

June 9, 1936.

G. N. SIMPSON

2,043,780

COLLAPSIBLE REVOLVING DOOR

Filed Oct. 26, 1935

2 Sheets-Sheet 1

Fig. 1.

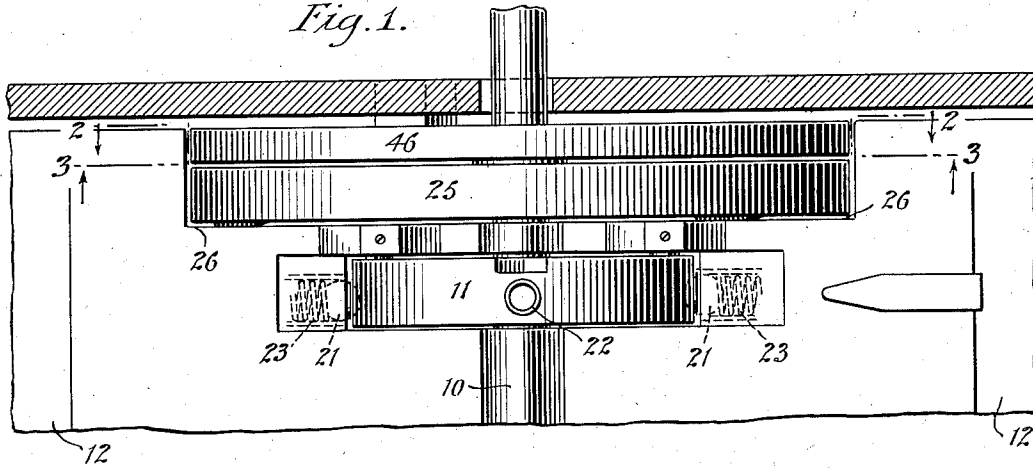
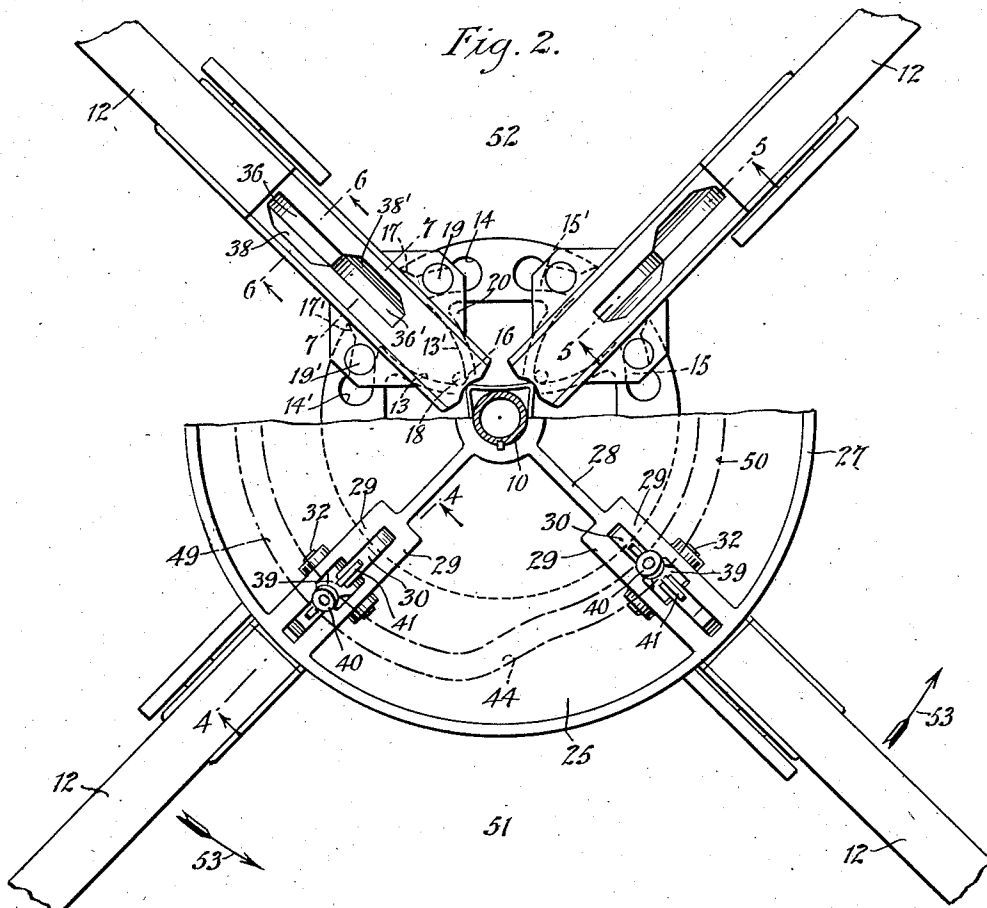


Fig. 2.



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2 Sheets-Sheet 2

Fig. 3.

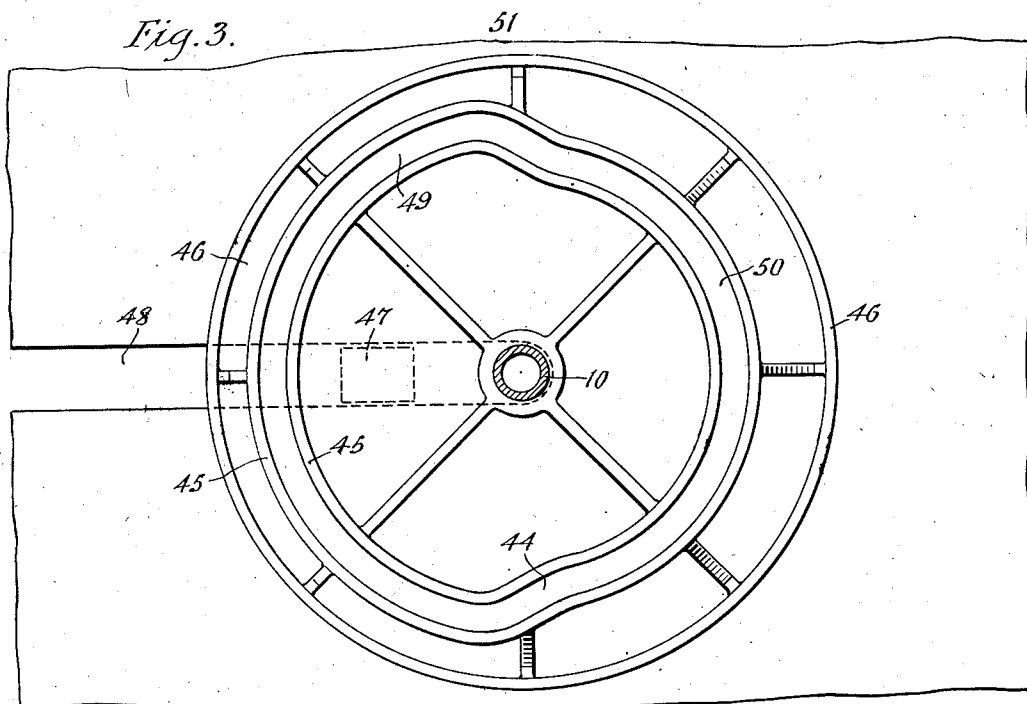


Fig. 4.

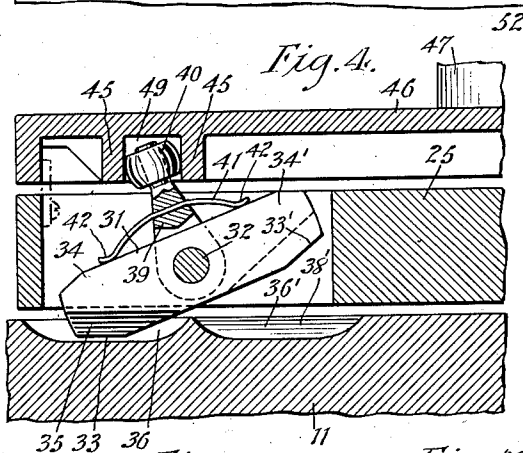


Fig. 5.

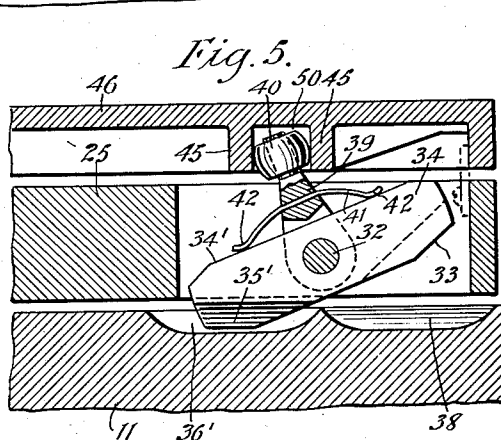


Fig. 6.

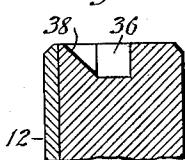


Fig. 7.

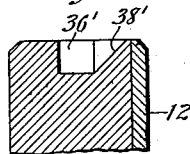
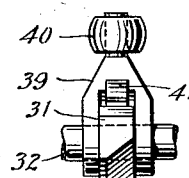


Fig. 8.



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2,043,780

COLLAPSIBLE REVOLVING DOOR

George N. Simpson, Chicago, Ill.

Application October 26, 1935, Serial No. 46,935

20 Claims. (Cl. 20—18)

This invention relates to improvements in collapsible revolving doors of the type generally known as panicproof revolving doors.

A panicproof revolving door is one in which a central rotating member supports a plurality of door wings in such a manner that under the pressure exerted upon the door wings during the normal operation of the door, the four door wings will remain in radial position and will rotate as a unit with the central supporting member, but under abnormal or excessive pressure, such as would be exerted upon the door wings during a panic, the wings will collapse to a position where the four wings are disposed on one side of the central supporting member in the manner of the leaves of a closed book, leaving the entranceway free and unobstructed. This will permit of ready egress from a building during any disturbance or disorder, such as a panic.

Usually the door wings in a panicproof door have some form of pivotal connection with the central supporting member so that the door wings may have swinging movement with respect thereto, and some form of automatically releasable lock is provided to hold each of the door wings in radial position, such as a spring-presser dent carried by each door wing and engageable in a recess formed in the central supporting member or cables extending between the door wings and fitted into automatically releasing sockets provided in the door wings. The adjustment of the automatically releasable locking devices must be such as to maintain the door wings in radial position under the pressure exerted upon them during the normal operation of a door, but must permit of collapsing of the door wings during abnormal or excessive pressure, such as occurs during a panic.

Revolving doors are used principally in the entranceways of buildings, and strong wind currents are generally present through such entranceways, especially in relatively tall buildings which operate somewhat in the manner of a flue, creating a strong updraft in the building and consequently a considerable difference in pressure of the air on the exterior and in the interior of the street floor of the building. This difference in static pressure, caused by the chimney action of the tall, heated building combines frequently with the dynamic or impact pressure caused by the velocity of outside winds which may blow against the entrance, exert strong pressure against the revolving door disposed in the entranceway, with the result that unless the locking mechanism is set at an extremely high tension the door wings

will be automatically collapsed by the wind current. Consequently in many instances the locking mechanism has to be set at such an extremely high tension that the door wings will not automatically collapse during a panic, and as a practical matter revolving doors when thus adjusted are not panicproof doors at all.

It is an object of this invention to provide an improved panicproof revolving door, for use in an entranceway, in which the resistance to collapsing any wing in a given direction can be varied automatically at different points in the rotation. One of the many adjustments of this varying resistance to collapsing allows the panicproof revolving doors to be, at all times, automatically collapsible under excessive pressure, as during a panic, in a direction of exit through the entranceway, but also to be, at all times, able to resist the wind pressure prevalent through the entranceways of the building in the direction of entry.

I accomplish this result, for resistance to external wind pressure, by providing such a varying resistance to collapsing, that the door wings are during certain periods of rotation, non-collapsing or substantially non-collapsing toward one side of the wing and in other periods of rotation are non-collapsing or substantially non-collapsing toward the other side of the wing. These periods may be so regulated that the door will be non-collapsible or substantially non-collapsible in a direction of entry through the entranceway but will, at all times, be automatically collapsible in a direction of exit.

In the accompanying drawings which illustrate but one of the many possible embodiments of my invention:

Fig. 1 is an elevation of the upper end of one type of revolving door embodying features of my invention, the door wing which normally projects outwardly being omitted for the sake of clarity;

Fig. 2 is a plan view, partly broken away, in the direction of the arrows on the line 2—2 of Fig. 1;

Fig. 3 is a view in the direction of the arrows on the line 3—3 of Fig. 1, showing the lower face of the cam plate for automatically controlling the wing locking mechanism forming part of my present invention;

Fig. 4 is a sectional view in the direction of the arrows on the line 4—4 of Fig. 2, showing the locking mechanism in one position;

Fig. 5 is a sectional view in the direction of the

arrows on the line 5-5 of Fig. 2, showing the locking mechanism in another position;

Fig. 6 is a cross section in the direction of the arrows on the line 6-6 of Fig. 2;

5 Fig. 7 is a cross section in the direction of the arrows on the line 7-7 of Fig. 2; and

Fig. 8 is a detail view of the portion of the locking mechanism which engages the stationary cam track.

10 My invention may be used in association with any desired type of collapsible panicproof revolving doors. In the accompanying drawings it is illustrated as applied to a revolving door of the general type illustrated in Patent No. 1,890,365, comprising a central rotary support or spindle 10, a pair of wing supporting elements or disks 11 (only one of which is shown) secured adjacent the two ends of the spindle, and a plurality of door wings 12 (usually four in number) pivotally connected to the disks so as to be shiftable from a normal radial or operating position to a collapsed position.

The pivotal connections between each door wing and disk are the same and comprise a plurality of cutouts and grooves formed in the disk and three pins or pivotal elements carried by the door wings, the disk being provided at four equally spaced points with a cutout portion having side walls 13 and 13' which are arcs drawn from the recesses 14 and 14', respectively, formed on the ends of grooves 15 and 15', which in turn are arcs drawn from the point 16 at the end of the central cutout portion at the point of junction between the two walls 13 and 13'. The central cutout portion extends to the periphery of the disk and is provided with side walls 17 and 17', respectively, extending from the grooves 15 and 15' to the periphery.

Three pins or pivotal elements 18, 19 and 19' are carried by a plate 20 which is secured to each door wing and engage the cutouts and grooves, as shown, so as to provide a pivotal connection between each door wing and disk. When in normal or radial position, as shown in Fig. 2, pin 18 is seated at the head 16 of the central cutout portion, while the pins 19 and 19' are disposed adjacent the inner ends of grooves 15 and 15', respectively, the latter pins being preferably provided with flattened or arcuate faces (not shown in the drawings) so as to fit into the grooves 15 and 15' and so as to form a retaining lock in cooperation with the recesses 14 and 14' when the door is in fully collapsed position, as more fully described in the above referred to patent.

55 In collapsing, each door wing first pivots around the pin 18 seated at the point 16 with the pins 19 and 19' sliding in their grooves 15 and 15' until one of the pins 19 or 19' reaches the recess 14 or 14', depending upon the direction in which the door is collapsed. When the pin 19 or 19' reaches the recess 14 or 14', from that point on the door then pivots around the pin 19 or 19' thus seated in its recess 14 or 14'. Pin 18, in cooperation with one of the walls 13 or 13', serves to guide the collapsing movement.

Suitable means are preferably provided to releasably retain each door wing in normal or radial position, such as a ball detent 21 held in a socket in the door wing so that the end of it may project outwardly into engagement with a recess 22 formed in the periphery of the disk, but so that the entire ball may not escape. A spring 23 is provided so as to normally hold the detent in engagement with the recess and thus releasably

retain the door wing in radial or normal operating position, the tension of the spring being so adjusted as to hold the detent in engagement with the recess under the normal pressure exerted upon the door wing in revolving the door, but so as to permit the detent to release its engagement with the recess under excessive pressure exerted upon opposing door wings, as during a panic. If desired, instead of employing a detent type of locking mechanism, other locking means such as a releasable cable lock may be connected between the door wings in the well known manner or the wings may be held in radial position entirely by means of my new automatically controlled engagement means.

The revolving door heretofore described is one of the well known types of collapsible panicproof doors now in use and is intended as an illustration of one of the types of door to which my invention may be applied, it being understood that my invention may be used in association with any other type of collapsible panicproof revolving door.

The means which I employ for providing in my panicproof revolving door a resistance to collapsing which can be varied automatically at different points in the rotation and which can be regulated to permit the revolving door wings to be automatically collapsed in a direction of exit through the entranceway upon the exertion of slightly excessive pressure upon the wings and yet be non-collapsible in the direction of entrance under heavier pressure such as those exerted by wind pressure and differences in static pressure, comprises an engagement for each of the door wings which is fixed relative to the central spindle and which is automatically operable by a stationary control member, such as a cam track, to cause each door wing to have a greater resistance to collapsing in one direction with respect to the central axis of the door wing during a certain period of rotation of the wings and a greater resistance to collapsing in the opposite direction with respect to the central axis of the door wing during another period of rotation of the wings. Such resistance to collapsing toward one side of the wing during certain periods of rotation may, if desired, be increased to any point up to the point where it is a positive stop against collapsing, while the resistance to collapsing toward the same side of the wings during other periods of rotation may be decreased to any point, down to the point where there is little or no resistance to collapsing.

The mechanism here described, which is only one of the many means of applying the invention, includes an element such as the disk 25 secured to and rotatable with the spindle 10, preferably adjacent the upper end thereof, and which is fitted into recesses 26 formed in the corresponding portion of each of the door wings. The recesses should be so formed that the edges of the door wings are spaced from the disk 25 sufficiently to permit the relative movement between the door wings and disk 25 so that the door may be collapsed. Around the edge of the disk 25 a peripheral flange 27 is formed, and extending in radial fashion from the center of the disk are a plurality of upstanding ribs 28, one for each of the door wings, usually four in number, and placed at the normal radial positions of the wings and which are bifurcated at their outer ends, forming spaced legs 29 between which slots 30 extending through the disk 25 are formed.

A locking plate indicated generally at 31 is disposed in each of the slots 30 and is pivotally

mounted on a pin 32 extending between the two legs 29 of the bifurcated rib. Adjacent both ends each locking plate is preferably formed with tapering or angularly disposed lower surfaces 33 and 33', and one end 34 of the plate is provided with one relatively more inclined or beveled side face 35 extending upwardly from its lower edge and with one vertical or more acutely beveled face on its other side, while the other end 34' of the locking plate is similarly formed with one relatively more inclined or beveled side face 35' and one vertical or more acutely beveled face, the two faces on the end 34', however, being disposed in opposite relation to the faces on the other end 34 of the plate. The pivotal mounting for each of the locking plates 31 is such that either end 34 or 34' may be pivoted downwardly into engagement with slots or recesses 36 and 36' formed in the upper recessed edge of each door wing when the wings are in radial position, each of the recesses being formed with one relatively more inclined or beveled side edge, as at 38 and 38', and one vertical or more acutely beveled side edge, which are adapted to engage the relatively more beveled and straight edges, respectively, of the ends 34 and 34' of the locking plate when in engagement with the recesses. Thus when the end 34 of the locking plate is pivoted downwardly into engagement with recess 36, the more inclined or beveled face 35 of the plate will engage the more inclined or beveled side 38 of the recess, while the vertical or more acutely beveled face of the plate engages the vertical or more acutely beveled side of the recess, as shown in Fig. 4, and similarly when the end 34' of the plate is pivoted downwardly into engagement with recess 36' its more inclined or beveled face 35' will engage the more inclined or beveled side 38' of the recess, while its vertical or more acutely beveled face will engage the vertical or more acutely beveled side of the recess, as shown in Fig. 5.

To cause the end 34 of each locking plate during certain periods of rotation of its cooperating door wing to engage the recess 36, and the end 34' during other periods of rotation to engage the recess 36', I provide an operating lever 39 likewise pivotally mounted on the pin 32 and preferably formed at its upper end with an enlarged head 40 having rounded or arcuate side edges and preferably made of a suitable anti-friction material. A suitable flexible connection, such as the spring 41 secured in a channel formed in the lever 39 and having end portions 42 engaging the upper surface of the locking plate 31 at the two sides of the pivotal point 32, is provided so that the locking plate is normally held in a perpendicular position relative to the lever 39, but so that it may be pivoted with respect to the lever 39 against the tension of the spring 41 when pressure is applied to the locking plate in an upward direction on either side of the pivot 32.

It will be seen that by pivoting any one of the levers 39 in a direction away from the central spindle of the door, due to the provision of spring 41 the end 34 of the locking plate will be urged into engagement with the recess 36 in the cooperating door wing, as shown in Fig. 4, and by pivoting the lever towards the central spindle the end 34' of the locking plate will be urged into engagement with the recess 36', as shown in Fig. 5. The construction of the locking mechanism is such and the tension of the spring 41 is so adjusted that by urging the door wing under

sufficient pressure towards the more inclined or beveled face 35 or 35', which at that particular time is in engagement with the recess 36 or 36', the locking plate will be forced out of engagement with the recess against the tension of the spring 41 due to the wedge-like action of the interengaged beveled faces of the locking plate and recess, thereby permitting collapsing of the door wing. However, if the same pressure is applied to the door wing in the opposite direction against the vertical or more acutely beveled face of the end of the locking plate, which is in engagement with its recess, the locking plate will prevent collapsing of the door wing. The relatively vertical or more acutely beveled faces of the locking plate and recess may be so formed so as to prevent absolutely the collapsing of the door wing in that direction, or they may have a relatively acute bevel so as to permit collapsing only under pressure relatively higher than that required to collapse the door wing in the opposite direction.

To cause each of the levers 39 to assume the proper positions during the rotation of the revolving door so that the door wings when pressed towards one side will have varying resistance to collapsing during different periods of rotation so that when arranged as herein shown and described the door will, at all times, be automatically collapsible in a direction of exit through the entranceway, but non-collapsible or substantially non-collapsible in the direction of entry through the entranceway, I provide a cam track 44 formed between a pair of upstanding walls 45 on the lower face of a disk 46 disposed around the upper end of the spindle 10 and held against rotation by suitable means, such as the lug 47 extending into the slot 48 normally provided in the ceiling of a revolving door enclosure, so that the revolving door may be moved to one side of the enclosure when it has been collapsed or the wings have been folded, two on either side of the central shaft. The lug 47 permits the disk 46 to move to the side of the enclosure with the door.

It will be seen that the cam track 44 is formed in two substantially semi-circular connected segments, one of which, 49, is disposed nearer the periphery of the disk than the other portion 50. The disk 46 is so positioned with respect to the disk 25 that the members 40 formed on the levers 39 which control the locking devices for each of the door wings are in engagement with the cam track 44, whereby the levers 39 are caused to pivot back and forth during the rotation of the door, alternately urging the ends 34 and 34' of the locking plates into engagement with the recesses 36 and 36'. When the members 40 are in engagement with the segmental portion 49, the ends 34 of the locking plates will be in engagement with the recesses 36, and when the members 40 are in engagement with the segmental portion 50, the ends 34' of the locking plates will be in engagement with the recesses 36'.

In Fig. 2 of the drawings a portion of the plate 25 which supports the locking plates and control levers is shown, and the position of the cam track 44 is indicated in dotted lines although the disk 46 is not shown. The lower end of Fig. 2, indicated at 51, represents the end of the entranceway located inside of the building, while the upper end, indicated at 52, represents the end of the entranceway located outside of the building. As the door is rotated in the direction of the arrows 53, when the member 40 of any

door wing locking mechanism reaches the segment 49, the locking mechanism is caused to assume the position with the end 34 of the locking plate in engagement with the recess 36. As the door wing is further rotated in the direction of the arrows, the end 34 will remain in engagement with the recess 36 until the door wing passes a predetermined point inside of the entranceway and member 49 contacts segment 50, from which point to a predetermined point outside of the entranceway the end 34' of the locking plate will be in engagement with the recess 36'. In the accompanying drawings the two segments are illustrated as meeting at approximately the central point, inside and outside the entranceway in the revolution of the door. This, of course, may be varied in accordance with the particular problem presented by a given entranceway and in accordance with the variations in pressure involved.

When the mechanism is arranged as herein shown and described, excessive pressure upon opposing door wings in a direction of exit through the entranceway will accordingly at all times cause the locking plates to release their engagement with the recesses 36 and 36' formed in the door wings due to the interengagement of the more inclined or beveled faces 35 and 38 and 35' and 38', so as to permit the door to collapse in a direction of exit. However, if pressure is exerted upon opposing door wings in a direction of entry through the entranceway, the interengagement of the vertical or more acutely beveled faces of the locking plates and recesses will prevent collapsing of the door wings in this direction or will require considerably greater pressure to collapse the wings. Thus the revolving door will be panicproof and collapsible in a direction of exit but will be able to resist differences in static pressure and wind pressure and air currents seeking to enter the building through the entranceway.

It should be understood that instead of providing the locking plate with a straight or vertical face as shown in the drawings at each end opposite the beveled faces 35 and 35', more acutely beveled faces, i. e. beveled faces having a greater degree of pitch than the faces 35 and 35', may be provided, and in the same manner the recesses 36 and 36', instead of being provided with one vertical lateral edge, may be provided with more acutely beveled faces, i. e. faces having a relatively steep pitch corresponding to the pitch of the faces on the locking plate. In this way it will be possible to vary the collapsing pressure of the wings towards either side of the wings at different periods of rotation, and this will make it possible to provide such a variation that while the door wings will not be absolutely non-collapsible in a direction of entry through the entranceway, they will nevertheless be relatively or substantially non-collapsible so as to be unaffected by wind pressure in a direction of entry through the entranceway. It is not required that the door be absolutely non-collapsible in a direction of entry, it being sufficient if the door can resist any wind pressure which may exist.

Likewise the cam track may be varied so that the extent of the segments 49 and 50 are diminished to only provide for engagement between the ends of the locking plate and the recesses for those portions of the rotation of each door wing when it is in engagement with the side walls of the enclosure normally provided for a

revolving door. The segments 49 and 50 may then be connected at their inner and outer ends with neutral segments positioned with respect to the periphery of the disk midway between the segments 49 and 50 so as to retain the lever 39 in vertical position and the locking plate 31 in horizontal position entirely out of engagement with the recesses formed in the door wing, for those portions of the revolution of the revolving door when the door wing is not in engagement with the side walls of the enclosures.

It will be seen that by the construction herein illustrated and described, a panicproof collapsible revolving door has been provided in which the resistance to collapsing any wing in a given direction can be varied automatically at different points in the rotation. One of the applications of this varying resistance to collapsing, as illustrated herein, causes the panicproof revolving door, at all times, to be automatically collapsible in the direction of exit through the entranceway under abnormal or excessive pressure upon opposing door wings, as during a panic, but to be unaffected by air currents and wind pressure exerted upon the door wings in a direction of entry through the entranceway.

It is to be understood, of course, that many modifications may be made in the herein illustrated and described embodiment of the invention without departing from the spirit and scope of the claims, such as changing the construction of the cam member and varying the locking plates so that they are slidably rather than pivotally mounted.

I claim:

1. In a collapsible revolving door, means for releasably holding the door wings in radial position so that they may be collapsed under abnormal pressure, and means for automatically varying the resistance to collapsing during certain periods in the rotation of the door.

2. In a collapsible revolving door, a central rotating member, a door wing rotatable with said member and connected thereto so as to be shiftable from a normal radial to a fully collapsed position, means for releasably retaining said door wing in radial position so that it may be collapsed upon the application to the wing of abnormal pressure, and means for automatically varying the resistance to collapsing of said door wing during certain portions of the cycle of rotation.

3. In a collapsible revolving door, a central rotating member, a plurality of door wings rotatable with said member and connected thereto so as to be shiftable from a normal radial to a fully collapsed position, means automatically releasable under pressure exerted upon said door wings for holding said door wings in radial position, and means automatically operable during certain periods of rotation of said door for varying the resistance of said first named means so as to vary the pressure at which the door wings will be released.

4. In a collapsible revolving door, a plurality of rotatable door wings supported so as to be shiftable from a normal radial to a collapsed position, means associated with said door wings to hold them in radial position, said means being releasable to provide for collapsing of said door wings when abnormal pressure is exerted on said wings but having sufficient resistance to retain said wings in radial position under normal operating pressure, and means for varying the resist-

ance to collapsing of said last named means as said door is rotated.

5 5. In a collapsible revolving door, a plurality of rotatable door wings supported so as to be shiftable from a normal radial to a collapsed position, means including a shiftable locking member associated with each of the door wings for normally holding said door wings in radial position and for resisting collapsing of the door wings
10 until a predetermined pressure is exerted on the wings, and means including a stationary member provided with means for engaging said first named means to cause the locking members to shift and vary the resistance to collapsing of
15 said door wings as the door is rotated.

6. In a collapsible panicproof revolving door having a plurality of pivotally mounted door wings adapted for use in an entranceway, means for causing said door to be substantially non-collapsible in the direction of entry through the entranceway.

7. In a collapsible panicproof revolving door, a rotatable supporting member, a plurality of door wings carried by said member and swingable from a normal radial to a collapsed position, and means for releasably retaining said door wings in radial position so that the door may be collapsed in one direction only under abnormal pressure.

8. A collapsible panicproof revolving door for use in an entranceway including a rotatable supporting member, a plurality of door wings rotatable with said supporting member, means connecting said door wings to said supporting member so that the wings may swing from a normal radial to a collapsed position, and means for releasably retaining said door wings in radial position so that the door may be collapsed in the direction of exit through said entranceway under abnormal pressure upon opposing door wings, said last named means including means for causing said door to be substantially non-collapsible in the direction of entry through the entranceway.

9. A collapsible panicproof revolving door for use in an entranceway including a rotatable supporting member, a plurality of door wings rotatable with said supporting member, means connecting said door wings to said supporting member so that the wings may swing from a normal radial to a collapsed position, releasable locking members for holding said door wings in radial position under normal pressure but so that the door can collapse under abnormal pressure upon opposing door wings, and means for causing said door to be substantially non-collapsible in the direction of entry through the entranceway.

10. A panicproof collapsible revolving door for use in an entranceway including a rotatable central support, a plurality of door wings rotatable with said support, means connecting said door wings to said support so that they may be swung from a normal radial to a collapsed position, and means associated with said door wings for preventing the wings from collapsing towards one side of the wing during a certain period of rotation and to prevent the door wings from collapsing towards the other side of the wing during another period of rotation, so that the door is substantially non-collapsible in the direction of entry through the entranceway.

11. A panicproof collapsible revolving door for use in an entranceway comprising a rotatable central support, a plurality of door wings rotatable with said support, means connecting said

door wings to said support so that they may be swung from a normal radial to a collapsed position, retaining means associated with each of said door wings for preventing them from collapsing in one direction, retaining means associated with each of said door wings for preventing them from collapsing in the other direction, and control means for causing the first retaining means to be effective and the other retaining means to be ineffective during certain periods of rotation of each door wing, and the second retaining means to be effective and the first to be ineffective during another period of rotation of the door wing, so that the door is at all times collapsible in the direction of exit through the entranceway and substantially non-collapsible in the direction of entrance through said entranceway.

12. A panicproof collapsible revolving door for use in an entranceway comprising a rotatable central support, a plurality of door wings rotatable with said support, means connecting said door wings to said support so that they may be swung from a normal radial to a collapsed position, retaining means associated with each of said door wings for preventing them from collapsing in one direction, retaining means associated with each of said door wings for preventing them from collapsing in the other direction, control means including a stationary member disposed adjacent said door, and means mounted on said door and engageable with said stationary member for causing the first retaining means to be effective and the other retaining means to be ineffective during a certain period of rotation of each door wing, and the second retaining means to be effective and the first to be ineffective during another period of rotation of each door wing, so that the door is at all time collapsible in the direction of exit through the entranceway but substantially non-collapsible in the direction of entry through said entranceway.

13. A panicproof collapsible revolving door for use in an entranceway comprising a central rotatable member, door wings rotatable with said member, means connecting said door wings to said central rotatable member so that said door wings may swing from a normal radial to a collapsed position, and means for preventing said door from collapsing in the direction of entry through said entranceway, said means including a pair of locking members for each of said door wings for holding each wing in fixed relation to the central rotatable member, one of said locking members being fixed against automatic release in one direction only and the other being fixed against automatic release in the opposite direction only, and means for causing one of said locking members to be effective during a certain period of rotation of said door wing and another of said locking means to be effective during another period of rotation of said door wing.

14. A panicproof collapsible revolving door for use in an entranceway comprising a central rotatable member, door wings rotatable with said member, means connecting said door wings to said central rotatable member so that said door wings may swing from a normal radial to a collapsed position, and means for preventing said door from collapsing in the direction of entry through said entranceway, said means including a pair of locking members for each of said door wings for holding each wing in fixed relation to the central rotatable member, one of said locking members being fixed against automatic release in

one direction only and the other being fixed against automatic release in the opposite direction only, and control means including a stationary member disposed adjacent said door having engagement with said locking members for causing one of said locking members to be effective during a certain period of rotation of said door wing and another of said locking members to be effective during another period of rotation of said door wing.

15. In a collapsible revolving door for use in an entranceway, a central rotatable member, a door wing having pivotal connection with said member so that it may be swung from a normal radial to a collapsed position, and means for rendering said door wing substantially noncollapsible in one direction during a certain period of rotation of said door.

16. In a collapsible revolving door for use in an entranceway, a central rotatable member, a door wing having pivotal connection with said member so that it may swing from a normal radial to a collapsed position, means for releasably retaining said door wing in radial position, means retaining said door wing so as to be substantially non-collapsible in one direction with respect to the axis of the door wing during one segment of the arc of rotation of the wing, and means for retaining the door wing so as to be substantially non-collapsible in the other direction with respect to the axis of the door wing during an opposite segment of the arc of rotation of the wing.

17. In a collapsible revolving door for use in an entranceway, a central rotatable member, a door wing having pivotal connection with said member so that it may swing from a normal radial to a collapsed position, means for releasably retaining said door wing in radial position so that it may collapse under abnormal pressure, locking means associated with said door wing for causing it to be substantially non-collapsible in one direction with respect to the axis of the door wing, locking means associated with said door wing for causing it to be substantially non-collapsible in the opposite direction with respect to the axis of the door wing, and control means for causing the first locking means to be effective and the second locking means ineffective during a segment of the arc of rotation of the door wing, and for causing the second locking means to be effective and the first ineffective during an opposite segment of the arc of rotation of the door wing.

18. In a collapsible revolving door for use in an entranceway, a central rotatable member, a door wing having pivotal connection with said member so that it may swing from a normal radial to a collapsed position, means for releasably retaining said door wing in radial position

so that it may collapse under abnormal pressure, locking means associated with said door wing for causing it to be substantially non-collapsible in one direction with respect to the axis of the door wing, locking means associated with said door wing for causing it to be substantially non-collapsible in the opposite direction with respect to the axis of the door wing, and control means including a stationary member engageable with said locking means for causing the first locking means to be effective and the second locking means ineffective during a segment of the arc of rotation of the door wing, and the second locking means to be effective and the first locking means ineffective during an opposite segment of the arc of rotation of the door wing.

19. In a collapsible revolving door for use in an entranceway, a central rotatable member, a door wing having pivotal connection with said member so that it may swing from a normal radial to a collapsed position, means for releasably retaining said door wing in radial position so that it may collapse under abnormal pressure, locking means associated with said door wing for causing it to be substantially non-collapsible in one direction with respect to the axis of the door wing, locking means associated with said door wing for causing it to be substantially non-collapsible in the opposite direction with respect to the axis of the door wing, and control means including a stationary cam track having engagement with an operating member associated with said locking means for causing said first locking means to be effective and the second locking means ineffective during a segment of the arc of rotation of the door wing, and the second locking means to be effective and the first locking means ineffective during another segment of the arc of rotation of the door wing.

20. In a collapsible panicproof revolving door for use in an entranceway, a central support, a plurality of door wings each having connection with said support so as to be shiftable from a normal radial position to collapsed position, means for releasably retaining said door wings in radial position so that they may be automatically collapsed when abnormal pressure is exerted on opposing wings in opposite directions and means automatically operable upon the rotation of the door for controlling the retaining means so as to vary the resistance of the door wings to collapsing in different directions with respect to the axis of the door wings so that the door will readily collapse under abnormal pressure in a direction of exit through the entranceway but will resist collapsing in a direction of entry through the entranceway.

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