DEVICE FOR REGULATING THE MOVEMENT OF THE FOLDING SEAT OF A CHAIR

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ABSTRACT
A device for allowing the regulation of the movement of the folding seat of a chair applied on one chair or several chairs of the type called "with a bar". The device includes a boxed body which contains in its interior a group of articulated lever devices which regulate the motion of the folding seat between horizontal and vertical positions.
DEVICE FOR REGULATING THE MOVEMENT OF THE FOLDING SEAT OF A CHAIR

FIELD OF THE INVENTION

[0001] This invention relates to a device to be applied to the folding seat of a chair.

BACKGROUND OF THE PRIOR ART

[0002] It is known that in theaters, movie theaters, stadiums and in general in rooms for meetings there are used chairs called “with a bar”, that is applied and supported by a single transversal bar and the chairs have the seat which is capable of folding so that the overall dimension is reduced to a minimum and the passage of a spectator between two parallel rows of chairs is made easier.

[0003] The rotation of the seat to move from an essentially vertical position, i.e. a closed chair, to a horizontal position, i.e. an open chair, and vice versa, which is carried out by the spectator himself may be free or may be bound by mechanisms which tend to keep the seat in the vertical position.

SUMMARY OF THE INVENTION

[0004] The object of the present invention is to provide a device for regulating in a chair the motion of the folding seat, which device is particularly simple from both the constructive as well as the functional point of view. Further the device does not require upkeep and allows the seat, when it is raised, to come as close as possible to the back of the chair, so as to reduce to a minimum the overall dimensions of the closed chair.

[0005] This object is achieved according to the invention by means of a boxed body which is anchored to the supporting bar of the aligned chairs and which contains in the interior at least one group of articulated lever devices, which are attached at one extremity to the body itself and at the other extremity to the base of the folding seat of the chair.

[0006] Constructively each group of the articulate lever devices is constituted by two levers which are reciprocally placed side-by-side and fitted together, at one extremity in a neutral mode on two pins which are integral with the boxed body.

[0007] The other extremities of the two levers are hinged on two pins which also constitute two points of articulation of the bracket which supports the folding seat.

[0008] An elastic element provides for carrying out a force opposite to the action of lowering of the folding seat, and operates in the direction of moving towards locating the seat in an essentially vertical manner.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] The constructive features of the invention are better understood by reference to a possible embodiment provided only by way of a non-limiting illustration by means of the attached drawings, of which:

[0010] FIG. 1 shows an elevational front view of the chairs with the folding seat, provided with the device of the invention;

[0011] FIG. 2 shows a side view of the device in cross section according to line II-II in FIG. 1;

[0012] FIG. 3 shows an elevational front view of the device with the seat raised;

[0013] FIG. 4 shows a side view of the device in cross section taken along line IV-IV of FIG. 3;

[0014] FIG. 5 shows an elevational side view of the device, with the seat lowered;

[0015] FIG. 6 shows a plan view of the device, in cross section taken along line VI-VI of FIG. 5.

DETAILED DESCRIPTION OF THE INVENTION

[0016] FIGS. 1 and 2 show device (1) of the invention with the folding seat (2) and the seat back (3). The device is clamped by means of clamp or holdfast (4) to the transversal bar (5) which supports a row of chairs.

[0017] FIGS. 3 and 6 show the device (1) constituted by boxed body (6) in the interior of which are placed two groups of articulated lever devices (7) which are disposed symmetrical to spiral spring (8).

[0018] Each group of the articulated lever devices (7) comprises two levers, (9) and (10) which are parallel and hinged at one extremity in a neutral mode on two fixed pins (11) and (12) which are locked or clamped on the boxed body. The other extremities of the two levers (9) and (10) are hinged on the two pins (13) and (14), respectively, which function also for double articulation of the bracket (15), the latter supporting seat (2).

[0019] The four pins (11), (12), (13), (14), which have parallel axes, are disposed in such a manner that when seat (2) is completely raised as shown in FIGS. 3 and 4, one of the two levers of each group, preferably lever (9) which is more external, becomes hooked with its groove or notch (16) on pin (13) of the two articulation pins (13) and (14).

[0020] Similarly, when seat (2) is completely lowered as shown in FIGS. 5 and 6, the other lever (10) of each group becomes joined with the base (17), on the other articulation pin (14).

[0021] The action opposite to the lowering of the seat is obtained by the opposite force carried out by the spiral spring (8) which is wound on fixed pin (12) having one extremity (18) placed in contact with the base (19) of the boxed body (6), and the other extremity placed against the articulation pin (13).

[0022] Obviously some embodiments different from the illustrated embodiment are possible, due to the dimension of the boxed body and the shape of the levers without departing from the invention, as defined in the following claims.

What is claimed is:

1. A device for regulating the motion of the folding seat of a chair, said device being applied to single chairs or chairs called “with a bar” used in theaters, stadiums and in general in rooms used for meetings, said device tending to keep said seat in the vertical position, said device comprising a boxed body anchored to the bar supporting the aligned chairs, said body containing in its interior at least one group of articulated lever devices attached at one extremity on the body
itself and at the other extremity on the base of said folding seat, said group of articulated lever devices being composed of two levers, which are reciprocally arranged side-by-side and are fitted at one extremity in a neutral mode on two pins, said pins being integral with said boxed body, the other extremities of said two levers being hinged on two pins, said pins constituting also the point of articulation of the bracket which supports the folding seat.

2. The device according to claim 1, which comprises an elastic element which provides for carrying out a force opposite to the force which allows the lowering of the seat and which operates in the direction to dispose said seat in an essentially vertical manner.

3. The device according to claim 1 wherein said folding seat (2) and the back (3) are applied on said device, said device being clamped by means of clamp (4) to said transversal bar (5), wherein said device is constituted by a boxed body (6) in the interior of which are placed two groups of articulated lever devices (7), said groups being symmetrically disposed, each group of said articulated lever devices comprising two levers (9, 10) which are parallel and hinged at one extremity in a neutral mode on two fixed pins (11, 12), said pins being blocked on said boxed body, the other extremities of said levers being hinged on pins (13, 14), said pins functioning also for double articulation of the bracket (15) which supports said folding seat.

4. The device according to claim 3, wherein said four pins (11, 12, 13, 14) which have parallel axes, are disposed in such a manner that when seat (2) is completely raised, one of said levers (9) of each group becomes hooked with its notch (16) on pin (13) of said articulation pins.

5. The device according to claim 4, wherein when the seat (2) is completely lowered, lever (10) of each group is placed with its base (17) on said articulation pin (14).

6. The device according to claim 5, wherein the action opposite to the lowering of the seat (2) is ensured by means of the opposite force carried out by means of a spiral spring (8), said spring being wound on a fixed pin (12), a first extremity (18) being in contact with the base (19) of the boxed body (6), and a second extremity being disposed against the articulation pin (13).

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