the light fixture, and to improve the appearance of the booth.

Another feature is a metallic base for supporting the booth, the base being of minimum thickness to facilitate entrance into the booth, and at the same time embodying means for securing the walls of the booth at their lower ends in proper relation, an insulating floor covering having flanges being provided to prevent the user from receiving electric shocks and to protect the lower portions of the side walls.

Still another feature is an improved arrangement whereby the ventilation is effected in a simple and positive manner.

Other features of the invention and advantages 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 perspective view of the telephone booth shown with the door closed;

Fig. 2 is a perspective view of the telephone booth shown with the door folded;

Fig. 3 is a perspective view of the telephone booth showing the right side wall and the floor with portions cut away;

Fig. 4 is a top view of the booth showing the upper ceiling with portions cut away;

Fig. 5 is a longitudinal sectional view of a portion of the booth taken approximately on line 5—5 of Fig. 4 and looking toward the direction indicated by the arrows;

Fig. 6 is a partial front view of the booth showing its bottom end;

Fig. 7 is a sectional view of a portion of the booth taken on line 7—7 of Fig. 6;

Fig. 8 is a cross-sectional view of a portion of the booth taken on line 8—8 of Fig. 4;

Fig. 9 is a cross-sectional view taken on line 9—9 of Fig. 2 and looking toward the direction indicated by the arrows;

Fig. 10 is a partial front view of the booth showing the door closed;

Fig. 11 is a cross-sectional view thereof taken approximately on line 11—11 of Fig. 10 and looking in the direction indicated by the arrow;

Fig. 12 is a perspective view showing the lamp for the interior lighting of the booth with the ceiling and fixture in sections;

Fig. 13 is a partial view of the top of the booth with the upper ceiling removed showing the switching device and its actuated mechanism;

Fig. 14 is a cross-sectional view of the booth also showing the switching device and its actuating mechanism;

Fig. 15 is an underside view of the booth base;

Fig. 16 is a side view thereof, partly in section;

Fig. 17 is a view of the rubber flooring developed;

Fig. 18 is a cross-sectional view thereof taken approximately on line 18—18 of Fig. 17;

Fig. 19 is a view showing a modification of the rear wall of the booth;

Fig. 20 is a cross-sectional view of a telephone booth embodying the modification shown in Fig. 19;

Fig. 21 is a diagrammatic view of the electrical circuit used for the lighting of the booth;

Fig. 22 is a partial view of the booth showing the molding strips in position;

Fig. 23 is a perspective view of the molding strips and the corner block used at the intersecting points of the molding strips;

Fig. 24 is a partial front view of the booth showing the folding door modified;

Fig. 25 is a sectional view thereof taken on line 25—25 of Fig. 24;

Fig. 26 is a cross-sectional view of a portion of the booths showing the door folded;

Fig. 27 is a perspective view of the rubber flooring modified; and

Fig. 28 is a sectional view of a portion of the booth taken approximately on line 28—28 of Fig. 1.

In the telephone booth of this invention wooden walls a_1 , b_1 , c_1 and d_1 , shown through the several figures, cooperate to form a booth of substantially square cross-section. These walls carry along their longitudinal edges interfitting grooves 18 and tongues 19, shown in Figs. 4 and 11, provided for readily assembling them in proper relation. A number of screws 25 are provided for securing the lower ends of these walls to flanges which extend upwardly from a metallic base 24 of minimum thickness as shown in Figs. 3, 6, 7, 15 and 28. This base is provided with a number of embossed bearing points 26, Figs. 1, 2, 3, 6, 15 and 16 on which the booth rests in an upright position. The walls a_1 , b_1 and c_1 are interiorly lined with metallic sheets 20, 21 and 22 stamped with a panel design, best seen in Figs. 2 and 3. To the outer side of walls a_1 and c_1 are attached the paneled

walls a_2 and c_2 shown in Figs. 1, 2 and 3 and in sectional view in Figs. 22 and 28, and to the lower end of walls a_2 and c_2 are attached the metallic plates 283 and 284. On the interior of the metal base 24 there is mounted a rubber pad or flooring 27 shown in detail in Figs. 17 and 18 and in a modified form in Fig. 27 to insulate the user to prevent shocks. As shown in Fig. 17 this flooring has flange portions a_3 , b_3 and c_3 bounded by grooves a_4 , b_4 and c_4 cut in the underside of the flooring to cause the flanges to bend easily at these points, and at the same time to cause the bend to fit snugly the angle formed at the intersecting points of the floor and the walls. The undersurface of the floor portion of each pad 27 is formed with a plurality of angularly disposed rows of square shaped depressions or cups 150 provided for holding the flooring firmly against the base through a vacuum action. As shown in the modification, Fig. 27, the flooring and the flanges are cast in a manner to avoid the folding of the flanges, the flanges a_3 , b_3 and c_3 in each case being held in place at their upper edges by metallic strips 28 in turn held in place by screws 29 to the walls d_1 , b_1 and c_1 as shown in Figs. 2, 3, 6, 7 and 28 and at the entrance side of the booth the edge of the pad 27 engages the beveled edge of a metallic strip 281 (Fig. 7) permanently secured to the base as by rivets 282. By forming the base out of a sheet metal, a floor of maximum rigidity and minimum height from the general level of the ground is obtained, and due to its low level, this improved base unlike the wooden base heretofore used is not likely to cause stumbling when entering the booth while at the same time it provides efficient means for securing the walls at their lower ends. As shown in Figs. 2, 3, 5, 9 and 20, the front wall d_1 is provided with a door opening 30 arranged to receive a folding door consisting of sections E and F. Door section F pivots on a pair of hinges such as 48 mounted on the wall d_1 and this wall is provided along its length with a lug portion d_2 as shown in Fig. 9 registering with an abutting portion F_1 carried by the door section F to form therewith a stop provided for limiting the movement of the door when completely moved to its unfolded position. The section E is hinged on the section F in a manner to fold as shown in Figs. 2, 3, 9 and 20 and a handle 32 placed at a convenient position on this section is provided for actuating the door from the inside of the booth. As shown in Figs. 10 and 24 the door sections E and F when closed form with the booth floor formed by the steel base 24 and the pad 27 an air opening of substantially 15 square inches of area provided for a purpose that will be hereinafter described in detail.

At the top of walls a_1 , b_1 , c_1 and d_1 there is mounted a ceiling 33 consisting of a metallic sheet 34 and a plurality of wooden layers 35, 36, 37, 38 and 39 best seen in Figs. 5, 8, 12 and 14. At the points of intersection of the metallic paneled sheets 20, 21 and 22 with the metallic sheet 34 of the ceiling there are provided corner moldings 111 shown in Figs. 22 and 23 of the type disclosed in a copending application to E. Lewis, Serial No. 559,317, filed August 5, 1931 which are held in place by a plurality of clamping members 112 held in place by screws such as 113, and a suitable corner block 114 screwed on the ceiling is provided

at the intersecting point of these moldings to hide the joints.

As shown in Figs. 4, 5 and 14 on the upper side of ceiling 33 and resting on the upper ends of walls a' and c' there is mounted a double ceiling 100 having a rectangularly shaped opening 101 covered by a baffle plate mounted in juxtaposition therewith and secured to the double ceiling 100 by a plurality of wood screws as shown.

To the undersurface of ceiling 33 there is mounted a triangularly-shaped wooden block 44 best seen in Figs. 4, 5, 8 and 14 which is held in place thereon by a number of screws, such as 45, engaging the upper end of wall d_1 . This block is provided adjacent and parallel to its diagonal edge with a U-shaped groove arranged for receiving a similarly shaped metallic guiding member 43 which is held securely therein by a number of screws such as 451. On the top portion of door section E there is mounted a bracket 42 having a spindle portion on which is mounted a non-metallic block or slider 41 arranged for movement in the guiding member 43. A shock absorber pad 411 as shown in Fig. 14 of suitable non-metallic material is mounted in the end of guiding member 43 and cooperates with the block 41 for limiting the movement of the door section E and thereby preventing this door section from coming into contact with the door section F when moved toward its folded position.

On the door section F is mounted an auxiliary rubber pad 47 as shown in Fig. 20 which is provided for engaging the wall c_1 upon the movement of the door toward its folded position. On the top portions of door sections E and F, and interiorly disposed as shown in Figs. 5 and 10, there are mounted the plates 115 and 116 provided for engaging the top of wall d_1 upon the closure of the door in order to prevent these sections from folding outwardly due to the momentum of the door, and the edge of door, section F, engages the front surface of a plate 46 mounted on the interior of wall d_1 to prevent the folding of the door upon a pressure applied from the outside of the booth at this point.

The top disposed hinge 48 as shown in Figs. 4, 5, 13 and 14 carries a spindle 150 which protrudes through an aperture 491 in the ceiling 33. This spindle has its top portion flattened and on it is slidably mounted an angularly-shaped arm 49 disposed in engageable relation with an arm 50 of a switching device provided for controlling the operation of a lamp 57 in the booth in a manner that will be hereinafter described in detail. The ceiling 33 is provided with a centrally disposed square opening 40, Figs. 4, 5 and 12, and on the top surface of this ceiling there is mounted a spider-shaped plate 54 which is held securely thereon by a number of screws 55. This plate is provided with a centrally disposed circular opening 56 in which the electric lamp 57 extends for lighting the booth. This lamp is mounted in a socket 58 mounted in an outlet box 59, in turn, supported by a bracket 60. This bracket is held securely on the ceiling by means of a number of screws 61. Downwardly extending from plate 54 there is securely mounted a number of U-shaped brackets 62 provided for securing a plate 63 against the undersurface of ceiling 33, this construction avoiding the use of objectionable and unsightly fastening media from the inner side of the ceiling while effectively preventing an unauthorized person

from tampering with the lighting elements of the booth. This plate is provided with angularly disposed rows of elongated apertures best seen in Figs. 4 and 12 which cooperate with the opening at the bottom of the door when closed, the opening 56 of plate 54 and the baffle plate on ceiling 100 to form therewith an air path for the ventilation of the booth. On this plate is hingedly mounted as at 130 a frame 64 which supports a translucent inverted dome piece 65 in juxtaposition to the lamp. The frame 64 is provided with a screw 66 which threadedly engages the plate 63 for securely fastening this frame in the closed position as shown in Figs. 5 and 12 and further thereby preventing an unauthorized person from tampering with the lighting of the booth.

On the top surface of the inner disposed ceiling 33 there is securely mounted as by screws 71 a casing 70 in which the arm 50 is journaled. This casing houses a switching device (not shown) controlled by the movement of arm 50. This arm is engaged by the angle-shaped lever 49 upon the movement of the door when moved from its unfolded to folded position for closing the circuit of lamp 57, as will be hereinafter described in detail, and a spring (not shown) is provided for operating the switching device when the arm 50 is released by arm 49 when the door is moved in its unfolded position. The arm 50 of the switching device in casing 70 at its mid-point forms a relatively short cam surface for engagement with the lever 49 carried by the hinge 48 of the door section F upon a certain angular movement of the door from its unfolded position. The free end of lever 50 extends a considerable distance in a horizontal plane wherein a further movement of the door toward its complete closed position effectively maintained the arm 50 in its operated position without imparting further movement to the switching device controlled thereby but maintaining this switching-device in the operated position against the resistance of a spring not shown provided for closing the switch upon the disengagement of arm 49 with arm 50, the operation of the lamp in relation to the folding movement of the door being conveniently obtained by the adjustment of lever 49 on spindle 150.

As shown in Fig. 21 the lamp 57 is electrically connected to the conducting wires 73 of the supply circuit through contact member 105, the conducting segment 106, the wire 72, the switching device in the housing 70 and the contact member 107. The lamp 75 is connected to the supply circuit through conductor 74, the contact 105 and segment 106. A switching device (not shown) operable through the action of a chain connection 77 shown in Figs. 1 and 2 is provided for the control of lamp 75. This lamp is preferably mounted in a horizontal position in a translucent shade 78 mounted on the outside surface of wall a_2 and at a convenient distance from a shelf 79. As shown in Fig. 9 this shelf is secured to the wall a_2 of the booth by a number of screws, such as 85, threading through supporting brackets 81 and 82 reinforced at their attaching points by auxiliary brackets 83 and 84.

As shown in Figs. 1, 2 and 9 there is mounted in the right hand corner of the booth a telephone apparatus 90 of the coin collector type. This apparatus is held securely in adjusted position

by wood screws 91 engaging the side walls c_1 and b_1 , respectively.

A right angle table 92, best seen in Figs. 2, 3 and 9, is mounted at a small distance below the coin collector 90 and is held in position against the walls c_1 and b_1 of the booth by a number of screws 93.

A bracket 95 is attached to the side wall a_1 for supporting a seat 94 and under the seat 94 and adjacent thereto there is rigidly secured against the wall a_1 a casing 103 provided for housing cooperating parts of the telephone set such as the ringers, and the terminal connections (not shown) of the telephone set.

In the modification of the booth shown in Figs. 19 and 20 the booth is provided at the rear with an opening arranged to be closed by a door 109 to provide an auxiliary entrance from this side of the booth. This arrangement has been found necessary in a great many cases in order to permit a person in attendance to any particular business on that side of the booth to enter it without having to go around the booth to have access to the telephone set.

In the modification shown in Figs. 24, 25 and 26, the door sections A and F are preferably made of equal width and the wall d_1 of the booth is provided at its inwardly disposed side with a substantially V-shaped groove 110 in which the hinge 48 is secured as shown in Figs. 25 and 26. The door section F is formed with a lug F₁ along its length, which, when the door is unfolded, as shown in Fig. 25 registers with an abutting surface d_2 disposed at the inner edge of wall d_1 to form a stop for preventing the movement of the door beyond its full unfolded position. In this modification it is to be noted that when the door is folded as shown in Fig. 26 the two sections completely disappear in the rear of wall d_1 , with their edges in substantial parallel relation therewith and moving a considerable distance away from the rear surface of the wall d_1 when folded as shown in Fig. 26, thus giving a freer access to the booth and at the same time preventing the clothes of the user catching with the free section of the door.

What is claimed is:

1. A telephone booth having a door hinged to one of its walls and a lamp supported by the ceiling of the booth, an arm carried by the door hinge and extending through the ceiling, a switching device for the lamp mounted on the top surface of the ceiling, and an arm carried by said device and engageable with the first mentioned arm for operating the switching device upon the movement of said door.

2. A telephone booth having a door hinged to one of its walls and a lighting fixture supported by the ceiling of the booth, a spindle secured to one of the hinge flaps adjacent the pivot of the hinged door and extending above the ceiling, an arm mounted on said spindle, a switching device mounted on the top surface of the ceiling, an arm carried by said device and disposed in the path of the first mentioned arm and means for adjusting the engaged relation of the first mentioned arm with respect to the second mentioned arm for operating said switching device upon a certain movement of the door.

3. In a telephone booth, a base, a plurality of walls mounted on said base, a ceiling and a roof supported by said walls having apertures forming air outlets, one of the walls having a door opening, a door for the opening, said base and said door when in closed position cooperating to

- form at the lower end thereof an air inlet of substantially 15 square inches of area, and a lighting fixture for the booth mounted on the upper side of said ceiling and extending through the aperture thereof, said fixture having an apertured plate forming an air outlet, said air inlet and said air outlets cooperating to form an air path for the ventilation of the booth.
4. A telephone booth having a metallic base and walls secured at their lower ends to the metallic base, in combination with a preformed covering of rubber forming a floor for the metallic base and flange portions for protecting the sides of said walls, and a plurality of means formed at the edge of said floor and the edges of said flange portions for securing the floor to the base and the flange portions to said walls.
5. A telephone booth having a metallic base, and walls secured at their lower ends to the metallic base, in combination with a covering of rubber including a floor for the metallic base and side flanges molded at right angles with respect to said floor and forming a continuous strip on three sides thereof for protecting the sides of said walls, and angularly disposed rows of vacuum, square shaped cups molded in the underside of said floor for securing it to said base.
6. In a telephone booth, the combination with a metallic base having upwardly extending flanges for holding the walls of the booth together at their lower ends and a metallic strip having a beveled edge secured at the entrance side of said base, of a rubber pad covering the interiorly disposed surface of said base and having preformed integrally therewith peripherally disposed notched flange portions, said flange portions forming a continuous strip along three sides of said pad at substantially right angles therewith and extending against the sides of said walls for protecting them, means comprising metallic strips and screws passing through the notches of said flange portions in engagement with said walls for securing said portions at their edge to said walls, and angularly disposed rows of closely spaced vacuum elements forming the bearing under surface of said pad for securing it to said base.
7. A telephone booth comprising a base, a plurality of walls secured at their lower ends to said base, one of said walls having an opening, a door for said opening, said door when closed forming with said base an air opening, a ceiling for said booth supported by said walls having a centrally disposed opening, a lighting fixture having a lamp extending through said opening, a pair of apertured plates for clamping the lighting fixture to said ceiling, a roof mounted on said walls and forming therewith and with said ceiling a compartment for housing said fixture, said roof having a rectangularly shaped opening, a baffle plate covering said opening, said air opening between said base and door cooperating with the openings in said baffle plate, said ceiling and said fixture plates to form an air path for the ventilation of the booth.
8. In a telephone booth having an apertured ceiling, a lighting fixture having a lamp for lighting the booth placed in the opening of said ceiling, said fixture comprising a centrally apertured plate having portions secured to the top side of the ceiling, another plate, means for securing the last mentioned plate in engagement with the under side of said ceiling, a frame pivotally mounted on the last mentioned plate, a translucent dome supported by said frame, and means for securing said frame to the last mentioned plate, said plate having rows of openings cooperating with the opening of the first mentioned plate for forming therewith an air path for the ventilation of the booths.
9. In a telephone booth, a plurality of walls, one of said walls having a door opening, said wall having a V-shaped groove, extending longitudinally thereof, a hinge fitted in said groove with the pivot of the hinge disposed at a point substantially one-third the thickness of said wall from its front surface, a door formed of folding sections mounted on said hinge for closing the door opening, said hinge permitting the disappearance of said door in its folded position at the rear of said wall with the front edges of said sections disposed in parallel relation with respect to the rear surface of said wall and in spaced relation thereto, and means carried by one of said sections cooperating with means carried by one of said walls for limiting the movement of said door in its unfolded position.
10. In a telephone booth, a wall having a door opening, a folding door hingedly mounted on the wall for closing said opening, said door having sections of substantially equal width and the pivot of the hinge attaching the door to the wall being located in a plane parallel to and spaced in the wall at a distance substantially one-third the thickness of the wall from its front surface and substantially twice the thickness of the door, the sections of said door when folded occupying a position in the rear of the wall with their front edges occupying a plane disposed in parallel relation with respect to the rear surface of said wall, and a lug carried by one of said sections engaging a registering portion at the edge of said wall to form an abutment for limiting the movement of said door when moved to its unfolded position.
11. In a telephone booth, a base, a plurality of walls mounted on said base, a plurality of ceilings supported by said walls having apertures forming air outlets, one of the walls having a door opening, a door for the opening, said base and said door when in closed position cooperating to form at the lower end thereof an air inlet and a lighting fixture for the booth attached to one of said ceilings and extending through the aperture thereof, said fixture having an apertured plate forming an air outlet, said air inlet and said air outlets cooperating to form an air path for the ventilation of the booth.
12. In a telephone booth, a base, a plurality of walls mounted on said base, a ceiling and a roof supported by said walls having apertures forming air outlets, one of the walls having a door opening, a door for the opening, said base and said door when in closed position cooperating to form at the lower end thereof an air inlet, a lighting fixture for the booth attached to said ceiling and extending through the aperture thereof, said fixture having apertured plates, one of said plates being secured to one side of one of said ceilings and having means for holding the other plate against the other side of said ceiling and each plate forming an air outlet, said air inlet and said air outlets cooperating to form an air path for the ventilation of the booth.

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