

Specification of James Scott : surgical apparatus.

Contributors

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A.D. 1854 N° 2259.

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

OF

JAMES SCOTT.

SURGICAL APPARATUS.

LONDON:

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A.D. 1854 N° 2259.

Surgical Apparatus.

LETTERS PATENT to James Scott, of Argyle Square, Edinburgh, M.D.,
for the Invention of "**IMPROVEMENTS IN APPARATUS FOR FACILITATING
SURGICAL OPERATIONS AND TEACHING ANATOMY.**"

Sealed the 2nd February 1855, and dated the 23rd October 1854.

PROVISIONAL SPECIFICATION left by the said James Scott at the
Office of the Commissioners of Patents, with his Petition, on the
23rd October 1854.

I, JAMES SCOTT, of Argyle Square, Edinburgh, M.D., do hereby declare the
5 nature of the Invention for "**IMPROVEMENTS IN APPARATUS FOR FACILITATING
SURGICAL OPERATIONS AND TEACHING ANATOMY**" to be as follows:—

This Invention consists of the following arrangement and combination of
apparatus:—A strong table of oak, mahogany, or any other proper material
is made; the legs screw in their places, or are made otherwise moveable,
10 for the convenience of being packed in a small compass; the table itself
to consist of a firm board or boards of a convenient length and breadth,
with a brass, iron, or hard wood plate screwed upon each border of its upper
surface, and rising a little above the plane of the table, so as to diminish the
friction. Upon this board another board is to be placed, of equal or nearly
15 equal length, but narrower, and divided across into three parts at a proper
distance from the ends of the table, but joined by hinges, so that any one of its

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portions may be raised to any necessary angle, by means of a screw directed upwards through the lower board of the table, and the joints so constructed as to admit of two of the divisions of the upper board being raised together from the lower board, which is necessary in certain operations where the nates of a patient should be elevated, and the head and lower extremities depressed. 5
 The lower board is to have a broad channel cut completely through nearly its whole length and thickness. The middle portion of the divided slab or board is to be pierced by a strong metallic bolt, with a square or diamond-shaped head, countersunk into the wood, so as to admit of its being easily forced up, but to prevent it from turning; and the bolt is to pass freely through the 10
 channel of the lower board, so that, by means of a thumb-screw applied at its lower extremity, the two boards may be at pleasure made moveable or fixed together. This bolt is to be perforated transversely by a long metallic screw proceeding horizontally through a groove from the upper end of the lower slab to the above-mentioned channel, through which the bolt descends per- 15
 pendicularly, so that by slackening the perpendicular bolt, and turning the horizontal screw by a winch handle or by other means, the upper board may be moved along the lower slab, either towards or from the head of the table.

The lower board is to be grooved through its whole thickness on each 20
 side, for the reception of a right and left hand pillar of metal or wood, and the said pillars are to rise to a convenient height above the plane of the table, their lower ends passing through the lower slab only, and secured by "washers" and thumb-screws in the usual manner, so as to admit of their being placed either directly opposite each other or obliquely. These pillars are to be connected 25
 above their capitals by means of a metallic or wooden cross beam, secured to the tops of the pillars by screws, which can be easily turned by the hand, so that the connecting beam can be easily removed from its place. This cross beam is to be perforated perpendicularly at its centre, and through the perforation a long screw is to pass downward, carrying on its top a stage, on 30
 which a mirror or mirrors may be placed, capable of a variety of movements. Other perforations may be made through the beam for other mirrors, and when the beam is removed on any occasion, one or more of the mirrors may be applied to the top of each of the pillars. Through the lateral grooves in the lower portion of the upper slab, a sort of stirrup may be applied for the patient's 35
 foot, and capable of being raised or lowered, to suit the length of the leg. At the lower end of the screw which pierces the beam a swivel is attached, for the purpose of making extension upwards, in certain cases of dislocation; and underneath the lower slab may be nests of drawers or boxes, for the reception

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of surgical instruments, books, bandages, plasters, lint, sponge, and wine, or other cordials and medicines.

And for the reduction of dislocations and fractures, or even for the extraction of teeth, it is only necessary to secure the patient firmly in the upper slabs; to
5 have proper counter-extension, non-elastic straps applied to a post or posts in convenient places of the lower or fixed slab; and then it is evident, that by turning the long horizontal screw, a power may be deliberately applied. Concave mirrors as well as plain may be used, and in that case spectators will have a view of the objects magnified to any necessary degree, a thing of much
10 importance in teaching the anatomy of the brain, the eye, the testicle, or other minute and complicated organs, and in demonstrating the course and ramifications of blood vessels, nerves, &c. Also, as by this means a person looking on at surgical operations will easily perceive and trace the various parts that are divided by the operator, which they cannot easily or perfectly see under the
15 present mode of operating. Lanterns or lamps, enclosed in proper cases for security, may be attached to the mirror or mirrors in such a way that their light may be reflected upon the part subjected to operation, which it is believed will be of incalculable value in the cock-pit of a ship of war.

According to my plan no pulleys are required, and are indeed superseded;
20 and it is well known that by pulleys a steady uniform extending power cannot be applied, because persons employed in drawing the cords do not and cannot pull equably.

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed
by the said James Scott in the Great Seal Patent Office on the
25 23rd April 1855.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, JAMES SCOTT, of Argyle Square, Edinburgh, M.D., send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Twenty-third day of October, in the year of our
30 Lord One thousand eight hundred and fifty-four, in the eighteenth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said James Scott, Her special licence that I, the said James Scott, my executors, administrators, and assigns, or such others as I, the said James Scott, my executors, administrators, and assigns, should at
35 any time agree with, and no others, from time to time and at all times

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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 APPARATUS FOR FACILITATING SURGICAL OPERATIONS AND TEACHING ANATOMY," upon the condition (amongst others) that I, the said James 5 Scott, 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 be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent. 10

NOW KNOW YE, that I, the said James Scott, 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):—

This Invention consists of the following arrangement and combination of 15 apparatus:—A strong table *a*, of oak, mahogany, or any other proper material is made; the legs *b*, *b*, *b*, *b*, screw in their places, or are made otherwise moveable, for the convenience of being packed in a small compass. The table *a* itself consists of a firm board or boards of a convenient length and breadth, with a brass, iron, or hard wood plate *c*, *c*, screwed upon each border 20 of its upper surface, and rising a little above the plane of the table, so as to diminish the friction. Upon this board another board *d* is to be placed, of equal or nearly equal length, but narrower, and divided across into three parts at a proper distance from the ends of the table, but joined by hinges *d*¹, *d*¹, so that any one of its portions may be raised to any necessary angle by means of a 25 screw, directed upwards through the lower board of the table; or wedges may be used in lieu thereof, and the joints so constructed as to admit of two of the divisions of the upper board being raised together from the lower board, which is necessary in certain operations where the nates of a patient should be elevated, and the head and lower extremities depressed. 30

The lower board is to have a broad channel *e* cut completely through nearly its whole length and thickness. The middle portion of the divided slab or board is to be pierced by a strong metallic bolt *f*, with a square or diamond-shaped head, countersunk into the aperture *d*^x of table *d*, so as to admit of its being easily forced up, and yet prevent it from turning; and the bolt is to pass 35 freely through the channel *e* of the lower board, so that, by means of a thumb-screw and washer applied at its lower extremity, the two boards may be at pleasure made moveable or fixed together. This bolt is to be perforated transversely by a long metallic screw *g*, proceeding horizontally beneath the

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table *a*, to which its bearings *h*, *h*, are attached. The bolt *f* descends perpendicularly, so that by slackening the perpendicular bolt *f*, and turning the horizontal screw *g* by a winch handle *i*, or by other means, the upper board *d* may be moved along the lower slab *a*, either "towards" or from the head
5 of the table.

The lower board is to be grooved through its whole thickness on each side, for the reception of a right and left hand pillar *j*, *j*, of metal or wood, and the said pillars are to rise to a convenient height above the plane of the table, their lower ends passing through the lower slab *a* only, and secured by "washers"
10 and thumb-screws *k*, in the usual manner, so as to admit of their being placed either directly opposite each other or obliquely. These pillars *j*, *j*, are to be connected above their capitals by means of a metallic or wooden cross beam *l*, secured to the tops of the pillars by screws, which can be easily turned by the hand, so that the cross beam *l* can be easily removed from its place.
15 This cross beam *l* is to be perforated perpendicularly at its centre, and through the perforation a long screw *m* is to pass downward, carrying on its top a stage *n*¹, on which a mirror or mirrors *o* may be placed, capable of a variety of movements. Other perforations may be made through the beam *l* for other mirrors, and when the beam *l* is removed on any occasion, one or more of the
20 mirrors may be applied to the top of each of the pillars *j*, *j*. A sort of shoe stirrup *p* may be applied for the patient's foot, at *s*, and capable of being raised or lowered to suit the length of the leg, by means of a strap *r*, attached at its one end to the standard *s*, and at its other to the stirrup *p*, as shewn. At the lower end of the screw *m*, which pierces the beam *l*, a swivel *t* is attached,
25 for the purpose of making extension upwards in certain cases of dislocation, and underneath the lower slab may be nests of drawers or boxes 1, 2, 3, 4, for the reception of surgical instruments, books, bandages, plasters, lint, sponge, and wine, or other cordials and medicines.

And for the reduction of dislocations and fractures, or even for the extraction
30 of teeth, it is only necessary to secure the patient firmly on the upper slabs *d*; to have proper counter-extension, non-elastic straps applied to a post or posts *u*, *u*, in convenient places of the lower or fixed slab *a*; and then it is evident that by turning the long horizontal screw *g*, a power may be deliberately applied. Concave mirrors as well as plain may be used; and in that case
35 spectators will have a view of the objects magnified to any necessary degree, a thing of much importance in teaching the anatomy of the brain, the eye, the testicle, or other minute and complicated organs, and in demonstrating the course and ramifications of blood vessels, nerves, &c.; also, as by this means observers will easily perceive and trace the various parts that are divided by

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the operator, which they cannot easily nor perfectly see under the present mode of operating. Lanterns or lamps, enclosed in proper cases for security, may be attached to the mirror or mirrors in such a way that their light may be reflected upon the part subjected to operation, which I believe will be of incalculable value in the cock-pit of a ship of war. 5

According to my plan no pullies are required, and are indeed superseded; and it is well known that by pullies a steady uniform extending power cannot be applied, because persons employed in drawing the cord do not and cannot pull equably.

In witness whereof, I, the said James Scott, have hereunto set my hand 10
and seal, this Twenty-third day of April, in the year of our Lord One
thousand eight hundred and fifty-five.

JAMES SCOTT. (L.S.)

Witness,

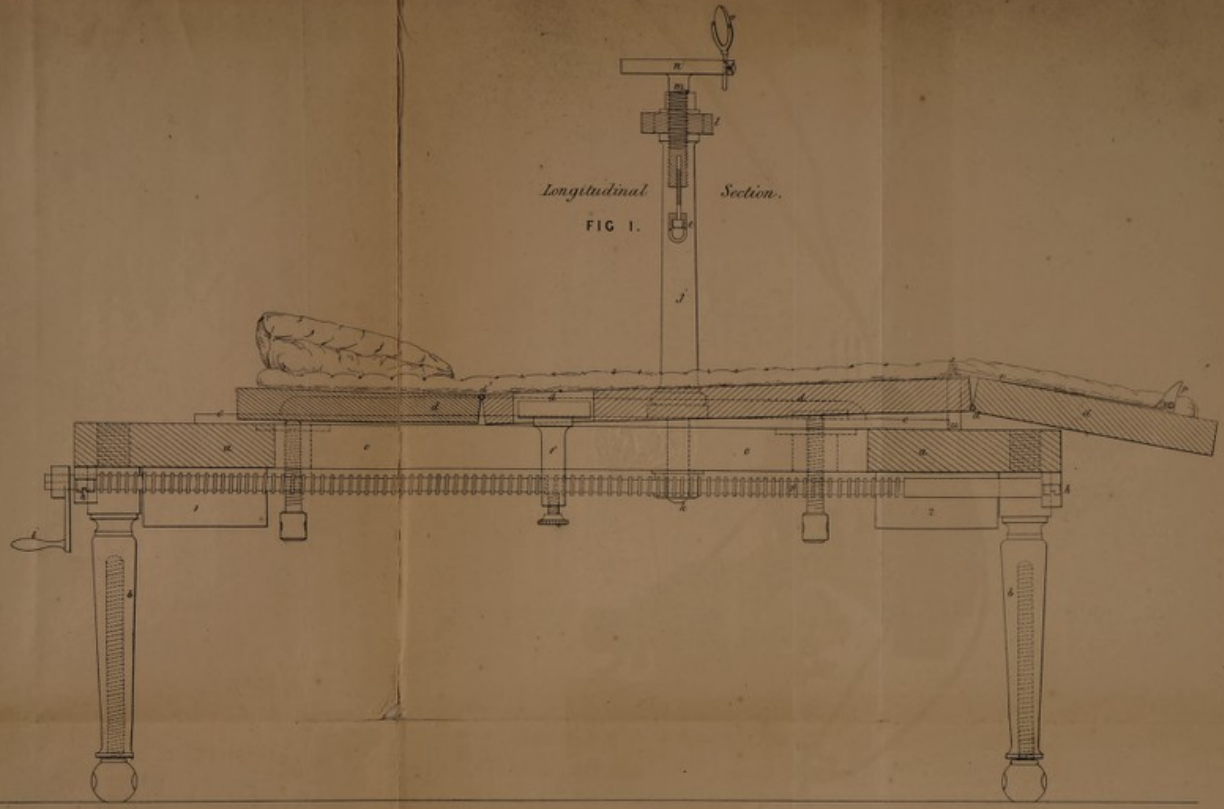
FRED^K HARRIS.

15

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Longitudinal Section.
FIG. 1.



Plan.
FIG. 2.

