J. H. VAN ZANDT.

DOOR.

APPLICATION FILED JAN. 9, 1909.

953,983.

Patented Apr. 5, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

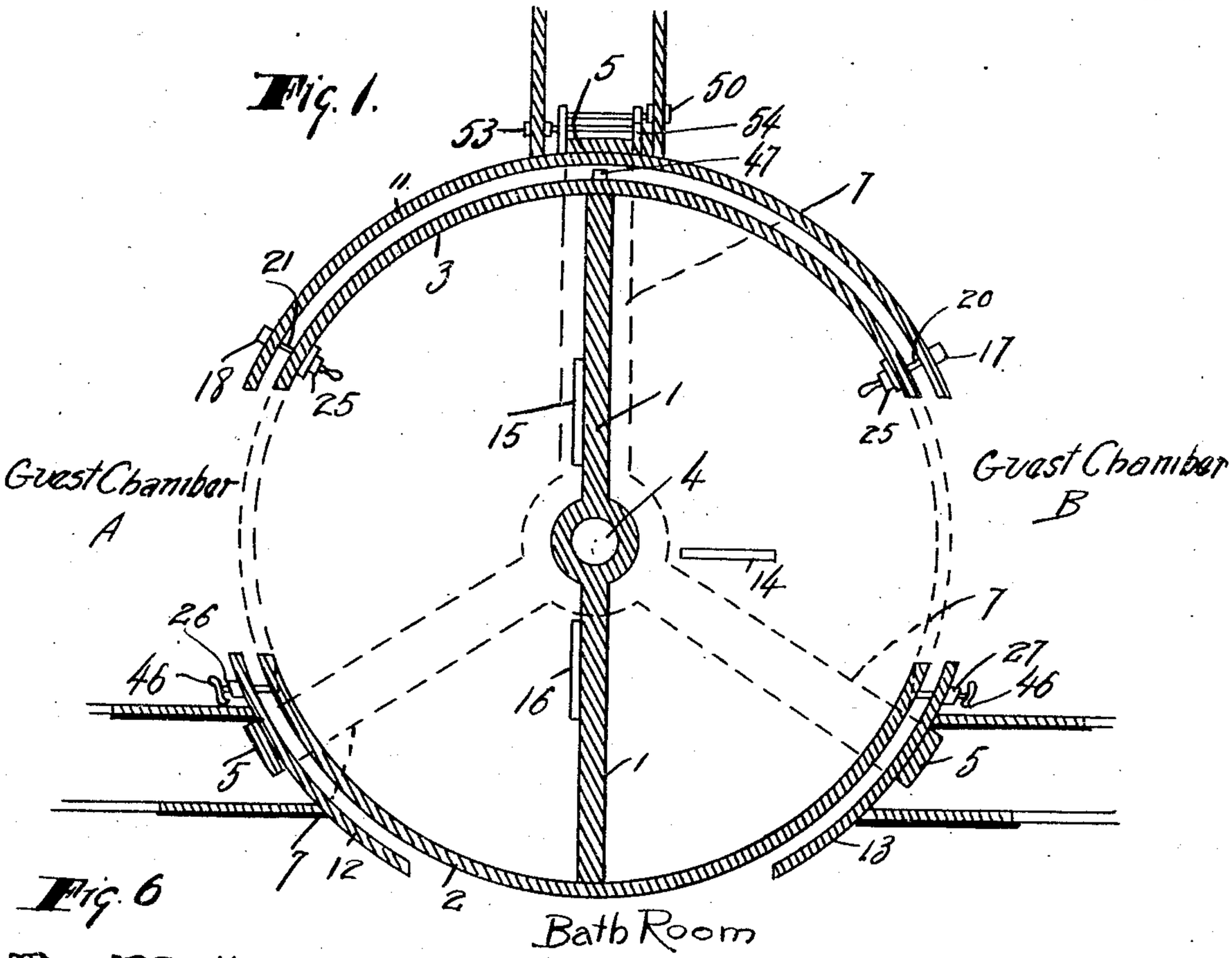



Fig. 6

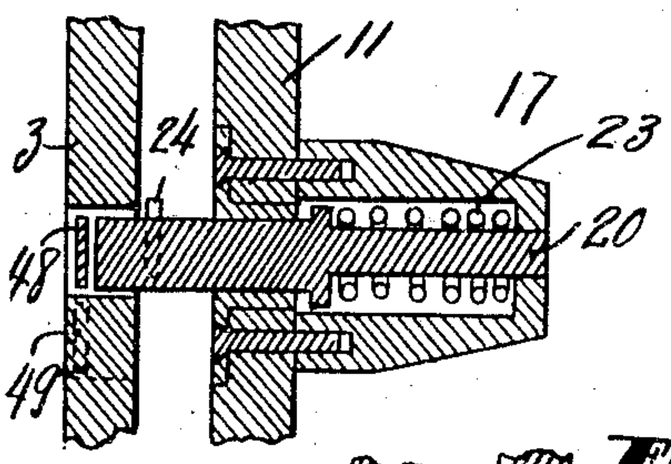



Fig. 7

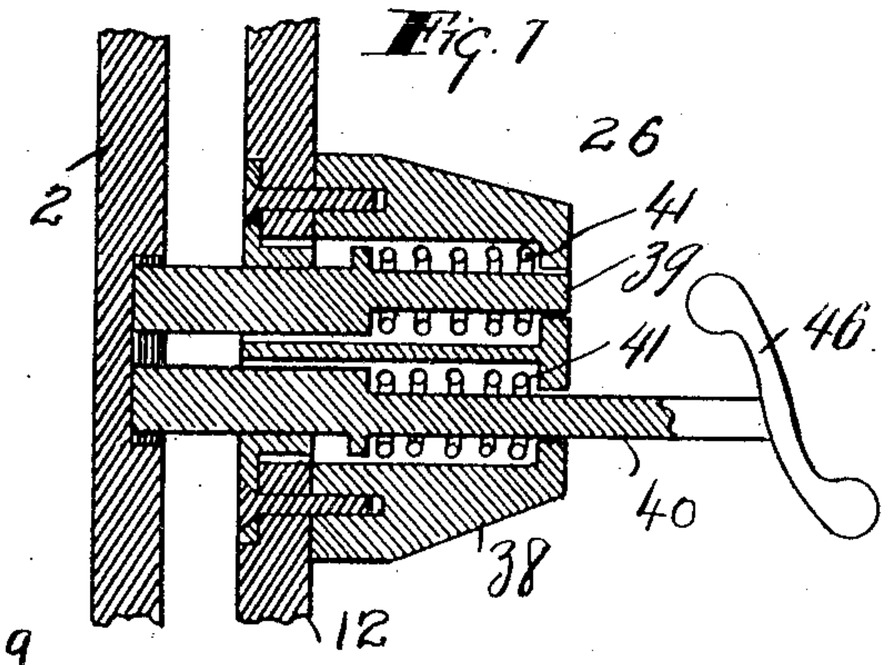



Fig. 9

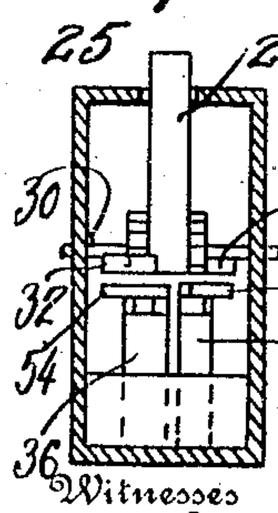
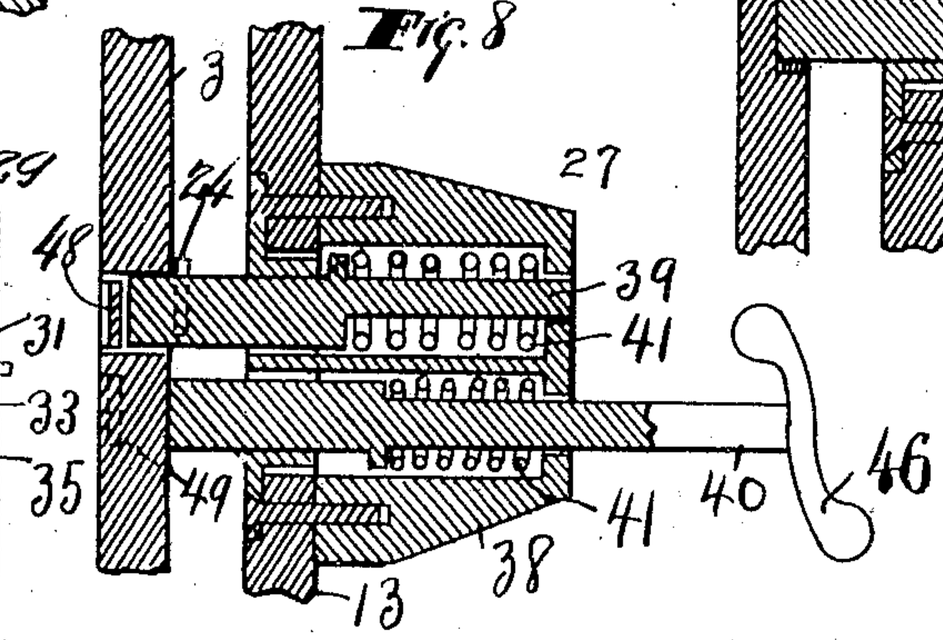



Fig. 8




Witnesses

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2 SHEETS—SHEET 2.

Fig. 2

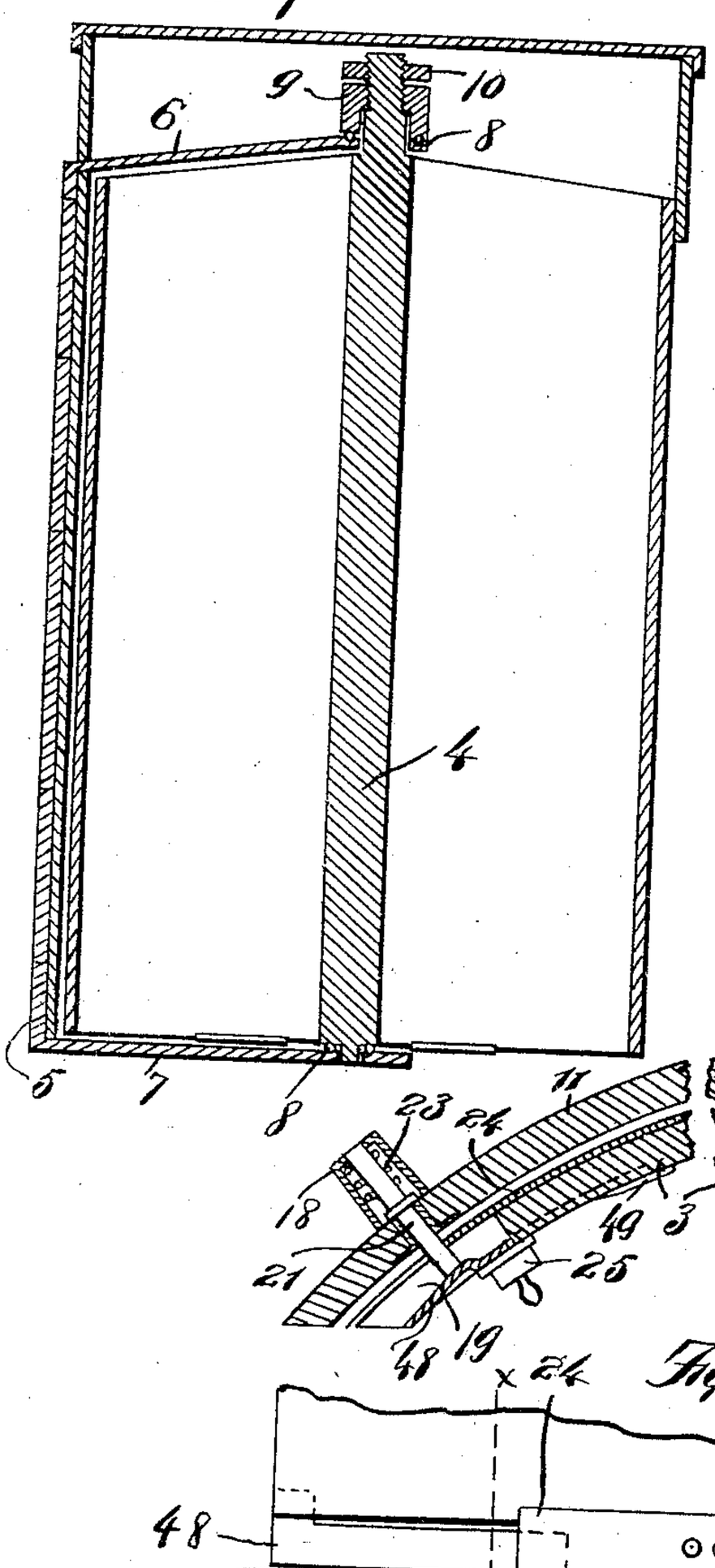



Fig. 3

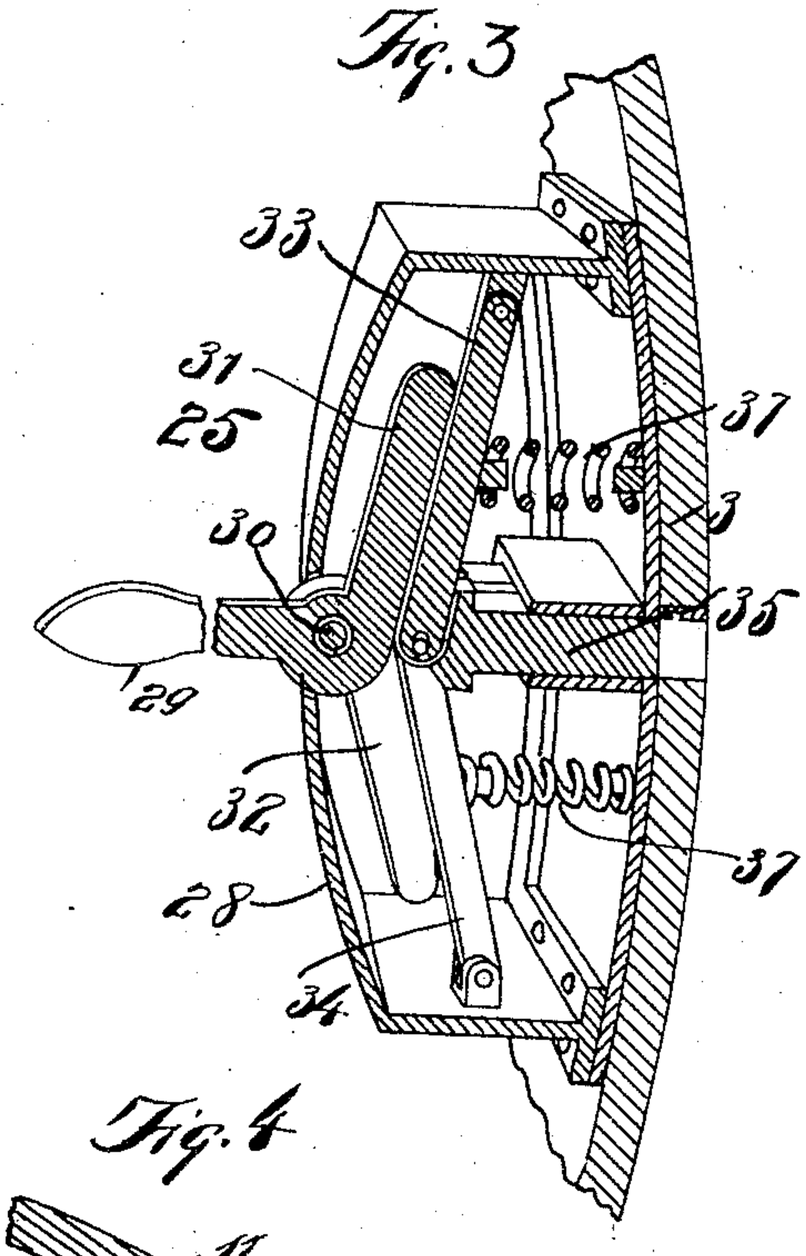
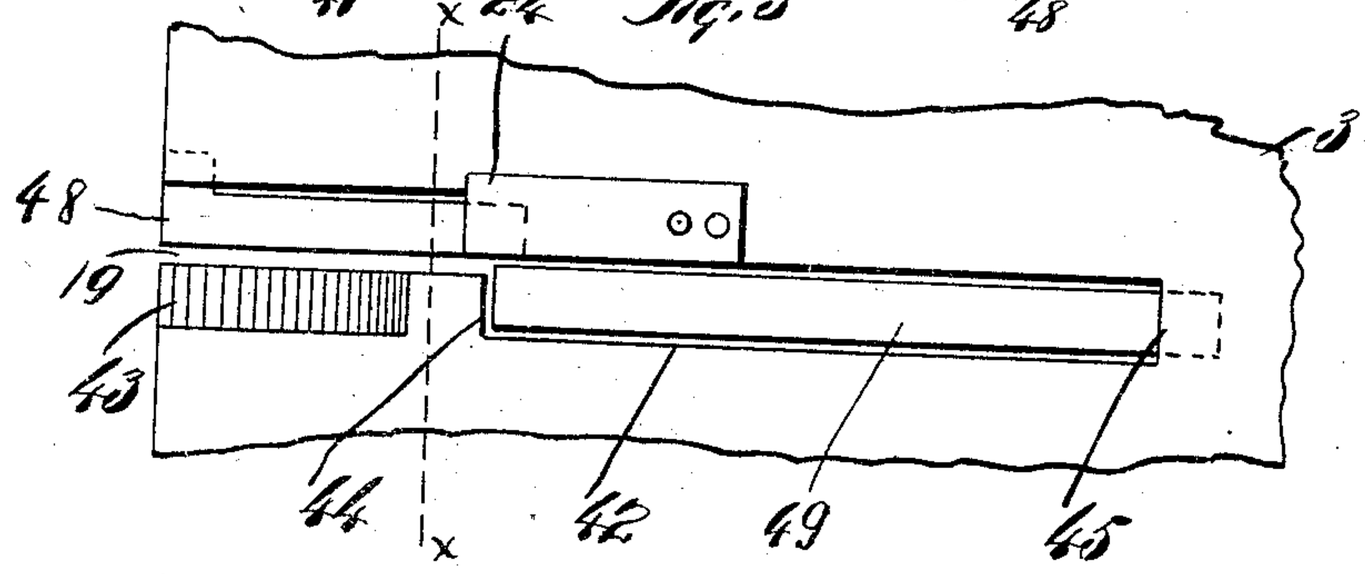



Fig. 4




Fig. 5




Witnesses
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# UNITED STATES PATENT OFFICE.

JOHN H. VAN ZANDT, OF FORT WORTH, TEXAS.

## DOOR.

953,983. Specification of Letters Patent. Patented Apr. 5, 1910.

Application filed January 9, 1909. Serial No. 471,432.

*To all whom it may concern:*

Be it known that I, JOHN H. VAN ZANDT, a citizen of the United States, residing at Fort Worth, Texas, have invented certain new and useful Improvements in Doors, of which the following is a specification.

This invention relates to doors and more particularly to doors which rotate on a vertical axis, and the object is to provide double doors for a bath-room by which access may be had to the bath room from either one of two rooms.

As a matter of economy it is desirable that one bath room may serve two adjoining rooms.

The object of this invention is to provide doors which will permit entrance from either one of two adjoining rooms to the bath room but which will not permit entrance from one of the adjoining rooms to the other and further to provide means which will prevent a party in one of the adjacent rooms from entering the bath room while the party from the other adjoining room is already in the bath room.

Other objects and advantages will be fully explained in the following description and the invention will be more particularly pointed out in the claims.

Reference is had to the accompanying drawings which form a part of this application and specification.

Figure 1 is a plan view of the door with sections of the wall structure of the adjoining rooms and of the bath room. Fig. 2 is a vertical section of the doors and of the coöperating sealing walls or guards. Fig. 3 is a horizontal section of one of the unlocking devices in perspective. Fig. 4 is an enlarged horizontal section through the locking devices carried by the doors, showing the construction of the doors about the locks. Fig. 5 is a portion of one of the segments, the view being an exterior of that part of the segment which carries a releasing device 25. Fig. 6 is a broken vertical section of one of the locks which are carried by the guard wall 11, and showing a section of one of the segments taken on the line $x$—$x$ of Fig. 5. Fig. 7 is a vertical section of a lock which is carried by the guard wall 12 and showing the locking bolts engaging the beveled groove in the segment 2. Fig. 8 is a vertical section of the lock which is carried by the guard wall 13, and also showing a section of the segment 3 taken along the line $x$—$x$ of Fig. 5, the segment 3 being rotated far enough to be adjacent to the lock 27. Fig. 9 is a vertical section of an unlocking device 25 which is carried by the segment 3.

Similar characters of reference are used to indicate the same parts throughout the several views.

This invention includes an oscillating or rotating partition 1 which carries segments of cylinders 2 and 3 and this partition 1 is mounted on a vertical shaft 4. The shaft 4 is mounted in a frame 5 which has upper and lower arms 6 and 7, the shaft 4 being journaled in the upper and lower arms with ball bearings 8, the ball bearings 8 at the upper end of the shaft being included between the arm 6 and a nut 9 which is screwed on the upper end of the shaft 4. A jam nut 10 holds the nut 9 in place. Normally the partition 1 closes the passage from one guest chamber to the other.

In operation the wall sections 11, 12, and 13, which are concentric with the segments 2 and 3, coöperate with the segments 2 and 3 and the partition 1 to close the passage from one guest chamber to the other. Normally a guest in either chamber can enter the door passage. A guest walks into the door passage and unlocks the segment 3. He can then turn the partition so that the segment 3 will close the passage behind him. Segment 2 will pass around far enough to open the passage into the bath room. If the guest comes from chamber A, the segment 3 will be locked to the guard 12 and the segment 2 will close the passage from chamber B. As the guest from chamber A passes out of the bath room, he must step within the circle of the door segments and unlock segment 3 from guard 12 and then rotate the segment 3 back to its normal position before he can pass back to his room. Means are provided for preventing the rotation of the partition 1 more than 180 degrees. An upstanding lug or stop 14 is rigidly mounted in the floor and the partition carries depending lugs 15 and 16 which are adapted to engage the stop 14 so that the partition cannot be turned farther after one of these depending lugs strikes the stop 14.

Means are provided for locking the door in the several different positions. Locks 17 and 18 are mounted on the sealing wall or guard 11 and serve to lock the door or the segments 2 and 3 in their normal positions.

The edges of the segment 3 opposite the locks 17 and 18 have slots 19 therein. The locks 17 and 18 have bolts 20 and 21 which are projected normally in the slots 19 by springs 23. Guards or stops 24 are attached to the segment 3 and form shoulders or locks which prevent the guests in the adjoining rooms from turning the door to effect an entrance from one guest chamber to the other adjoining guest chamber. A guest in chamber A has no way of unlocking the lock 17 on the side of the chamber B and the guest in chamber B has no way of unlocking the lock 18 on the side of the chamber A.

An unlocking device 25 is provided for each guest chamber and the unlocking devices are carried by segment 3. When the guest in chamber A steps into the passage way and thrusts the bolt 21 out of the segment 3 with the unlocking device 25, he can turn the door in the direction to permit him to enter the bath room, but he cannot turn the door in the opposite direction on account of the bolt 20 and the stop 24. The guest in chamber B can step in the passage way and unlock or thrust the bolt 20 out of segment 3 and turn the door in the direction for him to enter the bath room, but he cannot turn the door in the opposite direction on account of the bolt 21 and the stop 24. The bolt 21 or the bolt 20 will be pressed far enough outwardly by the unlocking devices 25 to permit the stop or shoulder 24 to pass under the bolt when the door is to be used and it is apparent that either bolt will fall back into its normal position immediately when the segment 3 assumes its normal position. The metal forming the shoulder or stop 24 may extend entirely back of the segment 3 to form a track for the bolts so that these bolts will not press against the surface of the segment 3. The stops 24 may thus be one piece of metal. As the guest from chamber A turns the door to enter the bath room, the edge of segment 3 soon passes the guard 12 and is automatically engaged by a lock 26 and the door is operated in the same manner by the guest in chamber B, the edge of the segment 3 passing behind the guard 13. The unlocking devices 25 are again used for releasing the door from either the lock 26 or lock 27. The unlocking devices 25 are made double, or rather they are made so that two separate and distinct motions are necessary for exit and entrance purposes. The particular construction is necessary to prevent designing parties from nullifying the effect of the locking bolts in the exterior guards or sealing walls.

A casing 28 is bolted to segment 3. A handle 29 which is in the form of a double bell-crank lever is journaled in the casing 28 by means of a fulcrum bolt 30. This handle is provided with arms 31 and 32 integral therewith. The handle 29 is used to depress two depressing levers 33 and 34 which are pivotally connected to the sides of the casing 28. The lever 33 is pivotally connected with a bolt 35. The levers 33 are for the purpose of operating the locking bolts 20 and 21, there being a lever 33 for each unlocking device 25. The bolt 20 or the bolt 21 is operated simply by pulling the handle 29 in the proper direction which the guest does when he wishes to operate the door. The lever 34 is pivotally connected to a bolt 36. The bolt 36 is used for operating the lower one of each of the locking bolts hereinafter described which are located in the guard walls 12 and 13. Springs 37 hold the levers 33 and 34 in their normal positions so that the bolts 35 stand at the entrance of the holes through the segment 3, and as the locking bolt 20 or 21 stands normally projected into the segment 3 from the guard 11, the bolt 35 for unlocking either one of the bolts 20 and 21 is ready to take effect thereon as soon as the handle 29 is moved.

The locks 27 and 26 are similar and only one will be described. Each lock has a casing 38 attached to the guard walls 12 and 13. Two bolts 39 and 40 are mounted in the casing 38 and both bolts are projected inwardly by springs 41. There is no slot or hole in the segment 2 for either one of the bolts 39 or 40. The edges of the segment 2 opposite the bolts 39 and 40 must be beveled as shown by dotted lines in Fig. 1 so that these bolts will ride up on the outside of segment 2 as one of the edges of segment 2 comes against these bolts. The edges of segment 2 must also be beveled at the same place so that the bolts 20 and 21 will ride up on the outside of segment 2. The function of the bolt 39 is to prevent the rotation of the door when no person is in the passage way, consequently a person on the outside of the passage way cannot rotate the door farther than to make the stop 24 come against the bolt 39. But a person within the passage way can use the unlocking device 25 to shove the bolt 39 out of the way of lock 24 and thus pass on to the bath room. The function of the bolt 40 is to engage a slot 42 in the edge of the segment 3 to lock the door against movement while a person is in the bath room. The bolt 40 will ride up the bevel 43 on the edge of segment 3 and drop in the slot 42. The slot 42 is long enough for the segment 3 to rotate far enough to permit the party to enter the bath room. The guest from chamber B could enter the bath room. The guest in chamber A might turn the door slightly, but he could not turn the door far enough even to see into the bath room because the bolt 40 would catch against the shoulder 44 or shoulder 45 at the ends of slot 42. When

the party desires to leave the bath room, he can step within the door passage and by means of the unlocking device 25, with bolt 36, shove or thrust the bolt 40 out of slot 42. The function of bolt 36 can now be understood. The function of the double bell crank lever or handle 29 will now be understood. One motion of this handle operates bolt 35 in entering the bath room and the other motion of this handle operates bolt 36 in leaving the bath room. The bolt 40 is provided with a handle 46 for use in case of accident. If a party should become helpless while in the bath room, a person in the chamber from which the party went could use the handle 46 to release the bolt 40 so that entrance could be had to the bath room. The bolts 35 engage springs 48 to thrust bolts 20 and 21 and 39 out of segment 3, and the bolts 36 engage springs 49 (which operate in slot 42) to thrust bolts 40 out of the slots 19. Springs 48 and 49 are attached to the segment 3. The springs 48 operate in slots 19.

It may be desirable at times to make the bath room private to one of the two adjoining rooms. For this purpose a lug 47 is placed on the exterior surface of the segment 3. A lock 50 is mounted in the partition wall of the room on the side of chamber B whereby a key may be used to thrust a locking bolt 51 in the path of the lug 47 so that a guest in chamber A cannot open a passage way to the bath room. In like manner a lock 53 may be mounted in the partition wall on the side of chamber A whereby a key may be used to thrust a locking bolt 54 in the path of lug 47 so that a guest in chamber B cannot open a passage way to the bath room. The lug 47 must be in a different horizontal plane from the locking mechanism previously described.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent, is,—

1. In a rotating door for controlling the passages from two adjoining rooms to a third room, a partition carrying segments of cylinders, a concentric guard wall having passages for said adjoining rooms and a passage for said third room, depending lugs carried by said segments. and an upstanding stop, the rotation of said segments permitting passage from either one of said adjoining rooms to said third room but rotation of said segments far enough to permit passage from one of said adjoining rooms to the other adjoining room being prevented by said lugs and stop.

2. In a rotating door for controlling the passage from two adjoining rooms to a third room, a partition carrying segments of cylinders, means coöperating with said door to prevent passage from one of said adjoining rooms to the other, and means carried by one of said segments for unlocking and moving the segments for opening the passage way from one of said adjoining rooms to said third room and means for subsequently locking said segments to prevent passage from the other adjoining room to said third room.

3. In a rotating door for controlling the passage from two adjoining rooms to a third room, a partition carrying segments of cylinders, means coöperating with said door to prevent passage from one of said adjoining rooms to the other, one of said segments serving when a guest has left one of said adjoining rooms and entered said third room to close the passage from the other adjoining room, and means for locking said door against movement while one party is in said third room.

4. In a rotating door for controlling the passage from two adjoining rooms to a third room, a partition carrying segments of cylinders, means coöperating with said door to prevent passage from one of said adjoining rooms to the other, one of said segments serving when a guest has left one of said adjoining rooms and entered said third room to close the passage from the other adjoining room, means for locking the door against movement while the party is in said third room, and the other segment carrying unlocking devices.

5. In a rotating door for controlling the passage from two adjoining rooms to a third room, a partition carrying segments of cylinders, one of said segments being a locking segment and the other being a sealing segment or passage closing segment, a guard wall and locks therein for locking said door in its normal position, and a guard wall for each adjoining room and a lock therein whereby a guest from either adjoining room may enter said third room and lock door in position to close the passage from the other adjoining room.

6. In a rotating door for controlling the passages from two adjoining rooms to a third room, a partition carrying segments of cylinders, one of said segments being a locking member and the other segment being a sealing member or passage closing member, guard walls concentric with said members and locks mounted therein, said locks having bolts adapted to lock said door in different positions, and unlocking devices carried on the interior of said locking member for unlocking said door from said guard walls.

7. In a rotating door for controlling the passages from two adjoining rooms to a third room, a partition carrying a curved lockable member and a curved sealing member, curved guard walls coöperating with said members, and locks in said guard walls having bolts adapted to lock automatically said door when said door is rotated to differ-

ent positions whereby a guest from either adjoining room may enter said third room and whereby the passage from the other adjoining room is simultaneously closed and locked closed.

8. In a rotating door for controlling the passages from two adjoining rooms to a third room, a partition carrying a curved lockable member and a curved sealing member, curved guard walls coöperating with said members, locks in said guard walls for automatically locking said door when said door is rotated to different positions, and unlocking devices carried by said lockable member for releasing said member from said locks.

9. In a rotating door for controlling the passages from two adjoining rooms to a third room, a partition carrying a curved lockable member and a curved sealing member, curved guard walls coöperating with said members, locks in said guard walls for automatically locking said lockable member when said door is rotated to different positions, and unlocking devices carried by said lockable member whereby a guest from either adjoining room may enter said third room and lock the passage from the other adjoining room closed, said unlocking devices being located on the interior of said lockable member whereby the guest is prevented from rotating said door far enough to open the passage to said third room without entering within the door passage.

10. In a rotating door for controlling the passages from two adjoining rooms to a third room, a partition carrying a curved lockable member and a curved sealing member, curved guard walls coöperating with said members, locks in said guard walls for automatically locking said lockable member when said door is rotated to different positions, and unlocking devices carried by said lockable member for each of said adjoining rooms, said unlocking devices including two bolts and a handle operatively connected therewith, said handle operating one of said bolts for a party entering said third room, and operating the other one of said bolts for the party passing back to his room.

11. In a rotating door for controlling the passage from two adjoining rooms to a third room, a partition carrying segments of cylinders, guard walls coöperating with said segments, a lug carried on the exterior of one of said segments, and a lock for each of said adjoining rooms adapted to engage said lug whereby the passage from either one or both of said adjoining rooms to said third room may be locked closed.

12. In a rotating door for controlling the passages from two adjoining rooms to a third room, a partition carrying a curved lockable member and a curved sealing member, curved guard walls coöperating with said members, locks in said guard walls for automatically locking said lockable member when said door is rotated to different positions, and unlocking devices carried by said lockable member whereby a party from either adjoining room may enter said third room and lock the passage to the other adjoining room closed, said unlocking devices being located on the interior of said lockable member whereby the party from either adjoining room is prevented from rotating said door far enough for said door to be locked against passage to or from said third room without entering within the passage way of the door.

In testimony whereof, I set my hand in the presence of two witnesses, this 2nd day of January, 1909.

JNO. H. VAN ZANDT.

Witnesses:
A. L. Jackson,
J. W. Stitt.