

Specification of John Macintosh : setting artificial teeth.

Contributors

MacIntosh, John.

Publication/Creation

London : Great Seal Patent Office, 1860 (London : George E. Eyre and William Spottiswoode)

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A.D. 1859, 8th DECEMBER. N° 2790.

SPECIFICATION

OF

JOHN MACINTOSH.

SETTING ARTIFICIAL TEETH.

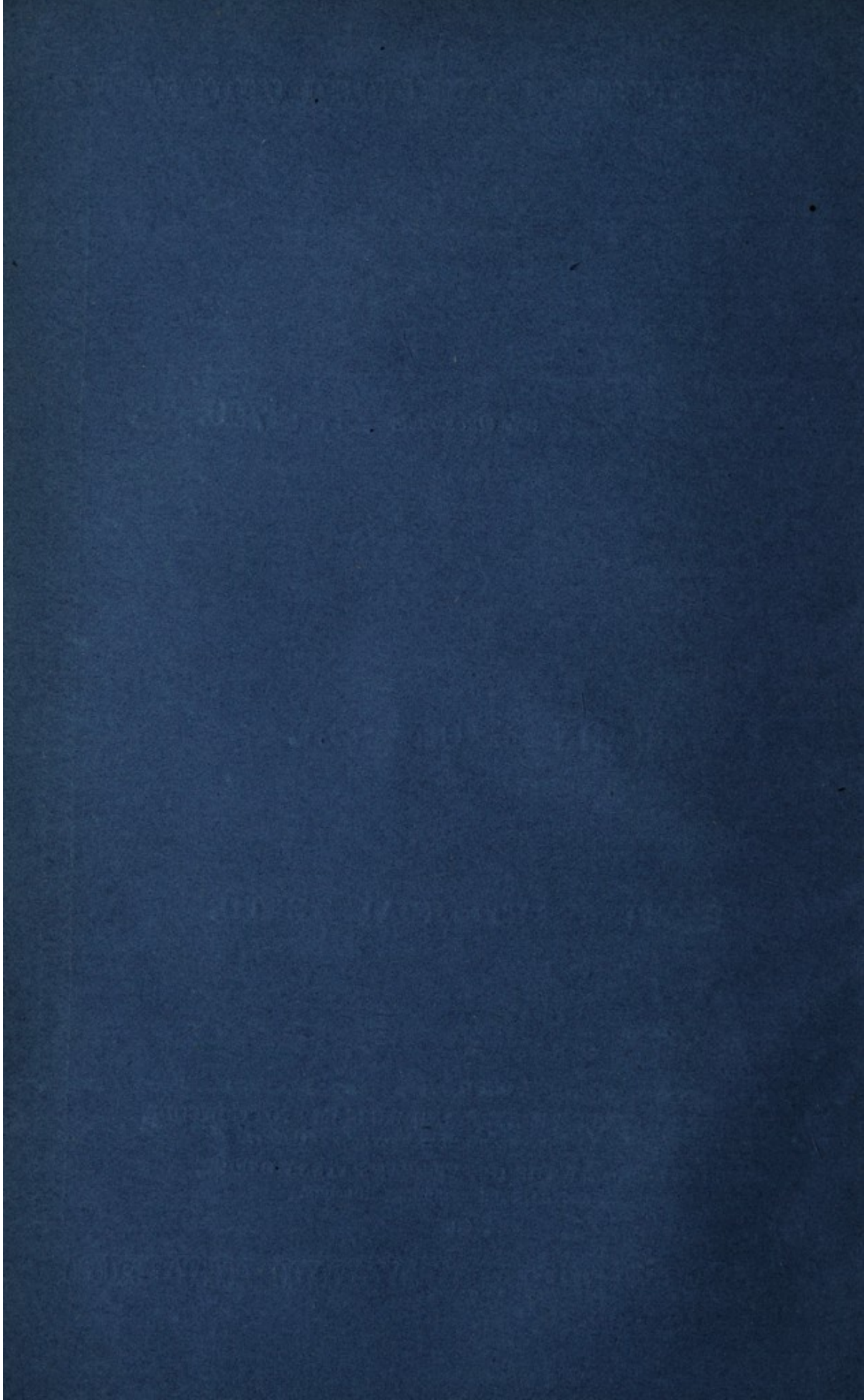
LONDON:

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 8d.

1860.





A.D. 1859, 8th DECEMBER. N° 2790.

Setting Artificial Teeth.

LETTERS PATENT to John Macintosh, of 40, North Bank, Regent's Park, in the County of Middlesex, for the Invention of "**IMPROVEMENTS IN SETTING ARTIFICIAL TEETH.**"

Sealed the 4th May 1860, and dated the 8th December 1859.

PROVISIONAL SPECIFICATION left by the said John Macintosh at the Office of the Commissioners of Patents, with his Petition, on the 8th December 1859.

I, JOHN MACINTOSH, of 40, North Bank, Regent's Park, in the County of Middlesex, do hereby declare the nature of the Invention for "**IMPROVEMENTS IN SETTING ARTIFICIAL TEETH,**" to be as follows:—

This Invention has for its object improvements in setting artificial teeth. For this purpose I employ collodion (or a solution of gun cotton or fibre in a solvent); this material I apply to the teeth to be set when in a fluid or soft state, so that when it hardens, the teeth may become securely imbedded in it. A form or mould is by preference employed to bring the mass of collodion in which the teeth are set to the proper shape to fit the mouth. Cotton or other fibre may be embedded in the collodion to increase its toughness, and the outer surface or the whole of the collodion may be colored to look like the natural gum.

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said John Macintosh in the Great Seal Patent Office on the 8th June 1860.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, JOHN MACINTOSH, of 40, North Bank, Regent's Park, in the County of Middlesex, send greeting.

Macintosh's Improvements in Setting Artificial Teeth.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Eighth day of December, in the year of our Lord One thousand eight hundred and fifty-nine, in the twenty-third year of Her reign, did for Herself, Her heirs and successors, give and grant unto me, the said John Macintosh, Her special licence that I, the said 5 John Macintosh, my executors, administrators, and assigns, or such others as I, the said John Macintosh, 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, and vend, within the United Kingdom of Great Britain 10 and Ireland, the Channel Islands, and Isle of Man, an Invention for "**IMPROVEMENTS IN SETTING ARTIFICIAL TEETH**," upon the condition (amongst others) that I, the said John Macintosh, 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 Inven- 15 tion, 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 John Macintosh, 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 has for its object improvements in setting artificial teeth, and consists in employing for this purpose the preparation known by the name of collodion, which is a solution of gun cotton or fibre in a solvent. 25 The following is the manner in which I prefer to proceed:—I obtain in the usual manner an impression in wax of the form of the jaw of the person for whom the set of artificial teeth is to be made, and from this I make a mould in plaster, as is well understood. Into this mould I again cast plaster, and so obtain in plaster a copy of the original wax impression of the jaw. On to this 30 form I build up in wax or other material a thickness equal to that of the collodion setting which it is desired to produce, and the teeth to be set are embedded in the wax in the same manner as they are to be in the collodion setting; when this is produced on the wax model, and while it is still on the form, it is oiled all over and a plaster cast is taken of it; this when set is 35 removed from the form, and the teeth will be found firmly embedded in it, the whole of the wax is then carefully removed. Thus two plaster forms are obtained, which, when put together, form a mould, and enclose between them a space corresponding in form with the collodion setting to be produced;

Macintosh's Improvements in Setting Artificial Teeth.

these forms are placed in a metal box, such as is used in the vulcanite process, which is well understood by dentists, and they are secured the one in the top and the other in the bottom of the box by running them in with plaster. The collodion to be employed may be prepared in the ordinary manner; and I
5 prefer in order to increase its toughness to mix with it a small quantity of short cotton fibre, and I evaporate the solvent until the collodion is brought to a plastic and putty like state. If it be desired to obtain a hard setting, I add to the collodion and thoroughly incorporate with it powdered gum copal, in quantity varying according to the hardness desired; if great hardness is
10 required I employ as much as 20 per cent. The collodion whilst still warm I carefully press into the mould around the teeth, as in filling a mould with the compound of india-rubber and sulphur in making teeth of vulcanite, as is well understood; I then place the two parts of the mould together, and force them together by means of the screw with which the box containing them is
15 fitted; thus the collodion between the two parts of the mould is forced into every crevice of it; and in order that the collodion may remain thoroughly plastic the mould is kept heated to about 200° Fahrenheit; when the two parts of the mould are pressed close together, the mould is allowed to cool, and when cold, the teeth with the setting, which is then complete, are removed.
20 If it is necessary in order to render the fit of the setting more complete, parts of it may afterwards be pared away as has before been practised when settings of other material have been employed. In order that the teeth may be securely held by the setting, they may be notched or under-cut in a similar manner to the teeth now employed for setting in vulcanite; and I prefer to
25 form the teeth with a hole or passage up the centre of each, which at the base is opened out as wide as the tooth will admit of without becoming unduly weakened. These holes or passages I fill with collodion, singly or in the process of filling the mould, so that when the setting is finished each tooth will have a stem of collodion forming part of the setting passing up its centre, and
30 the teeth thus become firmly held, or they may be attached to the setting by pins, as is well understood. I color the collodion to make it resemble the natural gum by means of alkanet root, the whole of the collodion may be thus colored while in a liquid state; or the setting, when finished, may have a coating of colored collodion applied to its surface. If it be desired to obtain
35 a plate or thin flexible setting, I proceed in a similar manner to that already described, but I produce the two forms of which the mould consists in a readily fusible metal (a mixture of tin and lead answers well) in place of in plaster as before described; but in this case, after producing the wax model the teeth are not left in it whilst the plaster cast is taken, but are first carefully

Macintosh's Improvements in Setting Artificial Teeth.

removed. The collodion is formed into a sheet of the desired thickness, and there is cut out from this sheet, with the assistance of a template previously prepared by measuring from the mould, a piece of suitable form to produce the setting. I then lay the piece of sheet collodion, previously rendered plastic by heat, in its place in one half of the mould, and the other half is then put 5 over the first and pressed firmly down upon it by the use of a screw box, as before explained. The mould is heated to about 200° Fahrenheit, so as to keep the collodion perfectly plastic, and the pressure applied is sufficient to force the collodion into every crevice of the mould. When the mould is cold and the collodion is set, the collodion plate is removed. The teeth are after- 10 wards fitted in their places in their places on the plate, and are fixed either by metal pins, or as is preferred, the teeth are, as before mentioned, made with a passage up the centre, which is filled with collodion, and afterwards the collodion in the tooth and the plate at the part where the tooth is to be fixed are both moistened with ether, and they are pressed in contact till the solvent 15 evaporates, when they will be found firmly attached the one to the other.

Collodion may also be employed for setting in the same manner as sea-horse tooth is employed, and as is well understood by dentists. In this case a block of collodion (mixed with fibre and copal if considered desirable) is formed and afterwards carved out to the form desired, the teeth being fitted and fixed as 20 when sea-horse tooth is employed.

Collodion, as a setting of teeth, has this advantage over many of the substances heretofore employed, that it does not decompose and become foetid in the course of long exposure in the mouth; it is also free from the metallic taste which all metal has more or less; it is not liable to lacerate the gums, and is 25 not easily detected when in use.

In witness whereof, I, the said John Macintosh, have hereunto set my hand and seal, this Eighth day of June, in the year of our Lord One thousand eight hundred and sixty.

JOHN MACINTOSH. (L.S.) 30

LONDON:

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1860.