

PARTITION AND FIXING STRUCTURE

BACKGROUND OF THE INVENTION

5

1. FIELD OF THE INVENTION

This invention relates to a partition and its fixing structure which is, for example, applied to a partition of a shower room and the like.

10

2. DESCRIPTION OF THE RELATED ART

15

As a partition which divides a shower space in a bathroom and the like, as described in Japanese Patent Laid-open No. Hei 1-219260, a partition provided with two curved movable wall members (doors) which open and shut an entrance area, a guide rail which guides the movable wall members through a guide member such as a sash roller, and plate-shaped fixed wall members which are disposed on either side of the entrance area fixing the guide rail, is known.

In the conventional partition, the guide rail is also curved to fit on the movable wall member so that the curved movable wall member can move.

20

However, when a guide rail is curved, an end portion thereof on the side of the fixed wall member projects toward the inside of a shower room away from the plate-shaped fixed wall member, which causes disadvantage that available space in the shower room is reduced.

25

To settle the above disadvantage, it is suggested that the guide rail on the side of the fixed wall member is not curved but placed along the fixed wall member so that the guide rail does not project toward the inside of the shower room.

30

However, if the curved wall member moves to a straight portion of the guide rail, there occurs a disadvantage that both end portions of the movable wall member project toward the inside of the shower room away from the guide rail.

In other words, in an ordinary movable wall member as shown in Fig.

10, in relation to the length L between both ends of a movable wall member 150 in a cross direction (the length of a line which links both ends, that is, the length of chord), guide members such as sash rollers 161 are attached respectively in the position of about 1/4 of the length L from both ends in consideration of supporting balance. Hence, the both ends of the movable wall member 150 project toward the inside of a shower room 100 from a straight portion of a guide rail 140 fixed on a fixed wall member 130 by a length of A2. As a result, especially an end portion of the movable wall member 150 disposed on the side of an entrance area 111 projects toward the inside of the shower room 100, thereby narrowing the opening width and making coming-in/out difficult.

The first object of the present invention is to provide a partition having a curved wall member and a fixed wall member, in which the projecting length of an end portion on the side of an entrance of the movable wall member toward the inside of a shower room can be shortened and the opening width of the entrance is widened, when the movable wall member is opened.

Moreover, as shown in Fig. 10, when the curved movable wall member 150 moves from a curved portion to a straight portion of the guide rail 140, the sash roller 161 inclines in relation to the guide rail 140. Therefore, the width of a groove of the sash roller 161 needs to be widened to absorb the inclination.

However, when the sash roller 161 and the guide rail 140 are inclined, the guide rail 140 partially touches the sash roller 161 on the lean, whereby the sash roller 161 does not slide well and the movable wall member 150 is hard to move. In addition, when the movable wall member 150 moves to a curved portion of the guide rail 140, the sash roller 161 is easy to wobble since the slot of the sash roller 161 is larger compared with the width of the guide rail 140.

Therefore, the second object of the present invention is to provide a partition in which a curved movable wall can move smoothly without wobbling when moving along the guide rail.

Furthermore, when a partition 110 provided with the movable wall member 150 and the fixed wall member 130 is fabricated, the movable wall member 150 and the fixed wall member 130 is preferably pre-fabricated so as to reduce work at a construction site.

5 In this case, as shown in Fig. 10, an end portion of the fixed wall member 130 fixed onto a wall 2 of a building such as a bathroom is usually fixed in the following procedure. A supporting member 120 is previously attached on the wall 2 with a screw disposed in a holding slot 121 and then an end portion of the fixed wall member 130 is put into the holding slot 121
10 of the supporting member 120 and fixed.

However, when the supporting member is fixed first on the wall 2, the fixed wall member 130, the movable wall member 150 and the guide rail 140 sometimes can not be attached after being previously assembled. In other words, as described in Japanese Patent Laid-open No. Hei 1-219260,
15 when the partition 110 is placed in the corner, each of the fixed wall members 130 is attached in the direction perpendicularly intersecting each other. As a result, when the fixed wall member 130, the movable wall member 150 and the guide rail 140 are previously assembled, each fixed wall member 130 can not be put into the supporting member 120. Thus, after the
20 fixed wall member 130 is mounted on a side-wall 5 of the bathtub 4 and attached on the supporting member 120, the guide rail 140 is attached on the fixed wall member 130, and then the movable wall member 150 is fitted, thereby increasing work at a construction site and extending the construction period.

25 In addition, the wall 2 of the bathroom is not always precisely vertical. In this case, the supporting member 120 is fixed to stand vertically with a level measure and the like when being fixed onto the wall 2 and assembling work is conducted on the narrow bathtub, thus making assembling work complicated.

30 Therefore, the third object of the present invention is to provide fixing structure of a partition, in which a fixed wall member is easily attached on a wall of a building and hence work at a construction site is

reduced.

SUMMARY OF THE INVENTION

5 A partition in the present invention is provided with a fixed wall member fixed onto a wall, a guide rail of which one end is supported by the fixed wall member extending to an entrance area adjacent to the fixed wall member, and a movable wall member which can move along the guide rail to open and shut the entrance area. At least a portion disposed in the entrance
10 area of the guide rail is curved along a cross direction. The movable wall member is curved along a cross direction from a first end portion on the side of the entrance area to a second end portion on the side of the fixed wall member and has guide members at two spots on the way of a cross direction thereof. A first guide member of the guide members disposed on the side of
15 the first end portion is attached in the position where the length from the first end portion to the first guide member is $L/5$ or less in relation to the length L between the first and the second end portions of the movable wall member.

For a guide member, a slider and the like which is guided by a guide rail is available, but particularly a sash roller is preferable.

20 The first guide member provided on the side of the first end portion of the curved movable wall member is attached in the position where the length from the first end portion to the first guide member is $L/5$ or less instead of conventional $L/4$, that is, the position closer to the first end portion. Therefore, when the movable wall member is moved to a straight portion of
25 the guide rail or a portion with smaller curvature, the distance of the first end portion of the movable wall member away from the rail is shortened, and the projecting length of the movable wall toward the space inside the partition is also shortened, and the opening width of the entrance is enlarged.

A lower limit of the position where the first guide member is attached
30 is usually the position where the length from the first end portion of the movable wall member, that is, the length from the first end portion is 0, but can be properly set depending on a good balance with other members.

The second guide member of the movable wall member is preferably attached in the position where the length from the first end portion to the second guide member is $L/2$ or more in relation to the length L between the first and the second end portions of said movable wall member.

5 When the second guide member is attached in the position of $1/2$ of the length L between both end portions of the movable wall member, that is, the central position of the movable wall member in a cross direction, or attached in the position of $L/2$ or more from the first end portion, that is, on the opposite side to the first guide member across the central position of the
10 movable wall member in a cross section, the movable wall member can be supported keeping better balance by each guide member.

An upper limit of the position where the second guide member is attached is usually the position of the second end portion of the movable wall member, that is, the position of the length L from the first end portion,
15 but can be properly set depending on a good balance with other members.

Concerning the guide rail, it is preferable that only a portion disposed in the entrance area is curved and a portion disposed in the fixed wall member is shaped into a straight line.

If a portion of the guide rail attached on the fixed wall member is
20 shaped into a straight line, when a plate-shaped fixed wall member is used, the guide rail can be attached closer on the fixed wall member. In this case, the guide rail does not project toward the space in the partition so that the space can be used more effectively.

In the guide rail, an entrance area portion and a fixed wall member
25 portion can be both curved. In this case, a fixed wall member portion of the guide rail can be curved at the same curvature as the entrance area portion and also curved at different curvature, particularly at smaller curvature so as to become more like a straight line.

The first and the second guide members are preferably attached to be
30 pivotally moved in a horizontal direction in relation to the movable wall member.

If the guide member is attached to be pivotally moved in a horizontal

direction in relation to the movable wall member, even when the curved movable wall member moves from the curved portion to the straight portion of the guide rail and the inclination angle of the movable wall member in relation to the guide rail changes, the guide member pivotally moves suitably to respond to the change.

Unlike prior arts, the guide member does not incline to and rub against the guide rail, whereby the movable wall member can move smoothly. In addition, since the guide member does not incline to the guide rail, in order to allow the inclination, for example, a groove of the guide rail does not need to be enlarged. Thus, the guide rail can move along the guide rail with little wobbling.

Two fixed wall members are provided and fixed respectively onto two walls composing a corner part of a bathroom. The guide rail is laid between two fixed wall members, and two movable wall members are provided to be movable along the guide rail to open and shut the entrance area formed between the fixed wall members. If both ends of the guide rail are fixed on the fixed wall members, the partition can be previously fabricated in which the movable wall member is already put into the guide rail, thereby enhancing flexibility in construction and attachment work.

Each of the fixed wall members is composed of a frame formed with a top rail, a bottom rail and two stiles and a face member fitted into the frame, two guide rails are provided and laid respectively between the top rails and between the bottom rails of both fixed wall members, and each guide rail can be fixed on the side of each top rail and bottom rail.

If the guide rail is fixed on the side of each top rail and bottom rail, the guide rail can be easily removed once the partition is completed, thus easily conducting repair or replacement of the guide rail.

Each of the fixed wall members is composed of a frame formed with a top rail, a bottom rail and two stiles and a face member fitted into the frame, two guide rails are provided and laid respectively between the top rails and between the bottom rails of both fixed wall members, and each guide rail can be disposed on an upper surface of each top rail and under a lower surface of

each bottom rail.

If the guide rails are disposed on the top and the bottom of each rail, the location of the movable wall member can be moved closer to the fixed wall member, thereby enlarging the inside space of the partition and improving space efficiency.

The fixed wall member, the guide rail and the movable wall member are preferably placed on an upper surface of a side-wall of a bathtub. If the partition is placed by using the bathtub, waterproofing of an lower end of the partition is easily secured so that the shower room can be easily constructed.

It is preferable that the supporting member provided with a holding slot into which an end portion of the fixed wall member is put and a fixing portion adjacent to the holding slot is fixed on the wall which the fixed wall member is fixed on by means of a part of the fixing portion, and an end portion of the fixed wall member is put into the holding slot of the supporting member and fixed.

The present invention provides fixing structure of a partition having a fixed wall member fixed onto a wall. A supporting member is provided with a holding slot which an end portion of the fixed wall member is put into and a fixing portion adjacent to the holding slot fixed onto a wall with a part of the fixing portion. An end portion of the fixed wall member is put into the holding slot of the supporting member and fixed.

Formed in the supporting member are the holding slot holding the fixed wall member and the fixing portion disposed on a part other than the holding slot. The fixed wall member being held in the holding slot, the supporting member can be fixed on the wall by means of the fixing portion.

Consequently, unlike prior arts, the supporting member does not need to be fixed on the wall in advance and pre-fabricated partition can be installed, thereby reducing work at a construction site.

Furthermore, if the fixed wall member is attached in the holding slot, unlike the conventional way of the fixed wall member being put into the holding slot later, the supporting member does not need to be fixed on the wall by means of a level and the like, which simplifies the fixing work.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective view of a partition in the first embodiment of the present invention;

Fig. 2 is a top view of the partition in the first embodiment;

Fig. 3 is a cross sectional view of principal parts of the partition in the first embodiment;

Fig. 4 is a vertical sectional view of principal parts of the partition in the first embodiment;

Fig. 5 is a top view of principal parts of the partition in the first embodiment;

Fig. 6 is an enlarged view of a sash roller in the first embodiment;

Fig. 7 is a vertical sectional view of principal parts of a partition in the second embodiment of the present invention;

Fig. 8 is a top view of principal parts of the partition in the second embodiment;

Fig. 9 is a cross sectional view of principal parts of a partition in the third embodiment of the present invention; and

Fig. 10 is a diagrammatic view illustrating background art of the present invention:

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT(S)

The preferred embodiment of the present invention will now be described with the reference to the drawings.

Shown in Fig. 1 is a shower room 1 with a partition 10 according to the first embodiment of the present invention.

The shower room 1 is installed in a corner of a bathroom, the corner being composed of two walls 2 perpendicularly intersecting each other. In the corner portion, a bathtub 4 is placed on a floor 3 of the bathroom.

As shown in Fig. 2, a side-wall 5 on the front of the bathtub 4 is provided with a curved portion 5A curved in an arc-shape in the middle portion and straight portions 5B shaped into a straight line on both end portions adjacent to the walls 2.

5 The partition 10 is mounted on the side-wall 5 of the bathtub 4.

The partition 10 is provided with two fixed wall members 30 which are fixed onto each of the walls 2 of the bathroom through supporting members 20, two guide rails 40 which are laid between upper end portions and between lower end portions of the fixed wall members 30 respectively,
10 and two movable wall members (doors) 50 which can move along the guide rails 40 so as to open and shut an entrance area between the fixed wall members 30.

As shown in Fig. 3, the supporting member 20 is equipped with a holding slot 21 into which the fixed wall member 30 is put and a fixing
15 portion 22 formed in a different part from the holding slot 21 which is screwed onto the wall 2, the supporting member being integrally molded to have a sectional approximate L-shape.

Drilled in one side of the cylindrically shaped fixing portion 22 on the side of the room is a hole 23 from which a screw 24 is inserted into the
20 fixing portion 22 to be fixed on the wall 2. The hole 23 is stopped up with a suitable cap and the like.

As shown in Fig. 3 and Fig. 4, the fixed wall member 30 is composed of a frame formed with two stiles 31, 32, a top rail 33, and a bottom rail 34 and a face member 35 which is fitted in the frame.

25 Out of the stiles 31 and 32, the stile 31 which is inserted into the holding slot 21 of the supporting member 20 is approximately shaped into a square pillar. However, the stile 32 provided on the side of the entrance area 11 of the partition 10 is a middle stile in the partition 10 and therefore the outer surface of the stile 32 is formed into an arc-shape to improve the
30 design.

The face member 35 is formed of translucent or colored glass, plastic or the like through which the inside of the shower room is hard to be seen,

and is held by the stiles 31 and 32 and the rails 33 and 34 through gasket.

In the fixed wall member 30, the stile 31 which is put into the holding slot 21 of the supporting member 20 is screwed onto the supporting member 20. However, other parts are not fixed, but only mounted on the bathtub 4.

As shown in Figs. 1 to 4, the guide rails 40 are laid between the upper end portions and between the lower end portions respectively of the fixed wall members 30.

In order to fit to the side-wall 5 of the bathtub 4, each of the guide rails 40 is composed of the curved portion 40A curved into an arc-shape which is disposed in the middle portion, that is, the entrance area 11 between the fixed wall members 30, and the straight portions 40B shaped into a straight line which are disposed in the both end portions, that is, portions adjoining to each fixed wall member 30.

Each of the straight portions 40B of the guide rails 40 is screwed onto each side of the top rails 33 and the bottom rails 34 of the fixed wall members 30 on the inner side of the shower room 1, respectively.

As shown in Fig. 4, each of the guide rails 40 is equipped with two rail portions 41 which are projectingly disposed opposite each other vertically.

Each movable wall member 50 is composed of a frame formed with a stile 51, a butt stile 52, a top rail 53 and the bottom rail 54, and the face member 55 which is fitted in the stiles 51 and 52, and rails 53 and 54 through gasket.

The top rail 53, the bottom rail 54 and the face member 55 are curved into an arc-shape along the curved portion 40A of the guide rail 40. Each movable wall member 50 is curved along the cross direction.

Attached to the stile 51 is a sealing member 56 which abuts on the stile 32 of the fixed wall member 30 when each movable wall member 50 is shut and seals the opening between the fixed wall member 30 and the movable wall member 50.

In movable wall members 50, each of the butt stiles 52 which are

disposed opposite each other is provided with a protruding portion 57 as handle when the movable wall member 50 is opened and shut.

As shown in Figs. 2 and 4, attached to the top rail 53 and the bottom rail 54 respectively are two sash rollers 61 and 62 as guide member which
5 are guided by the guide rail 40.

As shown in Fig. 5, in each of the rails 53 and 54, a first sash roller 61 is attached on the side of the entrance area 11, that is, on the side of the butt stile 52 which is an first end portion of the movable wall member 50. When the straight distance from the butt stile 52 to the stile 51 which is a
10 second end portion of the movable wall member 50, that is, the length of chord of the curved movable wall member 50 is represented by L, the first sash roller 61 is attached in the position where the length from the butt stile 52 to the first sash roller 61 in the direction parallel to the above-described chord is L/5 or less. (The position is set for L/5 in the present embodiment.)

On the other hand, a second sash roller 62 is attached in the position
15 where the length from the butt stile 52 to the second sash roller 62 in the direction parallel to the above-described chord is L/2 or more. (The position is set for 2/L in the present embodiment).

As shown in Fig. 4, each of the sash rollers 61 and 62, which is
20 disposed between the rail portions 41 of the guide rail 40, can move along the guide rail 40 and is guided so as not to come off the guide rail 40.

As shown in Fig. 6, the sash rollers 61 and 62 are supported by a L-shaped bracket 64 which is attached to be pivotally moved in a horizontal direction in relation to the rails 53 and 54 with a stepped screw 63.

Consequently, even if there is a change in direction (inclination) of
25 the movable wall member 50 relative to the guide rail 40 between the case where the movable wall member 50 is disposed in the curved portion 40A of the guide rail 40 and the case where the movable wall member 50 is disposed in the straight portion 40B, the L-shaped bracket 64 pivotally moves to
30 respond to the change, whereby the sash rollers 61 and 62 are always located in the direction parallel to the guide rail 40.

In the embodiment described above, in order to build the shower

room 1, the fixed wall members 30 and the movable wall members 50 are previously fabricated. The sash rollers 61 and 62 are inserted from the end portions of each guide rail 40 and the movable wall member 50 is disposed between the guide rails 40. Then, the straight portions 40B of the guide rails
 5 40 are screwed onto the top rails 33 and the bottom rails 34 of the fixed wall members 30. The end portions of the guide rail 40 are covered after the sash rollers 61 and 62 are inserted.

The stile 31 of the fixed wall member 30 is put into the holding slot 21 of the supporting member 20 to assemble the partition 10. The partition
 10 10 can be assembled in a factory in advance or can be assembled in a construction site.

Next, above-described previously assembled partition 10 is mounted on the bathtub 4 and the fixing portions 22 of the supporting portions 20 on both ends of the partition 10 are screwed onto the wall 2. Thereafter the
 15 holes 23 are stopped up with caps and a sealing agent and the like are filled into the openings between the supporting members 20 and the wall 2, and between the bathtub 4 and the fixed wall members 30 and the guide rail 40 so as to be waterproofed.

Thus the shower room 1 divided by the partition 10 is completed.

20 According to the present embodiment, the following effects are obtained.

(1) In the movable wall member 50, the first sash roller 61 disposed on the side of the butt stile 52 is attached in the position where the length from the butt stile 52 is $1/5$ or less of the whole width L (length of chord) of
 25 the movable wall member 50. As a result, compared with the conventional way of attaching at the position of $L/4$, the length from the first sash roller 61 to the butt stile 52 can be shortened.

Consequently as shown in Fig. 5, when the movable wall member 50 is opened, the size of the butt stile 52 from the guide rail 40 (the projecting
 30 length A of the guide rail 40 from the straight portion 40B to the inside of the shower room 1) can be reduced. In other words, the size of the butt stile 52 projecting toward the space of the shower room 1 is reduced so that the

opening width of the entrance area 11 is enlarged when the movable wall member 50 is opened, which enables smooth coming-in/out of the shower room 1.

(2) The second sash roller 62 in the movable wall member 50 is attached in the position where the length from the butt stile 52 is $1/2$ or more of the whole width L (length of chord) of the movable wall member 50. As a result, two sash rollers 61 and 62 are not placed on one side from the center position in the cross direction of the movable wall member 50, whereby the movable wall member 50 is supported keeping good balance through two sash rollers 61 and 62.

(3) In the aforesaid embodiment, the first sash roller 61 is located in the position of $L/5$ and the second sash roller 62 is located in the position of $L/2$ from the butt stile 52. Therefore, the distance between the sash rollers 61 and 62 is $3L/10$ which is shorter compared with the conventional distance between the sash rollers, that is, $L/2$.

Consequently, a projecting length from a line that links the sash rollers 61 and 62 to the outer peripheral surface of the movable wall member 50 is shortened compared with prior arts. Conventionally, when the movable wall member 50 is moved to the straight portion 40B, the movable wall member 50 needs to be disposed apart from the guide rail 40 so as not to collide with the guide rail 40. In the present embodiment, however, the movable wall member 50 can be disposed closer to the guide rail 40. As a result, the available space in the shower room 1 can be enlarged, thereby making good use of the space.

If the second sash roller 62 is disposed in the position of $L/2$ as described in the foregoing embodiment, the movable wall member 50 on the side of the stile 51 projects more toward the inside of the shower room 1 compared with prior arts, when being opened. But the movable wall member 50 is opened only when coming in and out of the shower room 1. Moreover, when the shower room 1 is practically used, the movable wall member 50 is shut. Therefore, the above-described projection is out of the question in practical use.

(4) In the guide rail 40, only the middle curved portion 40A is curved and the straight portions 40B on both ends are shaped into a straight line. Hence, the straight portion 40B is closely attached to the fixed wall member 30 shaped into a plate so that the guide rail 40 does not project toward the space inside the shower room 1, thus making good use of the space in the shower room 1.

(5) In the foregoing embodiment, since the second sash roller 62 is located in the position of $L/2$ from the butt stile 52, the length of the rail 40, along which the sash roller 62 moves when the movable wall member 50 is opened, can be shortened. Thus, the guide rail 40 does not need to be extended closer to the wall 2, which can reduce the cost of the guide rail 40 and enlarge the available space in the shower room 1.

(6) The sash rollers 61 and 62 are attached to be pivotally moved in a horizontal direction relative to the movable wall member 50. Even if the angle of the movable wall member 50 in relation to the guide rail 40 changes when the curved movable wall member 50 moves between the curved portion 40A and the straight portion 40B of the guide rail 40, the bracket 64 pivotally moves in relation to the movable wall member 50 so that the sash rollers 61 and 62 can be always disposed parallel to the guide rail 40.

In consequence, unlike prior arts, the sash rollers 61 and 62 do not incline to and rub against the guide rail 40, whereby the movable wall member 50 can be smoothly moved, opened and shut. In addition, in prior arts the width of slot of a sash roller 161 is enlarged so as to guide the sash roller 161 even when the sash roller 161 inclines to a guide rail 140. As a result, a movable member 150 sometimes wobbles when moving. In the present embodiment, however, the sash rollers 61 and 62 do not incline to the guide rail 40. Therefore, the width of slots of the sash rollers 61 and 62 is formed to fit to the rail 41, which prevents the movable wall member 50 from wobbling.

(7) When the fixed wall member 30 is fixed onto the wall 2, the supporting member 20 equipped with the holding slot 21 and the fixing portion 22 is used. Hence, the supporting member 20 can be fixed on the

wall 2 by means of the fixing portion 22 even when the fixed wall member 30 is held in the holding slot 21.

Thus, unlike prior arts, the supporting member 20 does not need to be fixed on the wall 2. After the fixed wall member 30 is attached to the supporting member 20, the supporting member 20 can be fixed on the wall 2, thereby enhancing flexibility in working process and improving working efficiency.

In addition, the fixed wall members 30, the guide rails 40 and the movable wall members 50 are put together to make the partition 10. The pre-fabricated partition 10 is mounted on the bathtub 4 and fixed on the wall 2. Therefore, the partition 10 can be previously fabricated in a factory and the like, thus reducing work at a construction site and a working period.

When the previously fabricated partition 10 is fixed on the wall 2, the supporting member 20 is fixed on the wall on the basis of the partition 10. Unlike prior arts, the supporting member 20 does not need to be fixed on the wall 2 with a level measure, which reduces work at a construction site.

(8) Since the guide rails 40 are screwed onto the sides of the top rail 33 and the bottom rail 34 of the fixed wall member 30, the fixed wall member 30 and the guide rail 40 can be easily removed. Even if the fixed wall member 30, the guide rail 40 and the movable wall member 50 are repaired or replaced, the repair and replacement can be easily conducted.

(9) Since the fixing portion 22 of the supporting member 20 is provided on the inner side of the shower room 1, equipment such as a washstand or walls can be adjacently placed in the outside of the stile 31 and fixing work of the supporting member 20 can be easily made.

Next, the second embodiment of the present invention will be described with reference to Figs. 7 and 8. Incidentally, in each embodiment described hereinafter, the same numerals and symbols will be used for the same or similar components as those in each embodiment described above, so that the description will be omitted or simplified.

In the present embodiment, as shown in Fig. 7, the guide rails 40 are laid on the top and bottom of the fixed member 30 instead of the side thereof.

As shown in Fig. 8, the fixing portion 22 of the supporting member 20 is disposed on the outer side of the shower room 1 instead of the inner side thereof.

In other words, the supporting member 20 is provided with the holding slot 21 which holds the stile 31 of the fixed wall member 30 and the fixing portion 22 disposed in the outside of the holding slot 21 across the shower room 1. The screw 24 which fixes the fixing portion onto the wall 2 and a cover 25 which covers a screw fixing the stile 31 to the supporting member 20 are put into the fixing portion 22.

The guide rail 40 is joined to the stile 31 of the fixed wall member 30 and a large frame is formed with the stiles 31 and the guide rails 40. Joined to the stile 31 is the top rail 33 and the bottom rail 34 of the fixed wall member 30. Joined to the rails 33 and 34 is the stile 32 which is disposed between the top and bottom guide rails 40.

An outer surface of the stile 32 formed into an arc-shape is extended to cover the outer surface of the guide rail 40.

On the upper surface of the upper guide rail 40, a resinous cover 42 is provided.

In the present embodiment, the first sash roller 61 is attached in the position of $1/5$ or less of the length L from the butt stile 52 to the movable wall member 50, and the second sash roller 62 is attached in the position of $L/2$ or more from the butt stile 52.

Also in the present embodiment, after the fixed wall member 30 and the movable wall member 50 are assembled and then the movable wall member 50 is put in the guide rail 40, the guide rail 40 and the fixed wall member 30 are joined together to fabricate the partition 10. Subsequently the supporting member 20 is attached on the partition 10. Then the partition 10 is mounted on the bathtub 4 and fixed onto the wall 2 to complete the shower room 1.

According to the present embodiment, the same effects as (1) to (4) and (6) to (7) in the first embodiment can be obtained.

Moreover, the guide rails 40 are disposed on the top and bottom of

the fixed wall member 30, that is, in the in-out direction of the shower room 1, the fixed wall member 30 and the guide rails 40, and the movable wall member 50 are disposed in two lines. In the first embodiment, however, the fixed wall member 30, the guide rail 40 and the movable wall member 50 are disposed in three lines. Therefore, compared with the first embodiment, the location of the movable wall member 50 can be moved closer to the fixed wall member 30, thereby enlarging the inner space of the shower room 1.

Next, the third embodiment of the present invention will be described with reference to Fig. 9.

In the present embodiment, the fixing structure of a partition with the supporting member 20 is applied to a single sliding door-type partition 10A in which the movable wall member 50 is shaped into a plate.

In other words, the supporting member 20 is screwed with the fixing portion 22 onto one wall 2 out of two walls 2 confronting each other. The same fixed wall member 30 as that in the foregoing embodiment is put into the supporting member 20.

On the other wall 2, a supporting member 20A provided with a holding slot 21A and a fixing portion 22A is screwed just like the supporting member 20. A jamb 26 is fixed in the holding slot 21A of the supporting member 20A.

The straight guide rails 40C are laid and fixed between the top and bottom rails of the jamb 26 and the fixed wall member 30.

On the guide rail 40C, a movable wall member 50A which is composed of a frame formed with the stiles 51 and 52, and straight top and bottom rails and a plate-shaped face member 55A fitted into the frame is guided.

Even when the above-described straight partition 10A is fabricated, since the fixing portions 22 and 22A of the supporting members 20 and 20A fixed onto the walls 2 are formed in the position other than the holding slots 21 and 21A, the partition 10A can be previously assembled and later can be installed in the same way as in the first embodiment, which makes secure and easy construction possible.

It is to be understood that the present invention is not limited to the above-described embodiments.

For example, for a fixed wall member, a slightly curved member or a member of which the flat surface is bent to L-shape and the like can be used instead of the plate-shaped fixed wall member 30 in the aforesaid embodiment. A fixed wall member needs to be appropriately selected at the start of work.

A partition according to the present invention can be utilized not only for the foregoing partition in a shower room but also for various partitions in a bathroom, laundry room, living room and the like.

In addition, a partition in the present invention is not limited to the partition provided with two fixed wall members 30 and two movable wall members 50, but can be applied to a partition provided with at least one fixed wall member and one movable wall member.

A partition in the present invention is not limited to the partition in which the fixed wall member 30 is fixed onto the wall 2 with the supporting member 20, for example, the fixing structure in which the stile 31 of the fixed wall member 30 is fixed directly onto the wall 2 can also be adopted.

However, if the supporting member 20 is used, the position of the fixed wall member 30 can be adjusted within the holding slot 21. As a result, even when finishing accuracy of the wall 2 is not very high, there is an advantage of being able to install the partition 10 certainly.

The second sash roller 62 can also be attached in the position where the length from the butt stile 52 as the first end portion is less than $L/2$. In view of supporting balance of the movable wall member 50, however, the second sash roller 62 is preferably attached in the position described in the above embodiments.

The first sash roller 61 and the second sash roller 62 can be attached on a supporting arm extending outwardly from each end of the movable wall member 50. In other words, the first and second sash rollers 61 and 62 can be attached on the outer side of the first and second ends, that is, can be attached in portions other than the portion between both ends of the movable

wall member 50.

In addition, the guide rail 40 does not necessarily need the curved portion 40A and the straight portion 40B, but can be provided with two curved portions with different curvature. The structure needs to be
5 appropriately selected at the start of work.

A slider which moves along a rail and the like can be also used for a guiding member instead of the sash rollers 61 and 62. Moreover, in the aforesaid embodiments, the bracket 63 is pivotally moved relative to the movable wall member 50 so that the sash rollers 61 and 62 can pivotally
10 move freely in a horizontal direction. Particularly, when changes in curvature of the guide rail 40 are small, the sash rollers 61 and 62 can be disposed not to rotate in a horizontal direction.

The stile 32 of the fixed wall member 30 which does not have an arc-shaped outer surface is also available. In this case, the fixed wall member 30
15 can be located in a further exterior position on the side-wall 5 of the bathtub 4, thus enlarging the space in the shower room 1.

(Experiment)

Next, an experiment which is conducted to confirm effects of the present invention will be described.

In the partition 10 in the first embodiment, the length of the movable wall member 50 is $L=340\text{mm}$, the attaching position of the first sash roller 61 is $L/5=68\text{mm}$, and the attaching position of the second sash roller 62 is $L/2=170\text{mm}$. In this case, when the movable wall member 50 is opened, the projecting length A in Fig. 5 is 27mm.
20

In a partition 100 in Fig. 10, when the length of the movable wall member 50 is $L=340\text{mm}$ and the attaching position of each sash roller 161 is $L/4=85\text{mm}$ respectively, the projecting length A2 is 47mm.
25

Consequently, it is confirmed that according to a partition in the present partition, the projecting length A is shortened and the opening width
30 of the entrance is widened, which realizes smooth movement.

According to the above-described partition in the present invention, in a partition provided with a curved movable wall member and a fixed wall

member, the projecting length of an end portion on the entrance side of the movable wall member at the opening of the movable wall member can be shortened, thereby widening the opening width of entrance.

5 A guide member is attached to be pivotally moved relative to a movable wall member in a horizontal direction. Therefore, the curved movable wall member can move smoothly without wobbling when moving along a guide rail.

10 In addition, the fixing structure of the partition in the present partition enables easy and accurate attachment of a fixed wall member onto a wall of building and reduction of work at a construction site.

**WHAT IS CLAIMED IS:**

1. A partition comprising:
 - a fixed wall member fixed onto a wall;
 - 5 a guide rail, of which one end is supported by said fixed wall member, extending to an entrance area adjacent to said fixed wall member; and
 - a movable wall member which moves along said guide rail to open and shut the entrance area;
 - wherein at least a portion disposed in the entrance area of said guide
 - 10 rail is curved along a cross direction;
 - wherein said movable wall member is curved along a cross direction from a first end portion on the side of the entrance area to a second end portion on the side of said fixed wall member and said movable wall member has guide members at two spots on the way of a cross direction, the guide
 - 15 members being guided by said guide rail; and
 - wherein a first guide member on the movable wall member disposed on the side of the first end portion is attached in the position where the length from the first end portion to the first guide member is $L/5$ or less in relation to the length L between the first and the second end portions of said
 - 20 movable wall member.
2. The partition according to claim 1, wherein a second guide member on said movable wall member is attached in the position where the length from the first end portion to the second guide member is $L/2$ or more in
- 25 relation to the length L between the first and the second end portions of said movable wall member.
3. The partition according to claim 1, wherein only an entrance area portion of said guide rail is curved and a portion disposed in a fixed wall part
- 30 is shaped into a straight line.
4. The partition according to claim 1, wherein the first and the second



guide members are attached to move pivotally in a horizontal direction in relation to said movable wall member.

5 5. The partition according to claim 1, wherein two of said fixed wall members are provided and fixed respectively onto two walls to form a corner part of a bathroom, wherein said guide rail is laid between two fixed wall members, and wherein two of said movable wall members are provided to move along said guide rail to open and shut an entrance area formed between said fixed wall members.

10

6. The partition according to claim 5, wherein each of said fixed wall members is composed of a frame formed with a top rail, a bottom rail and two stiles and a face member fitted into the frame, and wherein two of said guide rails are provided and laid respectively between the top rails and
15 between the bottom rails of both fixed wall members and each guide rail is fixed on the side of each top rail and bottom rail.

7. The partition according to claim 5, wherein each of said fixed wall members is composed of a frame formed with a top rail, a bottom rail and
20 two stiles and a face member fitted into the frame, and wherein two of said guide rails are provided and laid respectively between the top rails and between the bottom rails of both fixed wall members and each guide rail is disposed on an upper surface of each top rail and on a lower surface of each bottom rail.

25

8. The partition according to claim 1, wherein said fixed wall member, said guide rail and said movable wall member are placed on an upper surface of a side-wall of a bathtub.

30 9. The partition according to claim 1, wherein a supporting member provided with a holding slot into which an end portion of said fixed wall member is put and a fixing portion adjacent to the holding slot fixed onto a



wall, on which said fixed wall member is fixed, by means of a part of the fixing portion, and an end portion of said fixed wall member is put and fixed in the holding slot of the supporting member.

- 5 10. A fixing structure of a partition provided with a fixed wall member fixed onto a wall:

wherein a supporting member provided with a holding slot into which an end portion of said fixed wall member is put and a fixing portion adjacent to the holding slot fixed onto a wall by the part of the fixing
10 portion; and

wherein an end portion of said fixed wall member is put and fixed in the holding slot of the supporting member.