

Specification of Richard Archibald Brooman : inhaling tubes.

Contributors

Brooman, Richard Archibald.

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A.D. 1853. N^o 955.

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

OF

RICHARD ARCHIBALD BROOMAN,

—————
I N H A L I N G T U B E S .
—————

L O N D O N :

PRINTED BY GEORGE E. EYRE AND WILLIAM SPOTTISWOODE,
PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY :

PUBLISHED AT THE QUEEN'S PRINTING OFFICE, EAST HARDING STREET,
NEAR FLEET STREET.

Price 6½d.

1853.





A.D. 1853 N° 955.

Inhaling Tubes.

LETTERS PATENT to Richard Archibald Brooman, of the firm of Robertson, Brooman, and Co., of 166, Fleet Street, in the City of London, Patent Agents, for the Invention of "**IMPROVEMENTS IN INHALING TUBES.**"—A communication.

Sealed the 6th October 1853, and dated the 20th April 1853.

PROVISIONAL SPECIFICATION left by the said Richard Archibald Brooman at the Office of the Commissioners of Patents, with his Petition, on the 20th April 1853.

I, **RICHARD ARCHIBALD BROOMAN**, of the firm of Robertson, Brooman, & Company, of 166, Fleet Street, in the City of London, Patent Agents, do hereby declare the nature of the said Invention for "**IMPROVEMENTS IN INHALING TUBES**" to be as follows:—

This Invention is an improvement in the construction of inhaling tubes for expanding the chest and exercising the lungs by means of respiration. The theory on which the operation of these instruments is based is well known. It has been found to increase the beneficial effect to exhale the breath under more pressure than is exerted in the act of inhaling it; and to effect this is the object of this improvement.

Brooman's Improvements in Inhaling Tubes.

(*a*) is a short tube of silver or other non-corrosive metal, which forms the mouth piece. At the end of this is a valve chamber, consisting of a short cylinder *b*, open at both ends. One end forms the seat for a poppet valve (*c*), the guide stem of which plays within a socket in a cap (*d*), which is attached at the opposite end of the said cylinder; the 5 cap being fitted like a stopper, so as to be readily taken out and replaced. Within this cap is a small orifice (*e*); and it is through this that the breath is forced by exhaling. By enlarging or contracting this orifice, various degrees of pressure may be produced; and for that purpose several caps may belong to one instrument, each having at (*e*) 10 a different sized orifice, so that this part may be very conveniently regulated. The operation is as follows:—On placing the tube (*a*) in the mouth, and drawing the breath, the valve (*c*) is lifted from its seat, and permits the air to pass through, but with a certain degree of obstruction, so that some force is required. On fully inflating the 15 lungs the process of exhaling commences. This causes the valve (*c*) to drop into its seat again. The air must then pass out by (*e*) which increases the pressure, and therefore produces a greater degree of mechanical action on the muscles and membranes of the chest and lungs, thereby forcing the air into the most remote recesses of the 20 lungs, and producing the curative effects peculiar to this class of instruments.

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said Richard Archibald Brooman, in the Great Seal Patent Office, on the 19th October 1853. 25

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, RICHARD ARCHIBALD BROOMAN, of the firm of Robertson, Brooman, and Company, of 166, Fleet Street, in the City of London, Patent Agents, send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her 30 Letters Patent, bearing date the Twentieth day of April, in the year of our Lord One thousand eight hundred and fifty-three, in the sixteenth year of Her reign, did, for Herself, Her heirs and successors, give and

Brooman's Improvements in Inhaling Tubes.

grant unto me, the said Richard Archibald Brooman, Her special licence that I, the said Richard Archibald Brooman, my executors, administrators, and assigns, or such others as I, the said Richard Archibald Brooman, my executors, administrators, and assigns, should
5 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 and Ireland, the Channel Islands, and Isle of Man, an Invention for "IMPROVEMENTS IN INHALING TUBES,"
10 communicated to me by a foreigner residing abroad, upon the condition (amongst others) that I, the said Richard Archibald Brooman, by an instrument in writing under my hand and seal, 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
15 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 Richard Archibald Brooman, do hereby declare the nature of the said Invention, and in what manner the same is to be performed, to be particularly described and ascer-
20 tained in and by the following statement thereof, reference being had to the drawing hereunto annexed, that is to say:

This Invention has relation to the construction of inhaling tubes for expanding the chest and exercising the lungs by means of respiration. The theory on which the operation of these instruments is based is well
25 known. It has been found to increase the beneficial effect to exhale the breath under more pressure than is exerted in the act of inhaling it; and to effect this is the object of these improvements. The figure of the drawing annexed represents an inhaling tube, as thus improved. *a*, is a short tube of silver or other non-corrosive metal, which forms
30 the mouth piece. At the end of this is a valve chamber, consisting of a short cylinder, open at both ends. One end forms a seat for a poppet valve *c*, the guide stem of which plays within a socket in a cap *d*, which is attached at the opposite end of the said cylinder; the cap being fitted like a stopper, so as to be readily taken out and
35 replaced. Within this cap is a small orifice *e*; and it is through this

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Brooman's Improvements in Inhaling Tubes.

that the breath is forced by exhaling. By enlarging or contracting this orifice, various degrees of pressure may be produced; and for that purpose several caps may belong to one instrument, each having at *e*, a different sized orifice, so that this part may be very conveniently regulated. 5

The operation of the instrument is as follows:—On placing the tube *a*, in the mouth, and drawing the breath, the valve *c*, is lifted from its seat, and permits the air to pass through, but with a certain degree of obstruction, so that some exertion is required to overcome it. On fully inflating the lungs the process of exhaling commences; this causes the valve *c*, 10 to drop into its seat again. The air must then pass out by *e*, which increases the pressure, and therefore produces a greater degree of mechanical action on the muscles and membranes of the chest and lungs, thereby forcing the air into the most remote recesses of the lungs, and producing the curative effects peculiar to this class of 15 instruments.

And having now described the nature of the said Invention, and in what manner the same is to be performed, I declare that what I claim is, the construction of inhaling tubes in such manner that the breath 20 of the user shall be exhaled under greater pressure than is exerted in the act of inhaling, as herein-before described.

In witness whereof, the said Richard Archibald Brooman have hereunto set my hand and seal, the Eighth day of October, One thousand eight hundred and fifty-three. 25

R. A. BROOMAN. (L.S.)

LONDON :

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1853.

A. D. 1853. AL. 20. N^o 955.
BROOMAN'S PROVISIONAL SPECIFICATION.

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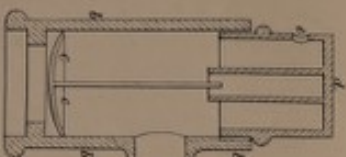
The drawing left with Provisional Specification is partly colored.

Mulby & Sons, Lith.

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Printers to the Queen's most Excellent Majesty. 1853.



A.D. 1853, APRIL 20, N^o 955.
BROOMAN'S SPECIFICATION.



Drawn to an enlarged Scale.

The Road Draining is closed.

Printed by George Lawrence Fox and William Spottiswood
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(1 SHEET)

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