

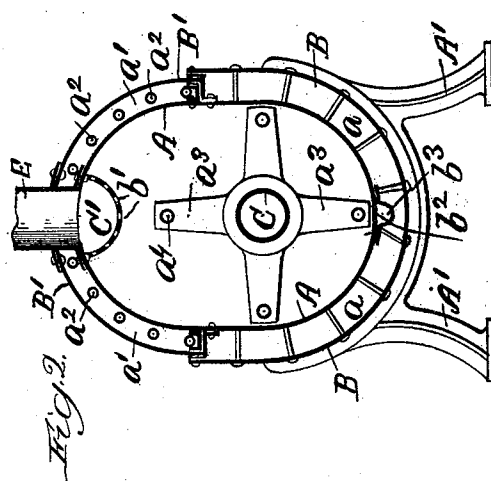
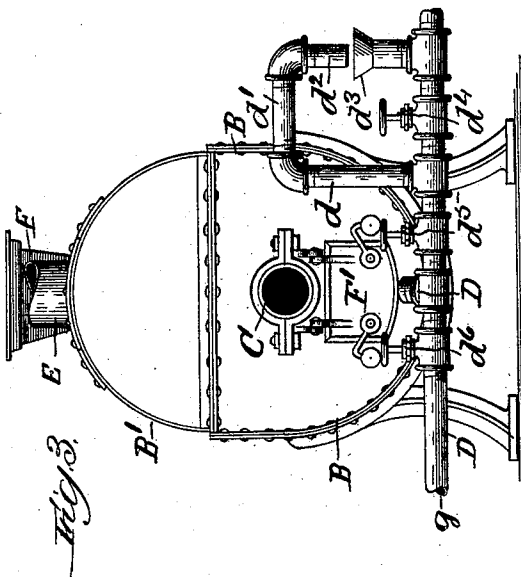
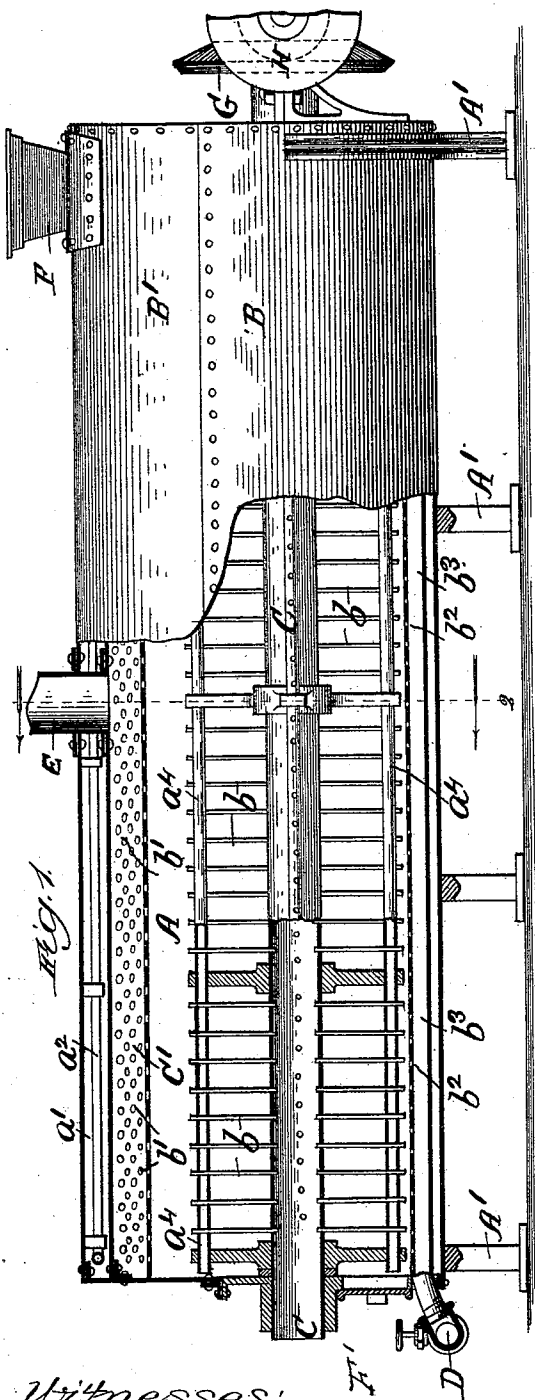
(No Model.)

F. G. WISELOGEL.

APPARATUS FOR WASHING AND DRYING HAIR, FEATHERS, &c.

No. 465,306.

Patented Dec. 15, 1891.



Witnesses:

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# UNITED STATES PATENT OFFICE.

FREDERICK G. WISELOGEL, OF INDIANAPOLIS, INDIANA.

## APPARATUS FOR WASHING AND DRYING HAIR, FEATHERS, &c.

SPECIFICATION forming part of Letters Patent No. 465,306, dated December 15, 1891.

Application filed August 15, 1889. Serial No. 320,863. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK G. WISELOGEL, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in an Apparatus for Washing and Drying Hair, Feathers, &c., of which the following is a full, clear, and exact description, that will enable others to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to an improved apparatus or machine for washing, renovating, and drying hair, feathers, and similar substances, as will be hereinafter set forth.

Figure 1 is a side elevation with a part broken away of an apparatus embodying my improved features; Fig. 2, a transverse section in plane 2, Fig. 1; and Fig. 3, an end elevation.

Referring to the drawings, A represents a receptacle similar in form to that of an ordinary steam-boiler, which is arranged horizontally, and may be oval or cylindrical in cross-section and is supported on the legs A'. The lower half or part of this receptacle is inclosed by the semicircular steam-jacket B, leaving considerable space between the receptacle proper and jacket and providing the chamber a. The upper part of the receptacle is inclosed by the corresponding jacket B', providing the hot-air chamber a'. A series of steam-pipes a<sup>2</sup>, forming a coil, is arranged in the hot-air chamber. The horizontal rotating shaft C is inserted longitudinally through the receptacle, and is provided with suitable journal-bearings in the respective heads or ends. This shaft may be tubular or otherwise, and has mounted thereon at intervals a number of spiders a<sup>3</sup>, which serve to strengthen and stiffen the shaft. The ends of the spider-arms are connected by the longitudinal tubes or rods a<sup>4</sup>, as shown in Figs. 1 and 2, the greater part of Fig. 1 being broken away, showing the interior construction and arrangement. The shaft C is provided with a number of radial arms b, the purpose of which is to stir up and agitate the matter under treatment.

Inside of and in the upper part of the receptacle is located the spraying-trough C',

which is provided with numerous perforations b', through which the water will be sprayed onto the material being washed. The central longitudinal bottom of the receptacle is perforated, as at b<sup>2</sup>, (see Figs. 1 and 2,) through which the dirty water escapes into the trough b<sup>3</sup>, secured to the under side of the receptacle, and is finally conducted into the sewer through the pipe D, connected near its longitudinal center with said trough.

The pipe D is provided on its waste end with an overflow, consisting of the stand-pipe d, the horizontal continuation d', and the turned-down end d<sup>2</sup>, which discharges into the flaring tube d<sup>3</sup>, inserted in the main pipe D. The stop-valve d<sup>4</sup> is inserted in the pipe D between the overflow stand-pipe d and the sewer connection. By closing the valve d<sup>4</sup> the water in the receptacle will rise to a height on a level with the overflow. By opening the valve d<sup>4</sup> the water will escape into the sewer as fast as sprayed into the receptacle. The object of this arrangement is to regulate the operation in accordance with the nature of the substance—that is, the substance under treatment may be submerged or simply sprayed, as may be required. A second stop-valve d<sup>5</sup> is inserted in the pipe D between its connection with the trough running along the under side of the receptacle and the overflow, which closes the connection with the sewer. A third stop-valve d<sup>6</sup> is inserted in the pipe D between its connection with the receptacle and the end g of said pipe. The end g provides for a fan connection, so that when the process of washing is completed an air-blast may be forced into the receptacle to assist and facilitate the process of drying. The moisture and gases expelled in the process of drying escape through the pipe E. The matter will be deposited in the receptacle through the receiving-hopper F and removed through the door F'.

The gear-wheel G is mounted on one end of the shaft C. A companion gear-wheel H engages therewith, and is in turn mounted upon a shaft connecting with the motive power, by which means the required rotary motion is transmitted to the agitating-shaft. By this arrangement the matter under treatment may be subjected to a hot or cold bath, as circum-

stances require, and the upper or lower part of the receptacle heated or both simultaneously and the material thoroughly mixed or agitated and finally dried in the same receptacle, the whole process being completed with facility.

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

10 1. The combination, with a receptacle, as described, of the perforated spraying-trough arranged on the interior upper part thereof, the trough secured to the outer and under side of said receptacle, the perforations in the  
15 bottom of the receptacle, and the rotating shaft armed with agitating-arms, substantially as and for the purpose set forth.

2. The combination, with a receptacle of the character described, of the perforated  
20 spraying-pipe located in the upper part of the interior, the waste-trough at the bottom of the receptacle, the steam-chamber inclosing the lower part of the receptacle, and the discharge-pipe D, connected with the trough  
25 and having the overflow and the stop-valve  $d^4$ , whereby the contents of the receptacle may be steamed or washed, substantially as described.

3. The combination, with a receptacle of the character described, of the steam-jacket  
30 inclosing the lower part, the hot-air chamber inclosing the upper part and forming the steam-chamber, the perforated spraying-pipe located in the upper part of the interior, the  
35 waste-trough at the bottom of the receptacle, and the discharge-pipe D, connected with the trough and having the overflow and the stop-valve  $d^4$ , whereby the contents of the receptacle may be steamed or washed with hot or  
40 cold water, substantially as described.

4. The combination, with a receptacle pro-

vided with perforations in the under side, of the trough secured to the exterior bottom of said receptacle and covering the perforated part, of the pipe D, connected with said trough, 45 the overflow inserted in said pipe, the stop-valves for regulating the water-discharge, and the stop-valve inserted in the air-passage in the pipe D, whereby when the process of washing is completed a blast of air may be forced  
50 into the receptacle through the pipe D and the trough to which it is connected, substantially as and for the purpose set forth.

5. The combination, with a receptacle of the character described, of the steam-heating  
55 jackets inclosing the same, the perforated spraying-trough arranged on the interior upper part of said receptacle, the rotating shaft armed with agitating-arms and inserted longitudinally therethrough, the trough secured  
60 to the exterior perforated under side of said receptacle, the pipe D, connected with said trough, and the stop-valves inserted in said pipe for regulating the escape of the water and the admission of an air-blast through the  
65 same passage, substantially as and for the purpose set forth.

6. The combination, with a receptacle of the character described, of the steam-jacket  
70 inclosing its lower part, the hot-air chamber surrounding its upper part, the perforated spraying-pipe arranged in the upper part of the interior, the waste-trough at the bottom of the receptacle, the rotary shaft provided with  
75 agitating-arms, the discharge-pipe D, connected with the trough and having the overflow and the stop-valve  $d^4$ , and the valves  $d^5$  and  $d^6$ , all substantially as described.

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