Dec. 24, 1935. W. L. MARTIN 2,025,172

DRIER

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Fig-1

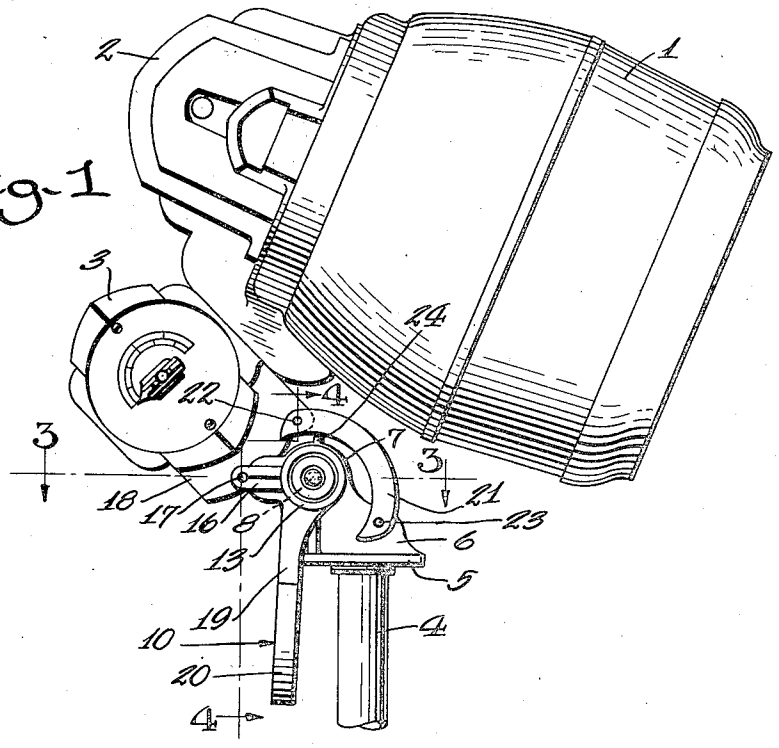
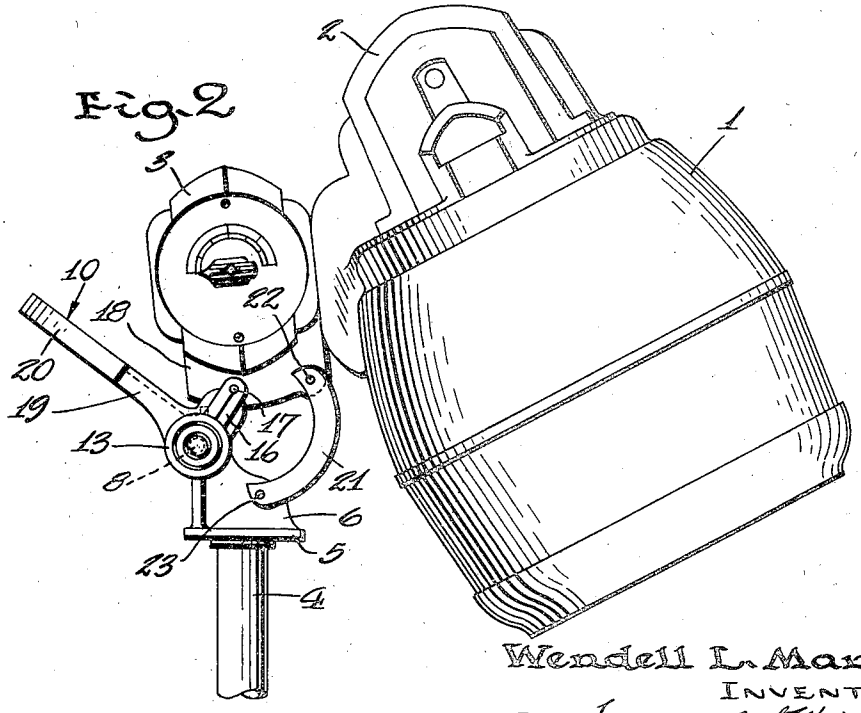


Fig-2



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DRIER

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Fig. 3

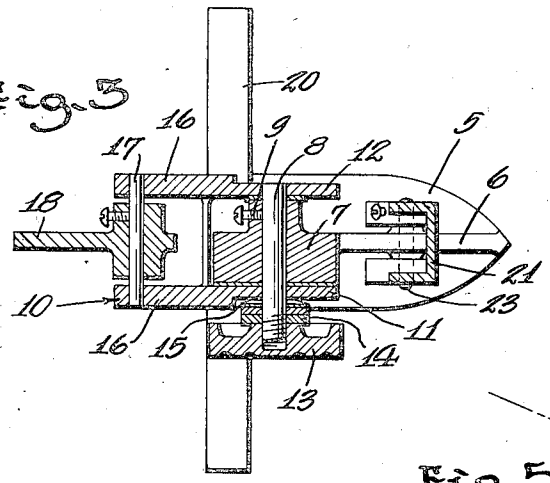
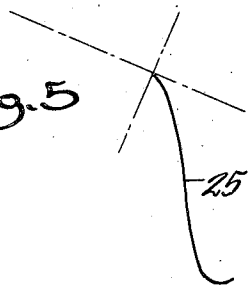


Fig. 5



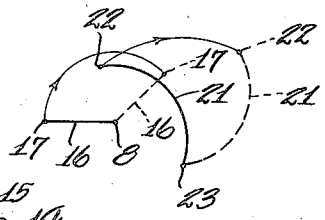
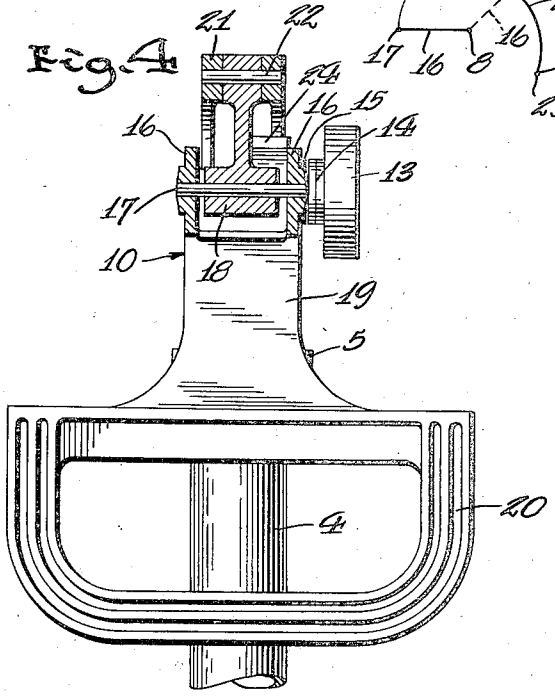


Fig. 4



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Patented Dec. 24, 1935 2,025,172

UNITED STATES PATENT OFFICE

2,025,172

DRIER

Wendell L. Martin, Cleveland, Ohio, assignor to The Martin Brothers Electric Company, Cleveland, Ohio, a corporation of Ohio

Application April 4, 1932, Serial No. 603,024

7 Claims. (Cl. 34—26)

My invention relates to driers, and has particular reference to driers for use in drying hair, or the hands, or the like, and the principal object of my invention is to provide a new and improved drier of this type.

In the drawings accompanying this specification and forming a part of this application, I have shown, for the purpose of illustration, one form which my invention may assume, and in these drawings:

Figure 1 is a side elevation of a drier constructed in accordance with my invention in its retracted position,

Figure 2 is a view similar to Figure 1, but showing the drier in its operative position,

Figure 3 is an enlarged horizontal sectional view taken on line 3—3 of Figure 1,

Figure 4 is a vertical sectional view taken on line 4—4 of Figure 1, while

Figure 5 is a diagrammatic view illustrating the movement of the linkage mechanism, and the path of the drier when moved from a retracted to an operative position.

With reference to the drawings, a drier constructed in accordance with my invention is shown as comprising a substantially cylindrical hood 1 which is adapted to be directed toward the head and hair of the person whose hair is being dried, and which may, if desired, at least partially embrace the same. This hood is carried by a casing 2 which contains the motor which drives a fan, such as is shown in detail in my co-pending application for Letters Patent, Serial Number 603,023. The casing 2 is secured to and carried by a housing 3 which contains a suitable clockwork mechanism for controlling the temperature of the heating element and the operation of the motor, as is also disclosed in my co-pending application above identified.

The above mentioned instrumentalities are all carried by a tubular support 4 by means of mechanism for permitting the drier to be swung both horizontally and vertically in order to adjust the same relative to the object being dried. This mechanism includes a bracket 5 which is mounted on the upper end of the support 4 for swinging movement about a vertical axis and which is provided with a centrally disposed upwardly extending flange 6 formed with a bearing 7 adjacent to its upper extremity, in which a stud shaft 8 is fixed by means of a set-screw 9. Pivotally mounted on the shaft 8 is a bell crank lever 10 which is bifurcated to provide ears 11 and 12 for pivotal engagement with the shaft 8 on opposite sides of the bearing 7. A clamping nut 13 is threaded onto one end of the shaft 8 and is adapted to be rotated to clamp the ear 11 against the bearing 7 in order to fix the drier in the desired adjusted position. Washers 14, and a spring washer 15, may be interposed between the nut 13 and the ear 11 so as to provide a certain degree of frictional resistance to the movement of the drier when its angularity is adjusted.

One arm 16 of the bell crank lever 10 is bifurcated and is pivotally connected by means of a pin 17 to opposite sides of a centrally disposed depending flange 18 formed on the housing 3 and the other arm 19 of the bell crank lever 10 is provided with a handle 20 by means of which the bell crank lever 10 may be rotated when the nut 13 is loosened in order to swing the drying mechanism in adjusting the same relative to the object being dried.

A substantially arcuate link 21 provided with bifurcated extremities is pivotally connected at its upper end by means of a pin 22 to the opposite sides of the flange 18 and is also pivotally connected at its lower end by a pin 23 to the opposite sides of the flange 6 of the bracket 5.

The movement of the drier is arrested when it is swung in a counter-clockwise direction through engagement between the arm 19 of the bell crank lever 10 and the side of the bracket 5, and when swung in a clockwise direction through engagement between the arm 19 and a lug 24 formed on the upper side of the bearing 7.

It will be noted from an inspection of Figure 1 of the drawings, that when the drier is swung in a counter-clockwise direction to its upper or retracted position, the pivot pins 17 and 22 between the arm 16 of the bell crank lever 10 and the flange 18, and between the upper end of the link 21 and the flange 18, respectively, both pass over the shaft 8 so that the mechanism will remain in its retracted position under the influence of gravity. When the handle 20 of the bell crank lever 10 is raised in order to project the drier toward the object being dried, the pins 17 and 22 are both swung in a clockwise direction to a position on the other side of the shaft 8, and the drier is fixed in an adjusted position with respect to the object being dried by means of the clamping nut 13.

The radius of movement of the arm 16 of the bell crank lever 10 is considerably less than the radius of movement of the link 21, and consequently when the drier is swung in a clockwise direction, from the position shown in Figure 1 to that illustrated in Figure 2, the casing 1 will first move forwardly and downwardly over the head of the person whose hair is being dried, and then as

the swinging movement continues, the casing will tilt slightly in an upward direction so as to move the lower edge of the casing gently beneath the hair adjacent to the nape of the neck. This movement of the casing is diagrammatically illustrated at **25** in Figure 5 of the drawings.

The parts are so constructed and arranged that the center of gravity of the drying mechanism occupies a position considerably to the left of the geometric center of the device, as viewed in Figures 1 and 2 of the drawings, and substantially above the several points of pivotal connection between the drier and the support **4**. As a result the mechanism is so balanced that it may be shifted between an operative position and a retracted position, with comparatively little effort by the operator. It will also be noted that the distance between the axis of the shaft **8** and that of the pin **17** is relatively small as compared with the distance between the pins **22** and **23** of the link **21**. As a result, the mechanical advantage of the linkage mechanism is relatively great considering the range of movement of the casing **1**.

It will be understood by those skilled in the art that the embodiments herein disclosed accomplish the principal objects of the invention, and it will be apparent that the invention embodies uses and advantages other than those herein particularly referred to, and it will be further apparent that various changes and modifications may be made in said embodiments without departing from the spirit of the invention, and accordingly the disclosure herein is illustrative only and the invention is not limited thereto.

I claim:

1. A drier, comprising: a support; a member having a front portion adapted to be directed toward an object to be treated; and a pair of links swingably connecting said member and said support for limited swinging movement of said member in opposite directions, each of said links having one end pivotally connected to a fixed point on said support, and its opposite end pivotally connected to said member, said fixed pivots being spaced and positioned so that a line extending therethrough lies substantially parallel to a longitudinal axis through said member, when shifted to the end of its swinging movement in one direction, and the pivotal points of said links with said member being spaced and positioned so that a line extending therethrough lies substantially at a right angle to the longitudinal axis of said member, when shifted to the end of its movement in the said direction.

2. A drier comprising: a support; a member having a front portion adapted to be directed toward a subject to be treated; a pair of links swingably connecting said member and said support, and means for limiting the swinging movement of said member in opposite directions, each of said links having one end pivotally connected to a fixed pivot on said support, and its opposite end pivotally connected to said member, said fixed pivots being spaced and positioned so that a line extending therethrough lies substantially parallel to a longitudinal axis through said member, when shifted to the end of its movement in one direction, and the pivotal points of said links with said member being spaced and positioned so that a line extending therethrough lies substantially at a right angle to the longitudinal axis of said member, when shifted to the end of its movement in the said direction, said links being operable to move said member toward one side of said support to dispose the same in position to treat said subject, and returnable to move said member in an opposite direction to a position of rest, the pivotal points of connection of said links with said member in its position of rest being disposed past the vertical center of said support and at one side of the fixed pivots on said support, to maintain said member in its at rest position.

3. A drier, comprising: a support; a member having a front portion adapted to be directed toward an object to be treated; and a pair of links swingably connecting said member and said support for limited movement in opposite directions, each of said links having one end pivotally connected to a fixed pivot on said support, and its opposite end pivotally connected to said member, said fixed pivots being spaced and positioned so that a line extending therethrough lies substantially parallel to a longitudinal axis through said member, when shifted to the end of its movement in one direction, and the pivotal points of said links with said member being spaced and positioned so that a line extending therethrough lies substantially at a right angle to the longitudinal axis of said member, when shifted to the end of its movement in the said direction, one of said links adjacent the rear of said apparatus and adjacent the fixed pivot thereof having an angular extension providing a handle by which said member and links may be manipulated.

4. A drier, comprising: a support; a member having a front portion adapted to be directed toward an object to be treated; and a pair of links swingably connecting said member and said support for limited movement in opposite directions, each of said links having one end pivotally connected to a fixed pivot on said support, and its opposite end pivotally connected to said member, said fixed pivots being spaced and positioned so that a line extending therethrough lies substantially parallel to a longitudinal axis through said member, when shifted to the end of its movement in one direction, and the pivotal points of said links with said member being spaced and positioned so that a line extending therethrough lies substantially at a right angle to the longitudinal axis of said member, when shifted to the end of its movement in the said direction; and means for securing said links in any position of adjustment throughout their range of movement.

5. A drier, comprising: a support; a member having a front portion adapted to be directed toward an object to be treated; and a pair of links swingably connecting said member and said support for limited movement in opposite directions, each of said links having one end pivotally connected to a fixed pivot on said support, and its opposite end pivotally connected to said member, said fixed pivots being spaced and positioned so that a line extending therethrough lies substantially parallel to a longitudinal axis through said member, when shifted to the end of its movement in one direction, and the pivotal points of said links with said member being spaced and positioned so that a line extending therethrough lies substantially at a right angle to the longitudinal axis of said member, when shifted to the end of its movement in the said direction, said links being of unequal lengths to effect clockwise rotation of said member during a portion of its travel in one direction, and to effect counter-clockwise rotation thereof along another portion of its travel in the same direction.

6. A drier, comprising: a support; a member having a front portion adapted to be directed toward a subject to be treated; and a pair of

links swingably connecting said member and said support for limited movement in opposite directions, each of said links having one end pivotally connected to a fixed pivot on said support, and its opposite end pivotally connected to said member, said fixed pivots being spaced and positioned so that a line extending therethrough lies substantially parallel to a longitudinal axis through said member, when shifted to the end of its movement in one direction, and the pivotal points of said links with said member being spaced and positioned so that a line extending therethrough lies substantially at a right angle to the longitudinal axis of said member, when shifted to the end of its movement in the said direction, said links being operable to move said member toward one side of said support to dispose the same in operative position to treat said subject and being of unequal lengths to effect clockwise rotation of said member during a portion of its travel toward operative position and to effect counter-clockwise rotation along the remaining portion of its travel to operative position, said links being returnable to move said member in an opposite direction to a position of rest, the pivotal points of connection of said links with said member in its position of rest being disposed past the center of said support and at one side of the fixed pivots on said support, to maintain said member in its at rest position.

7. A drier, comprising: a support; a shell having a front portion adapted to be directed toward a subject to be treated; and means connecting said shell to said support for movement toward and from said subject, including a pivotal mounting on said support, and a securing element connected with said shell, and having an angular extension projecting rearwardly of said shell and cooperating with said support in limiting the movement of said shell in one direction, said element being pivotally secured adjacent its elbow to the pivotal mounting on said support.

WENDELL L. MARTIN.