

Specification of Michael Henry : excluding air in treating bodily injuries.

Contributors

Henry, Michael.

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A.D. 1864, 14th NOVEMBER. N° 2842.

SPECIFICATION

OF

MICHAEL HENRY.

EXCLUDING AIR IN TREATING BODILY
INJURIES.

LONDON:

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A.D. 1864, 14th NOVEMBER. N° 2842.

Excluding Air in Treating Bodily Injuries.

LETTERS PATENT to Michael Henry, of 84, Fleet Street, in the City of London, Patent Agent, for the Invention of "IMPROVEMENTS IN THE MEANS OF OR APPLIANCES FOR TREATING BODILY INJURIES, AFFECTIONS, AND DISORDERS WHEN ATMOSPHERIC AIR IS TO BE EXCLUDED FROM THE PART AFFECTED."—A communication from abroad by Doctor Jules Guérin, of 33, Boulevard Saint Martin, Paris, France, Member of the French Imperial Academy of Medicine.

Sealed the 9th May 1865, and dated the 14th November 1864.

PROVISIONAL SPECIFICATION left by the said Michael Henry at the Office of the Commissioners of Patents, with his Petition, on the 14th November 1864.

I, MICHAEL HENRY, of 84, Fleet Street, in the City of London, Patent Agent, do hereby declare the nature of the said Invention for "IMPROVEMENTS IN THE MEANS OF OR APPLIANCES FOR TREATING BODILY INJURIES, AFFECTIONS, AND DISORDERS WHEN ATMOSPHERIC AIR IS TO BE EXCLUDED FROM THE PART AFFECTED," communicated to me from abroad by Doctor Jules Guérin, of 33, Boulevard Saint Martin, Paris, France, Member of the French Imperial Academy of Medicine, to be as follows:—

This Invention relates to means or appliances suitable for treating wounds, injuries, affections, or disorders when atmospheric air is to be excluded from the part affected. These means or appliances are as follows:—A casing composed of vulcanized caoutchouc or of other like flexible material, is made to

Henry's Improvements in Excluding Air in Treating Bodily Injuries.

fit or nearly to fit the limb or portion of the body in which the affected part or part to be treated is situated, and it is caused to communicate with a spherical or otherwise shaped portable pneumatic receiver, vacuum or exhausting chamber, or vessel exhausted of air. The vessel or receiver is furnished with a cock or valve, and is capable of being connected, when 5 required, with an air pump or contrivance for exhausting air, and it is provided with a vacuum gauge. The flexible casing is open at one or both ends, so that the limb or portion of the body to be encased may be readily introduced therein; but the open end or ends is resilient or springy, so that it (or they) can be extended to admit the limb or part of the person, but will 10 immediately close tightly round it (or it may be tightened by other means). The casing preferably communicates with the receiver or vacuum vessel by an incompressible tube. The portable vessels or receivers which are intended to be carried on the person, as well as the casing, are so connected therewith that they may be readily removed and exhausted afresh, or replaced by fresh 15 ones, or they may be in a piece with the casing, and may even take the form of the part to which they are applied. When the casing is applied to the person, and a portable vessel exhausted of air connected with it, and the tap or valve opened, the air will be exhausted from the casing or very much rarefied, and the casing under the external atmospheric pressure will draw and 20 fit closely round the limb or part of the body. When the gauge indicates pressure or density of air in the vessel or receiver so that it ceases to act efficiently it can be exhausted again, or a fresh exhausted receiver can be applied to the casing. Of course the portable appliances are made of a substance impervious to air. 25

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said Michael Henry in the Great Seal Patent Office on the 12th May 1865.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, MICHAEL HENRY, of 84, Fleet Street, in the City of London, Patent Agent, send 30 greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Fourteenth day of November, in the year of our Lord One thousand eight hundred and sixty-four, in the twenty-eighth year of Her reign, did, for Herself, Her heirs and successors, give and 35 grant unto me, the said Michael Henry, Her special licence that I, the said

Henry's Improvements in Excluding Air in Treating Bodily Injuries.

Michael Henry, my executors, administrators, and assigns, or such others as I, the said Michael Henry, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might
5 make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "IMPROVEMENTS IN THE MEANS OF OR APPLIANCES FOR TREATING BODILY INJURIES, AFFECTIONS, AND DISORDERS WHEN ATMOSPHERIC AIR IS TO BE EXCLUDED FROM THE PART AFFECTED," communicated to me from abroad by Doctor Jules Guérin,
10 of 33, Boulevard Saint Martin, Paris, France, Member of the French Imperial Academy of Medicine, upon the condition (amongst others) that I, the said Michael Henry, my executors or administrators, by an instrument in writing under my, or their, or one of their hands and seals, should particularly describe and ascertain the nature of the said Invention, and in what manner
15 the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

NOW KNOW YE, that I, the said Michael Henry, do hereby declare the nature of the said Invention, and in what manner the same is to be
20 performed, to be particularly described and ascertained in and by the following statement thereof, that is to say :—

This Invention relates to means or appliances suitable for treating wounds, injuries, affections, or disorders when atmospheric air is to be excluded from the part affected. These means or appliances are as follows :—A casing
25 composed of vulcanized caoutchouc or of other like flexible material, is made to fit or nearly to fit the limb or portion of the body in which the affected part to be treated is situated, and this casing is caused to communicate with a spherical or otherwise shaped portable pneumatic receiver, vacuum chamber, or vessel exhausted of air, furnished with a cock or valve, and capable of
30 being connected, when required, with an air pump, a stationary exhausted receiver, or other contrivance for exhausting air ; it is also provided with a vacuum gauge. The flexible casing is open at one or both ends in order that the limb or portion of the body to be encased may be introduced therein. The open end or ends are resilient or springy, so that they may be extended
35 sufficiently to admit the limb or part of the person to be encased, and immediately after it has been admitted they will close tightly round it. The openings may, however, be tightened by other means. The casing communicates with the receiver or vacuum vessel by an incompressible tube. The portable vessels or receivers are intended to be carried on the person, as well

Henry's Improvements in Excluding Air in Treating Bodily Injuries.

as the casing, and are so connected therewith that they may be readily removed to be exhausted or replaced by fresh ones, or they may be in a piece with the casing, and take the form of the part to which they are applied. When the casing is applied to the person, and a portable vessel exhausted of air is connected with it, and its tap or valve opened, the air will be exhausted from 5 the casing or very much rarefied therein, and the casing will yield to the external atmospheric pressure, and fit closely round the limb or part of the body. When the gauge indicates that there is too great a quantity or density of air in the pneumatic vessel to allow it to act efficiently it is to be exhausted again, or a fresh exhausted receiver applied. The portable appli- 10 ances are made of a substance impervious to air. By the means described gaseous or other humours or exhalations given off from the body will not be allowed to stagnate, but will be drawn off without undue suction being exerted on the skin, and the wound will suppurate rapidly.

In order more thoroughly to explain the Invention, I will describe it as 15 applied to a wounded leg after the wound has been dressed by any ordinary method, and, if needful, protected by a plate up to the edges. The leg is inserted in a vulcanized india-rubber casing shaped roughly like a boot, just large enough to receive the limb without painfully pressing upon it, and closed at bottom, but open at the top, the opening being of less diameter than 20 the part of the leg to be encircled, but being elastic it is stretched to admit the limb, and will immediately close tightly round it. A non-elastic india-rubber tube is fixed to the casing, the free end of this tube is fitted to the cock of an air vessel previously exhausted of air, and the cock is opened, whereupon the air will be immediately exhausted from the casing, and its 25 elastic sides will yield to the atmospheric pressure and close tightly round the limb, and remain so until it is necessary to exhaust the air vessel afresh by means of the stationary exhausted receiver of an air pump or otherwise, or to fit on a freshly exhausted portable receiver.

Sometimes a pervious casing or padding is interposed between the air-tight 30 or impervious casings and the skin to assist in drawing off the exhalations and humours, and to prevent the skin from being blistered by rucks or creases in the air-tight casing. The thickness or number of layers of interposed padding may be varied to vary the quantity of exhalations drawn off.

For puerperal diseases the impervious casing may be of the shape of 35 drawers fitting closely round the region of the pelvis, and having round the abdomen an air cushion or pneumatic pad to fill up the depressions of the vertebral groove, and an elastic compressible girdle may be combined with it. A suction pipe is passed through the side of these drawers in front of the

Henry's Improvements in Excluding Air in Treating Bodily Injuries.

vagino uterine cavity, having at one end a sponge, and at one part a hollow glass ball for receiving the matters drawn off. A cock opens and closes communication between this ball and the vagino uterine cavity. To regulate the suction produced by the casing a hollow ball is sometimes used, divided
5 by a partition into two compartments, one of which communicates with the casing, while the other acts as a reservoir and regulates the degree of exhaust in the former compartment.

The portable receivers may sometimes consist of cases with flexible sides, which collapse when the case is exhausted, and are expanded by a spring,
10 which of itself is not of sufficient strength to expand the case, but will do so when air or gas enters it, and assists the action of the spring. The extent of expansion of the case indicates the state of the vacuum within the casing.

Having now described the nature of the said Invention, and in what manner the same may be performed, I declare that I claim, the flexible or
15 elastic impervious casing fitting as described, on the limb or other part to be treated and combined with a pneumatic receiver, or vessel, or chamber which can be exhausted as required, arranged, and acting substantially as set forth.

In witness whereof, I, the said Michael Henry, have hereunto set
20 my hand and seal, this Eleventh day of May, in the year One thousand eight hundred and sixty-five.

M. HENRY. (L.S.)

Witness,

S. E. A. NEWSOME.

LONDON:

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Printers to the Queen's most Excellent Majesty. 1865.

