

C. L. ALLEN & S. C. MILES.
HAIR DRYING APPARATUS.
APPLICATION FILED MAY 25, 1912.

1,054,813.

Patented Mar. 4, 1913.

2 SHEETS—SHEET 1.

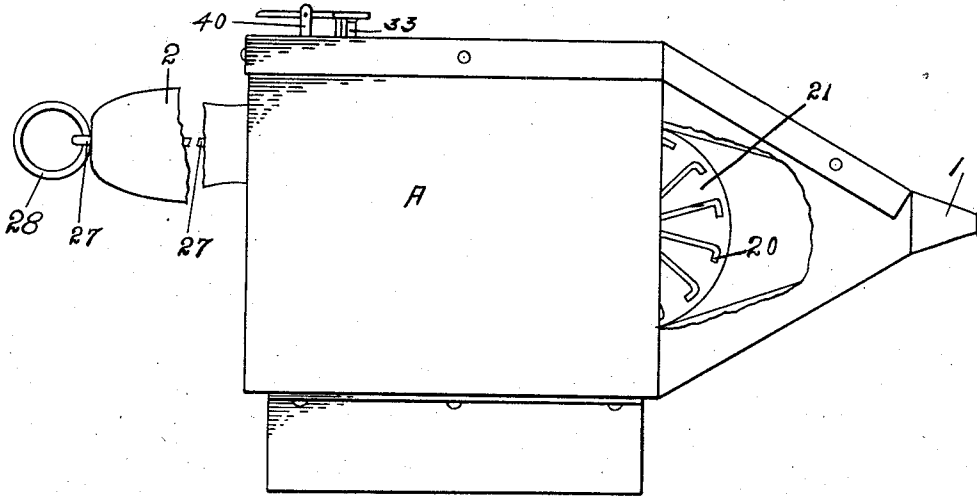


Fig. 1.

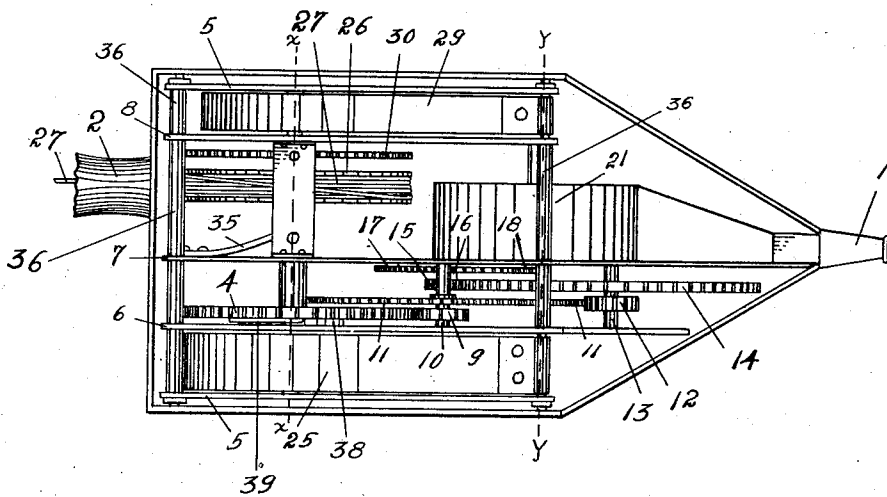


Fig. 2.

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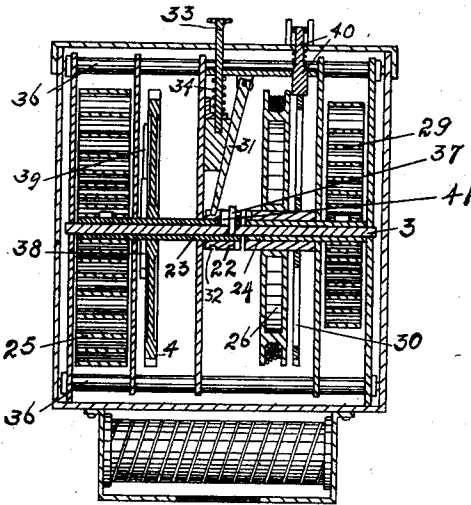


Fig. 3.

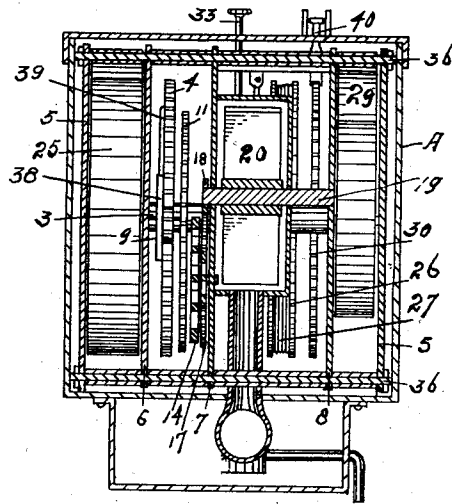


Fig. 4.

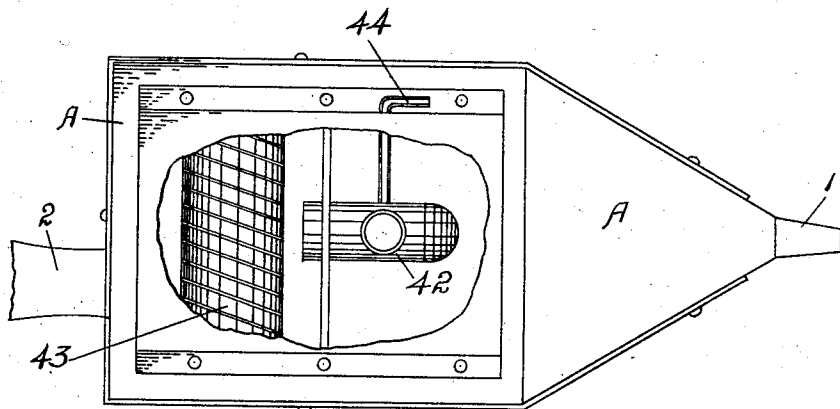


Fig. 5.

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UNITED STATES PATENT OFFICE.

CHARLES L. ALLEN, OF SALT LAKE CITY, AND SAMUEL C. MILES, OF PRICE, UTAH.

HAIR-DRYING APPARATUS.

1,054,813.

Specification of Letters Patent.

Patented Mar. 4, 1913.

Application filed May 25, 1912. Serial No. 699,793.

To all whom it may concern:

Be it known that we, CHARLES L. ALLEN and SAMUEL C. MILES, citizens of the United States, residing at Salt Lake City, in the county of Salt Lake, and Price, in the county of Carbon and State of Utah, respectively, have invented certain new and useful Improvements in Hair-Drying Apparatus, of which the following is a specification.

Our invention relates to hair drying apparatus and has for its object to provide a small, compact, manually-operated device by which air is moved in a current to dry the hair rapidly and conveniently. These objects we accomplish with the device illustrated in the accompanying drawings in which similar letters of reference indicate like parts throughout the several figures.

Figure 1 is a side elevation of the device, parts cut away. Fig. 2 is a plan view with the top and parts removed. Fig. 3 is a vertical elevation on line *x x* of Fig. 2 looking toward the handle. Fig. 4 is a vertical elevation on line *y y* of Fig. 2 looking in the same direction. Fig. 5 is another plan view of the device, parts cut away to show the heating element and air conduit.

Our device consists of a case A having a directing nozzle 1 on one end thereof and a handle 2 on the opposite end. Within said case is secured the mechanism of the device, which mechanism is mounted in a frame consisting of frame plates 5, one on each side, and partition plates 6, 7 and 8 therebetween. Said plates 5, 6, 7 and 8 are held by the frame rods 36. Within said frame and mounted in bearings in said plates is the main shaft 3. On said shaft 3 is carried a longitudinally movable clutch 22. Said clutch is rotated with said shaft by means of a stud pin 37 secured in said shaft and operated in a slot 41 formed longitudinally in said clutch, said slot allows said clutch 22 to be moved longitudinally on said shaft and at the same time to be rotated by the shaft. On said shaft 3 are also carried the sleeves 23 and 24. A ratchet wheel 38 is firmly secured on said shaft 3, and one end of the main spring 25 is fastened to said shaft, with the other end of said spring attached to one of said frame rods 36. On said sleeve 23 is mounted the driving gear wheel 4, which has a spring held detent 39 pivoted thereto to engage the teeth of said ratchet wheel 38 to impart the rotary mo-

tion of said shaft 3 to said gear wheel 4 and said sleeve 23. The teeth of the gear wheel 4 mesh with a pinion gear 9, that is mounted on a counter shaft 10. The bearing for said counter shaft 10 is supported by the partition plates 6 and 7. Another spur gear 11 is secured on said counter shaft 10, the teeth of which mesh with another pinion gear 12. Said last mentioned pinion gear 12 is mounted on another counter shaft 13 which is also carried in bearings in said partition plates 6 and 7 and near the front end of the case. On said counter shaft 13 is a gear wheel 14 the teeth of which mesh with a pinion 15 which is mounted on a stud shaft 16 that is fastened to said partition plate 7. On said stud shaft 16 is fastened a gear wheel 17. Said gear wheel 17 meshes with a pinion 18, which is fastened on the fan shaft 19. On said fan shaft 19 is carried the rotary fan 20 made to operate within a fan-case 21, the egress-opening of which is in alinement with said nozzle 1, and air directed by said fan-case egress-opening will be forced out through said nozzle by said fan 20. The driving gear wheel 4 is secured to the said sleeve 23 and rotates therewith. The said clutch 22, gear wheel 4 and sleeve 23 are all driven in one direction by the spring 25 through the main shaft 3. The chain of gears is provided to enable us to drive the said fan 20 at a fast speed by the slow speeded shaft 3. On said sleeve 24 is fastened a drum 26, to which is fastened one end of the cord 27. The other end of said cord is passed out through said handle 2, and tied on the hand ring 28. One end of a spring 29 is fastened to said sleeve 24, and the other end thereof to one of said frame rods 36. Said spring 29 is placed between the partition plate 8 and one of said frame plates 5. On said sleeve 24 is also secured the ratchet wheel 30, and the end of said sleeve 24 is cut to be engaged by said clutch 22. Said clutch is at all times in engagement with said shaft 3. Said shaft is rotated in one direction and said spring 25 is wound in compression at the same time by withdrawing said cord 27 from its winding on said drum 26. In order to fully wind up said spring 25, with a convenient length of cord, the said clutch 22 is moved longitudinally on said shaft 3 with a clutch lever 31 having a bifurcated end. The prongs of which engage in a circumferential channel 32 cut in the peripheral

face of said clutch. A plunger 33 is mounted in said case A, and held normally from engagement with said lever 31 by a spiral spring thereon. When it is desired to move
 5 said clutch 22 into engagement with said sleeve 24, said plunger 33 is pushed downward, the lower end of which then engages with said lever 31, which downward motion of said plunger then continued will move
 10 the said clutch 22 longitudinally on said shaft 3 and into engagement with the said sleeve 24. The pulling of said cord 27 from out the device will wind the said spring 25. By removing the pressure from said plunger 33 said spring 34 will raise it from its engagement with said lever 31, and a spring 35 will throw said clutch 22 out of engagement with said sleeve 24. The said spring 29 will rotate said sleeve 24 and rewind said
 20 cord 27 on said drum 26, when the said clutch 22 may be again thrown into engagement with said sleeve 24 and the cord again pulled out and thereby giving additional winding to said spring 25. A spring lever 25 dog 40 is pivoted to the top of said case A which dog engages with said ratchet wheel 30 to prevent the rotation of said drum 26 when so desired. A perfume pad is placed within said nozzle 1 having a weighted lever valve 45 which opens said perfume to said nozzle interior when so desired. Air is supplied to said fan through the channels or conduits 42 and 45, and when heated air is desired said conduit 42 is closed and the
 35 heat element preferably an electric current is turned on and heated air is supplied to said fan through conduit 43. A control damper 44 changes the air and throws the electric current through resistance coil 43.
 40 Having thus described our invention we desire to secure by Letters Patent and claim:—

1. A hair drying device consisting of a spring driven shaft; a rotary fan; means for
 45 imparting the motion of said shaft to said fan; a sleeve carried on said shaft; a drum secured on the sleeve; a cord wound on said drum; a spring having one end secured to said sleeve adapted to rotate said drum and thereby to wind said cord on said drum; a
 50 clutch slidably carried on said shaft; and means to throw said clutch into and out of engagement with said sleeve.

2. A hair drying device consisting of a
 55 shaft; a spring attached thereto for rotating

the same; a train of intermeshing gears rotated by said shaft; an inclosed rotatory fan in engagement with one of said gears and rotated thereby; a clutch slidably carried on said shaft and rotated therewith; a sleeve 60 carried on said shaft and adapted to be engaged by said clutch; a drum and a ratchet wheel on said sleeve; a cord adapted to be partially wound on said drum; a spring having one end secured to said sleeve and adapted to rotate said drum, and to wind said cord on said drum; a lever dog adapted to engage said ratchet; and means to throw said clutch into and out of engagement with said sleeve.

3. A hair drying apparatus consisting of 70 a spring driven main shaft; a train of intermeshing gears rotated by said shaft; an inclosed fan rotated by one of said gears; a clutch carried on said main shaft and rotated therewith; a sleeve carried on said 75 shaft; a drum secured on said sleeve; a cord having one end thereof attached to the peripheral face of said drum; a spring having one end secured to said sleeve adapted to rotate said drum and thereby to wind said 80 cord on said drum; a clutch slidable on said shaft and rotated therewith; and means to throw said clutch into and out of engagement with said sleeve.

4. A hair drying device consisting of a 85 shaft; a spring attached thereto for rotating the same; a train of intermeshing gears rotated by said shaft; an inclosed rotatory fan engaged with one of said gears and rotated thereby; a clutch slidable on said shaft and 90 rotated therewith; a sleeve carried on said shaft and adapted to be engaged by said clutch; a drum and a ratchet wheel on said sleeve; a cord adapted to be partially wound on said drum; a spring having one end secured to said sleeve and adapted to rotate 95 said drum; a lever dog adapted to engage said ratchet; and means to throw said clutch into and out of engagement with said sleeve, said means consisting of a lever, and a spring 100 controlled plunger adapted to engage said lever.

In testimony whereof we have affixed our signatures in presence of two witnesses.

CHARLES L. ALLEN.
 SAMUEL C. MILES.

Witnesses:

C. A. GUIWITS,
 W. E. MCINTIRE.