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A. S. McCUTCHAN.
DEVICE FOR TREATING TEGUMENTARY TISSUES.
APPLICATION FILED JUNE 2, 1903.

NO MODEL.

Fig. 1.

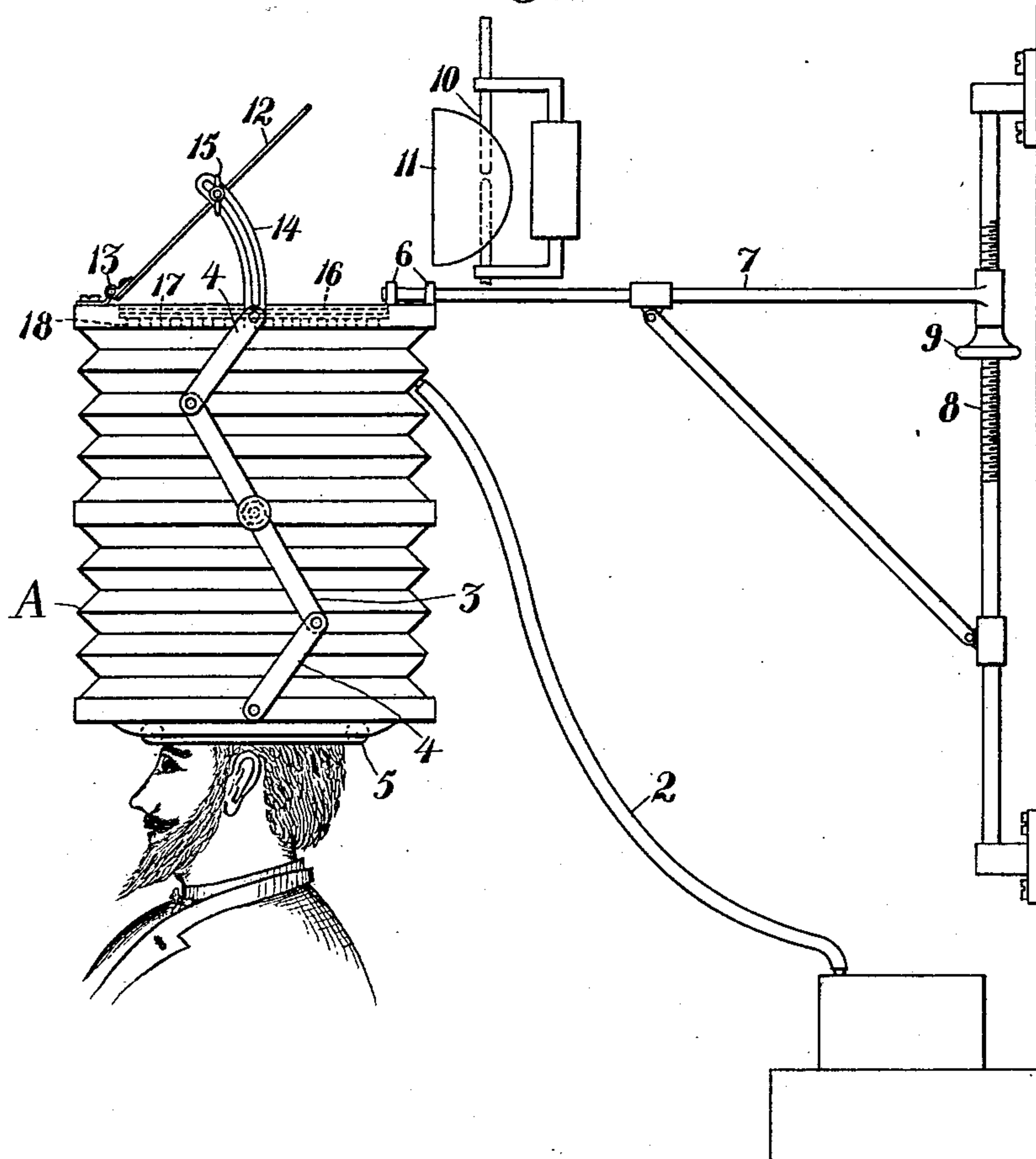
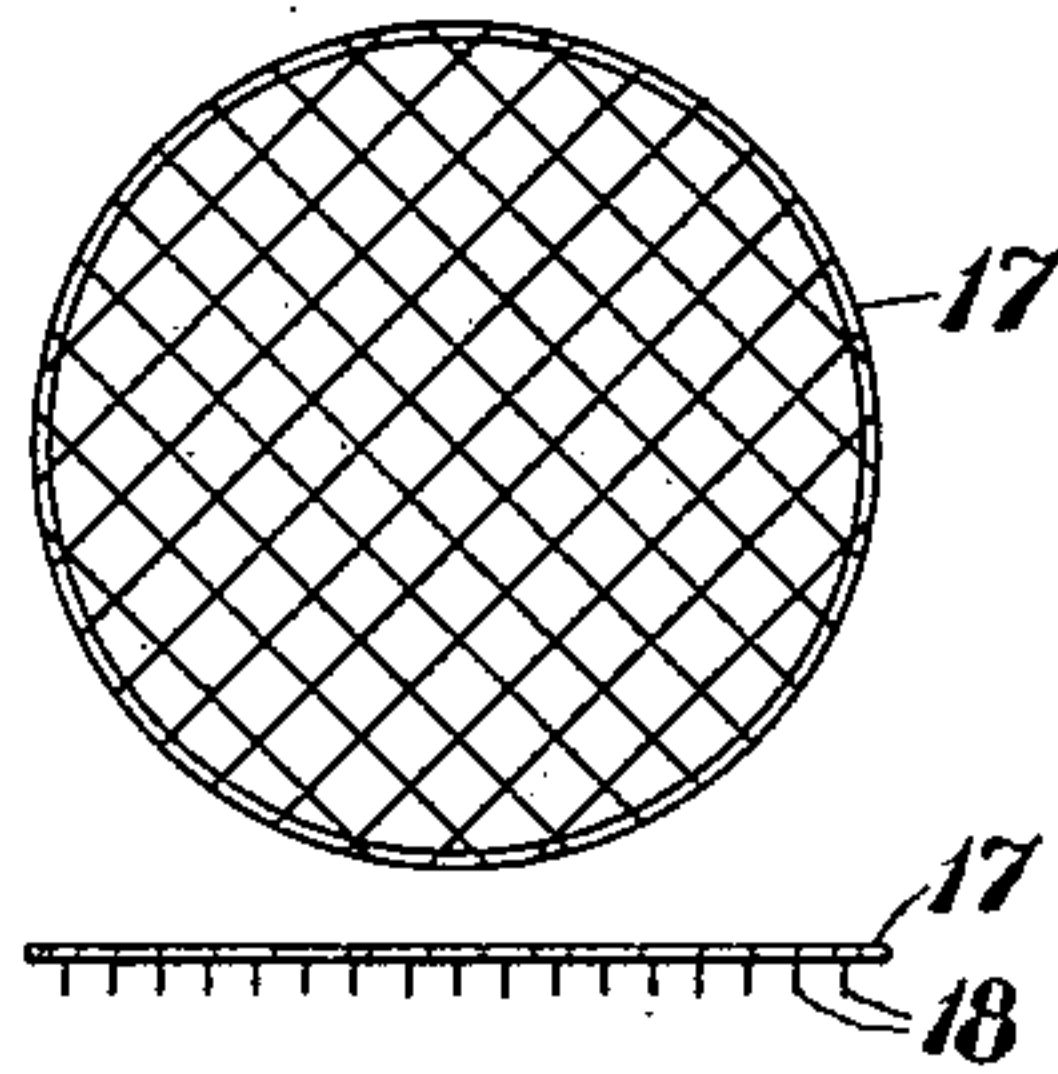


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

ALGERNON S. McCUTCHAN, OF OAKLAND, CALIFORNIA, ASSIGNOR OF
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DEVICE FOR TREATING TEGUMENTARY TISSUES.

SPECIFICATION forming part of Letters Patent No. 751,194, dated February 2, 1904.

Application filed June 2, 1903. Serial No. 159,760. (No model.)

To all whom it may concern:

Be it known that I, ALGERNON S. McCUTCHAN, a citizen of the United States, residing in Oakland, county of Alameda, State of California, have invented an Improvement in Devices for Treating Tegumentary Tissues; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to an apparatus which is especially designed for the treatment of various tegumentary or other tissues by the action of oxygen, light, and electricity applied simultaneously and in combination.

It consists of a container, with means for applying it to the tissues to be treated, so as to form a close joint against leakage without undue constriction or pressure on the parts to be treated, a means for supplying said container with oxygen gas, and means for regulating its size. In conjunction with this I have shown means for admitting light and means for directing light into the container and also a device by which static electricity may be used in conjunction with the oxygen and light and means for producing what is known as the "static breeze."

It also comprises details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a view showing the application of my invention. Fig. 2 is a plan of the electrode.

By many experiments I have verified the fact that the simultaneous or combined application of oxygen, light, and electricity to the tissues will stimulate their metabolic activity to a greater degree than when any one of them is used singly, and the tissues may thus be restored to a healthy normal condition in a much shorter time. I have therefore designed an apparatus by which the combination of these agencies may be effected. In the present case I have shown the application to the treatment of the scalp; but it will be manifest that it may be equally well applied to other parts by providing a suitable connection between the apparatus and the part to be treated.

As herein shown, A is a containing device

of any suitable character adapted to hold oxygen, which may be supplied to it either in charges or by means of a pipe, as at 2, from a gas-holder of any description, so that the oxygen may be renewed as required. In cases where the light can be used directly the container may be of glass or other transparent or translucent material through which the light will pass. As herein shown, the container is made collapsible by a construction similar to that of the bellows of a concertina or the like, and it is held at any desired point of extension by means of centrally-pivoted lever-arms 3, fixed to opposite sides of the device and having the ends pivotally connected with arms 4, so that by the turning of the lever in one direction or the other the device may be more or less collapsed or extended. A suitable locking thumb-nut or other device may be employed to hold it at any desired point of adjustment.

In order to fit the apparatus to the part to be treated, I employ any suitable packing. In the present case I have shown an elastic pneumatic ring 5, adapted to rest upon or inclose the part to be treated. This ring cushion may be placed against the tissues, so that while the light and oxygen may come into contact with the part within the central opening of the ring the oxygen will be prevented from escaping at this point, while the pressure of the ring is so light that the blood vessels will not be constricted to such an extent as to interfere with the free circulation of blood to the part.

If the device is made as here shown and of opaque material, the top may be covered with a transparent plate forming a tight joint with the upper part, but admitting light through it.

I have here shown the apparatus as provided with suitable loops or supports at the top, as at 6, and these are adapted to fit the arms 7 of a bracket or other support, which may be fixed to the wall or upon a conveniently-disposed standard. This may also be provided with a screw-threaded shank, as at 8, and a nut 9, by which the bracket can be raised or lowered upon the standard to suit the conditions under which the apparatus is to be used.

I have in the present case shown the device as applied to the head of a person in a sitting position and the apparatus properly arranged for such application.

5 It will be understood that the light of the sun or artificial light may be employed. In the present structure I have shown an arc-light, as at 10, and a parabolic reflector 11, by which the light is projected in one direction.
10 12 is a plane reflector hinged as at 13 and having a segmental arc 14 and a suitable locking-screw engaging the arc, as at 15, whereby the angle of the reflector may be so adjusted that the light will be thrown through the transparent screen 16 at the top of the oxygen-receptacle. It will be understood that by the use of a similar reflector or reflectors the light of the sun can be in like manner transmitted into the receptacle, and if the receptacle itself
20 is of transparent material the light may be projected through the sides thereof with even less mechanism and with equally good effect.

In the upper part of the apparatus I have shown an electrode 17, which will allow the
25 light to pass and which is provided with numerous points 18. In the present case I have shown this electrode in the form of a ring having fine wires stretched across the central portion and these wires provided with projecting points 18, so that when static electricity is conducted to the ring it may be discharged from the points 18, producing what is known as a "static breeze." The combined
30 action of the oxygen, the light, and the electricity has a very beneficial effect upon the part to be treated.
35

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

40 1. An apparatus consisting of a receptacle capable of containing oxygen, a pneumatic

ring cushion or the like at one end adapted to fit and form a joint with the surface or part to be treated, means for admitting light to the interior of the receptacle, and means for directing the light upon the part to be treated. 45

2. An apparatus consisting of a receptacle adapted to contain oxygen, a ring cushion at one end to form a joint with the part to be treated, a transparent closure at the opposite
50 end and an adjustable mirror and means for directing light thereon and reflecting it into the receptacle.

3. An apparatus consisting of a receptacle adapted to contain oxygen having a pneumatic
55 ring cushion at one end and a transparent closure at the opposite end and means for reflecting light into the interior of the receptacle, said receptacle being expansible and collapsible to increase or decrease its containing area. 60

4. An apparatus consisting of a receptacle having a pneumatic ring cushion at one end to form a tight joint with the part to be treated, said receptacle being extensible and collapsible to vary its area, and jointed braces
65 connecting with the ends of the receptacle whereby the adjustment of size may be regulated and fixed.

5. An apparatus consisting of a receptacle having a pneumatic ring cushion at one end
70 to form a tight joint with the part to be treated, a transparent closure at the opposite end, an adjustable mirror and means for directing light into the receptacle and an electrode permeable to the light and having discharge-
75 points thereon.

In witness whereof I have hereunto set my hand.

ALGERNON S. McCUTCHAN.

Witnesses:

PERRY THOMAS,
A. E. SMITH.