

Specification of George Claudius Ash : manufacture of artificial teeth.

Contributors

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A.D. 1859, 11th JUNE. N° 1421.

SPECIFICATION

OF

GEORGE CLAUDIUS ASH.

MANUFACTURE OF ARTIFICIAL TEETH.

LONDON:

PRINTED BY GEORGE E. EYRE AND WILLIAM SPOTTISWOODE,

PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY:

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25, SOUTHAMPTON BUILDINGS, HOLBORN.

Price 5s.

1859.





A.D. 1859, 11th JUNE. N° 1421.

Manufacture of Artificial Teeth.

LETTERS PATENT to George Claudius Ash, of West View, Hampstead, in the County of Middlesex, for the Invention of "**IMPROVEMENTS IN THE MANUFACTURE OF ARTIFICIAL TEETH.**"

Sealed the 25th November 1859, and dated the 11th June 1859.

PROVISIONAL SPECIFICATION left by the said George Claudius Ash, at the Office of the Commissioners of Patents, with his Petition, on the 11th June 1859.

I, GEORGE CLAUDIUS ASH, of West View, Hampstead, in the County of Middlesex, do hereby declare the nature of my Invention for "**IMPROVEMENTS IN THE MANUFACTURE OF ARTIFICIAL TEETH,**" to be as follows :—

This Invention has for its object improvements in the manufacture of artificial teeth. When what are called mineral teeth, that is teeth moulded in a description of porcelain, are set in a base of a material which is moulded on to the teeth, and afterwards hardened, (such as vulcanite, which is a material now commonly used,) difficulty is found in obtaining a complete adhesion between the teeth, and the base, in consequence of the surfaces or parts of the teeth with which the vulcanite comes in contact being highly polished.

Now according to this Invention I apply to the teeth before they are fired at the parts with which the base is to come in contact, a coating of powdered silica or other refractory substance which will not run into a glaze during the

Ash's Improvements in the Manufacture of Artificial Teeth.

firing, or a roughened surface may be given to such parts of the tooth as come in contact with the base by grinding, or by the action of fluoric acid, after the tooth has been fired. I prefer, however, the method first mentioned. Mineral teeth, such as have heretofore been set in a vulcanite base, have usually been formed with metal pins projecting from the back of the tooth, and by these pins 5 the tooth is attached to the vulcanite base or in some cases the back of the tooth has been formed with a dovetailed ridge or projection with the same object; but teeth thus constructed are liable to become detached from a vulcanite base, in consequence of the elasticity of the material. Now, to obtain a more secure connection between the vulcanite base and the teeth, I furnish each tooth both 10 with projections and pins in place of one of these only, as heretofore.

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said George Claudius Ash in the Great Seal Patent Office on the 10th December 1859.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, GEORGE 15
CLAUDIUS ASH, of West View, Hampstead, in the County of Middlesex, send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Eleventh day of June, in the year of our Lord One thousand eight hundred and fifty-nine, in the twenty-second 20 year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said George Claudius Ash, Her special licence that I, the said George Claudius Ash, my executors, administrators, and assigns, or such others as I, the said George Claudius Ash, my executors, administrators, and assigns, should at any time agree with, and no others, from 25 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 and Ireland, the Channel Islands, and Isle of Man, an Invention for "**IMPROVEMENTS IN THE MANUFACTURE OF ARTIFICIAL TEETH,**" upon the condition (amongst others) that I, the said George 30 Claudius Ash, 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 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 35 the date of the said Letters Patent.

Ash's Improvements in the Manufacture of Artificial Teeth.

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

5 This Invention has for its object improvements in the manufacture of artificial teeth. When what are called mineral teeth, that is teeth moulded in a description of porcelain, are set in a base of a material which is moulded on to the teeth and afterwards hardens (such as vulcanite, which is a material now commonly used), difficulty is found in obtaining a complete adhesion
10 between the teeth and the base, in consequence of the surfaces or parts of the teeth with which the vulcanite comes in contact being highly polished.

Now according to this Invention, I apply to the teeth before they are fired at the parts with which the base is to come in contact, a coating of powdered silica or other refractory substance which will not run into a glaze during the
15 firing, this I prefer to do by mixing finely powdered silica (which is conveniently obtained by pounding rock crystal) with gum water to the consistency of thick cream, and applying it with a brush to such parts of the tooth as it is desired to render rough; this should be done when the tooth is ready for firing. Calcined magnesia may be employed in place of silica, but not so advantageously;
20 or a roughened surface may be given to such parts of the tooth as come in contact with the base by grinding; this is best done by touching the tooth after it has been fired on a small grindstone of fine texture revolving at a considerable velocity. It is not possible by this process, however, to roughen the surface so completely as by the application of a refractory powder, as above
25 described, the forms of teeth being such that it is generally impossible to bring every portion of the surface which it is desired to roughen, in contact with the stone. Portions of the surface of a tooth may also be roughened, after the tooth has been fired, by submitting it to the action of fluoric acid; this may be done by coating with wax the portions of the surface of the tooth over which
30 it is desired to preserve the glaze, and then exposing the tooth to the action of fluoric acid vapour generated by the action of sulphuric acid on fluor spar, in the manner in which glass is commonly etched. I prefer, however, the method first mentioned. Mineral teeth, such as have heretofore been set in a vulcanite base have usually been formed with metal pins projecting from the back of the
35 tooth, and by these pins the tooth is attached to the vulcanite base or in some cases the back of the tooth has been formed with a dovetailed ridge or projection with the same object, but teeth thus constructed are liable to become detached from a vulcanite base in consequence of the elasticity of the material. Now, to obtain a more secure connection between the vulcanite base and the teeth,

Ash's Improvements in the Manufacture of Artificial Teeth.

I furnish each tooth with projections and pins in place of one of these only, as heretofore.

Figures 1, 2, and 3, of the annexed Drawing, show respectively a back view, side view, and horizontal section of a tooth so constructed. *a* is the ridge or projection, and *b, b*, are metal pins inserted into the substance of which the 5 tooth is composed before it is fired; Figures 4, 5, and 6, show similar views of another tooth, in which two projections *a, a*, are employed, one on each side with a single pin *b* between them. The Figures 7 and 8 show other teeth of slightly modified form.

In witness whereof, I, the said George Claudius Ash, have hereunto 10 set my hand and seal, this Tenth day December, in the year of our Lord One thousand eight hundred and fifty-nine.

G. C. ASH. (L.S.)

LONDON:

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1859.

AD.1859. JUNE II. N^o1421.
ASH'S SPECIFICATION.

(1 SHEET)

FIG. 1. FIG. 2.

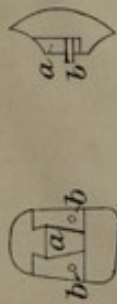


FIG. 3.



FIG. 4. FIG. 5.

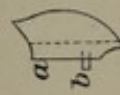
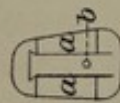
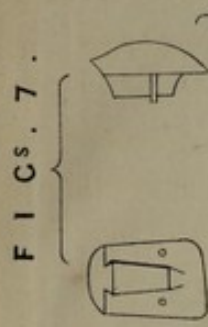
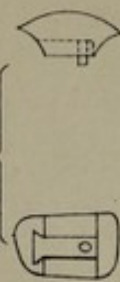


FIG. 6.



FIGS. 8.



The filed drawing is colored.

Drawn on Stone by Malby & Sons.

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Printers to the Queen's most Excellent Majesty. 1859.

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