No. 636,405. Patented Nov. 7, 1899.

A. HOSMER.

ROTARY AND FOLDING CHAIR.

(Application filed Feb. 16, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

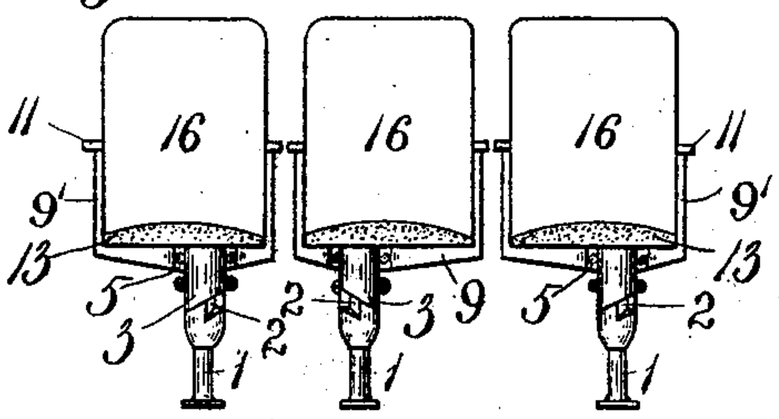


Fig. 2.

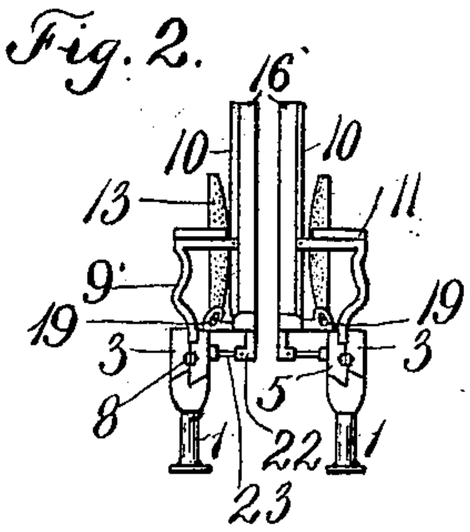


Fig. 3.

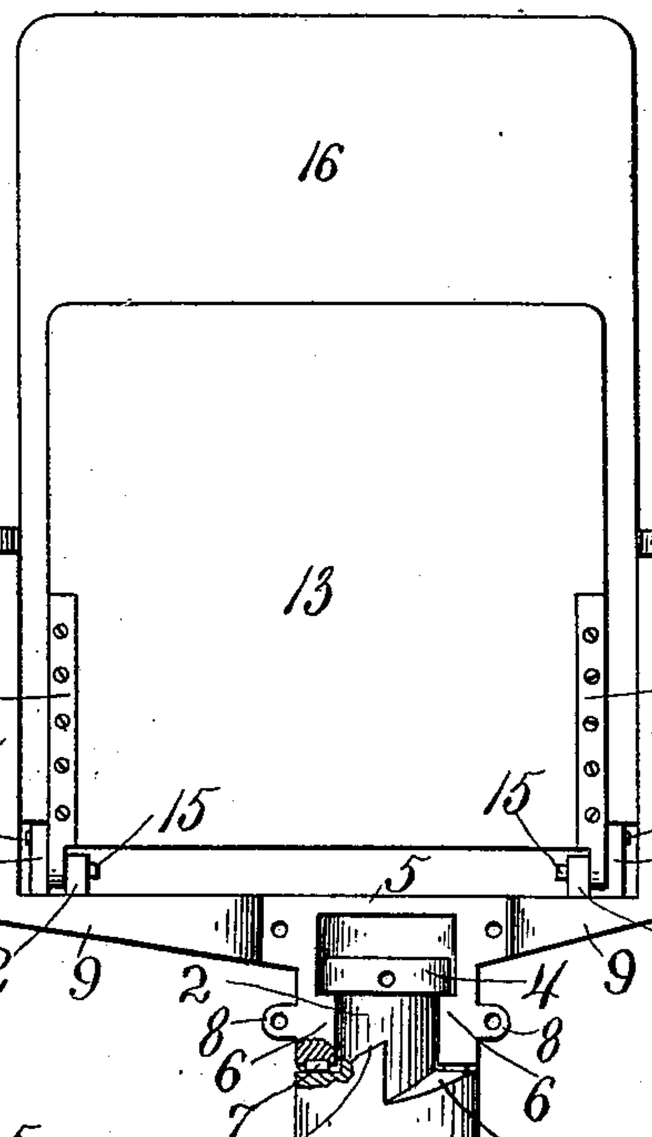


Fig. 3a.

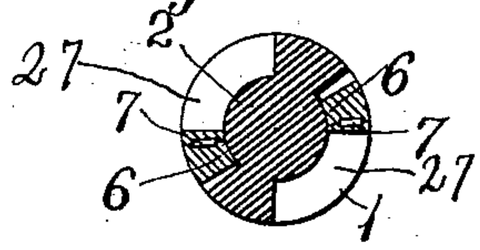


Fig. 5.

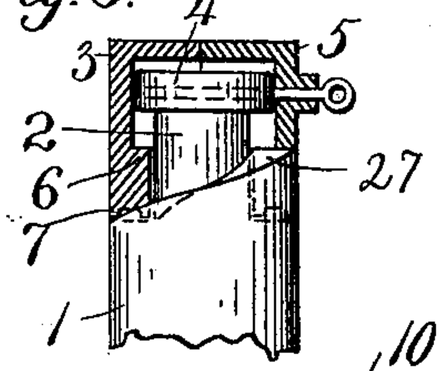


Fig. 6.

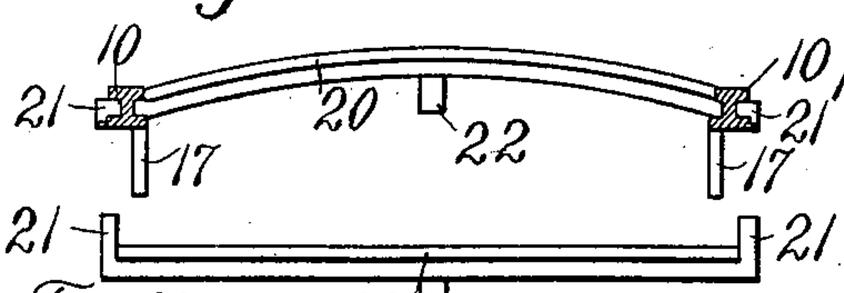


Fig. 7.

Fig. 4.

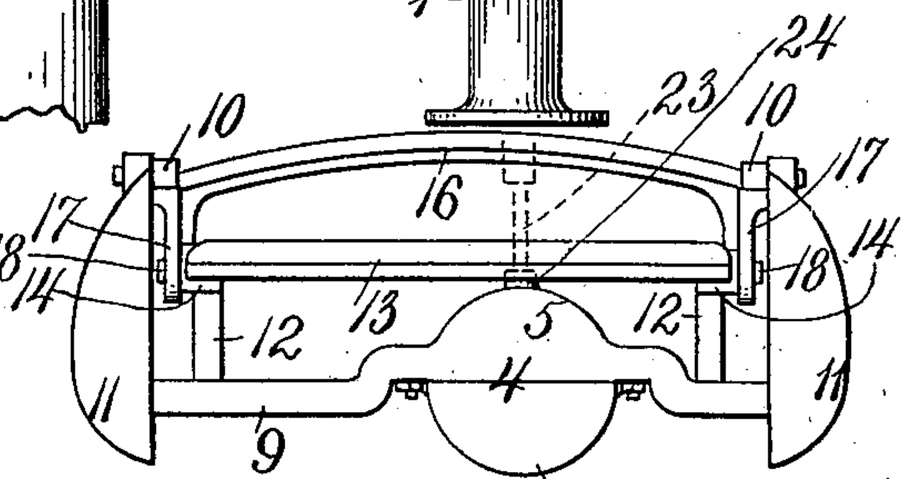


Fig. 8.

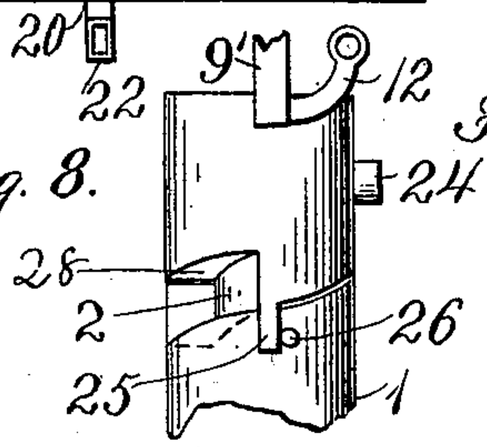
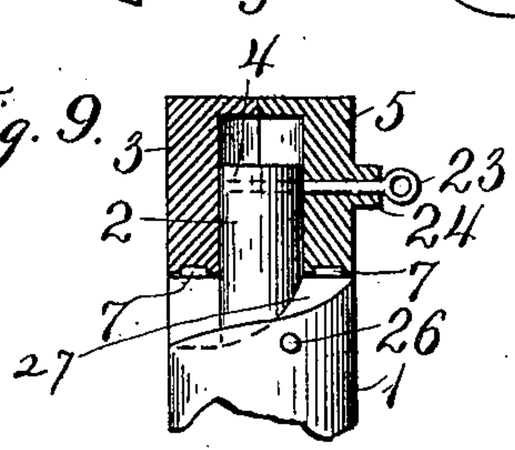


Fig. 9.



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No. 636,405. Patented Nov. 7, 1899.

A. HOSMER.

ROTARY AND FOLDING CHAIR.

(Application filed Feb. 16, 1899.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 10.

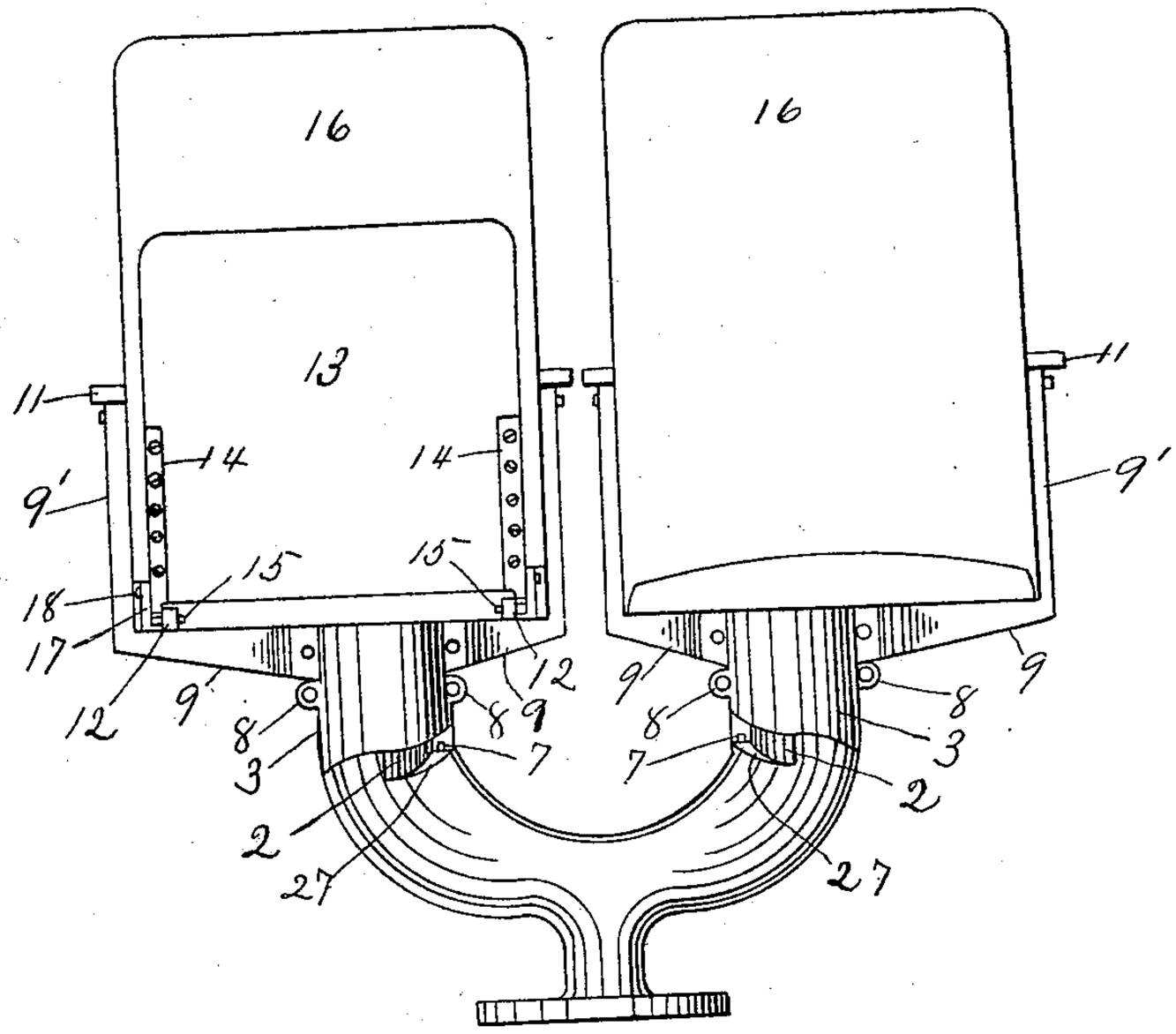
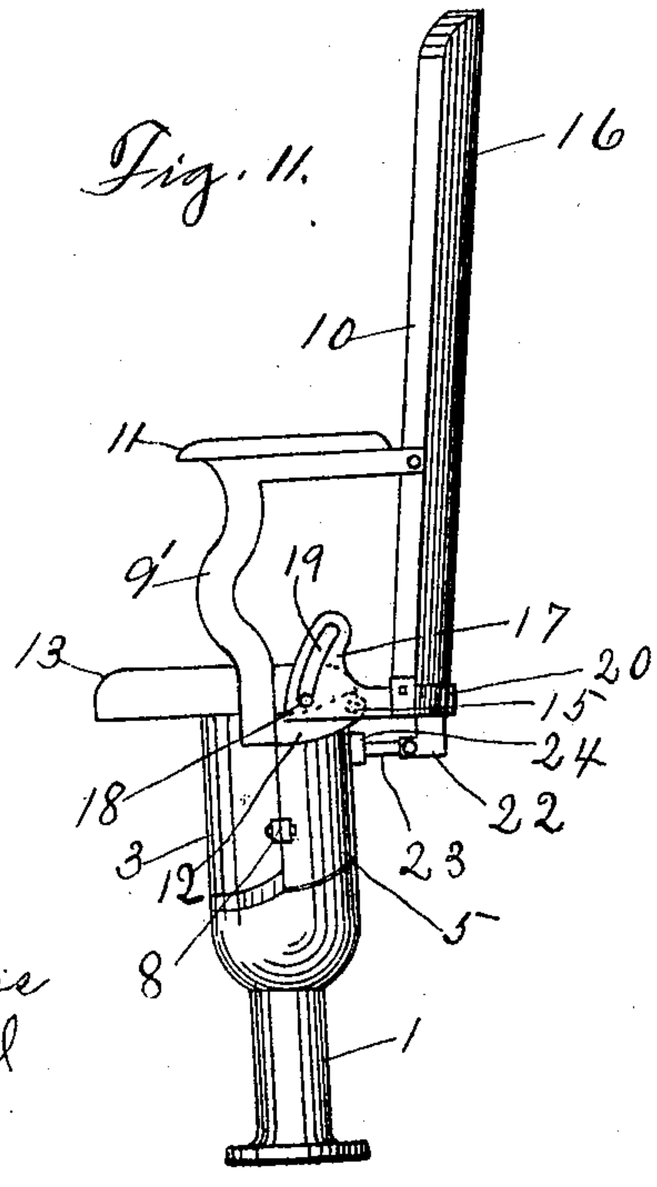


Fig. 11.



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UNITED STATES PATENT OFFICE.

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ROTARY AND FOLDING CHAIR.

SPECIFICATION forming part of Letters Patent No. 636,405, dated November 7, 1899.

Application filed February 16, 1899. Serial No. 705,626. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR HOSMER, a citizen of the United States, residing at Fort Worth, Texas, have invented a new and Improved Rotary and Folding Chair, of which the following is a specification.

This invention relates to folding chairs, and more particularly to folding chairs which will automatically rotate one-quarter around or rotate ninety degrees when folded; and the objects are to provide chairs by which the seating capacity of a house or a hall may be increased and by which is lessened the danger of loss of life or injury to occupants in a crowded house in case of fire or other accident and which will allow many exits both at the sides and at the ends of a house or hall and which can be used to great advantage wherever stationary chairs are needed or can be used, inasmuch as the floors can be cleaned with less labor than with other chairs or seats. Other objects and advantages will be fully explained in the following description, and more particularly pointed out in the claims.

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

Figure 1 is a view showing three chairs in front elevation in position for occupation. Fig. 2 is a view showing the same chairs with the seats folded and the chairs turned one-fourth around. Fig. 3 is a front elevation, partly broken and partly in section, with a part of the cap removed. Fig. 3ª is a horizontal section through the neck of the support, showing sections of the shoulders of the support and sections of the flange of the cap. Fig. 4 is a plan view of the chair when the seat is folded. Fig. 5 is a broken sectional view of the support and the cap. Fig. 6 is a plan view of the bottom piece of the back, also showing in section the side braces of the back. Fig. 7 is a front elevation of the bottom piece of the back. Fig. 8 is a broken view illustrating a variation in the cap and the support. Fig. 9 is also a broken view of the same, partly in section. Fig. 10 illustrates how two chairs may be mounted on one support, the view being a front view and the seat of one chair being raised. Fig. 11 is a side elevation of a single chair.

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

The chairs are pivotally mounted on stationary supports 1. The supports have round heads 4, preferably flat on top, and necks 2, extending down to shoulders 27 on the supports. Two inclined planes constitute the shoulders. The inclines commence on opposite sides of the neck, and each incline extends one-half around the neck of the support and stops at two inches or more below the point at which the opposite incline begins. The chairs are held on the supports by means of caps which cover the heads of the supports and which are made in two sections 3 and 5, and the sections are bolted or otherwise secured together. The cap-sections have flanges 6, which extend partly under the head 4 and over the shoulders of the support. The bottoms of the flanges are inclined planes 28, corresponding exactly with the inclines of the shoulders. Antifriction-rollers 7 are placed between the adjacent surfaces of the inclined planes, small recesses being made in the inclined planes of the cap for this purpose. The seat 13 of the chair rests on supporting-arms 9, projecting out on each side of the cap. The arms may be formed integral with one of the cap-sections and extend up by the sides of the seat, forming uprights 9′, which extend high enough to form rests for the arms of a person's body and are then extended back to form the rests and are pivotally connected to the braces 10 of the back of the chair. There are arms 12 formed on and projecting back from the supporting-arms 9, and the rear corners of the seat 13 are pivotally connected to the arms 12. The seat 13 has braces 14, which extend beyond the back of the seat and have lugs 15, which are engaged by the arms 12. The back 16 of the chair has braces 10, and these braces have elongated lugs 17 formed on the bottom parts thereof. These elongated lugs project forward on each side of the seat 13 and have slots 19 therein, which slots are inclined upward and backward. The seat has trunnions 18 on the sides forward of the rear corners, which are engaged by the lugs 17, these lugs, with the slots 19, constituting bearings or boxes for the trunnions 18. The bottom brace 20 of the back has lugs 21,

which project upward and are securely attached by riveting or bolting to the braces 10 on the outside thereof. The chairs are locked in position for occupation by keys 23. The key 23 penetrates the head 4 and the cap-section 5 and a socket 24, formed on the cap-section 5. The socket 24 prevents the key 23 from falling from its position when the key is withdrawn from the head 4, the socket acting as a guide for the key. The key is pivotally connected to an arm or lug 22, formed on the bottom brace 20 of the back.

The operation can now be understood. The back part of seat 13 is pivoted in the arms 12 by means of lugs 15, and the seat is folded and unfolded by means of these elements. When the seat is raised, the trunnions 18 slide up the slots 19 and in so doing force the bottom part of the back of the chair backward and the top of the back slightly forward. This operation brings the seat and the back to the position shown in Fig. 4 and at the same time withdraws the key from the head 4. When this is done, the chair immediately rotates one-quarter around, the antifriction-rollers 7, which are mounted in recesses in the flanges 6, running down the inclined planes of the shoulders. When the seats are folded and turned one-quarter around, they cannot be brought down, because the key 23 locks them up. The seats cannot be let down until they are brought in position for occupation. When the seats are brought in position for occupation, the keys are ready to be forced in the heads again. While the seats are being brought down the trunnions 18 slide down the slots 19, and thus force the bottom of the back of the chair forward, and this operation forces the key in the head again.

The aisles formed by the folding and the rotation of the seats cannot be blocked, because the seats are locked up, as above described. This is an advantage in case of a panic in a crowded house. It will be noticed that the seats are not centrally mounted on but off their centers on the supports. The chairs are arranged in pairs, and each pair fold up and turn their backs to each other. Looking at a pair of chairs from the front, it will be seen that the left supporting-arm 9 of the left chair is longer than the right supporting-arm of the same chair and that the right supporting-arm of the right chair is longer than the left supporting-arm of the same chair. The advantage gained by this arrangement of the seats on the supports is that the aisles are made wide enough, although all the chairs are exactly the same distance apart.

Figs. 8 and 9 illustrate slight variations in the construction of the cap and the support. The head is left off of the neck of the support. The cap can be made in one piece. Something is needed to stop the rotation of the chairs when being turned back to their positions for occupation. In the form above described the head performs this function. In the variation an arm 25 is formed on the cap, which engages a lug 26 on the side of the support for performing this function. The seats can be raised high enough to allow persons to pass in front without raising the seats far enough to cause the keys to be withdrawn. The keys are withdrawn only when the seats are raised to within an inch or thereabout of the backward limit. Another variation that may be made in the supports is the pair of chairs may have one support, with arms extending to the right and to the left, on which would be provided the heads and shoulders, as already described. Other variations may be made without departing from the spirit of this invention.

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

1. A folding chair provided with a cap attached to the bottom thereof and a stationary support; said cap and said support each having a pair of inclines extending far enough to allow said chair to rotate automatically one-fourth around when folded, and antifriction-rollers between the adjacent surfaces of said inclines.

2. A folding chair provided with a cap attached to the bottom thereof and a stationary support; said cap being pivotally mounted and having a pair of inclines extending one-half around the support, said support having two inclines adjacent to the inclines of said cap constituting the shoulder of said support, and antifriction-rollers between said inclines, whereby the chair is automatically rotated one-fourth around when folded.

3. In a folding chair provided with a pivoted cap and a stationary support; a key for locking said chair in position for occupation, said cap having a socket formed thereon with the opening extending in the cap, said support having a head provided with an aperture in alinement with the opening in said cap when said chair is in position for occupation, and means for withdrawing and inserting said key from and in said openings.

4. In a folding chair provided with a pivoted cap and a stationary support; a key mounted in said support for locking said chair in position for occupation and for locking the seat of the chair in a folded position and an arm or lug formed on the back of the chair and pivotally connected to said key for operating said key.

5. A folding chair provided with a pivoted cap and a stationary support; said cap having an annular interior flange provided with two inclines on the under side thereof, said support having a head above said flange and a shoulder below said flange formed into two inclines corresponding with the inclines of said flange, and antifriction-rollers between the adjacent surfaces of said inclines.

6. Folding chairs arranged in pairs and having stationary supports and caps pivoted thereon, the cap and the support of each chair having pairs of inclines extending far enough

around to cause said chairs to rotate automatically one-fourth around when folded, antifriction-rollers placed in the inclines of said cap, said inclines being so arranged as to cause each pair of chairs to turn their backs to each other when rotated.

7. Folding chairs arranged in pairs and having stationary supports and caps pivoted thereon, said chairs being placed off their centers away from each other and said caps and supports having pairs of inclines and antifriction-rollers between the adjacent surfaces thereof whereby said chairs turn their backs to each other and drop below the position for occupation between said supports.

8. Folding chairs arranged in pairs and having stationary supports and caps pivoted thereon, keys for locking said chairs in position for occupation and for locking the seats of the chairs in folded position, and means for releasing said parts automatically, said chairs being placed off their centers on said supports away from each other, the support and the cap of each chair having each a pair of inclines and antifriction-rollers between the adjacent surfaces thereof whereby said chairs will drop down below the position for occupation and turn their backs to each other between said supports when folded.

9. A folding chair having a stationary support, a cap pivoted thereon, supporting-arms for the seat formed integral with said cap and projecting upward and then backward and pivotally connected to the back of the chair, arms formed on and projecting backward from said supporting-arms, lugs on the rear corners of the seat of the chair for engaging said arms, trunnions on said seat forward of said lugs, bearings for said trunnions attached to the back of the chair, and a key pivotally connected to the back of the chair for locking and releasing the seat and the chair.

10. In a folding chair provided with a stationary support and a cap pivoted thereon; said cap and said support each having a pair of inclines extending far enough to allow said chair to rotate automatically one-fourth around when folded, and antifriction-rollers between the adjacent surfaces of said inclines, and means for limiting the rotation of said chair when being turned to position for occupation.

In testimony whereof I set my hand, in the presence of two witnesses, this 18th day of January, 1899.

ARTHUR HOSMER.

Witnesses:
JAMES GILFORD BROWNING,
A. L. JACKSON.