

Specification of James Dewar : employing vulcanite in forming instruments for inhalation, &c.;

Contributors

Dewar, James, 1842-1923.

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A.D. 1867, 27th APRIL. N° 1222.

SPECIFICATION

OF

JAMES DEWAR.

EMPLOYING VULCANITE IN FORMING
INSTRUMENTS FOR INHALATION, &c.

LONDON:

PRINTED BY GEORGE E. EYRE AND WILLIAM SPOTTISWOODE,

PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY :

PUBLISHED AT THE GREAT SEAL PATENT OFFICE,

25, SOUTHAMPTON BUILDINGS, HOLBORN.

Price 6d.

1867.

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A.D. 1867, 27th APRIL. N° 1222.

**Employing Vulcanite in Forming Instruments for
Inhalation, &c.**

LETTERS PATENT to James Dewar, Doctor of Medicine, residing in
Kirkcaldy, in the County of Fyfe, North Britain, for the Invention of
“IMPROVEMENTS UPON THE INSTRUMENT CALLED THE ‘SPRAY PRODUCER.’”

Sealed the 24th September 1867, and dated the 27th April 1867.

PROVISIONAL SPECIFICATION left by the said James Dewar at the
Office of the Commissioners of Patents, with his Petition, on the 27th
April 1867.

I, JAMES DEWAR, Doctor of Medicine, residing in Kirkcaldy, in the County
5 of Fyfe, North Britain, do hereby declare the nature of my said Invention
for “IMPROVEMENTS UPON THE INSTRUMENT CALLED THE ‘SPRAY PRODUCER,’” to be
as follows:—

According to my Invention the “spray producer” is to be made or composed
of the substance called “vulcanite,” whereby sulphurous acids and other
10 corrosive liquids can be used for the purposes of cure by inhalation and
otherwise without injury to the instrument.

My Invention does not consist in the Invention of the instrument called the
“spray producer,” but in the employment of “vulcanite,” as the material from
which the instrument is to be manufactured. The substances at present
15 employed for that purpose are either very expensive and brittle or of a cor-
rodible nature, and unsuitable for the application of sulphurous acids and
other corrosive liquids to the purposes of cure by inhalation and otherwise.

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My Invention renders the instrument both more durable in its nature and not liable to injury by trifling accidents. The instrument may be formed entirely of "vulcanite," which I prefer as economical, but it may be partly formed of other substances, as, for example, the points may be formed of some metal such as silver, electro-gilt, gold, or platinum.

5

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said James Dewar in the Great Seal Patent Office on the 25th October 1867.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, JAMES DEWAR, Doctor of Medicine, residing in Kirkcaldy, in the County of Fife, 10 North Britain, send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Twenty-seventh day of April, in the year of our Lord One thousand eight hundred and sixty-seven, in the thirtieth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, 15 the said James Dewar, Her special licence that I, the said James Dewar, my executors, administrators, and assigns, or such others as I, the said James Dewar, 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 make, use, exercise, 20 and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "**IMPROVEMENTS UPON THE INSTRUMENT CALLED THE SPRAY PRODUCER,**" upon the condition (amongst others) that I, the said James Dewar, my executors or administrators, by an instrument in writing under my, or their, or one of their hands and seals, 25 should particularly describe and ascertain the nature of the said Invention, and in what manner 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 James Dewar, do hereby declare 30 the nature of my said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement, viz :—

The nature of my Invention is the employment of the well-known substance produced by a combination of india-rubber and sulphur, which is called and 35 generally known as vulcanite, in the construction of the instrument commonly

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known as the spray producer. The manner in which vulcanite is produced is well known.

For the sake of more clearly defining my Invention I shall now describe the instrument called the spray producer as at present usually constructed, 5 and of which a Drawing is hereto attached. The numbers herein-after mentioned have reference to and correspond with those marked on that Drawing.

The instrument generally consists of an air vessel or chamber No. 1 composed of some elastic material, and capable of being discharged of the air 10 contained in it by pressure, and of being refilled by its own elastic action. This chamber has an orifice for the admission of air in the shape of a short pipe, and it as well as the vessel or chamber No. 3, herein-after described, is fitted with a valve to prevent the backward expulsion of the air. No. 2 is a flexible tube conducting the air discharged from the chamber last described 15 into a second elastic vessel or chamber No. 3, which is fitted with a valve to prevent the backward escape of the air, and is covered with a network of silk or cotton to restrain expansion, and which forms a reservoir by which a continuous current of air may be kept up through the flexible tube No. 4, which conducts the air discharged from the aforesaid reservoir to a straight 20 tube No. 5, terminating in a tapered point with a small orifice No. 6. No. 7 is a wide mouthed vessel or bottle which has a lid or stopper with holes in it, through which pass the tubes 8 and 10, herein-after described. The liquid from which the spray is intended to be produced is placed in this vessel or bottle. No. 8 is a bent tube terminating in a point No. 9 curved upwards, 25 and which point has a very small orifice. The other end of this tube passes through the lid or stopper into the vessel No. 7, and is submerged in the liquid therein contained, from which the spray is to be produced. No. 10 is another bent tube, the upper half of one end of which being filed or cut off forms a trough or drain by which the surplus liquid is caught and run back 30 into the vessel or bottle, and by which air is also admitted into the vessel or bottle. The other end of this tube is inserted into a hole in the lid or stopper of the vessel or bottle. No. 11, 11, are bands holding the tubes 5, 8, & 10 in the position represented in the Drawing. No. 12 is merely a wooden box for holding the instrument. The air being discharged by pressure from the 35 air chamber No. 1 passes through the tube No. 2 into the chamber No. 3, from which it again passes through the tube No. 4 into the tube No. 5, from the point of which No. 6 it issues with some force, and playing exactly over the upturned orifice of the point No. 9 of the tube No. 8 exhausts the air in that tube. The liquid contained in the vessel No. 7 rising into the tube to fill

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the vacuum thus produced is caught by the current of air issuing as aforesaid from the point No. 6, and is broken up into a cloud of spray. The tube No. 10 catches any drops which may fall from the point No. 9 and conveys them back into the vessel or bottle No. 7.

The above is a description of the usual arrangement of the several parts of 5 the instrument, though a different arrangement may be made.

The instrument is employed for the production of sprays from liquids of various descriptions, but it is more particularly useful in the production for medical purposes by inhalation or otherwise of sprays from liquids, some of which are of a corrodent nature, such as sulphurous acid. The instrument 10 is generally constructed partly of india-rubber and partly of metal or glass. When glass is employed the instrument is very liable to be broken; when metal is employed the instrument is either costly or liable to be injured by corrosion. Vulcanite is neither brittle nor costly, nor corrodible by acids usually employed for medical purposes, and it therefore forms a very advantageous material for 15 the construction of those portions of the instrument with which the liquid comes in contact, instead of glass or metal or other substances heretofore usually employed.

The manner in which my Invention is to be performed is as follows:—I construct the instrument with its usual mechanical parts, which are already 20 well known, but I use vulcanite for the construction of those portions of the instrument with which the liquid employed for the production of spray comes in contact, namely, the vessel or bottle in which the liquid from which the spray is to be produced (No. 7 in the Drawing) is contained, together with its lid or stopper, the tube No. 8 by which the liquid rises from the vessel, the 25 tube No. 10 by which the waste liquor is conducted back to the vessel, and the tube No. 5 which conducts the air from the flexible tube No. 4 to the point No. 6 where the air is discharged, and the bands No. 11, 11, uniting the three tubes Nos. 8, 10, & 5.

For the sake of greater economy I also construct the point No. 6 from 30 which the air is discharged and the point No. 9 from which the liquid issues of vulcanite, but these may be advantageously constructed of silver, electro-gilt, gold, or platinum, or any other metal or substance not liable to corrosion by the liquids intended to be used in the instrument. I find that the air chambers and tubes conducting the air, but with which the liquid does not 35 come in contact, may conveniently be constructed of the materials heretofore employed, which are generally india-rubber and silk or cotton net.

I do not claim the Invention of the instrument called the spray producer, nor of any of its mechanism, nor the Invention of the substance called vulcanite;

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what I claim as my Invention is, the employment of the substance called vulcanite as the material out of which are to be constructed the parts of the instrument with which the liquid used for the production of spray comes in contact.

- 5 It is not essential to my Invention that all the parts herein-before described as to be constructed of vulcanite should be formed of that material, but I find it most useful and economical to employ that material for the construction of the whole of them.

10 In witness whereof, I, the said James Dewar, have hereunto set my hand and seal, this Twenty-third day of October, in the year of our Lord One thousand eight hundred and sixty-seven.

JAMES DEWAR. (L.S.)

LONDON:

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1867.

My invention is for forming instruments for lubrication.

what I claim as my invention is, the employment of the substance called
vulcanite as the material out of which are to be constructed the parts of
the instrument with which the liquid used for the production of spray comes
in contact.

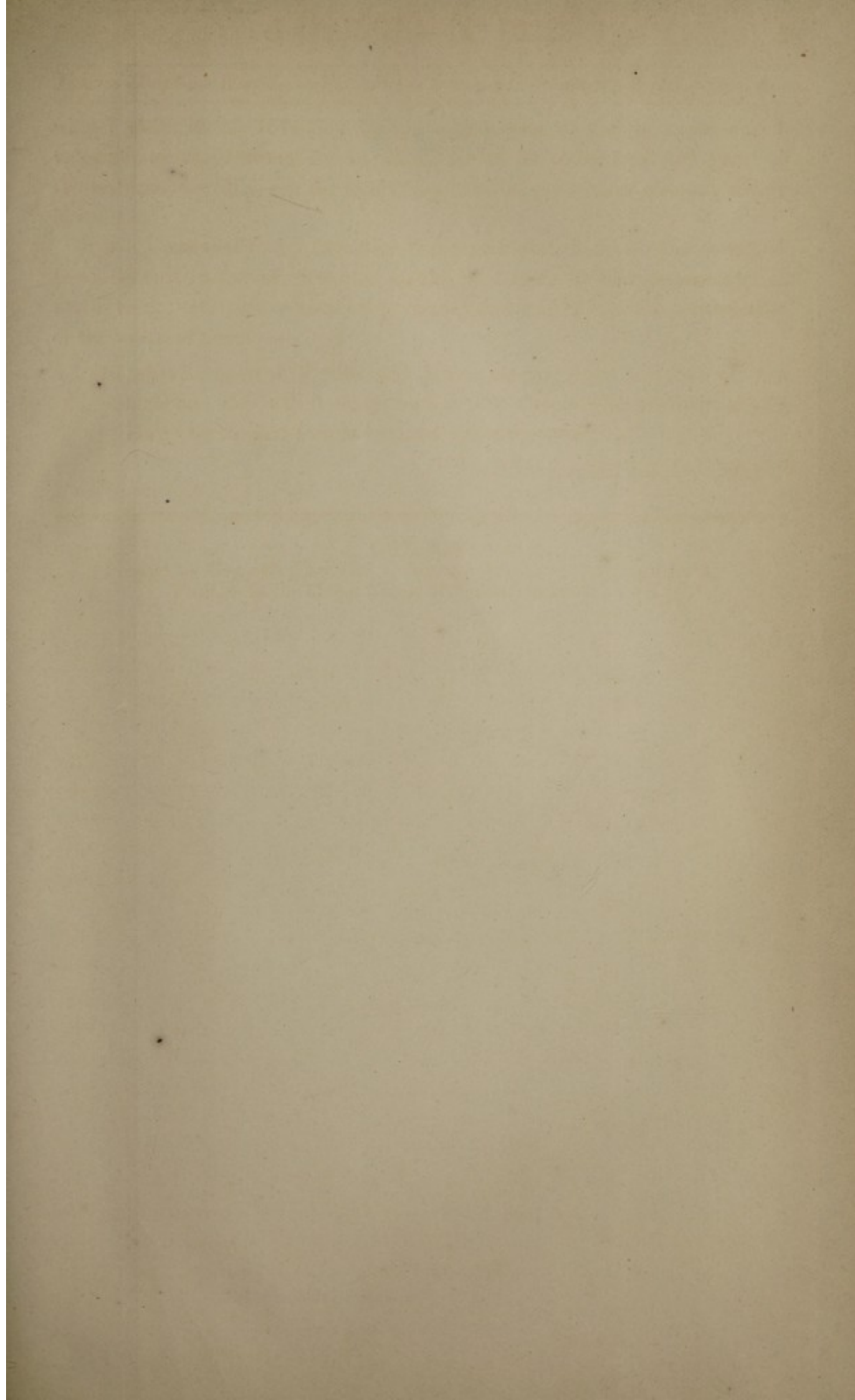
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of the whole of them.

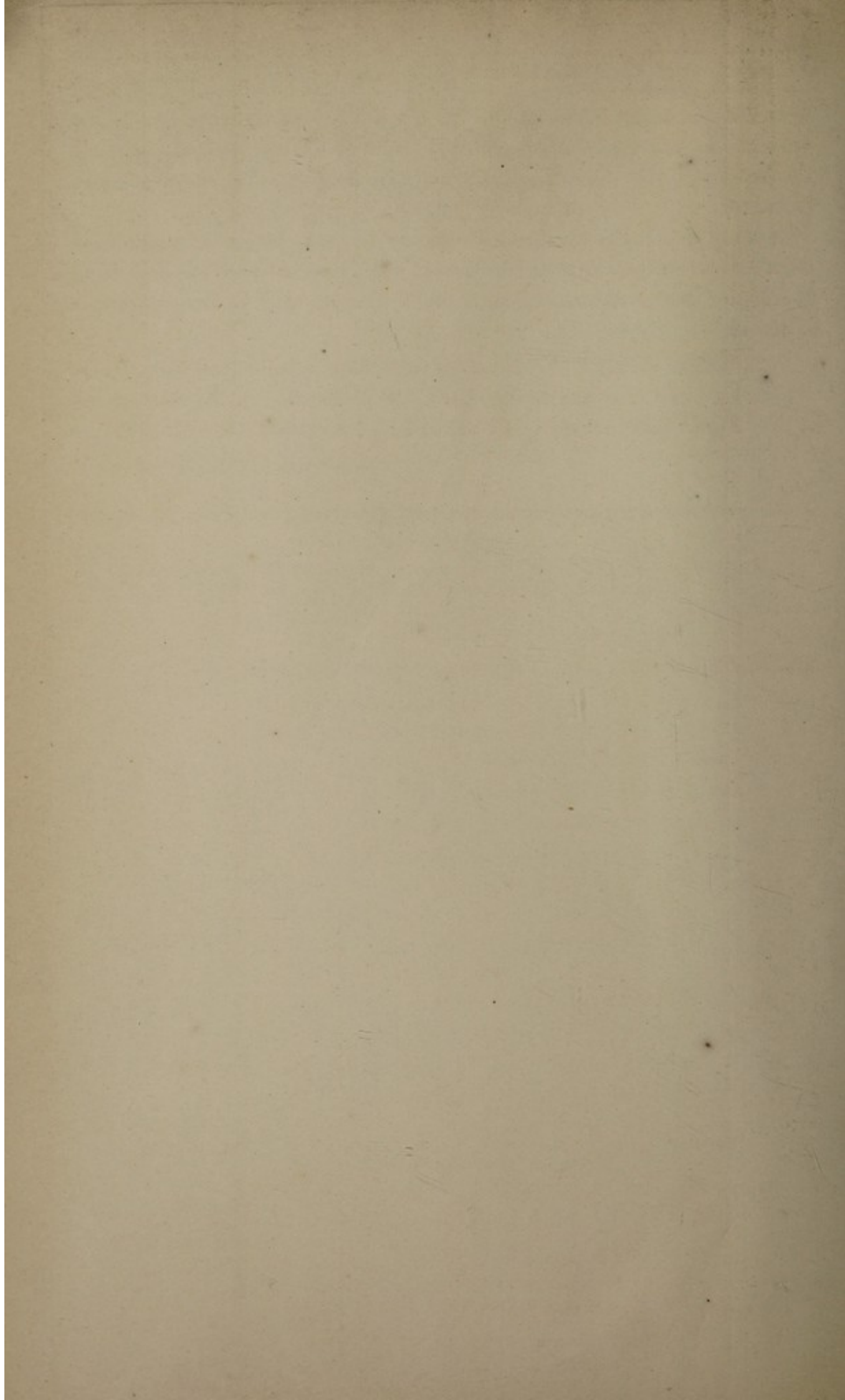
In witness whereof, I, the said James Dewar, have hereunto set my
hand and seal, this Twenty-third day of October, in the year of our
Lord One thousand eight hundred and sixty-seven.

JAMES DEWAR. (s.)

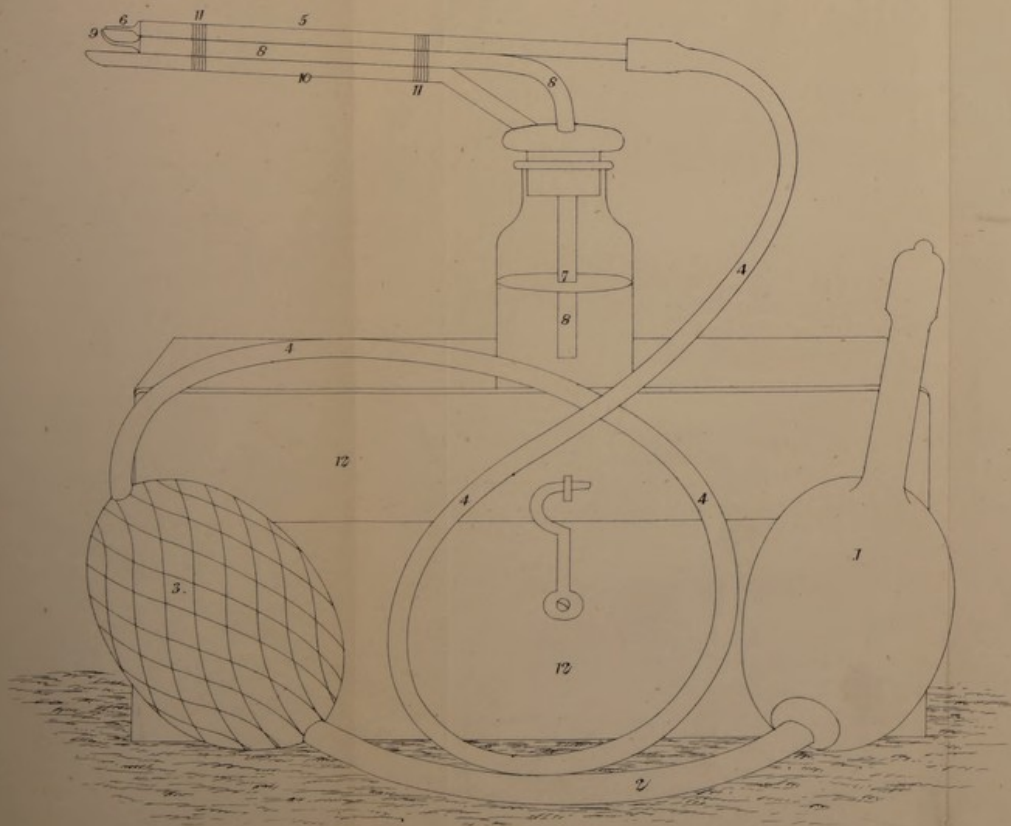
LONDON:

Printed by GEORGE EDWARD STAN and WILLIAM SPOTTISWOOD,
Printers to the Queen's most Excellent Majesty. 1867.





A.D. 1867, APRIL 27, N° 1222,
DEWAR'S SPECIFICATION.



The filed drawing is colored

Drawn on Stone by Malby & Sons.

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Printers to the Queen's most Excellent Majesty. 1867

