

Specification of James Dewar : preserving blood for food.

Contributors

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A.D. 1868, 3rd MARCH. N° 726.

SPECIFICATION

OF

JAMES DEWAR.

PRESERVING BLOOD FOR FOOD.

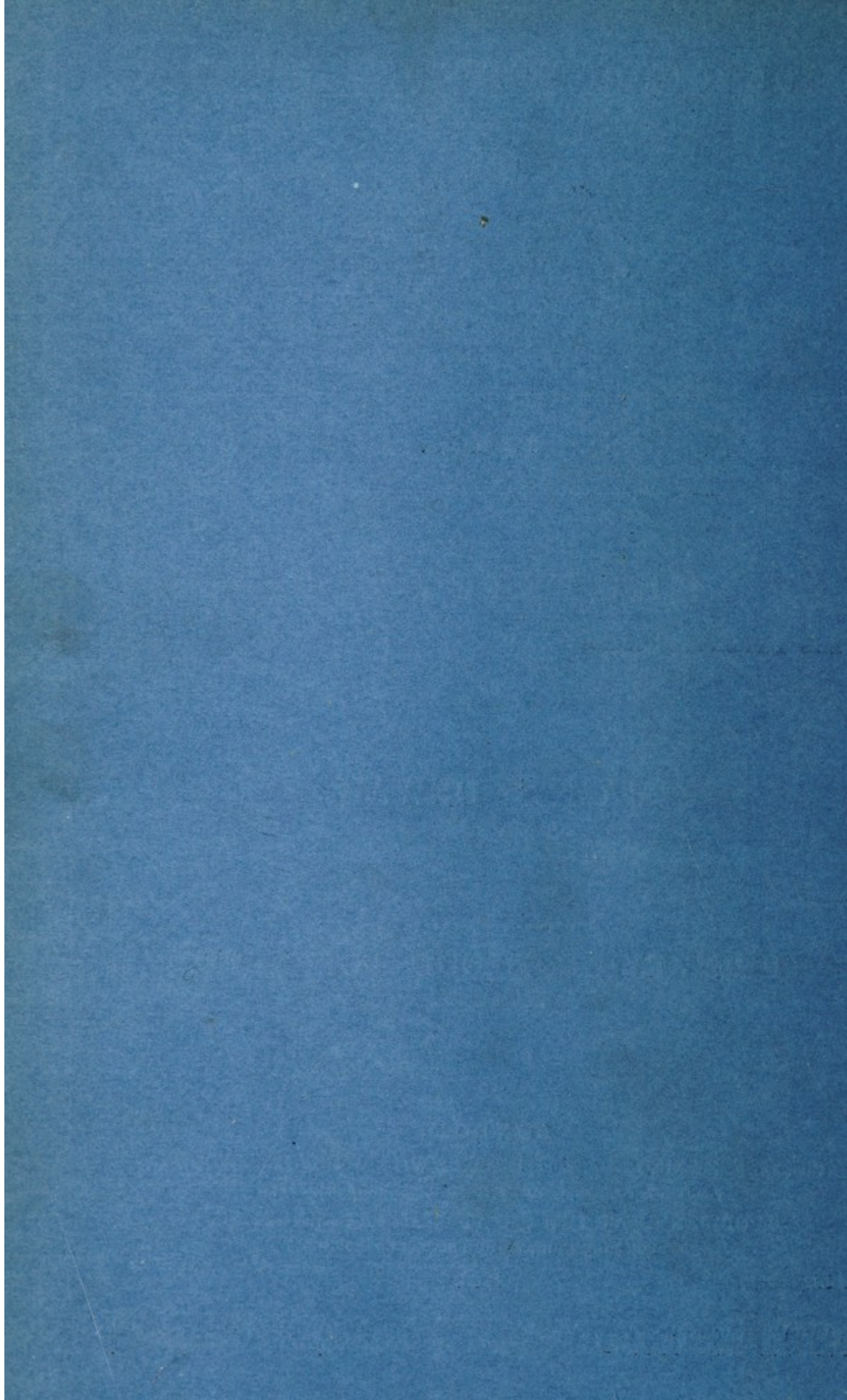
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A.D. 1868, 3rd MARCH. N° 726.

Preserving Blood for Food.

LETTERS PATENT to James Dewar, Doctor of Medicine, residing in Kirkcaldy, in the County of Fife, North Britain, for the Invention of "**IMPROVEMENTS IN PRESERVING BLOOD FOR USE AS FOOD.**"

Sealed the 28th April 1868, and dated the 3rd March 1868.

PROVISIONAL SPECIFICATION left by the said James Dewar at the Office of the Commissioners of Patents, with his Petition, on the 3rd March 1868.

I, JAMES DEWAR, Doctor of Medicine, residing in Kirkcaldy, in the
5 County of Fife, North Britain, do hereby declare the nature of the said
Invention for "**IMPROVEMENTS IN PRESERVING BLOOD FOR USE AS FOOD,**" to
be as follows :—

Blood is a nutritious article of food both for man and for the lower
animals, but it quickly and readily becomes decomposed, in which con-
10 dition it is unsuitable for food.

My Invention consists in so treating and preserving blood as that
it shall remain for a lengthened period wholesome and suitable for
use as food for man and for horses, cattle, sheep, poultry, and other

Dewar's Improvements in Preserving Blood for Food.

lower animals. To effect this object I either subject the blood of newly slaughtered animals to careful desiccation by exposure to a temperature between sixty and one hundred and forty degrees of Fahrenheit so as to expel the moisture while preserving and concentrating the nutritious qualities of the blood. Or I mix such blood with meal, flour, seeds, 5 husks of seeds, grain, or other farinaceous matter or roots either in their natural state or dried and chopped up, ground down or pulverized (for the food of animals other than man I sometimes add powdered oil cake to the mass). I next subject the mixture to careful desiccation as before described. Blood when treated as above specified will, 10 if carefully kept dry remain in a condition suitable for the food of man and of horses, cattle, sheep, poultry, and other lower animals for a length of time, but I use in preference when I wish to preserve the blood for a considerable period, the following methods, viz^t.,—I either mix the fresh blood with an aqueous solution of sulphurous acid, or 15 with sulphurous acid in combination with an alkali in the form of a sulphite and then mix the blood so treated with any of the solid substances before mentioned and submit the mixture to desiccation as before described; or I mix the fresh blood with the said aqueous solution of sulphurous acid alone, or with sulphurous acid in combination with 20 an alkali in the form of a sulphite without mixing it with any solid substance, and then keep the blood so treated either in a liquid state until required for use, or I desiccate it as before described and keep it dry.

SPECIFICATION in pursuance of the conditions of the Letters Patent, 25
filed by the said James Dewar in the Great Seal Patent Office on
the 20th August 1868.

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

30

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Third day of March, in the year of our Lord One thousand eight hundred and sixty-eight, in the thirty-first year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said James Dewar, Her special licence that I, 35

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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, 5 should and lawfully might 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 PRESERVING BLOOD FOR USE AS FOOD**," upon the condition (amongst others) that I, the said James Dewar, my executors or administrators, by an instrument in 10 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 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.

15 **NOW KNOW YE**, that I, the said James Dewar, do hereby declare 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 :—

Blood is a nutritious article of food, both for man and for the lower 20 animals, but it quickly and readily becomes decomposed, in which condition it is unsuitable for food.

The nature of my Invention consists in treating and preserving blood as herein-after described, so that it shall remain for a lengthened period wholesome and suitable for food, for man and for horses, cattle and 25 sheep, poultry, and other lower animals.

The manner in which my Invention is to be performed is as follows :—
When I wish to secure preservation for a short period of time only, I either subject the blood of newly slaughtered animals to careful desiccation by evaporation at a temperature between eighty and one 30 hundred and forty degrees of Fahrenheit, (I prefer a temperature of about one hundred and thirty-five degrees) so as to expel the moisture, while preserving and concentrating the nutritious qualities of the blood ; or I first mix such blood with meal, flour, seeds, husks of seeds, grain, or other farinaceous matter or roots, either in their natural state or dried 35 and chopped up, ground down or pulverized (for the food of cattle and such like herbivorous animals, I sometimes add powdered oil cake to the mass), and I then subject the mixture to careful desiccation as before directed. Blood when treated as above described will if carefully

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kept dry remain in a condition suitable for the food of man, and of horses, cattle, sheep, dogs, poultry, and the other lower animals for a certain length of time, and from experience I find that it can be so preserved for six weeks, but I use in preference, when I wish to preserve the blood for a considerable period, the following methods, viz^t., I 5 either mix the fresh blood with an aqueous solution of sulphurous acid or with sulphurous acid in combination with an alkali in the form of a sulphite or bi-sulphite, and then mix such blood so treated with any of the vegetable substances before mentioned and submit the mixture to desiccation as before described; or I mix the fresh blood with the said 10 aqueous solution of sulphurous acid or with sulphurous acid in combination with an alkali in the form of a sulphite or bi-sulphite without mixing it with any other substance, and then either keep the blood so treated in a liquid state until required for use, or I desiccate it as before described and keep it dry. 15

In regard to the quantities of sulphurous acid and sulphites or bi-sulphites which I employ, I find that one ounce of the aqueous solution of sulphurous acid of the ordinary commercial strength, say of specific gravity 1.012, is sufficient for twelve ounces of fresh blood, and that one ounce of the sulphite or bi-sulphite suffices for the same 20 quantity, that is for twelve ounces of fresh blood. I find that horses and oxen most readily eat the preserved blood when boiled along with turnips and hay seed, which is a convenient form in which to give it them. For the use of man, the preserved blood can conveniently be made into biscuits, by mixing it with wheaten or other flour, or into 25 cakes by mixing it with oatmeal or other meal. It can conveniently be used in the form of soup, by mixing it with water and cooking it with vegetables, and otherwise in the manner usual in preparing soup.

In witness whereof, I, the said James Dewar, have hereunto set my hand and seal, this Eighteenth day of August, in the year 30 of our Lord One thousand eight hundred and sixty-eight.

JAMES DEWAR. (L.S.)

LONDON:

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