Dec. 1, 1925. 1,564,000

W. F. KOKEN

HAIR DRESSER'S AND BARBER'S CHAIR

Filed Dec. 14, 1923 2 Sheets-Sheet 1

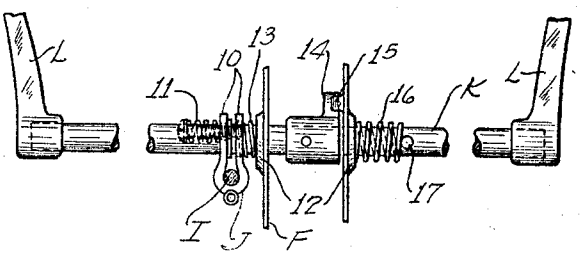


Fig. 2.

Fig. 1.

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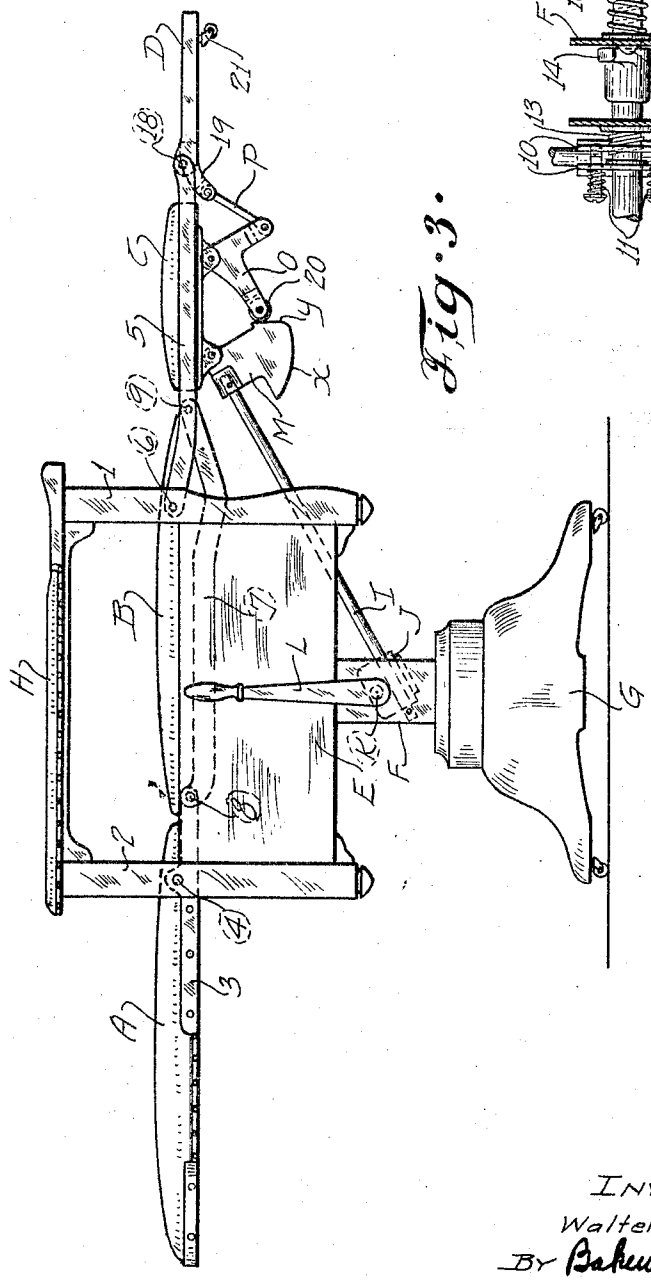


Fig. 3.

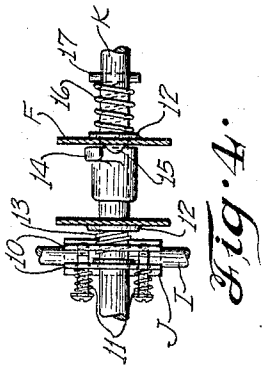


Fig. 4.

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UNITED STATES PATENT OFFICE.

WALTER F. KOKEN, OF ST. LOUIS, MISSOURI.

HAIR DRESSER'S AND BARBER'S CHAIR.

Application filed December 14, 1923. Serial No. 680,723.

To all whom it may concern:

Be it known that I, WALTER F. KOKEN, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Hair Dressers' and Barbers' Chairs, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to adjustable chairs of the kind that are used by barbers, hair dressers and other specialists for supporting a person on whom the specialist is operating, and particularly chairs of the kind that are equipped with a swinging apron and a swinging foot rest that is adapted to be turned into different positions with relation to the apron.

The main object of my present invention is to provide a chair that embodies some of the good features and characteristics of the chair described in my pending application for patent Serial No. 680,722, filed Dec. 14, 1923, which is equipped with a novel operating and controlling mechanism for the foot rest.

Another object is to improve the operation and simplify the construction of the mechanism that is used in hair dressers' and barbers' chairs and the like for clamping and releasing the reclining bar that holds the back, seat and apron of the chair in adjusted position.

Figure 1 of the drawings is a side elevational view of a chair embodying my invention, showing the back of the chair arranged in its upright position.

Figure 2 is a vertical transverse sectional view, taken through the stem of the chair, illustrating the operating shaft that controls the reclining bar clamp.

Figure 3 is a side elevational view, illustrating the back of the chair in its fully reclined position; and

Figure 4 is a top plan view of the parts shown in Figure 2.

Referring to the drawings, which illustrate the preferred form of my invention, A designates the back, B designates the seat, C designates the apron and D designates the foot rest, the back, seat and apron being combined in such a manner that they will move in unison into longitudinal alignment with each other when the back is moved downwardly into its fully reclined position, shown in Figure 3, and will move into a position at substantially right angles to each other when the back is swung upwardly into its upright position, shown in Figure 1. Said parts are carried by a frame E which may either be a stationary frame or a frame that can be raised and lowered, the frame E of the chair herein illustrated being carried by a spindle F that is mounted on a base G. The arms H of the chair may either be adjustable or stationary and are herein illustrated as being rigidly connected to front and rear uprights 1 and 2 on the frame E. The seat B is so arranged with relation to the arms H that it will move forwardly and upwardly towards said arms when the back A is swung downwardly into its fully reclined position and will move rearwardly and downwardly away from said arms when the back is moved into its upright position. In the form of my invention herein illustrated the back A is rigidly connected to a pair of levers 3 that are pivotally connected at 4 to the rear uprights 2 on the frame E, and the apron C is rigidly connected to a pair of levers 5 that are pivotally connected at 6 to the front uprights 1 on said frame. The seat B is carried by two links 7, shown in broken lines in Figure 3, whose rear ends are pivotally connected at 8 to the lower ends of the levers 3 and whose front ends are pivotally connected at 9 to the levers 5 that carry the apron, thereby producing a chair in which the back, seat and apron will move simultaneously either into the position shown in Figure 1 or into the position shown in Figure 3 when the back A is swung on its pivots 4.

The means that is used for holding the back, seat and apron in adjusted position consists of a conventional reclining bar I pivotally connected at its front end to the apron C, and a reclining bar clamp embracing said reclining bar and designated as an entirety by the reference character J, said clamp being composed of two spring-pressed jaws 10 mounted in such a manner that they can rock or turn from the position shown in Figure 1 into the position shown in dotted lines in Figure 3, so as to permit the reclining bar to swing upwardly. One of the jaws 10 is acted upon by a spring 11 that causes said jaws to clamp and securely hold the reclining bar I, and an operating shaft

K is provided for separating the jaws 10, so as to release the reclining bar when it is desired to change the adjustment of the back, seat and apron of the chair. The operating shaft K is arranged transversely under the seat of the chair and is oscillatingly mounted in bearings 12 on the spindle F, as shown in Figure 2, said shaft having a screw-threaded portion 13 that cooperates with screw threads in one of the jaws 10 to cause the shaft K to move endwise when it is rocked in one direction, and thus cause an abutment or shoulder on said shaft to exert pressure on the outer jaw 10 in a direction to move said outer jaw away from the inner jaw, thereby releasing the reclining bar I.

The operating shaft K is provided at each of its ends with a handle L, so as to enable said shaft to be operated from either side of the chair, and means is provided for normally holding said operating shaft in such a position that the reclining bar clamp J will be operative, or, in other words, will be in a condition to lock the reclining bar. The holding means just referred to preferably consists of an arm 14 on the operating shaft K arranged inside of the hollow spindle F of the chair, as shown in Figure 2, a cam or inclined lug 15 on the inner side of said spindle that co-operates with the arm 14, and a coiled compression spring 16 surrounding the operating shaft between a pin 17 thereon and one of the bearings 12 in which the shaft turns. The spring 16 exerts endwise pressure on the shaft K when said shaft is turned in a direction to cause the arm 14 thereon to ride up onto the high part of the cam 15, thus frictionally holding the shaft K in such a position that the reclining bar clamp J will be operative. When it is desired to change the adjustment of the parts of the chair the operator turns the shaft K in a direction to cause the arm 14 thereon to ride down off of the high point of the cam 15, this rotary movement of the shaft K causing the outer jaw 10 of the reclining bar clamp to be moved away from the inner jaw of said clamp sufficiently to release the reclining bar I, whereupon the back, seat and apron of the chair can be moved to change the position of same.

The foot rest D, previously referred to, is pivotally mounted on the apron C and mechanism is provided for insuring said foot rest moving into a position wherein it forms an extension of the apron C when the back of the chair is arranged in its fully reclined position, and moving into a position wherein it is disposed at substantially right angles to the apron C when the back of the chair is swung upwardly into its vertical position. Preferably the foot rest D is connected by offset pivots 18 to the lower ends of the levers 5 which carry the apron C, and the mechanism that controls the position of said foot rest and causes it to move relatively to the apron when the parts of the chair are adjusted from one position into a different position consists of a cam M connected to the front end portion of the reclining bar I, a rockable member O pivotally mounted on the underside of the apron C and a link P that connects said rockable member to an angularly-disposed arm 19 on the foot rest D, the rockable member preferably consisting of a bell crank lever having one of its arms pivotally connected to the link P and having its other arm equipped with a roller 20 that is arranged in engagement with the cam M.

When the back of the chair is swung downwardly into its fully reclined position the reclining bar I moves forwardly and upwardly, and as said reclining bar approaches the end of its forward stroke, the roller 20 on the rockable member O passes from the convexed portion x of the cam M onto the straight vertical face y of said cam, thereby causing the member O to rock in a direction to exert a pull on the link P, which action insures the foot rest being disposed in longitudinal alignment with the apron C at the time the back of the chair reaches its fully reclined position, as shown in Figure 3. When the back of the chair is swung upwardly from the position shown in Figure 3 into the position shown in Figure 1, the engagement of the roller 20 on the rockable member O with the straight vertical surface y of the cam M, during the first portion of the downward movement of the apron causes the member O to exert a thrust on the link P, thereby positively turning the foot rest D into a right-angular position with relation to the apron. Thereafter, during the remainder of the downward movement of the apron, the foot rest is held in a position at substantially right angles to the apron by the engagement of the roller 20 on the member O with the convexed surface x of the cam M. Accordingly, in my improved chair there is no possibility of the foot rest D remaining in longitudinal alignment with the apron C when the apron swings downwardly, because means is provided for positively turning the foot rest into a position at right angles to the apron during the first part of the downward movement of the apron and for maintaining the foot rest in said position while the apron continues to move downwardly. The foot rest D is preferably provided adjacent its front edge with casters or rollers 21 that bear upon the floor when the back of the chair is in its upright position.

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

1. A chair provided with a swinging apron, a foot rest carried by the apron, a

rockable member on the apron, a positive connection between said rockable member and foot rest for transmitting movement from one of said parts to the other, a reclining bar connected with the apron, and a cam on said reclining bar arranged so as to engage and actuate said rockable member when the apron moves from one position to another position.

2. A chair provided with a swinging apron that is adapted to be raised and lowered, a swinging foot rest combined with the apron, a rockable member on the apron, means for positively connecting said rockable member with the foot rest, a reclining bar connected with the apron, and a cam member on said reclining bar arranged so as to co-operate with said rockable member to change the angular relationship between the foot rest and apron when the apron is raised and to re-establish the normal relationship between said apron and foot rest when the apron is lowered.

3. A chair provided with an adjustable back and an adjustable apron, a swinging foot rest combined with the apron, a reclining bar connected with the apron, a cam carried by said reclining bar, and a rockable member on the apron operatively connected with the foot rest and arranged so that it will co-operate with said cam to turn the foot rest into a position at right angles to the apron and maintain the foot rest in said position during the movement of the apron from its horizontal position into its vertical position.

4. A chair provided with an adjustable back and an adjustable apron, a swinging foot rest combined with the apron, a reclining bar pivotally connected to the apron, a cam on said bar, a rockable member on the apron arranged so as to be actuated by said cam during the movement of the apron from one position to the other, and means operated by said rockable member for positively turning the foot rest into and out of an angular position with relation to the apron during the operation of changing the adjustment of the back and apron of the chair.

5. A chair provided with a swinging back and a swinging apron, a pivotally mounted foot rest carried by said apron and provided with a rigid arm, a bell crank lever on said apron, a link pivotally connected to said lever and to the arm of the foot rest, a roller on said bell crank lever, a reclining bar pivotally connected to the apron, a cam on said reclining bar adapted to co-operate with said roller and provided with one surface that causes the bell crank to turn the foot rest into a right-angular position with relation to the apron during the downward movement of the apron, and an independent surface on said cam that co-operates with said bell crank to maintain the foot rest in said position.

WALTER F. KOKEN.