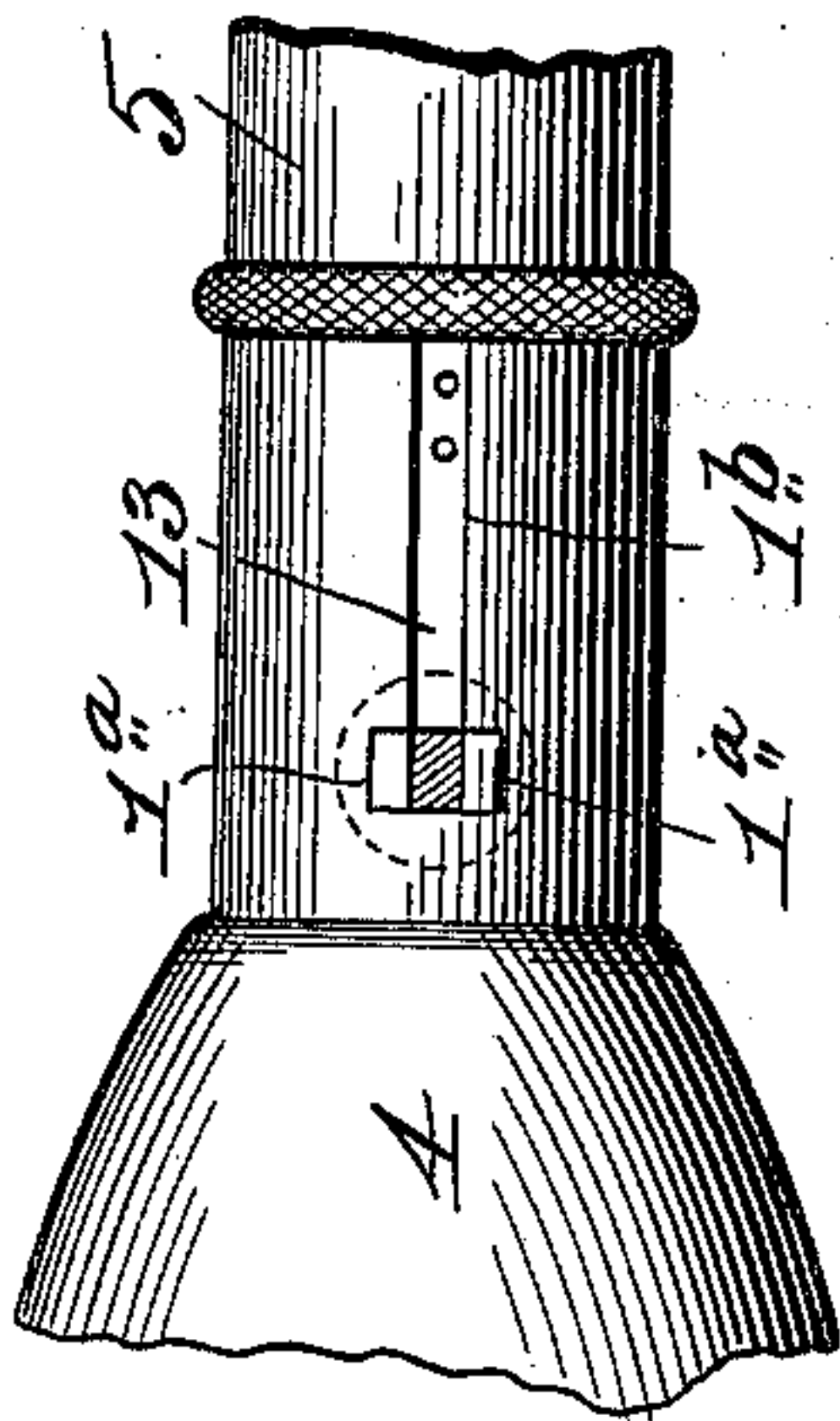
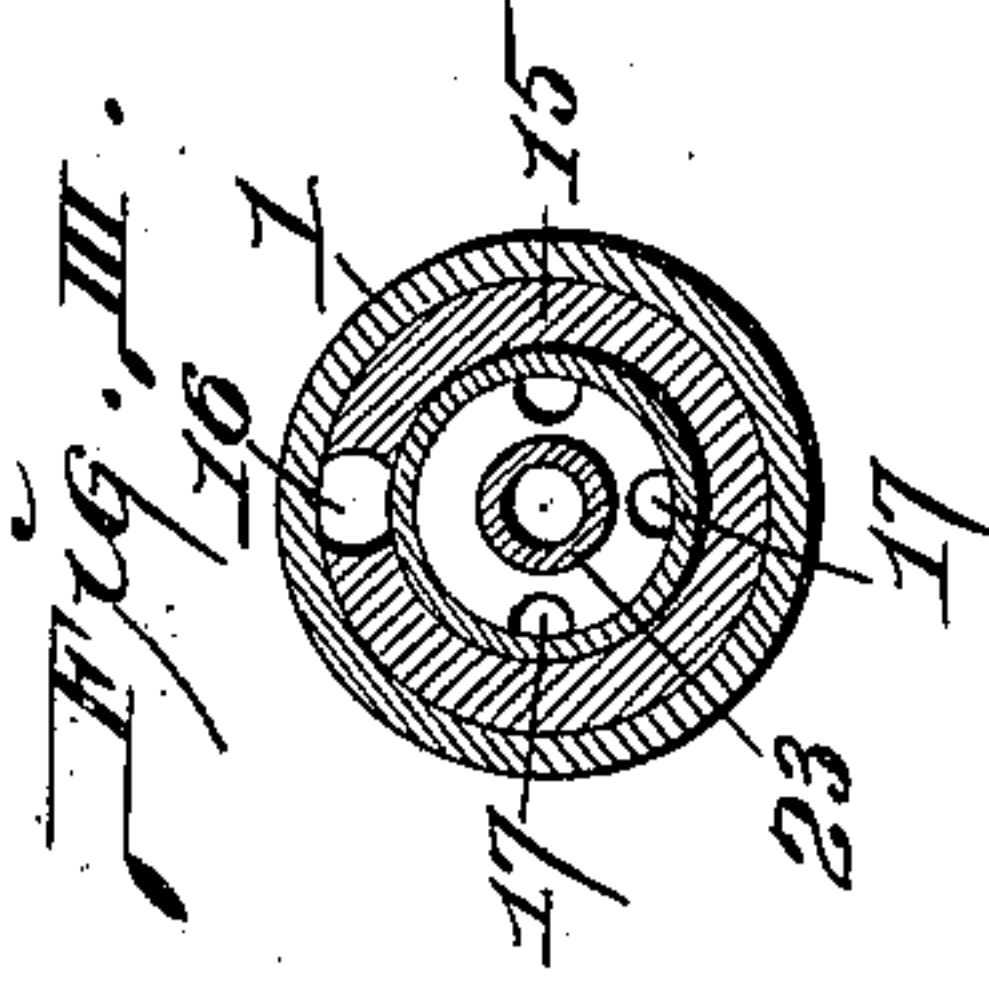
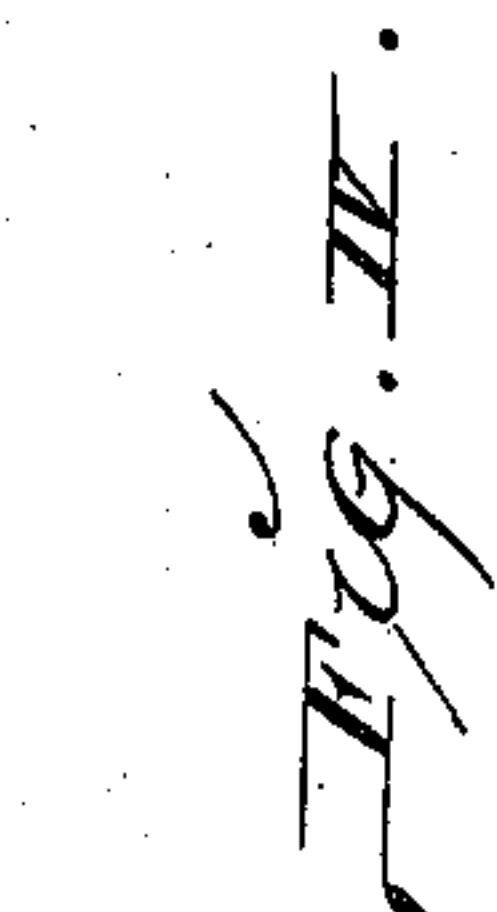
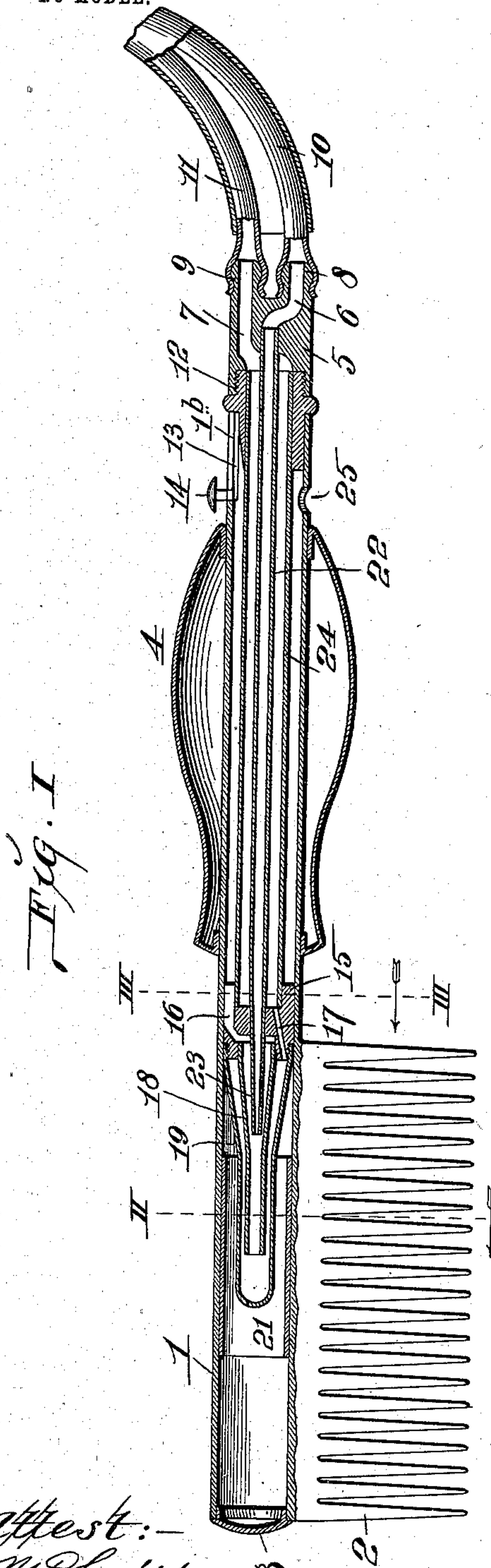


No. 736,266.

PATENTED AUG. 11, 1903.

R. D. O. JOHNSON.
GAS HEATED COMB.
APPLICATION FILED MAY 9, 1902.

NO MODEL.



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Inventor: —
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UNITED STATES PATENT OFFICE.

RENO D. O. JOHNSON, OF ST. LOUIS, MISSOURI.

GAS-HEATED COMB.

SPECIFICATION forming part of Letters Patent No. 736,266, dated August 11, 1903.

Application filed May 9, 1902. Serial No. 106,542. (No model.)

To all whom it may concern:

Be it known that I, RENO D. O. JOHNSON, a citizen of the United States, residing in the city of St. Louis, in the State of Missouri, have
5 invented certain new and useful Improvements in Gas-Heated Combs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

10 My invention relates to a comb for drying hair, and, briefly stated, it embodies a construction wherein flameless gas combustion is produced within the heater of the comb.

My invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a longitudinal section of my comb. Fig. II is an enlarged cross-section taken on line II II, Fig. I. Fig. III is an enlarged cross-section taken on line III III, Fig. I. Fig. IV is a side view of the comb-heater at the location of the catch that connects the heater-cylinder to the gas and vent tube coupling-head.

25 1 designates a heater-cylinder that serves as the back for the comb 2. The outer end of the heater-cylinder is closed by a cap 3.

4 is a handle fitted on the heater-cylinder to be grasped by the operator in the use of
30 the comb.

5 designates a coupling-head that is provided with ducts 6 and 7, that pass through nipples 8 and 9, carried by said coupling-head. The nipple 8 receives the attachment of a gas-
35 conducting flexible tube 10, and the nipple 9 receives the connection of a vent flexible tube 11.

12 is a plug attached to the coupling-head 5 and adapted to be slipped into the burner-cylinder 1 for the connection of said cylinder to the coupling-head. The cylinder 1 is detachably held to the plug 12 by a spring-catch 13, that is provided with a button 14 and is adapted to engage in the notches 1^a of a slot
45 1^b, contained by the rear end of the heater-cylinder 1.

15 is a burner-carrying plug located in the heater-cylinder 1 at a point in proximity to the rear end of the comb 2, said plug being provided with an air-duct 16 and vent-ducts 17.
50

18 is a burner-tube having its rear end seated in the plug 15 and projecting forwardly

therefrom, the rear end of said burner-tube having communication with the air-duct 16.

19 is a platinum tube fixed to the plug 15
55 and arranged to inclose the burner-tube 18 and having its forward end extending beyond the forward end of said burner-tube.

21 is a protector-tube located in the forward portion of the heater-cylinder at the location
60 of the burner-tube and platinum tube.

22 designates a gas-conducting tube having its rear end seated in the coupling-head 5 and having communication with the gas-supply duct 6. The forward end of this gas-
65 conducting tube is provided with a jet 23, arranged in the burner-tube 18, to deliver gas into said tube. 24 is a vent-escape tube located between the heater-cylinder 1 and the gas-conducting tube 22 and concentric with
70 said cylinder and tube. The rear end of said vent-escape tube is seated in the plug 12, and the forward end is seated in the burner-carrying plug 15 and its interior has communication with the ducts 17.
75

25 is an air-inlet through which air enters the heater-cylinder 1 to circulate in the chamber between said cylinder and the vent-escape tube 24 and to pass from said chamber through the air-duct 16 in the burner-carrying plug
80 15 to supply air for combustion in the burner-tube 18.

In the practical use of my comb it is put in condition for service by disconnecting the coupling-head 5 and the plugs 12 and 15 from
85 the heater-cylinder and withdrawing them therefrom, together with the parts they carry, this disconnection being permitted by releasing the catch 13 from the heater-cylinder. The platinum tube 19 is then heated and the
90 parts are all replaced as before. Gas is then permitted to flow through the flexible conducting-tube 10 through the conducting-tube 22 to the burner-tube and is therein consumed by contact with the heated platinum
95 tube with flameless combustion that serves to heat the comb. As the gas is burned, fresh air is constantly supplied to the burner by entering through the inlet 25 and passing through the heater-tube and air-duct 16, and
100 the unconsumed products of combustion and odors escape through the vent-duct 17, vent-escape tube 24, and flexible vent-tube 11 to a suitable point of discharge.

I claim as my invention—

1. The combination with a heating-cylinder, of an imperforate platinum tube inserted within the cylinder, two tubes also inserted
5 into the heating-cylinder, communicating with the platinum tube and providing a space between them and the inner wall of the cylinder, and a communication between the interior of the platinum tube and the space
10 formed between the tubes and the cylinder.

2. The combination with a heating-cylinder, and comb-teeth thereon, of two concentrically-arranged tubes within said cylinder, the outer tube being of a diameter less than
15 the cylinder to provide a space between the walls of the cylinder and the outer tube, and a platinum tube also within the cylinder, communicating with the space between the walls of the cylinder and outer tube.

20 3. In a gas-heated comb, the combination of a heater-cylinder, having an air-inlet, a burner-carrying plug arranged in said cylinder and provided with an air-duct and a vent-duct, a burner-tube carried by said plug, a
25 platinum tube also carried by the plug, surrounding and inclosing said burner-tube, and gas and vent tubes seated in said plug, hav-

ing communication with said burner-tube and platinum tube, and spaced from the inner wall of the cylinder to provide a communication between the interior of the platinum tube and the air-inlet. 30

4. In a gas-heated comb, the combination of a heater-cylinder having an air-inlet, a burner-carrying plug seated in said cylinder
35 and having an air-duct and a vent-duct, a burner-tube carried by said plug, a platinum tube also carried by the plug surrounding and inclosing said burner-tube, a gas-conducting tube leading into said burner-tube, 40
a vent-escape tube surrounding the gas-conducting tube, having communication with said vent-duct, and spaced from the inner wall of the cylinder to provide a communication between the air-duct in the burner-carry- 45
ing plug and the air-inlet in the cylinder, a coupling-head, and tubes having communication with said coupling-head and with said gas-conducting tube and vent-escape tube, substantially as described.

R. D. O. JOHNSON.

In presence of—

E. S. KNIGHT,
M. P. SMITH.