

(No Model.)

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APPARATUS FOR WASHING HAIR.

Patented Apr. 7, 1885.

No. 315,092.

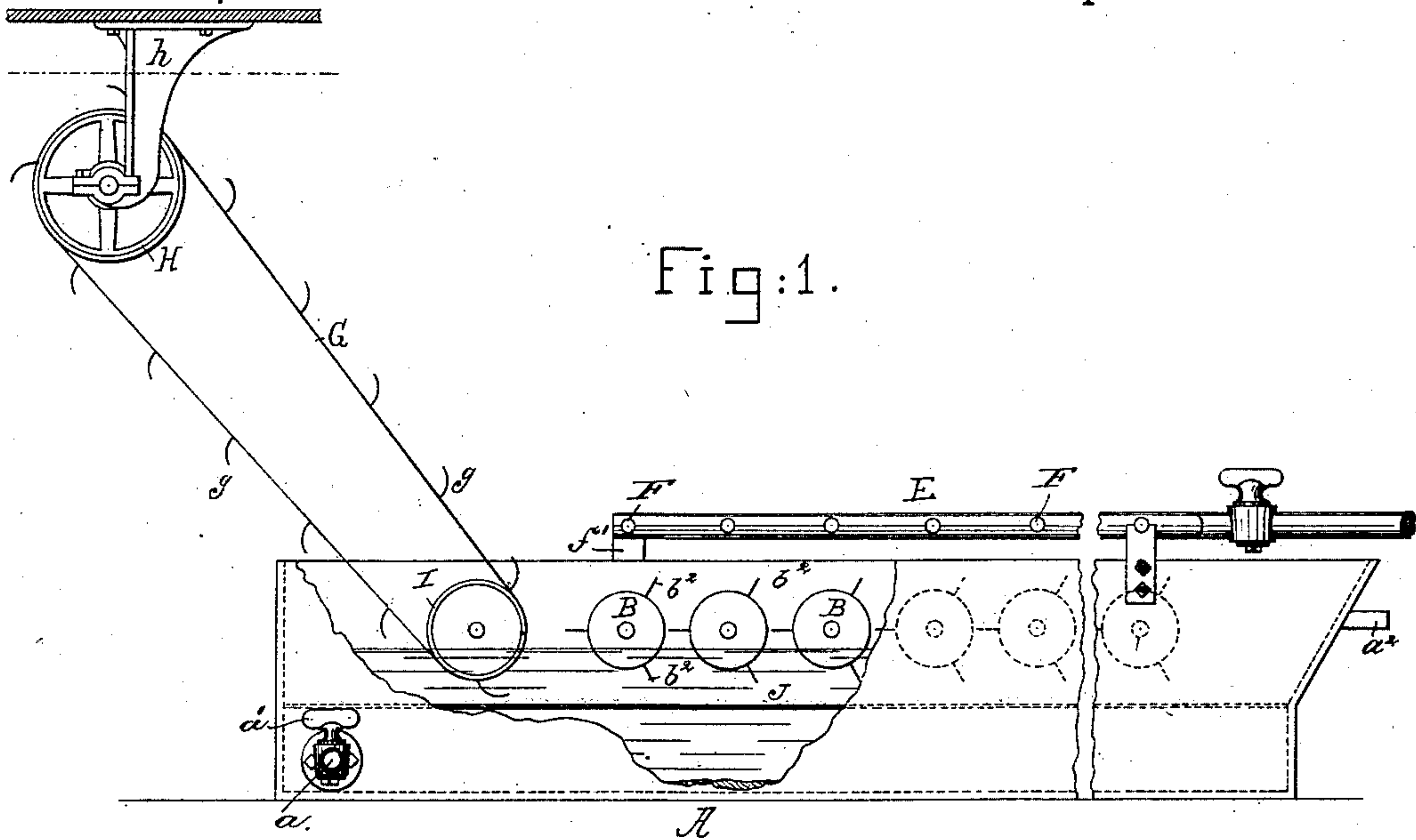


Fig:1.

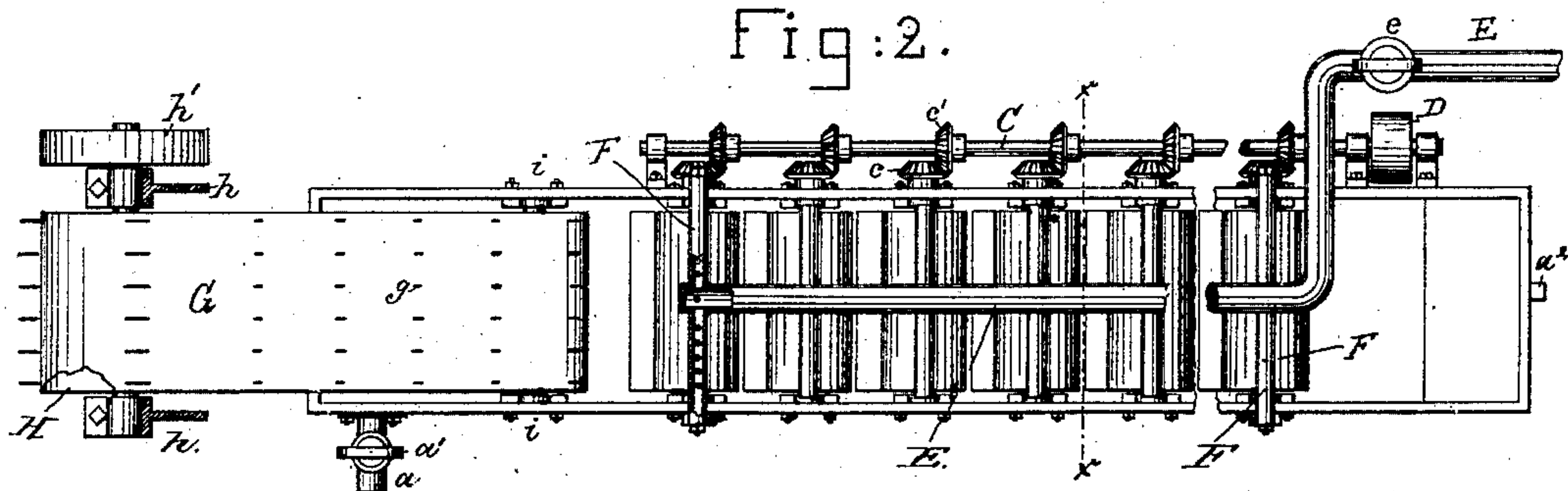


Fig:2.

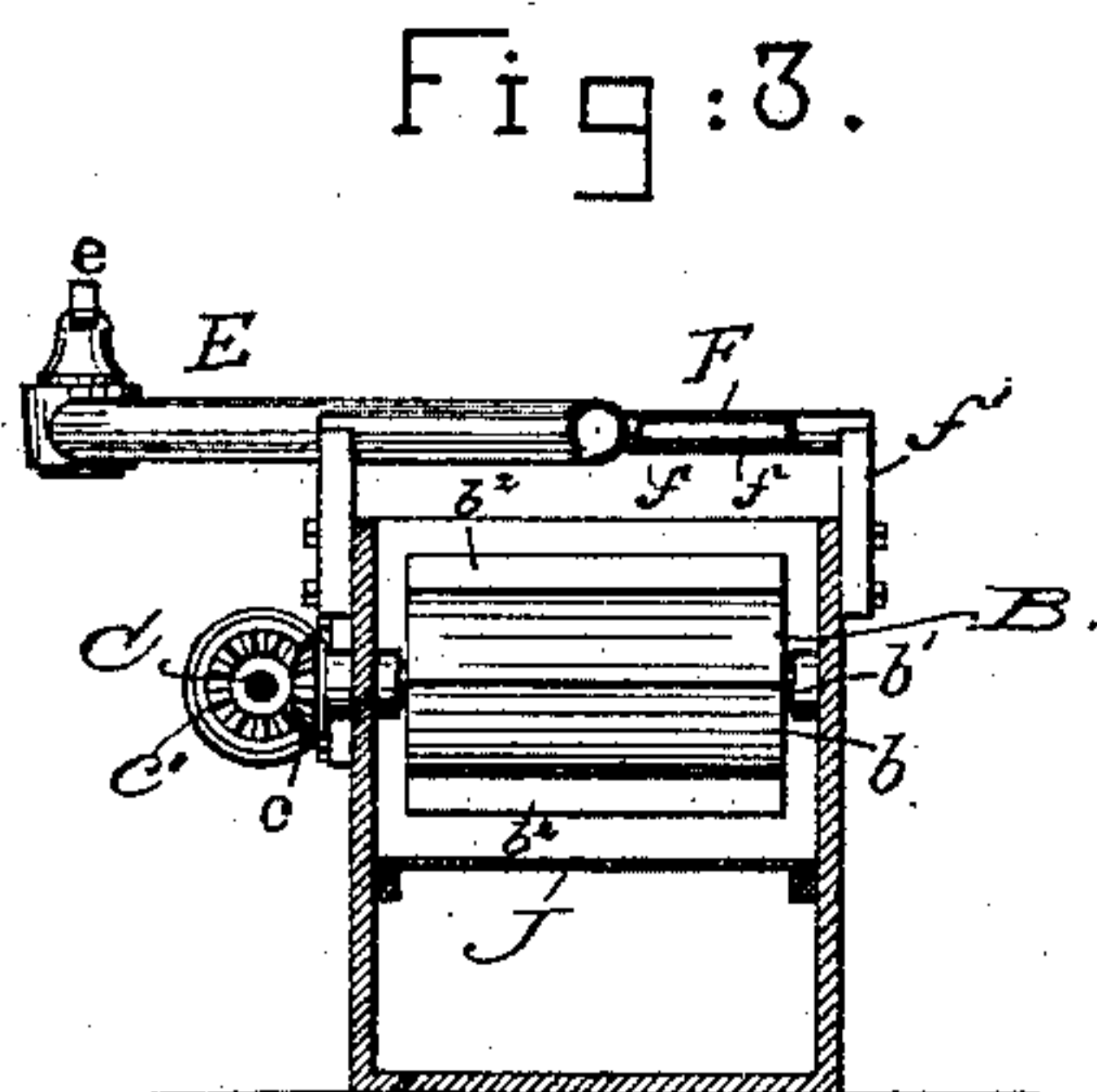


Fig:3.

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UNITED STATES PATENT OFFICE.

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APPARATUS FOR WASHING HAIR.

SPECIFICATION forming part of Letters Patent No. 315,092, dated April 7, 1885.

Application filed February 23, 1884. (No model.)

To all whom it may concern:

Be it known that GEORGE UPTON, deceased, formerly of Peabody, in the county of Essex and State of Massachusetts, did invent an Im-
5 improvement in Apparatus for Washing Hair, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

10 This invention relates to washing apparatus for washing or cleansing cattle or other hair, to render it fit for shoddy and for other purposes, the invention being to speedily and thoroughly free the hair from dirt and other
15 impurities in the manner hereinafter set forth.

To this end this invention consists, primarily, of a tank partly filled with water and provided with a series of rotating agitators, a fresh-
20 water-supply apparatus, and a carrier-belt for removing the cleansed hair from the tank, substantially as hereinafter described, and particularly pointed out in the claim.

Figure 1 is a side elevation of this improved hair-washing apparatus, partly broken away to
25 more clearly show the operating parts. Fig. 2 is a plan thereof, showing one of the branch pipes of the water-supply apparatus partly broken away to exhibit the perforations in the same; and Fig. 3 is a transverse vertical section
30 on line *x x* of Fig. 2.

The tank A, which may be of any suitable construction and capacity, is partly filled with water, and is provided with a discharge-pipe, *a*, having a cut-off, *a'*, and an overflow orifice
35 or pipe, *a''*. Arranged within the tank A, a suitable distance from each end, and partly submerged therein, are a number of agitators, B, each consisting, preferably, of a cylinder mounted upon a shaft, *b*, one end of which is
40 journaled in bearings *b'*, secured within and to one side of the tank A, and the other end passing through the opposite side of said tank and receiving a bevel-gear, *c*. The agitators B are further provided with beater-arms *b''*, disposed
45 radially thereon, as clearly shown in the drawings. The bevel-gears *c* of the agitators B mesh with similar gears, *c'*, secured on the shaft C, disposed at right angles to the agitator-shafts *b*, and suitably held in journals attached
50 to the tank. Motion may be communicated to

shaft C through the band-wheel D, secured to said shaft.

E represents the water-supply pipe, arranged for a part of its length parallel with the tank and above the series of agitators B, as shown
55 in Fig. 2, and provided with a cut-off valve, *e*, and a number of branch pipes, F, two only being shown. These branch pipes extend from either side of the main pipe at right angles thereto and above and parallel with the
60 agitators B, preferably one for each agitator, and are provided with a number of orifices, *f*, whereby small jets of water will be thrown upon the agitators to cleanse the same as they rotate upon their axes. The branch pipes F
65 rest upon suitable supports, *f'*, which are fastened to the tank A.

G is the carrier or belt running over the upper pulley, H, whose shaft is supported in the hangers *h* and receives a pulley, *h'*, through
70 which motion is communicated to the belt G, and over the loose pulley I, arranged within the tank A, and partly submerged, said pulley having its shaft secured in bearings *i*, attached to the sides of said tank. This carrier or belt G is
75 provided with a number of carrying arms or fingers, *g*, of any preferred design or construction. The tank A is provided with a wire screen, J, (shown in Fig. 1,) disposed at a suitable distance from the bottom of said tank to prevent
80 hair from falling to said bottom while permitting the free passage therethrough of dirt and other impurities. After the tank is partially filled with water, the agitators and belt are put in motion, the cut-off valve is opened,
85 and a quantity of hair is placed in the rear end of the tank, or that farthest removed from the carrying-belt G.

The operation of my improved apparatus is as follows: The agitators B rotating in the
90 same direction successively operate upon and force the hair toward the carrier-belt. The perforated branch pipes F continually discharge jets of water upon the rotating agitators to cleanse the same, and the belt being carried
95 below the surface of the water in the tank, the arms or fingers *g* thereon collect the hair in the water found in the track of said fingers and carry it up over the pulley H, when it falls in a pile to the floor below. In the meantime
100

the screen J, while permitting dirt and other impurities to pass to the bottom and settle, arrests the hair and keeps it under the influence of the agitators until the same is brought
5 in the track of the belt G, when it is carried from the tank and discharged, as stated. The screen J also serves more or less as a barrier to prevent the varied currents of water induced by the rotation of the agitators from
10 acting on and disturbing the accumulated impurities in the bottom of the tank. The overflow-orifice a^2 maintains the water in the tank at a given height, and by means of the discharge-pipe a the contained water may be
15 discharged from the tank.

What is claimed is—

The tank A, provided with the overflow-pipe a^2 , and screen J, arranged within said tank above and substantially parallel with the bottom of the tank, the rotating agitators 20 B, having beater-arms, the supply-pipe E, with its perforated branch pipes arranged above and parallel with the agitators, as specified, and the carrier-belt G g , combined and arranged to operate substantially as and for the 25 purpose set forth.

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