

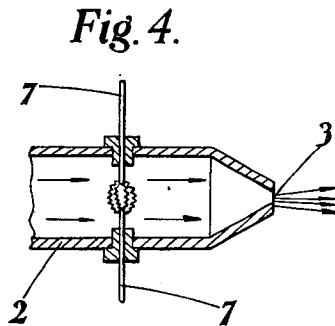
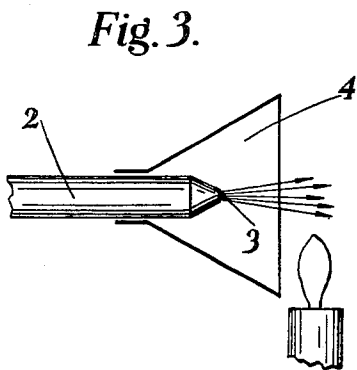
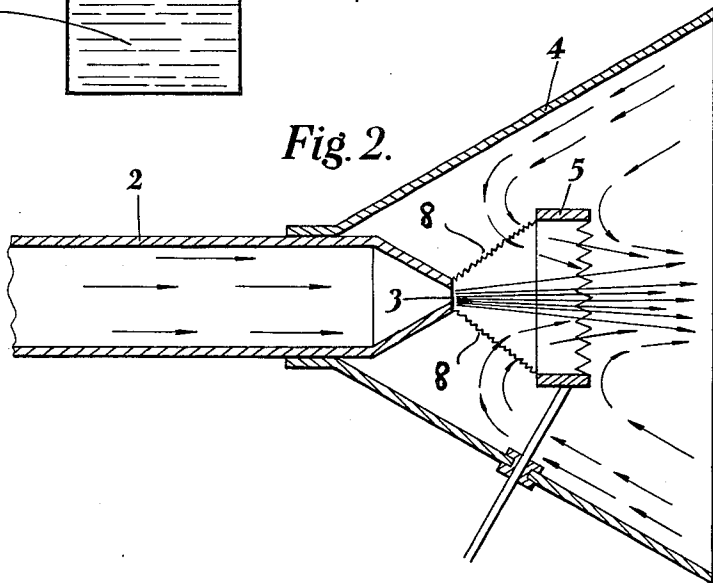
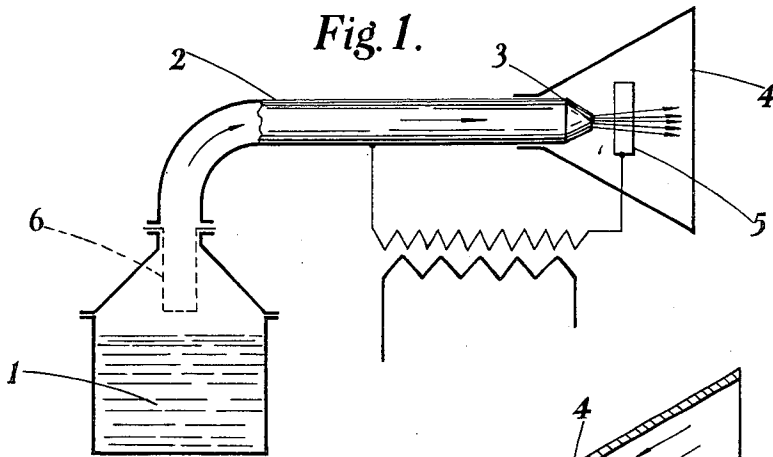
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PROCESS AND MEANS FOR TREATING HUMAN SKIN

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PROCESS AND MEANS FOR TREATING
HUMAN SKIN

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3 Claims. (Cl. 128—256)

The invention relates to a process and an apparatus for treating human skin. The invention consists substantially in subjecting the portion of skin to be treated, more particularly the skin of the face, to the action of steam atomized by ionization, and ozone.

The accompanying drawing shows by way of example constructions of apparatus suitable for carrying out the invention.

Fig. 1 diagrammatically illustrates an apparatus for carrying out the invention,

Fig. 2 shows a detail of construction of Fig. 1, Fig. 3 shows another construction, and

Fig. 4 shows a third construction and means for ionizing the steam.

Referring to the drawing, 1 indicates a boiler for the generation of steam. 2 is a tube communicating with the boiler and provided at the end with a fine steam nozzle 3. The steam nozzle 3 is enclosed by a funnel-shaped screen 4. The atomization of the steam issuing from the nozzle 3 by ionization can be carried out in various known ways, for instance by electrical discharges (silent discharges or spark discharges) or by means of an open flame, or an incandescent body, for instance, an electric heating resistance arranged in direct proximity of the steam discharge nozzle.

In the construction shown in Fig. 2, ions are produced from the air and are then mixed with the steam jet. This is effected by providing immediately in front of the nozzle 3 a preferably annular electrode 5 concentric with the nozzle so that the steam jet issuing from the nozzle 3 passes through the centre of the annular electrode 5. The nozzle and the electrode are, as shown in Fig. 1, arranged in a high tension circuit, for instance, a secondary circuit of a Tesla transformer, the distance between the nozzle and the electrode being such as to produce, during working, intensive spark discharges. These electric discharges take place in the air and therefore produce air ionization and also ozone. Owing to the steam jet issuing from the nozzle with considerable velocity, an air current is produced within the screen 4 as indicated by arrows. This air current drives the ions produced by the electric sparks, and the ozone, directly into the steam jet so that they are carried forwardly by the jet. Steam molecules now immediately condense upon the ions so that an atomization of the steam occurs.

Fig. 2 illustrates the fact that the flow of steam causes a flow of air towards the nozzle 3, the air stream passing through the spark 8,

which, as above described, produces air ionization and also ozone.

Fig. 3 illustrates a constructional example in which ionization of air occurs under the action of an open flame, for instance, a candle arranged in the immediate proximity of the steam discharge nozzle. Instead of a candle, another glowing body, for instance, an electrical heating wire might be used. Such a glowing wire is also capable of producing ionization and atomization.

In the construction according to Fig. 4, steam is ionized, the steam being passed through a spark gap between electrodes 7, 7. During the passage of the steam, a steam molecule is split into its main components, O and H. In this construction, too, steam is atomized by condensation upon ions.

The skin, more particularly the skin of the face, is treated by radiation with the atomized, or atomized and ozonized steam. If preferred, treatment could take place within a steam chamber. The liquid used for producing the steam is water to which, if desired, solid or liquid substances such as oil, alcohol, herbs, etc. are added. Means are provided to pass the steam before or immediately after it leaves the boiler 1 or the nozzle 3, through medical herbs or the like. For instance, a perforated tubular receptacle 6 may be provided within the boiler 1 as shown in Fig. 1 and this may be filled with herbs so that the steam must pass through the herbs. The steam may then also be used for inhaling.

It may be pointed out that instead of a funnel-shaped screen, any other kind of screen may be used, and instead of an annular electrode, electrodes of other shapes may be used.

I claim:—

1. Apparatus for the therapeutic treatment of the human skin having means for producing steam and a device for ionization, comprising in combination: a steam discharge nozzle connected with the means for producing steam and constructed as an electrode; a source of high tension high frequency electric current having one pole connected to said steam discharge nozzle; a second electrode connected with the other pole of said source of electric current and arranged in front of said steam discharge nozzle in such manner as to form a spark gap, so that the sparks arising between the electrodes surround the current of steam issuing from said steam discharge nozzle, whereby in addition to the ionization of the steam, ozone is also produced from the air in

the spark gap and immediately afterwards the ozonized air becomes admixed with the steam.

2. Apparatus for the therapeutic treatment of the human skin, having a device for ionization, comprising in combination: means for producing a jet of steam; a steam discharge nozzle through which said jet issues and which is constructed as an electrode; a source of high tension high frequency electric current having one pole connected to said steam discharge nozzle; a second electrode connected with the other pole of said source of electric current and arranged in front of said steam discharge nozzle in such manner as to form a spark gap, so that the sparks arising between the electrodes surround the jet of steam issuing from said steam discharge nozzle; and a funnel-like housing within which said steam discharge nozzle forming an electrode and also said other electrode are arranged in such manner that as a result of the injector action of the jet of steam a current of air is produced which has to pass through the spark discharges before it becomes admixed with the steam, whereby in addition to the ionization of the steam ozone is also produced from the air in the spark gap.

3. Apparatus for the therapeutic treatment of

the human skin, comprising in combination: means for producing steam; a steam discharge nozzle connected to said steam producing means and having a current of steam therefrom passing through it; a source of high tension high frequency electric current having its one pole connected to said steam discharge nozzle, whereby the latter forms an electrode; a second electrode of annular form connected with the other pole of said source of electric current and arranged a short distance in front of said steam discharge nozzle in such manner as to surround the path of the steam current emerging therefrom and to form a spark gap therewith, so that the sparks passing across the gap between said electrodes likewise surround the steam current; and a funnel-like housing within which said steam discharge nozzle forming an electrode and also said other electrode are arranged in such manner that as a result of the injector action of the jet of steam a current of air is produced which has to pass through the spark discharges before it becomes admixed with the steam, whereby in addition to the ionization of the steam ozone is also produced from the air in the spark gap.

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