

Specification of James Childs : manufacture of artificial gums.

Contributors

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A.D. 1859, 8th OCTOBER. N° 2295.

S P E C I F I C A T I O N

OF

JAMES CHILDS.

MANUFACTURE OF ARTIFICIAL GUMS.

LONDON:

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A.D. 1859, 8th OCTOBER. N° 2295.

Manufacture of Artificial Gums.

LETTERS PATENT to James Childs, of Windsor House, Putney, in the County of Surrey, for the Invention of "**IMPROVEMENTS IN THE MANUFACTURE OF ARTIFICIAL GUMS.**"

Sealed the 23rd March 1860, and dated the 8th October 1859.

PROVISIONAL SPECIFICATION left by the said James Childs at the Office of the Commissioners of Patents, with his Petition, on the 8th October 1859.

I, JAMES CHILDS, of Windsor House, Putney, in the County of Surrey, do hereby declare the nature of the Invention for "**IMPROVEMENTS IN THE MANUFACTURE OF ARTIFICIAL GUMS,**" to be as follows:—

This Invention has for its object improvements in the manufacture of artificial gums, and is applicable when what is now known as "dental rubber," (a compound of india-rubber, sulphur, and vermilion), is used in this manufacture. In order to obtain a better and more natural color to those parts of the artificial gums which are visible when the gums are in use, a substance or compound is employed for making these parts different from that which is employed in making the other or main parts or body of the artificial gums; thus, a compound may be employed for the outer surfaces of the gums, which,

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although of a good and natural color, is too weak or brittle to be used alone, whilst the main body of the gums is composed of a stronger compound.

The introduction of coloring and other foreign matters into dental rubber in all cases weakens such compounds. To form the body of the gums I prefer to use light compounds of india-rubber, sulphur, and vermilion to those usually 5 employed, but variations may be made therein, and for the surfaces of the gums a different compound is employed; it may be a compound of india-rubber or of gutta percha, or of the two together, combined with sulphur and coloring or other foreign matters. I prefer to use compounds such as are described in the Provisional Specification of Frederic Louis Lawrence, dated 10 the 9th day of August 1859, (No. 1842,) and to treat the artificial gums when hardened by subjecting them to the action of spirit and light, as therein described, by which the surface material will be brought to the desired color.

My Invention, however, does not consist in the use of any peculiar com- 15 pound of india-rubber gums when employing compound india-rubber and sulphur, hardened by heat, in the manufacture of artificial gums, but in using a different material or compound of india-rubber for the outer surfaces or parts of the gums to that which is used in producing the other parts or main body of the same. 20

In moulding a set of artificial gums a thin layer of the surface material is first introduced into the mould, and then the mould is filled with the ordinary or different compound of india-rubber and sulphur, taking care that whatever be the outer material used it will adhere to the india-rubber compound of which the body is formed. The artificial gums thus moulded are then hardened 25 by the application of heat, as is well understood.

In using compounds of india-rubber (caoutchouc) in the making of artificial gums, I, in some cases, use frames of wire or metal, having wires or projections fixed to them, for the purpose of attaching the teeth; the frames of wire or metal are introduced into the moulds, and incorporated within the compound of 30 india-rubber and sulphur, of which the bodies of the artificial gums are composed. By these means greater strength may be obtained when constructing artificial gums of india-rubber compounds.

I would here remark that it is not new to use frames of metal in moulded artificial gums when made of gutta percha, but the peculiarity of this part of 35 the Invention consists in combining such metal frames with hardened compounds of india-rubber in the manufacture of artificial gums.

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SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said James Childs in the Great Seal Patent Office on the 7th April 1860.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, JAMES
5 **CHILDS**, of Windsor House, Putney, in the County of Surrey, send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Eighth day of October, 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
10 said James Childs, Her special licence that I, the said James Childs, our executors, administrators, and assigns, or such others as I, the said James Childs, 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,
15 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 GUMS**," upon the condition (amongst others) that I, the said James Childs, my executors or administrators, by an instrument in writing under my or their hands and seals, should particularly
20 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 Childs, do hereby declare
25 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:—

This Invention has for its object improvements in the manufacture of artificial gums, and is applicable when what is now known as "dental rubber" (a
30 compound of india-rubber, sulphur, and vermilion) is used in this manufacture. In order to obtain a better and more natural color to those parts of the artificial gums which are visible when the gums are in use, a substance or compound is employed for making these parts different from that which is employed in making the other or main parts or body of the artificial gums; thus
35 a compound may be employed for the outer surfaces of the gums, which, although of a good and natural color, is too weak or brittle to be used alone, whilst the main body of the gum is composed of a stronger compound. The introduction of coloring and other foreign matters into dental rubber in all

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cases weakens such compounds. To form the body of the gums, I prefer to use like compounds of india-rubber, sulphur, and vermilion, to those usually employed; but variations may be made therein, and for the surfaces of the gums a different compound is employed; it may be a compound of india-rubber, or of gutta percha, or of the two together combined with sulphur and coloring or other foreign matters. 5

I prefer to use a compound consisting of,—

6 or 8 parts by weight of caoutchouc,	
2 parts „ of sulphur,	
6 parts „ of vermilion,	10
12 parts „ of silicate of magnesia.	

Or 6 or 8 parts by weight of caoutchouc,	
2 parts „ of sulphur,	
5 parts „ of vermilion,	
12 parts „ sulphate of lime.	15

Other proportions of these matters may be used, and magnesia may be employed in place of silicate of magnesia, and, in place of or in combination with india-rubber, gutta percha may be used, and other light or white substances as well as other coloring matters may be used in place of or in combination with those mentioned above, such as oxides of zinc. 20

My Invention, however, does not consist in the use of any peculiar compound of india-rubber, when employing compound india-rubber and sulphur hardened by heat in the manufacture of artificial gums, but in using a different material or compound of india-rubber or of gutta percha for the outer surfaces or parts of the gums which come in sight when in use to that which is used in producing 25 the other parts or main body of the same.

In moulding a set of artificial gums, a thin layer of the surface material is first introduced into the mould, and then the mould is filled with the ordinary or different compound of india-rubber and sulphur, taking care that whatever be the outer material used, it will adhere to the india-rubber compound of 30 which the body is formed. The artificial gums thus moulded are then hardened by the application of heat, as is well understood; or in place of proceeding in the manner above described, I first mould and harden the gums in the manner heretofore practised, and afterwards I roughen such parts as it is desirable to coat with a material of different color. To the parts thus roughened I apply 35 a composition such as that already described; the composition being warmed so as to make it as plastic as possible, and being applied with care so that its adhesion to the original gum may be complete; the whole is then enclosed in plaster, and submitted to the hardening process.

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In using compound of india-rubber (caoutchouc) in the making of artificial gums, I in some cases use frames of wire or metal, having wires or projections fixed to them for the purpose of attaching the teeth. The frames of wire or metal to which the teeth are fixed are introduced into the moulds and surrounded with the compound of india-rubber and sulphur, of which the bodies of the artificial gums are composed, the teeth at the same time will be surrounded by the dental india-rubber compounds, which will form sockets for the teeth. By these means greater strength may be obtained when constructing artificial gums of india-rubber compounds than heretofore, where the teeth have been simply fixed by metal pins to the india-rubber compound.

I would here remark, that it is not new to use frames of metal in moulded artificial gums, frames similar to those which I employ having before been used in combination with gutta percha; but the peculiarity of this part of the Invention consists in combining such metal frames with hardened compounds of india-rubber in the manufacture of artificial gums.

Artificial gums made as above explained may be used in the state in which they are produced, but they may, when desired, be varnished with a spirit varnish, in which case I prefer to use a solution of collodion as the varnish, which may be colored to any desired tint.

20 In witness whereof, I, the said James Childs, have hereunto set my hand and seal, this Sixth day of April, in the year of our Lord One thousand eight hundred and sixty.

JA^s. CHILDS. (L.S.)

LONDON :

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Printers to the Queen's most Excellent Majesty. 1860.

Child's Invention in the Manufacture of Artificial Guns.

In using compound of india-rubber (cementum) in the manufacture of artificial guns, I in some cases use frames of wire or metal having wires or projections fixed to them for the purpose of attaching the teeth. The frame of wire or metal to which the teeth are fixed are introduced into the mould and are rounded with the compound of india-rubber and sulphur, in which the bodies of the artificial guns are composed, the teeth at the same time will be surrounded by the dental india-rubber compounds, which will form a set for the teeth. By these means greater strength may be obtained when constructing artificial guns of india-rubber compounds than heretofore, where the teeth have been simply fixed by metal pins to the india-rubber compound.

I would here remark, that it is not now to use frames of metal in rounded artificial guns, frames similar to those which I employ having been used in combination with gutta percha; but the peculiarity of this part of the invention consists in combining such metal frames with hardened compounds of india-rubber in the manufacture of artificial guns.

Artificial guns made as above explained may be used in the state in which they are produced, but they may, when desired, be rammed with a spirit varnish, in which case I prefer to use a solution of colloid in the varnish, which may be colored to any desired tint.

In witness whereof, I the said James Child, have hereunto set my hand and seal, the fifth day of April, in the year of our Lord one thousand eight hundred and sixty.

JAS. CHILD. (S.)

LONDON:

Printed by GEORGE EDWARD RICE and WILLIAM PROBERT, Printers to the Queen's most Excellent Majesty, 1869.