

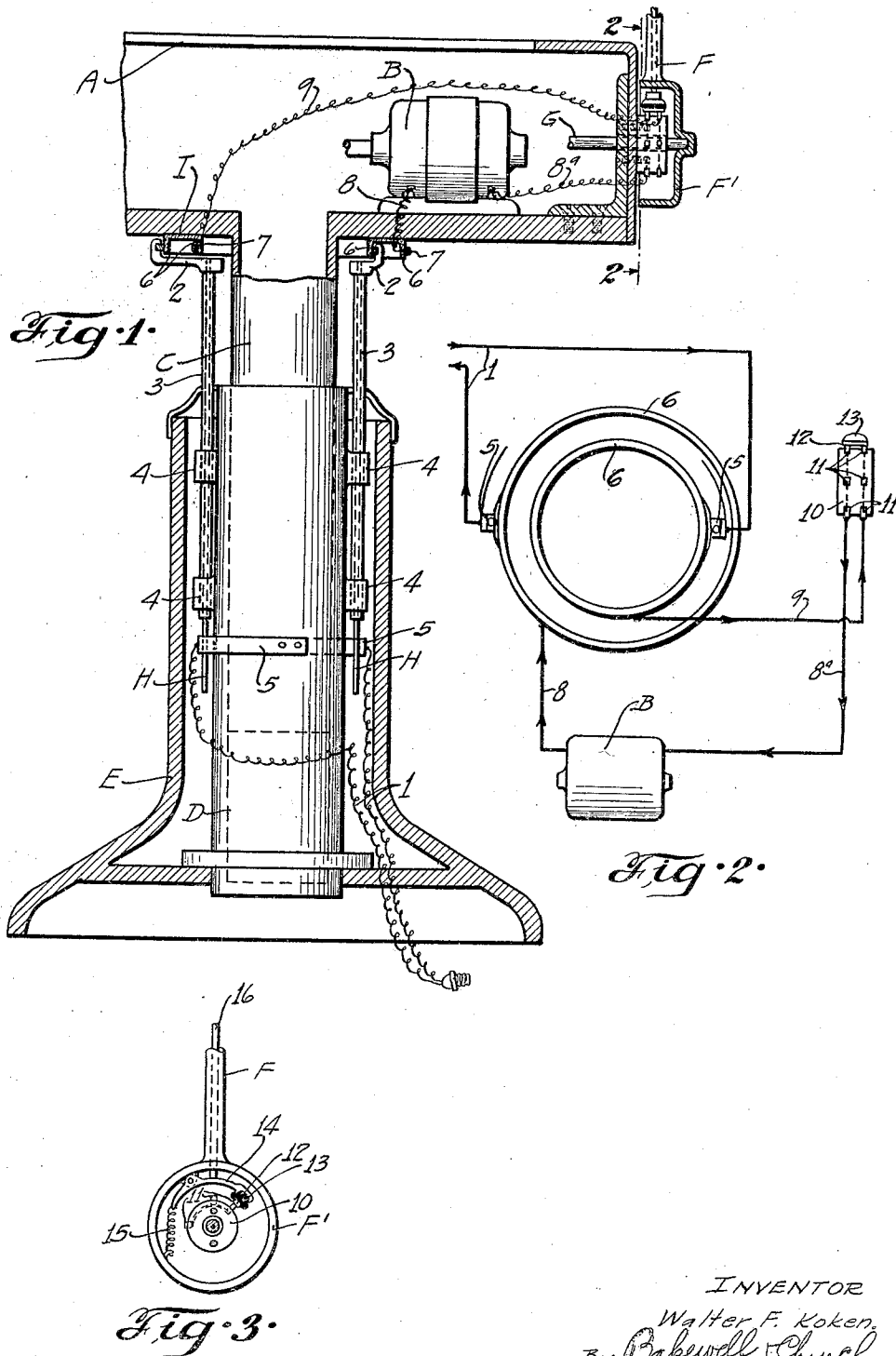
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W. F. KOKEN

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ELECTRICALLY OPERATED BARBER CHAIR

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INVENTOR
Walter F. Koken.
By Bakewell & Church
ATTORNEYS

UNITED STATES PATENT OFFICE.

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

ELECTRICALLY-OPERATED BARBER CHAIR.

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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 Electrically-Operated Barber 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 electrically-operated barber chairs, dentist chairs and the like, and particularly chairs of the type that comprise a seat which is adapted to be raised and lowered and also revolved.

One object of my invention is to provide an efficient means of simple design for conducting electric current from a point in the base or standard of the chair to a point on or in proximity to the seat frame, that is not liable to be rendered inoperative by the constant vertical and rotary movement of the seat.

Another object is to provide an electrically-operated barber's chair or the like which is so constructed that there are no exposed loose wires that might interfere with or be broken by the movement of the adjustable parts of the chair.

And still another object is to provide an electrically operated barber's chair or the like in which the controlling means that is used for governing the operation of the adjustable part or parts of the chair is provided with an electric switch of novel design by which the operator in charge of the chair can open and close the motor circuit in various positions of the operating handle of said controlling means. Other objects and desirable features of my invention will be hereinafter pointed out.

Figure 1 of the drawings is a vertical sectional view of a barber's chair or the like constructed in accordance with my invention.

Figure 2 is a wiring diagram of the motor circuit; and

Figure 3 is a sectional view, taken on the line 2—2 of Figure 1, looking in the direction indicated by the arrows.

I have herein illustrated my invention embodied in a barber's chair of the type that comprises a vertically-adjustable seat frame A which can be revolved, and an electric motor B that forms part of the operating mechanism of the chair. The seat frame A

is carried by a vertically-disposed stem C that is reciprocatingly mounted in a socket D arranged in the base or standard E of the chair. The controlling means of the chair that governs the adjustments of the various movable parts of the chair comprises an operating handle F secured to an oscillating shaft G in the seat frame A and provided with a hollow hub F' that encases a switch which controls the circuit that energizes the motor B. I have not illustrated the means that is used for raising and lowering the seat of the chair, as said means forms no part of my present invention. Suffice it to say, that the stem C which carries the seat frame A is mounted in the socket D in such a manner that said stem is capable of moving upwardly in said socket to raise the seat of the chair, is capable of moving downwardly in said socket to lower the seat of the chair and is capable of turning or revolving in said socket so as to permit the seat of the chair to be turned into various positions.

My present invention consists of a means of novel construction for conducting electric current from a point in the base or standard of the chair to a point on or in proximity to the seat frame A. When the chair is provided with an electric motor mounted in the seat frame A, as herein illustrated, the means just referred to is used for electrically connecting the motor circuit with supply wires 1 in the standard E of the chair, as shown in Figure 1, and comprises two vertically-disposed conductor bars H reciprocatingly mounted in the standard E and provided at their upper ends with shoes or brushes 2 that are combined with a collector ring I on the seat frame A in such a manner that they will remain in engagement with said collector ring when the seat frame is raised, lowered or revolved. As shown in Figure 1, each of the conductor bars H is surrounded throughout the major portion of its length by a tube 3 of insulating material which passes through laterally-projecting guides 4 on the exterior of the socket D of the chair, the exposed lower end portions of the conductor bars H being arranged in sliding engagement with stationary contacts 5 in the standard of the chair to which the supply wires 1 are connected. The collector ring I is arranged on the underside of the seat frame of the chair in concentric relation with the stem C and is provided with two downwardly-projecting

flanges 6 against which the shoes or brushes 2 on the conductor bars H bear. Various means can be used for connecting the shoes 2 with the collector ring I in such a way that the conductor bars H will move upwardly and downwardly with the seat frame of the chair, the means herein illustrated for this purpose consisting of annular ribs 7 on the depending flanges 6 of the collector ring that project into notches in the shoes 2, as shown more clearly in Figure 1. The motor B is connected by means of a wire 8 with one of the flanges 6 of the collector ring and by means of a wire 8^a with one side of the switch in the motor circuit. The other side of said switch is connected by means of a wire 9 with the other flange 6 of the collector ring I, as shown in Figure 1.

As the collector ring I is rigidly connected to the seat frame, there is no relative movement between said collector ring and the wires 8 and 9 of the motor circuit. Consequently, there is no tendency for said wires to twist and break when the seat frame of the chair is revolved. Nor is there any tendency for the supply wires in the standard of the chair to twist or break when the seat frame is raised or lowered, owing to the fact that said supply wires are connected to stationary contacts 5 which press against the conductor bars H that move upwardly and downwardly with the seat frame.

The switch previously referred to that governs the motor circuit is composed of a stationary insulator 10 rigidly mounted on the seat frame of the chair inside of the hub F' on the operating handle and provided with one or more pairs of contacts 11, and a shiftable circuit closing device 12 that is adapted to be moved into engagement with said contacts or with a selected pair of contacts to close the motor circuit. In the form of my invention herein illustrated the circuit closing device 12 consists of a bar set in a piece of insulating material 13 that is carried by a pivotally mounted device 14 on the inside of the hub F' of the operating handle F. A spring 15 that acts on the device 14 normally holds said device in such a position that the circuit closing device 12 will be out of engagement with the contacts 11 of the switch and the handle F is provided with a plunger 16 that is adapted to be depressed so as to exert pressure on the device 14 in such a direction as to render the circuit closing device 12 operative. If the chair is of such a character that the motor B has to be started and stopped when the operating handle F of the controlling means is set in various positions, the switch will comprise a plurality of pairs of contacts, herein illustrated as three pairs, one contact of each of said pairs being connected with the wire 8^a that leads to the motor B, and the other contact of each of said pairs being connected

with the wire 9 that leads to the collector ring I. By moving the operating handle F into one position and depressing the plunger 16, the motor B can be rendered operative so as to effect the adjustment of one part of the chair, by moving said handle into another position and depressing the plunger 16 the motor can be rendered operative, to effect the adjustment of another part of the chair, and by moving said handle into still another position and depressing the plunger 16 the motor can be rendered operative to effect still another adjustment of the chair. As previously stated, the insulator 10 that carries the contacts of the controlling switch is stationarily mounted on the seat frame A of the chair, and consequently, there is no tendency to twist or break the wire 9 that connects one side of the switch with one of the flanges of the collector ring and the wire 8^a that connects the other side of the switch with the motor.

From the foregoing it will be seen that in my improved chair there are no loose exposed wires that interfere with or which are liable to be broken by the movement of the various parts of the chair that require adjustment, nor are there electrical conductors arranged in such a way that they are liable to be touched by the operator in charge of the chair. The only parts of the current conducting means that move relatively to each other are the shoes or brushes 2 on the upper ends of the conductor bars H that bear against the collector ring I, and the contacts 5 in the standard of the chair which engage the lower end portions of the conductor bar. These parts, however, are so designed and arranged that they will not be affected or rendered inoperative by the constant raising and lowering of the seat frame and turning of the seat frame.

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

1. A barber's chair or the like, comprising a standard or base provided with guides, a vertically-adjustable stem revolvably mounted in said standard, a seat frame rigidly connected to said stem, contacts in said standard to which a supply circuit is connected, conductor bars slidably mounted in the guides on said standard and arranged in sliding engagement with said contacts, a collector ring rigidly connected to said seat frame and provided with separate portions to which the opposite sides of an electric circuit are connected, and co-operating means on the separate portions of said ring and on the respective conductor bars that maintain electrical connection between said bars and ring when the seat frame is adjusted vertically or is being revolved.

2. A barber's chair or the like, comprising a standard or base, a vertically-adjust-

able stem revolubly mounted in said standard, a seat frame rigidly connected to said stem, an electric circuit controlling switch comprising contacts that are stationary with respect to the seat frame, a collector ring rigidly connected to said seat frame and forming part of said switch circuit, stationary contacts in the standard of the chair connected to a supply circuit, rigid conductor bars reciprocatingly mounted in the standard and electrically connected to a supply circuit, and cooperating means on said bars and collector ring for causing said bars to move vertically with the seat frame and to remain in electrical contact with said collector ring when the seat frame revolves.

3. A barber's chair or the like, comprising a standard or base, a vertically-adjustable stem revolubly mounted in said standard, a seat frame rigidly connected to said stem, concealed contacts in said standard to which a supply circuit is connected, vertically-disposed conductor bars reciprocatingly mounted in said standard in sliding engagement with said contacts and having their upper end portions covered with insulating material, a collector ring rigidly connected to the seat frame, means for maintaining electrical connection between said conductor bars and collector ring when the seat frame revolves and for causing said conductor bars to move vertically with the seat frame, an electric motor housed in the seat frame, and a switch for controlling the motor circuit comprising stationary contacts on the seat frame that are connected by concealed wires with the motor and with the collector ring.

4. A barber's chair or the like provided with a vertically-movable, revoluble seat frame, a controlling means for governing the operation of the adjustable parts of the chair consisting of a shaft and a handle pro-

vided at its lower end with a hollow hub that is connected to said shaft, and a switch housed by said hub and comprising a shiftable circuit closing device that moves with the hub and a plurality of pairs of contacts that are stationary with respect to the seat frame.

5. A barber's chair or the like provided with a vertically-movable, revoluble seat frame, a controlling means for governing the operation of the adjustable parts of the chair consisting of a shaft and a handle provided at its lower end with a hollow hub that is connected to said shaft, a stationary insulator on the seat frame arranged inside of said hub and provided with a plurality of pairs of contacts, and a shiftable circuit-closing device carried by said hub and adapted to be moved into engagement with any pair of contacts on said insulator.

6. A barber's chair or the like, comprising a standard or base, a vertically-adjustable stem revolubly mounted in said standard, a seat frame rigidly connected to said stem, a collector ring on the underside of said seat frame arranged to revolve with same and provided with two concentrically-arranged, depending flanges, a pair of vertically-movable conductor bars in said standard, each of which is provided at its upper end with a shoe that co-operates with one of said flanges, co-operating means on said shoes and collector ring for causing said conductor bars to move vertically with the stem, an electric motor housed in the seat frame a movable controlling element on the seat frame, and a switch for the motor circuit comprising a part that moves with said controlling element and a part that is stationary with respect to the seat frame.

WALTER F. KOKEN.