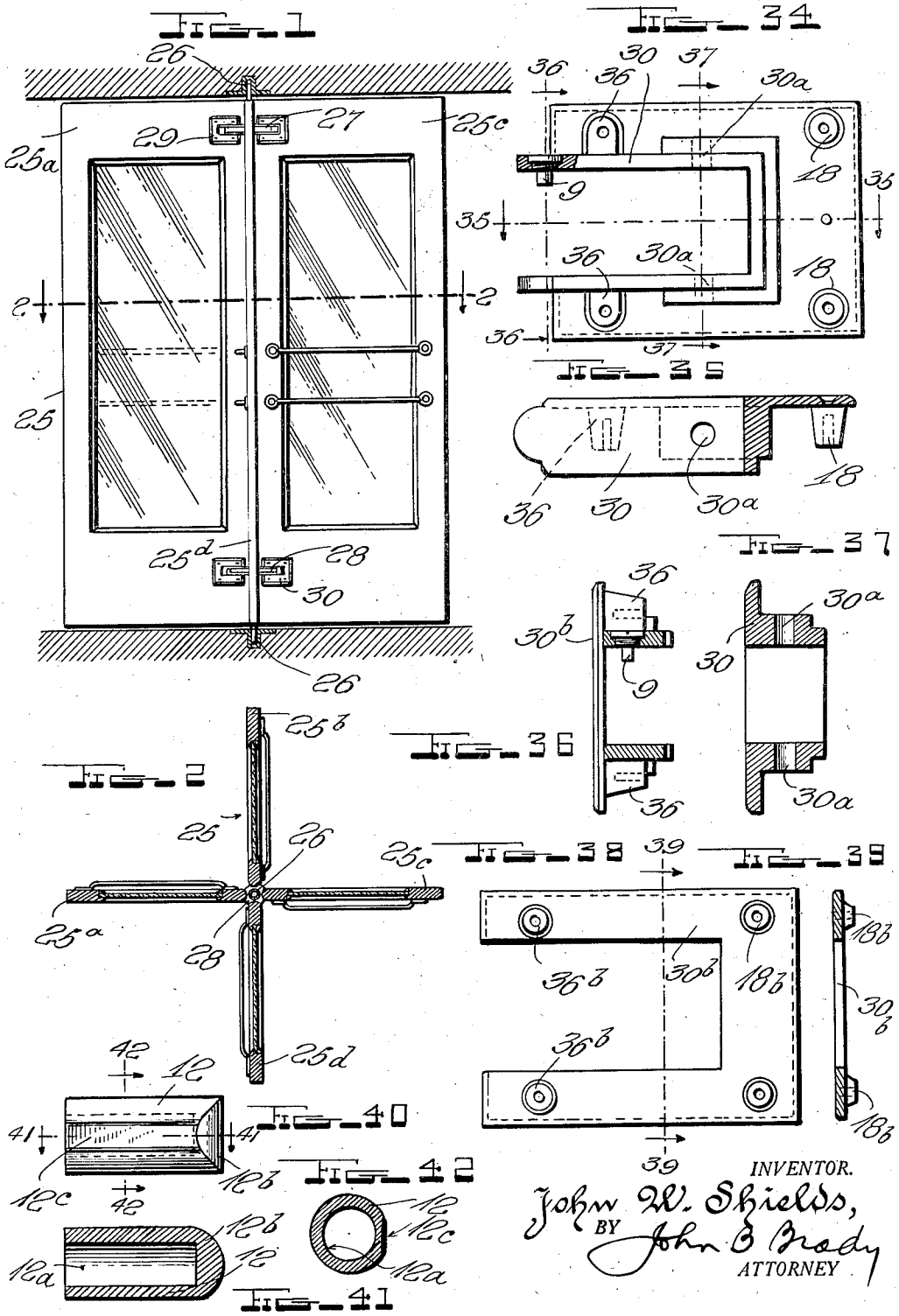
May 25, 1937. J. W. SHIELDS 2,081,774

REVOLVING DOOR MECHANISM

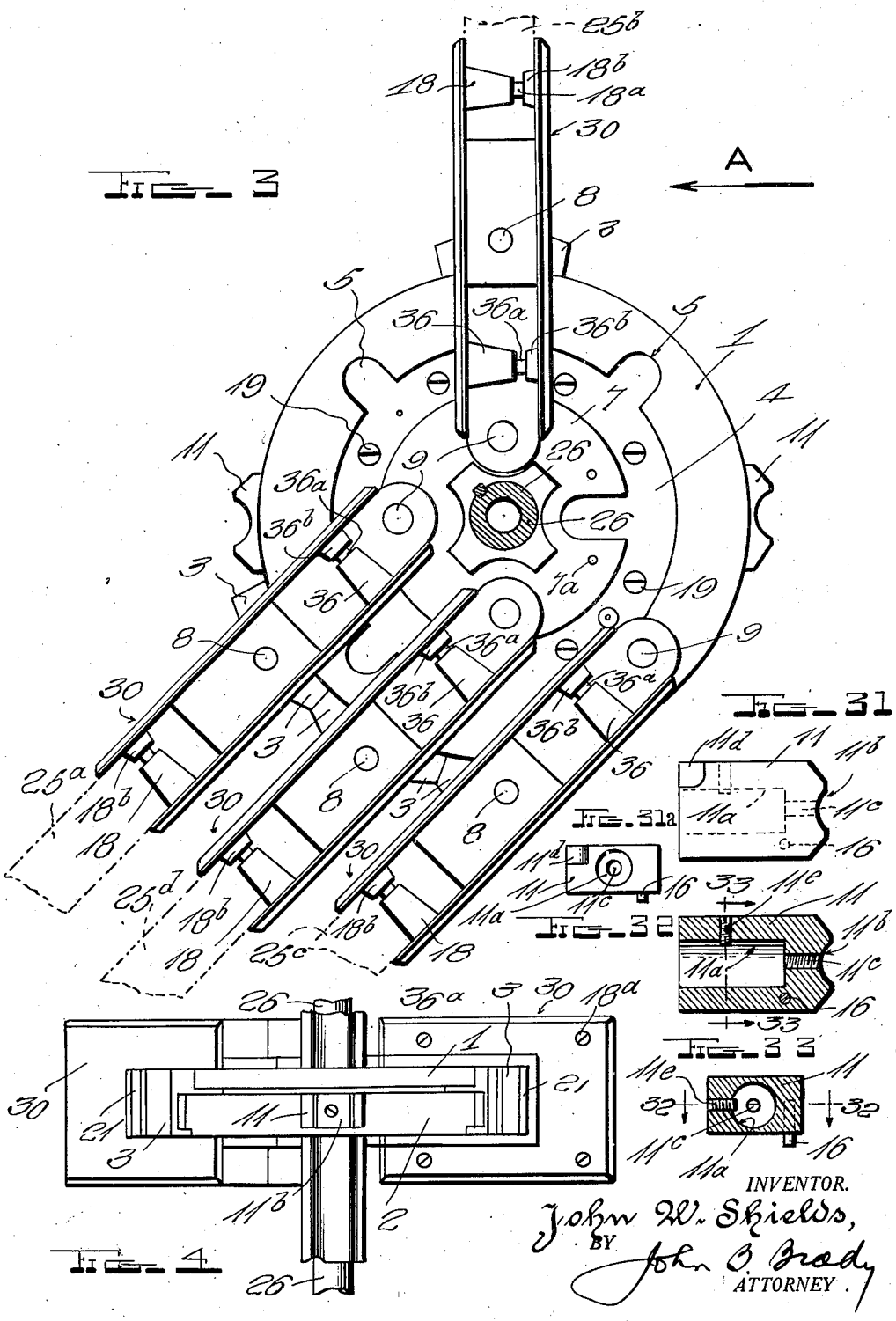
Filed Dec. 17, 1934 6 Sheets-Sheet 1



May 25, 1937. J. W. SHIELDS 2,081,774

REVOLVING DOOR MECHANISM

Filed Dec. 17, 1934 6 Sheets-Sheet 2



INVENTOR.
John W. Shields,
BY
John O. Brady
ATTORNEY.

May 25, 1937. J. W. SHIELDS 2,081,774

REVOLVING DOOR MECHANISM

Filed Dec. 17, 1934 6 Sheets-Sheet 3

FIG. 5

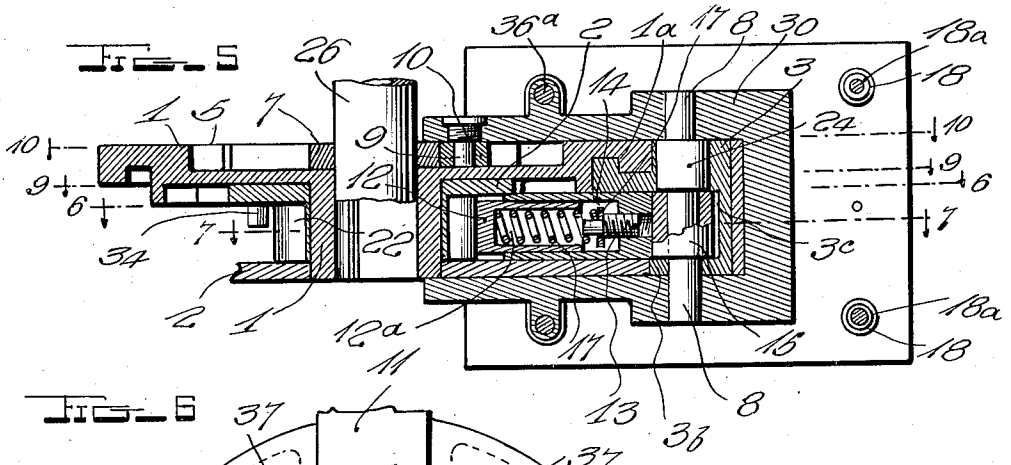


FIG. 6

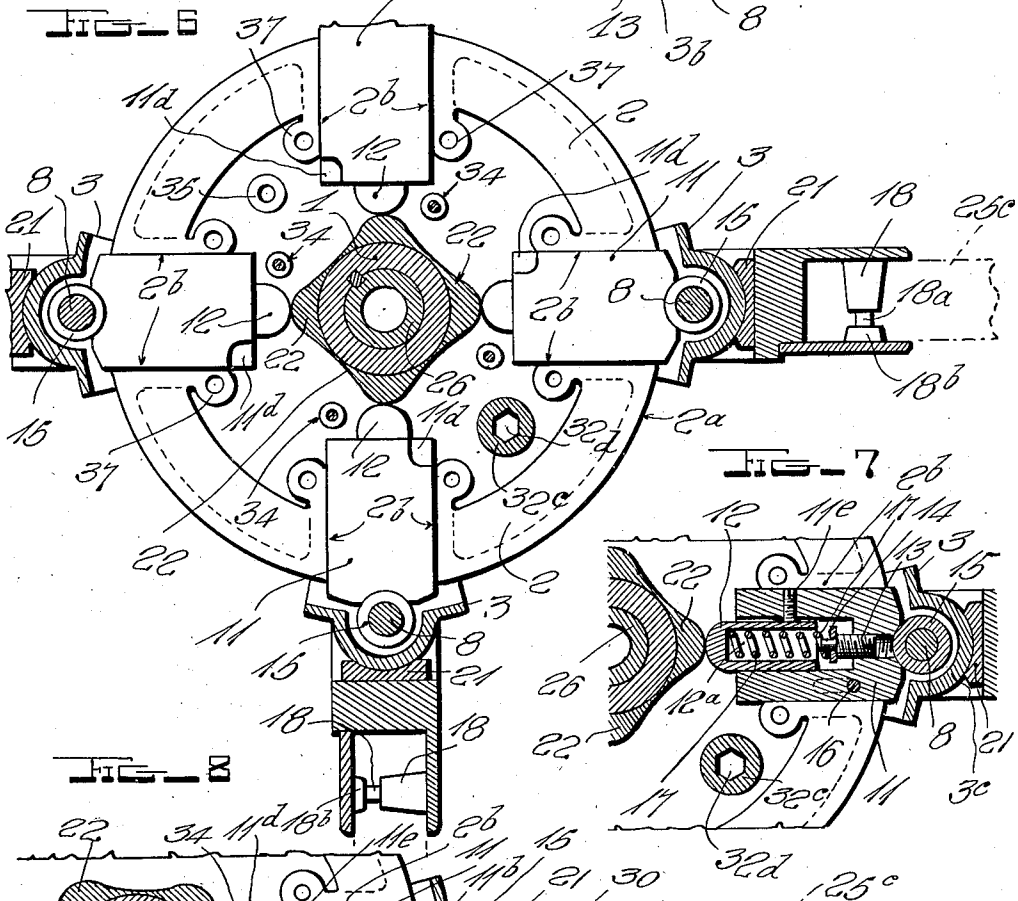
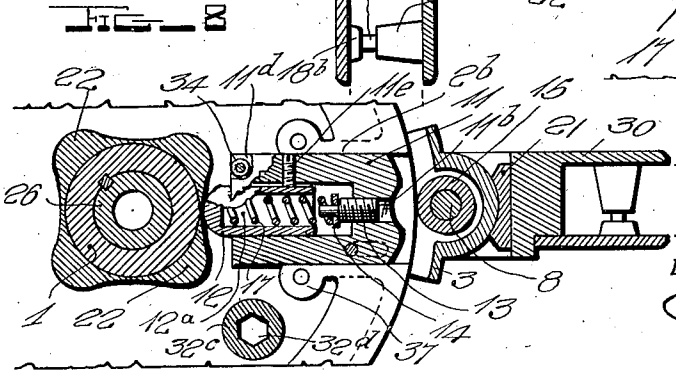


FIG. 7

FIG. 8



INVENTOR.
John W. Shields,
BY John B. Grady
ATTORNEY.

May 25, 1937. J. W. SHIELDS 2,081,774

REVOLVING DOOR MECHANISM

Filed Dec. 17, 1934 6 Sheets-Sheet 4

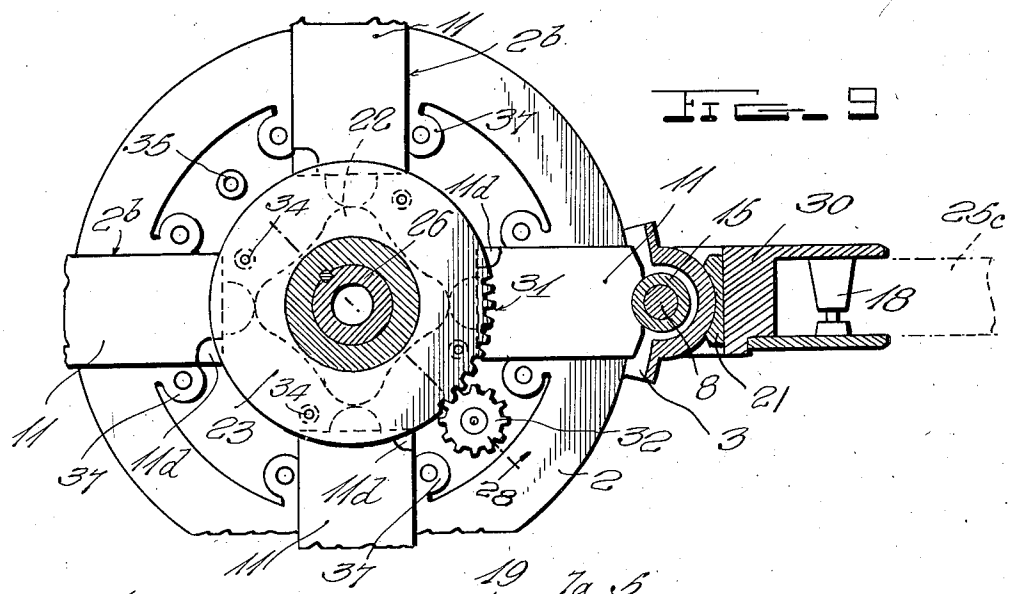


FIG. 9

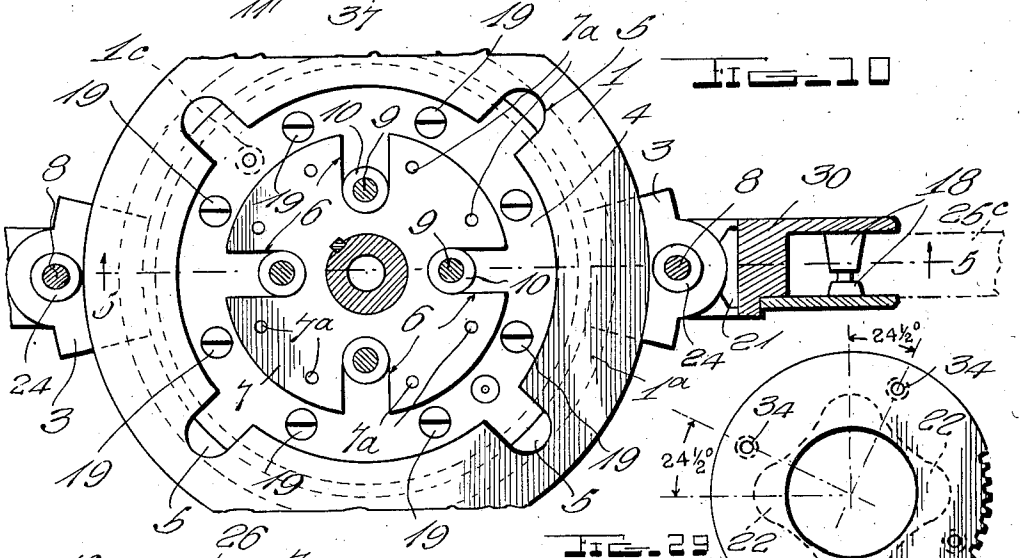


FIG. 10

FIG. 29

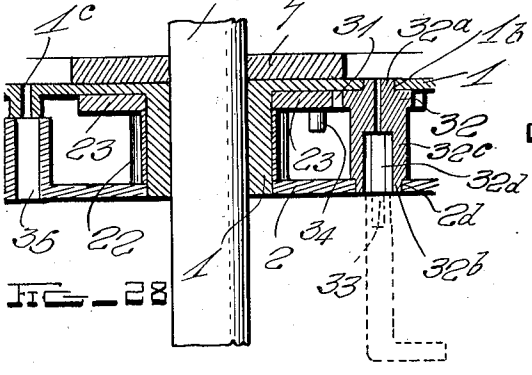


FIG. 28

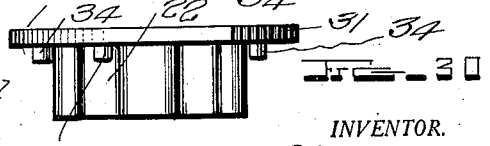


FIG. 30

INVENTOR.
John W. Shields,
BY John C. Brady
ATTORNEY.

May 25, 1937. J. W. SHIELDS 2,081,774

REVOLVING DOOR MECHANISM

Filed Dec. 17, 1934 6 Sheets-Sheet 5

FIG. 11

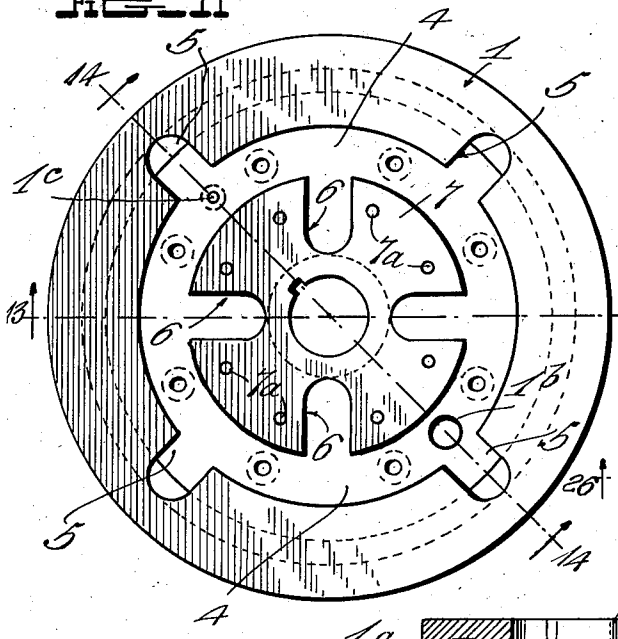


FIG. 24

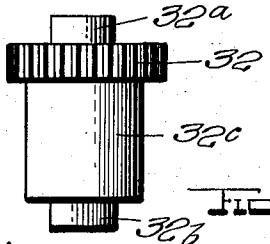


FIG. 26

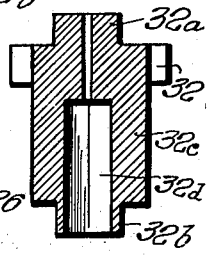


FIG. 25

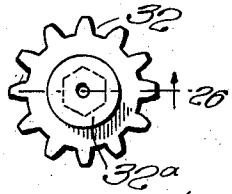


FIG. 13

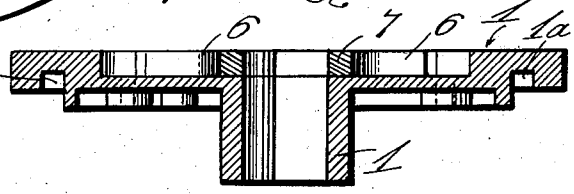


FIG. 14

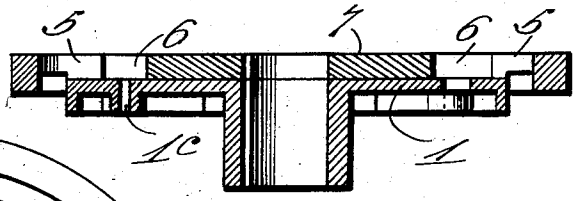


FIG. 12

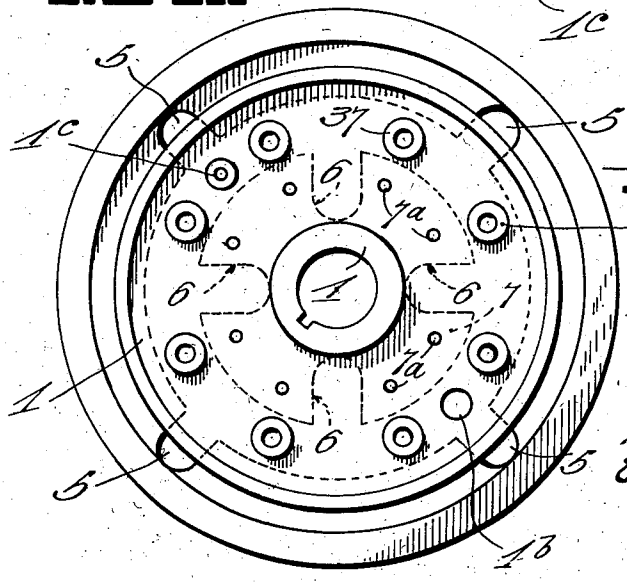
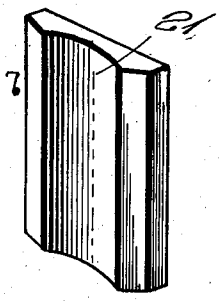


FIG. 27

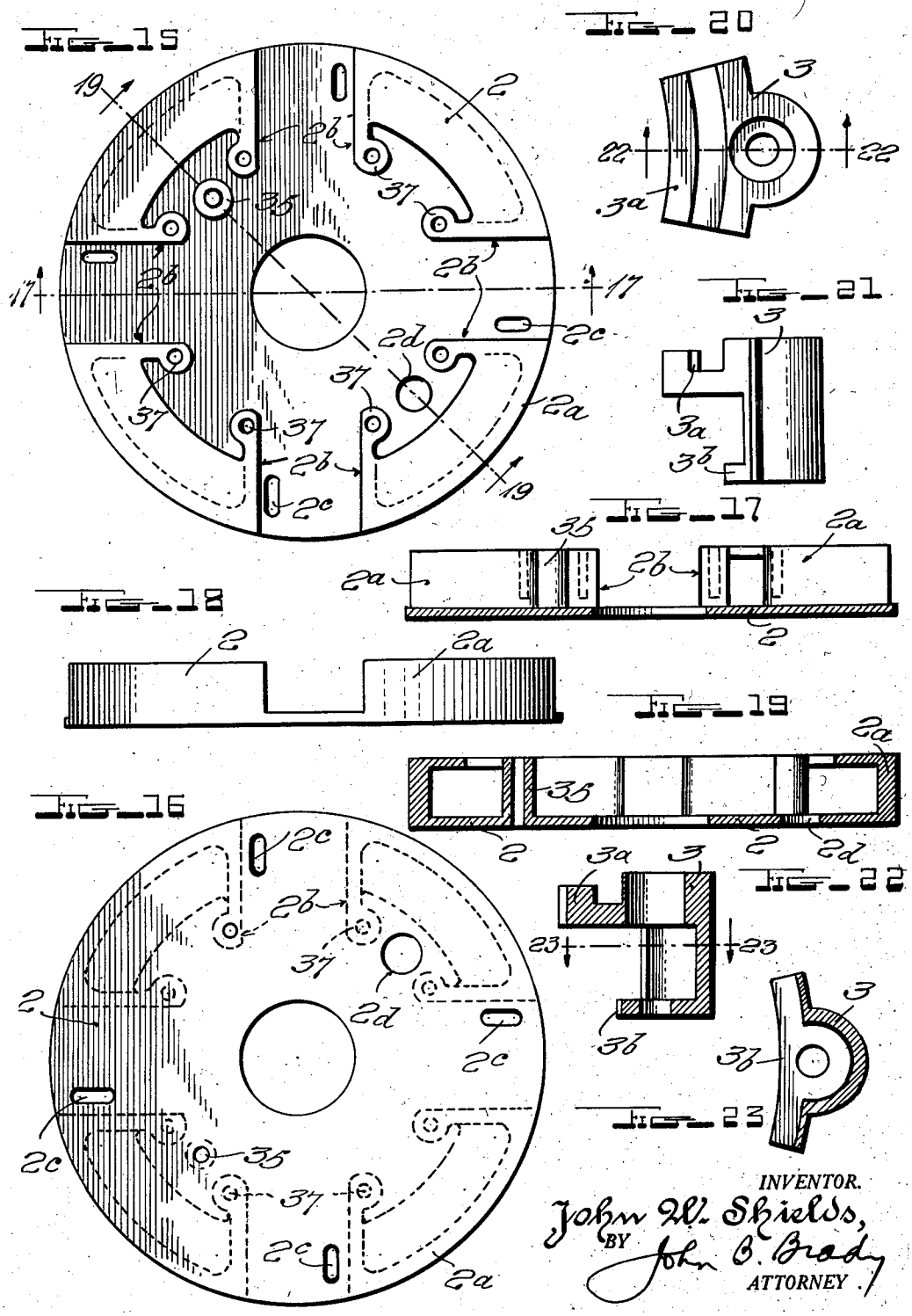


INVENTOR.
John W. Shields,
BY John B. Brady
ATTORNEY.

May 25, 1937. J. W. SHIELDS 2,081,774

REVOLVING DOOR MECHANISM

Filed Dec. 17, 1934 6 Sheets-Sheet 6



Patented May 25, 1937 2,081,774

UNITED STATES PATENT OFFICE

2,081,774

REVOLVING DOOR MECHANISM

John W. Shields, Evansville, Ind., assignor, by mesne assignments, to International Door Company, Evansville, Ind., a corporation of Illinois

Application December 17, 1934, Serial No. 757,941

26 Claims. (Cl. 20—18)

My invention relates broadly to revolving doors and more particularly to a construction of braceless panic release roller locking revolving door mechanism.

One of the objects of my invention is to provide a compact assembly of revolving door hanger and braceless panic release roller locking mechanism for revolving doors which is capable of quantity production at relatively low cost.

Another object of my invention is to provide a construction of revolving door mechanism having means for simultaneously unlocking all the wings of a revolving door assembly allowing collapsing of the wings manually, and also permitting panic release of all wings under conditions of excess pressure applied against any of the respective wings.

Still another object of my invention is to provide a construction of revolving door mechanism which includes an angularly shiftable cam actuator, operative to simultaneously lock or unlock the wings of a revolving door assembly allowing manual collapsing of the wings when the wings are unlocked, and also permitting simultaneous release of all the door wings under panic conditions while the wings are in latched position.

A further object of my invention is to provide a construction of revolving door mechanism in which locking members for maintaining the wings of a revolving door assembly in position are tensioned for yieldable movement radially inward subject to release under excessive pressure for permitting collapse of the wings under panic conditions.

A still further object of my invention is to provide a construction of revolving door mechanism having means for mounting door hangers thereon in preformed guide grooves and locking the door hangers in radial positions subject to release under conditions of excessive pressure against the door wings.

Still another object of my invention is to provide a construction of mechanism for revolving doors having a plurality of angular guide grooves for receiving and guiding elements connected with the wing carriers of the respective door wings with alternately disposed and oppositely directed recesses in certain of said guide grooves, for allowing displacement of the wings from radial positions to collapsed positions.

A still further object of my invention is to provide a construction of revolving door mechanism having a centrally disposed cam mechanism angularly shiftable within predetermined limits, by means of an external actuator for controlling radial projecting or retraction of members operating to lock or unlock the door wings of the revolving door assembly.

Other and further objects of my invention reside in the construction and arrangement of parts in the braceless panic release roller locking revolving door mechanism, as set forth more fully in the specification hereinafter following by reference to the accompanying drawings, in which:

Figure 1 is a front elevation of the revolving door provided with my improved mechanism; Fig. 2 is a horizontal sectional view taken on line 2—2 of Fig. 1; Fig. 3 is a top plan view on an enlarged scale showing one of the wings in its normal position and the other wings in a position which they assume when collapsed; Fig. 4 is a side elevation looking in the direction of the arrow A indicated in Fig. 3; Fig. 5 is a central vertical longitudinal section taken substantially on line 5—5 of Fig. 10; Fig. 6 is a horizontal section taken substantially on line 6—6 of Fig. 5; Fig. 7 is a horizontal section taken substantially on line 7—7 of Fig. 5; Fig. 8 is a view similar to the view of Fig. 7, but showing the cam faces partially rotated in a position so that they are out of the path of the spring projected wing locking pins thus freeing the locking roller and allowing collapsing of the wings; Fig. 9 is a horizontal section taken substantially on line 9—9 of Fig. 5 with the mutilated gear disc in the position it normally assumes when the wings of the revolving door are in locked position; Fig. 10 is a horizontal section taken on line 10—10 of Fig. 5; Fig. 11 is a top plan view of one of the members comprising my improved revolving door mechanism; Fig. 12 is a bottom plan view thereof; Fig. 13 is a central vertical longitudinal section taken on line 13—13 of Fig. 11; Fig. 14 is a transverse vertical section taken on line 14—14 of Fig. 11; Fig. 15 is a top plan view of the coacting member constituting my improved revolving door mechanism; Fig. 16 is a bottom plan view thereof; Fig. 17 is a central vertical longitudinal section taken on line 17—17 of Fig. 15; Fig. 18 is a front elevation thereof; Fig. 19 is a transverse vertical section taken on line 19—19 of Fig. 15; Fig. 20 is a detailed top plan view; Fig. 21 is a side elevation; Fig. 22 is a central vertical longitudinal section taken on line 22—22 of Fig. 20; Fig. 23 is a horizontal section taken on line 23—23 of Fig. 22; Fig. 24 is a detailed side elevation of the pinion gear which meshes with the mutilated gear disc for imparting movement thereto for locking or unlocking the wings; Fig. 25 is a top plan view thereof; Fig. 26 is a central vertical longitudinal section taken on line 26—26 of Fig. 25; Fig. 27 is a detailed perspective view of one of the wear plates; Fig. 28 is a detailed sectional view taken substantially on line 28—28 of Fig. 9 and showing more particularly the manner of manually rotating the mutilated gear disc which carries the integral, depending cams; Fig.

29 is a detailed top plan view of the mutilated gear disc; Fig. 30 is a side elevation thereof; Fig. 31 is a plan view of one of the sliding wing latching blocks; Fig. 31*a* is an end view of the latching block showing the recess therein coacting with the operating lugs carried by the mutilated gear disc; Fig. 32 is a horizontal section taken on line 32—32 of Fig. 33; Fig. 33 is a transverse vertical section taken on line 33—33 of Fig. 32; Fig. 34 is a front elevation with parts broken away and in section; Fig. 35 is a horizontal section taken substantially on line 35—35 of Fig. 34; Fig. 36 is a transverse vertical section taken substantially on line 36—36 of Fig. 34; Fig. 37 is a transverse vertical section taken on line 37—37 of Fig. 34; Fig. 38 is a front elevation of one member of the wing receiving plates; Fig. 39 is a transverse vertical section taken on line 39—39 of Fig. 38; Fig. 40 is a front elevation of one of the spring-pressed plungers used in my improved mechanism; Fig. 41 is a horizontal section taken on line 41—41 of Fig. 40; and Fig. 42 is a detailed vertical section taken on line 42—42 of Fig. 40.

Referring to the drawings in detail, reference character 25 represents a revolving door assembly including door wings 25*a*, 25*b*, 25*c*, and 25*d* supported by vertically disposed rotatable shaft 26 which carries the revolving door mechanism of my invention shown at 27 and 28 supporting the sets of wing hangers 29 and 30, respectively. For purposes of explaining the construction and operation of the revolving door mechanism of my invention, an enlarged top plan view has been shown in Fig. 3 illustrating the wing 25*b* in normal position with wings 25*a*, 25*d*, and 25*c* shifted to collapsed position. The set of wing hangers 30 are shown in Fig. 3 disposed in spaced parallel arrangement in collapsed position positively spaced by roller members 10 shown in Fig. 10, entering recesses 5 in disc member 1, while one of the wing hangers is disposed in radial position which is the normal location of the wing hanger when wing 25*b* is in normal position.

The revolving door mechanism comprises disc member 1 and coacting disc member 2. The interfitting engagement of disc member 1 and coacting disc member 2 is shown more clearly in Figs. 4, 5 and 28. The disc member 1 is provided with an annular groove 4 having a plurality of radially extending outwardly directed recesses 5 symmetrically disposed therein. The annular groove 4 is also connected with a multiplicity of inwardly directed radially disposed recesses 6 which are arranged intermediate the recesses 5. That is to say, radial lines drawn through the inwardly directed recesses 6 bisect the angles formed by radial lines drawn through the centers of recesses 5. The recesses 5 and 6 are each of equal width for receiving roller members 18 carried by studs 9 on each of the hangers 30. The recesses 6 are formed in the plate member 7 which is riveted or otherwise secured by means of suitable members 7*a* to the disc member 1. I have found it more practical from the manufacturing viewpoint to make the plate member 7 independent of the disc member 1, although it may be formed integral therewith, if desired. Plate 7 is made of special metal, such as stainless steel, whereas disc 1 is cast from bronze. The purpose of making plate 7 of special steel is to provide a metal that will withstand considerable wear and stress.

The hangers 30 are pivoted with respect to the sliding axle journal members 3 by means of pins 8 which pass through apertures 30*a* in the upper and lower portions of hangers 30. The sliding axle journal members 3 are each provided with a guide groove engaging portion 3*a* which enter the annular guide groove 1*a* formed in disc member 1. Each of the sliding axle journal members 3 have a bearing face 3*b* shaped to conform with the peripheral edge of the coacting disc member 2 whereby the sliding axle journal member 3 may be angularly shifted around the edge of the disc member 1 and coacting disc member 2 carrying therein the pin or axle 8.

The coacting disc member 2 is shaped, as shown more clearly in Figs. 15–19. The disc 2 has a depending skirt portion 2*a* divided into sectors between which, pockets 2*b* are provided forming recesses through which blocks 11 extend. The blocks 11 are radially projectable and each of the blocks are preformed, as shown more clearly in Figs. 31–33 to include a cylindrical recess 11*a*, a semi-cylindrical locking face 11*b*, a threaded aperture 11*c* for a headless adjusting set screw 13, and a notched corner portion 11*d*. A pin 16 is provided in each of the blocks 11 for preventing the blocks from being displaced from the pockets 2*b* when the doors are in collapsed position and the spring tension has been removed from the blocks 11 as will be more fully hereinafter described. The pin 16 cooperates with slots 2*c* formed in coacting disc member 2. The blocks 11 also carry an adjustable set screw 11*e* threaded therethrough whose function is to prevent rotation of the spring pressed plunger 12 which operates in the cylindrical recess or bore 11*a* of blocks 11. The spring pressed plunger 12 is shown more clearly in Figs. 40–42. Each of the spring pressed plungers 12 have a cylindrical recess 12*a* therein for receiving coil spring 17. The spring pressed plunger 12 has a semi-cylindrical nose 12*b* thereon shaped to engage the cam shaped faces 22 of the cam member 23. The spring pressed plunger 12 has one side thereof flattened at 12*c* against which the set screw 11*e* operates for preventing rotary movement of the spring pressed plunger 12 while allowing reciprocatory movement thereof. A spring abutment 14 is anchored in the end of coil spring 17 and provides an abutment against which the end of set screw 13 operates. The pin or axle member 8 carries a roller 15 which is rotatably movable on pin 8 within the recess 3*c* in the sliding axle journal 3 and which provides a latching interconnection with the semicylindrical face 11*b* of reciprocatory block 11. In order to center pin 8 properly with respect to sliding axle journal 3, I provide a sleeve 24 arranged, as shown more particularly, in Fig. 5.

The plate structure 23 is provided with cam shaped faces 22 corresponding in number to the number of spring pressed plungers 12. The cam faces 22 are integrally connected with the angularly shiftable plate structure 23 which is provided with gear teeth 31 throughout substantially one quadrant of the plate 23. A pinion 32 is provided in meshed relation to gear teeth 31 of plate 23. Pinion 32 is journaled at end 32*a* thereof in aperture 1*b* in disc member 1 and at the end 32*b* thereof in aperture 2*d* of disc member 2. Pinion 32 has a cylindrical body portion 32*c*, as shown more fully in Figs. 24–26 having an internal socket 32*d* adapted to receive the end of a socket wrench illustrated in dotted lines at 33 in Fig. 23 whereby rotary movement may be imparted to pinion 32 for rotating plate 23

and shifting cam faces 22. In the projected position of the spring pressed plungers 12, as illustrated in Figs. 5, 6, 7 and 9, pinion 32 has been moved to its extreme clockwise position for projecting the several spring pressed plungers. By movement of pinion 32 in a counterclockwise direction, cam faces 22 are shifted to allow plungers 12 to be retracted radially inward. The limit of the movement of the cam face 22 is limited in both directions by the length of the mutilated gear on plate 23, and the recess 11*d* in reciprocatory block 11 is provided so as to allow the cam plate 23 enough space to rotate to a position, as shown in Fig. 8. Block 11 will be subjected to a small amount of spring pressure and will remain in the projected position at all times, and since the bolt member 34 would strike block 11 when it is depressed, recess 11*d* in block 11 has been provided so as to allow the cam to make its proper travel.

I have purposely arranged my construction so that even when the wings are collapsed and the cam revolved in the collapsed position, as shown in Fig. 8, there still remains some compression on the spring pressed plungers 12, which causes block 11 to be urged to an outward position with a small amount of spring pressure for the purpose of accurately spacing the wings in correct position when returning from a collapsed position. When the doors are being returned to engaged position from the collapsed position, roller 15 engages this sloping surface of block 11, thereby bringing about a compression of the spring 17 in spring pressed plunger 12 and when the wings are returned to the proper center line, the recess 11*b* and roller 15 will properly mate, which locates the wing at the proper place for normal operation. The readily controllable pinion 32 provides a very convenient means for locking or unlocking the wings manually. Collapse of the wings automatically under excessive pressure existing under panic conditions is effected by roller member 15 effecting such lateral pressure on the coacting radial projectable block 11 as will cause the radial projectable block 11 to be displaced inwardly thereby releasing the roller member 15 and allowing the wing to pivot about axle 8 under control of guide roller 10 movable in annular groove 4 and shiftable from a recess 6 to a recess 5 to a collapsed position, as represented in Fig. 3.

When the wings are in collapsed position, it is desirable to provide means for locking the doors in collapsed position by means of a folding bar. To allow this to be done, I provide a socket 35 in coacting disc member 2 having a bore extending the entire thickness of the coacting disc 2. Socket 35 is diametrically aligned with the aperture 2*d* in coacting disc member 2 which receives the end 32*b* of pinion 32. A tool or folding bar may have projections extending therefrom projecting into socket 35 and the bore 32*d* of pinion 32 when adjacent wings are collapsed in opposite directions and are to be secured in the said collapsed positions by positive engagement of the folding bar against the sides thereof. The socket 35 which receives the lug on the folding bar is aligned with an apertured lug member 1*c* in disc member 1, as shown more clearly in Fig. 28. Both the lug 1*c* and the pinion 32 have an axial port extending therethrough for the release of rain water which may beat into the revolving door from the outside.

The hangers for the door wings have been represented generally at 30 and comprise plate members which are interconnected by lug and screw connections shown at 18, 18*a*, and 18*b*, which clamp opposite sides of the door wings. The structure of the hangers 30 is shown more clearly in Figs. 34–39. It will be seen that the hangers 30 are secured to the door wings through lug and screw connections which enter lugs 18 and 18*b* on the portion 30 and 30*b* of the door hangers. There are also provided additional lug connections represented at 36 on hanger member 30 and which coact with lugs 36*b* on hanger member 30*b* and are interconnected by means of screws 36*a*, as represented more clearly in Fig. 3.

The assembly of the disc member 1 and coacting disc member 2 has, undoubtedly, been already made clear. It will be seen that the screws 19 interconnect disc 1 with coacting disc 2. In order to provide for the assembly of the disc member 1 and coacting disc member 2, I provide lugs 37 on each side of the ports 2*b* of the coacting disc member 2. The lugs 37 are internally screw-threaded to receive the screws 19 which pass through the disc member 1, as represented in Figs. 3 and 10.

The relatively small number of parts constituting the braceless panic release roller locking revolving door hardware of my invention allows the mechanism to be manufactured readily on a quantity production basis and renders the cost of the hardware relatively low at the same time reducing the maintenance and repair cost and facilitating production of the mechanism.

The operation of the revolving door mechanism of my invention has been explained in the course of the foregoing specification and can be briefly summarized by pointing out that the plate member 23, in which cam faces 22 form a part thereof, is manually controllable to eject all of the radially projectable blocks 11. When the cam faces 22 are moved to a position in which spring-pressed plungers 12 are subject to normal pressure, roller 15 is locked with the semi-cylindrical recess 11*b* in the end of the radially projectable block 11. The wings will remain locked so long as excess pressure is not exerted against the wings. When, however, the pressure against the wings becomes too great, such as is experienced under panic conditions, spring 17 will yield by the tendency of roller 15 to move out of the semi-cylindrical recess 11*b* in radially projectable block 11.

Since bolt 34 is in the path of block 11 and since bolt 34 is 24½ degrees off the center line of the face of cam 22, block 11 when moving inwardly will push bolt 34. This line of force, being parallel to the center line of the cam face, does not pass through the center of plate 23, and will produce a rotating force on plate 23, thus causing plate 23 to rotate and likewise move cam face 22. After block 11 comes in contact with bolt 34 producing a rotating action of plate member 23, plate member 23 is moved to a position where the spring 17 in cylindrical recess 12*a* of plunger 12, will force plunger 12 inwardly. Since cam face 22 and the nose of plunger 12 then become two inclined planes bearing on each other and producing an unstable relation, these two planes will impart a force to cam face 22, resulting in imparting a further rotating movement to plate member 23 and bringing about the final position of plate member 23, as shown in Fig. 8, and in which final position, all wings are released and all rollers 15 are no longer in normal pressure against face 11*b* of block 11. The action of any one of blocks 11, as above described, will simultaneously produce the release

of all rollers 15, as above described. The advantage of this feature is that when in case of panic a stampede has occurred, the people rushing into the door will only have one collapse to contend with, for when all wings are released, they will fold with very little effort. With devices heretofore known, each wing had to be collapsed individually, and as the angle changes when the wings swing, the last two wings will be more difficult to collapse than they would have been at the start.

The revolving door mounting of my invention is adaptable for either the individual collapsing of wings or the simultaneous collapsing of wings thus meeting the demand of various localities where it is desirable either to have the wings collapse individually or simultaneously. The individual collapsing may be provided for by a slight alteration by the removal of the studs 34, shown in Figs. 29 and 30. The mechanism will then be such that each wing will collapse individually.

I have found the structure of my invention highly practical for manufacture, production, and use, and while I have described my invention in one of its preferred embodiments, I desire that it be understood that modifications may be made and that no limitations upon my invention are intended other than are imposed by the scope of the appended claims.

What I claim as new and desire to secure by Letters Patent of the United States is as follows:

1. Revolving door mechanism comprising in combination with a rotatable shaft of a revolving door assembly, members carried by the rotatable shaft, radially projectable means mounted in each of said members, angularly shiftable means within said members for simultaneously controlling the position of said radially projectable means, and latch members carried by the revolving door assembly and coacting with each of the projectable means.

2. Revolving door mechanism comprising in combination with the rotatable shaft of a revolving door assembly, housing members carried by the rotatable shaft, spring actuated radially projectable means mounted in said members, means interconnecting said members and said radially projectable means for normally limiting the extent of projection of said projectable means, and members carried by each of the revolving doors and coacting with the projectable means whereby the revolving doors of the revolving door assembly are normally latched in position with respect to said housing members.

3. Revolving door mechanism comprising in combination with the vertically disposed rotatable shaft of a revolving door assembly, housing members carried by said shaft, projecting means disposed in radial positions in said housing members, spring means for normally urging said projecting means outwardly, and roller means carried by each of the revolving doors of the revolving door assembly and coacting with each of said projecting means for normally latching the revolving doors of the revolving door assembly in radial positions with respect to said housing members.

4. Revolving door mechanism comprising in combination with a vertically disposed shaft of a revolving door assembly, housing members carried by said shaft, projectable members disposed radially in each of said housing members, coacting means carried by each of the revolving doors of the revolving door assembly in alignment with said projectable members, and means for controlling the effective projection of said projectable members from said housing members with respect to said coacting means.

5. Revolving door mechanism comprising in combination with the vertically disposed rotary shaft of a revolving door assembly, housing members carried by said shaft, projectable means disposed radially in each of said housing members, means carried by each of the revolving doors of the revolving door assembly coacting with each of said projectable means, and cam mechanism within each of said housing members for controlling the effective projection of said projectable means for correspondingly controlling the interlocking engagement between the revolving doors of the revolving door assembly and said housing members.

6. Revolving door mechanism comprising in combination with the vertically disposed rotary shaft of a revolving door assembly, housing members carried by said shaft, projectable means disposed radially in each of said housing members, means carried by each of the revolving doors of the revolving door assembly coacting with each of said projectable means, and a rotary member within each of said housing members, said rotary member having cam faces thereon adapted to be aligned with each of the projectable means or disaligned therewith for controlling the effective projection of said projectable means and correspondingly controlling the interlocking engagement between the revolving doors of the revolving door assembly and said housing members.

7. Revolving door mechanism comprising in combination with the vertically disposed rotary shaft of a revolving door assembly, housing members carried by said shaft, projectable means disposed radially in each of said housing members, means carried by each of the revolving doors of the revolving door assembly coacting with each of said projectable means, a rotary member within each of said housing members, said rotary member having cam faces thereon adapted to be aligned with each of the projectable means or disaligned therewith for controlling the effective projection of said projectable means and correspondingly controlling the interlocking engagement between the revolving doors of the revolving door assembly and said housing members, and means operative from the exterior of said housing members for shifting the position of the rotary member within each of the housing members.

8. Revolving door mechanism comprising in combination with the vertically disposed rotary shaft of a revolving door assembly, housing members carried by said shaft, projectable means disposed radially in each of said housing members, means carried by each of the revolving doors of the revolving door assembly coacting with each of said projectable means, a rotary member within each of said housing members, said rotary member having cam faces thereon adapted to be aligned with each of the projectable means or disaligned therewith for controlling the effective projection of said projectable means and correspondingly controlling the interlocking engagement between the revolving doors of the revolving door assembly and said housing members, and gear mechanism operative from the exterior of each of said housing members for annularly shifting the said rotary member within each of the housing members.

9. Revolving door mechanism comprising in

combination with the vertically rotatable shaft of a revolving door assembly, housing members mounted on said shaft, each of said housing members including an annular roller guideway having a multiplicity of alternately disposed recesses in the opposite peripheries thereof, a multiplicity of revolving door carriers each having a roller member thereon operative in said annular roller guideway and shiftable from a recess on one side of the annular roller guideway to a recess on the opposite side of the annular roller guideway in effecting a collapsing operation of the revolving door assembly.

10. Revolving door mechanism comprising in combination with the vertically disposed rotatable shaft of a revolving door assembly, housing members secured to said vertically disposed shaft, each of said housing members including an annular guide, a multiplicity of journal members engageable in the said annular guide, a revolving door wing carrier supported in each of said journal members, an independent annular guide in said housing member for coaction with roller means mounted on each of the wing carriers, and means disposed within said housing members for normally interlocking said wing carriers with respect to said housing members.

11. Revolving door mechanism comprising in combination with the vertically disposed rotatable shaft of a revolving door assembly, housing members secured to said shaft, door wing carriers connected with said housing members, said connection including a journal member individual to each of the door wing carriers, independent annular guideways in each of said housing members, means on the said journal members, and separate means carried by the said wing carriers engaging the respective annular guideways, and means carried by each of the housings for normally latching said wing carriers in radial position subject to movement to a collapsed position under conditions of excessive pressure exerted against said revolving door assembly.

12. Revolving door mechanism comprising in combination with the vertically disposed rotatable shaft of a revolving door assembly, of housing members, each of said housing members including a pair of independent annular guideways, journal members disposed exteriorly of said housing and engageable in one of the said annular guideways, door wing carriers pivotally mounted in each of said journal members, a roller projection on each of said door wing carriers extending into the other of said annular guideways, and means carried by said housing members for normally latching said door wing carriers in radial positions with respect to said housing members subject to movement to a collapsed position under conditions of excessive pressure exerted against the wings of the revolving door assembly.

13. Revolving door mechanism comprising housing members attachable to the vertically disposed rotatable shaft of a revolving door assembly, each of said housing members including independent annular guideways therein, journal members engageable in one of said annular guideways, door wing carriers pivotally mounted in each of said journal members, a roller member carried by each of said door wing carriers, said roller members being engageable within the other of said annular guideways in said housing members, a roller member mounted in each of said journal members, and projectable means movable along radial axes within said housing members and coacting with said last mentioned roller members for normally maintaining said door wing carriers in radial positions subject to movement to a collapsed position under conditions of excessive pressure exerted against the door wings.

14. Revolving door mechanism comprising housing members attachable to the vertically disposed rotatable shaft of a revolving door assembly, each of said housing members including independent annular guideways therein, journal members engageable in one of said annular guideways, door wing carriers pivotally mounted in each of said journal members, a roller member carried by each of said door wing carriers, said roller members being engageable within the other of said annular guideways in said housing members, said last mentioned annular guideway having recesses disposed in the peripheral portions thereof in alternate opposite positions for receiving the roller member on each of said door wing carriers in the course of the movement thereof from normally radial positions to collapsed positions under conditions of excess pressure exerted against the door wings.

15. Revolving door mechanism comprising housing members carried by a vertically disposed rotatable shaft, door wing carriers journaled with respect to said housing members, means for locking said door wing carriers with respect to said housing members comprising a roller member journaled in each of said door wing carriers, and spring pressed latches disposed within said housing members and engaging said rollers for normally maintaining the wing carriers in radial position subject to movement to collapsed position under conditions of excessive pressure against said door wing carriers.

16. Revolving door mechanism comprising housing members carried by a vertically disposed rotatable shaft, door wing carriers journaled with respect to said housing members, means for locking said door wing carriers with respect to said housing members comprising a roller member journaled in each of said door wing carriers, spring pressed latches disposed within said housing members, each of said latches having a recessed face conforming with the contour of the roller member and engageable with said roller members for normally maintaining the wing carriers in radial position subject to movement to collapsed position under conditions of excessive pressure against said door wing carriers.

17. Revolving door mechanism comprising mounting means for revolving doors, radially movable latching means for maintaining the revolving doors in planes normal to each other, and angularly shiftable means for controlling the operation of said latching means for effecting in one condition the simultaneous collapse of all of said doors under conditions of excessive pressure exerted against selected doors and effecting under another condition the individual collapse of selected doors upon the exertion of pressure against a selected door.

18. Revolving door mechanism comprising a disc support having an annular groove therein, recesses connected with the said groove in alternate positions on the inner and outer peripheral portions of the said groove, door hangers each having a roller member operative in said groove, said roller members being engaged in the recesses on the inner peripheral portion of said groove

in normal position, and shiftable to engage the recesses on the outer peripheral portion of said groove when in collapsed position.

19. Revolving door mechanism comprising a housing attachable to the vertically rotatable shaft of a revolving door, door wing carriers pivotally mounted with respect to said housing, projectable members disposed within said housing and projectable radially with respect thereto, a roller engaging face on one end of said projectable members projectable beyond the limits of said housing, a spring projected plunger extending from the other end of said projectable member, roller members journaled in said door wing carriers and engaging the roller engaging face thereof, and cam means within said housing for controlling the effective projection of the roller engaging face of said projectable members with respect to the roller members carried by said door wing carriers.

20. Revolving door mechanism comprising a housing having an annular guide in one face thereof and an independent annular guide in the side wall thereof, journal means engaging the annular guide in the side wall of the housing and adjustable in position peripherally of said housing, door wing members pivoted in said journal members, a roller carried adjacent the end of said door wing members and engaging said annular guide in the face of the housing, and spring means for normally latching said door wing members in radial positions subject to movement to collapsed positions under conditions of excess pressure against said door wing carriers.

21. Revolving door mechanism comprising a housing supportable on a rotatable shaft and having radially disposed ports in the sides thereof, door wing carriers pivoted with respect to said housing, removably mounted projectable members radially slidable in each of said ports, a roller engaging face on one end of said projectable member, a spring actuated plunger projecting from the opposite end of said projectable member, means operative through said roller engaging face for adjusting the spring tension with respect to said plunger, roller members carried by the door wing carriers and coacting with the roller engaging faces on said projectable members for maintaining said door wing carriers in radial positions subject to movement to collapsed position under conditions of excess pressure on said door wing carriers.

22. Revolving door mechanism comprising a housing, projectable members radially disposed in said housing, cam mechanism within said housing including spaced cam members individual to each of said projectable members, door wing carriers pivotally mounted with respect to said housing, coacting latch connections between said door wing carriers and said projectable members, and means operative from the exterior of said housing for simultaneously controlling the effective position of all of said projectable members for locking or unlocking the coacting latch connections and maintaining the door wing carriers in radial positions or allowing the door wing carriers to move to a collapsed position under conditions of excess pressure against said door wing carriers.

23. Revolving door mechanism comprising housing members carried by a vertically disposed shaft, means for mounting a plurality of door wings on said housing members, latching means disposed within said housing members for maintaining said door wings in radial positions, an angularly shiftable device having longitudinally disposed projecting portions separated by alternate longitudinally extending recessed portions, and means for shifting said device for simultaneously releasing the latching means on all of said door wings by movement of the longitudinally disposed projecting portions on said device out of the path of said latching means and allowing said latching means to move into the recessed portions of said device.

24. Revolving door mechanism comprising housing members carried by a vertically disposed shaft, means for mounting a plurality of door wings on said housing members, latching means disposed within said housing members for maintaining said door wings in radial positions, means angularly shiftable for simultaneously releasing the latching means on all of said door wings under conditions of excessive pressure exerted against any one of said door wings, the last said means having a laterally extending plate connected therewith and disposed in a plane parallel with the plane of one face of said housing members, gear teeth formed in a portion of the peripheral edge of said plate, and a manually operated gear device meshing with the teeth in said plate and controllable exteriorly of said housing for angularly shifting the last said means for simultaneously releasing the latching means on all of said door wings whereby said wings may be folded with a minimum of pressure.

25. Revolving door mechanism comprising housing members carried by a vertically disposed shaft, means for mounting a plurality of door wings on said housing members, latching means disposed within said housing members for maintaining said door wings in radial positions, said door wings being individually movable to collapsed position under conditions of excessive pressure exerted against the individual wing, and an angularly shiftable device within said housing member having alternate projecting and recessed portions, and means controllable exteriorly of said housing members for aligning either said projecting portions or the recessed portions of said device with said latching means for respectively locking or permitting simultaneous collapsing of said door wings.

26. Revolving door mechanism comprising housing members carried by a vertically disposed shaft, means for mounting a plurality of door wings on said housing members, latching means disposed within said housing members for maintaining said door wings in radial positions, said door wings being individually movable to collapsed position under conditions of excessive pressure exerted against the individual wing, an angularly shiftable device journaled in said housing member and including an actuating plate portion and an alternately ribbed and recessed portion, and a gear device operative from the exterior of said housing member for engaging teeth formed in said plate portion for shifting said device from a position in which said ribbed portions are aligned with said latching means to a position in which the recessed portions are aligned with said latching means for simultaneously releasing the latching means on all of said door wings whereby said wings may be folded with a minimum of pressure.

JOHN W. SHIELDS.