

## **Specification of Isaiah Lukens : surgical instrument.**

### **Contributors**

Lukens, Isaiah, 1779-1846.

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A.D. 1825 . . . . . N<sup>o</sup> 5255.

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

OF

ISAIAH LUKENS.

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S U R G I C A L I N S T R U M E N T .  
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L O N D O N :

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**Surgical Instrument.**

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**LUKENS' SPECIFICATION.**

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, ISAIAH LUKENS, late of Philadelphia, but now of Adam Street, Adelphi, in the County of Middlesex, Machinist, send greeting.

WHEREAS His present most Excellent Majesty King George the Fourth, 5 by His Letters Patent under the Great Seal of Great Britain, bearing date at Westminster, the Fifteenth day of September, in the sixth year of His reign, did, for Himself, His heirs and successors, give and grant unto me, the said Isaiah Lukens, His especial licence that I, the said Isaiah Lukens, my exors, admors, and assigns, or such others as I, the said Isaiah Lukens, my 10 exors, admors, or assigns, should at any time agree with, and no others, from time to time and at all times during the term of years therein expressed, should and lawfully might make, use, exercise, and vend, within England, Wales, and the Town of Berwick-upon-Tweed, my Invention of "A SURGICAL INSTRUMENT FOR DESTROYING THE STONE IN THE BLADDER WITHOUT CUTTING, WHICH 15 HE DENOMINATES 'LITHONTRIPTOR';" in which said Letters Patent is contained a proviso obliging me, the said Isaiah Lukens, by an instrument in writing under my hand and seal, particularly to describe and ascertain the nature of my said Invention, and in what manner the same is to be performed, and to cause the same to be inrolled in His Majesty's High Court of Chancery 20 within six calendar months next and immediately after the date of the said recited Letters Patent, as in and by the same, reference being thereunto had, will more fully and at large appear.

*Lukens' Surgical Instrument for Destroying the Stone in the Bladder, &c.*

**NOW KNOW YE**, that in compliance with the said proviso, I, the said Isaiah Lukens, do hereby declare the nature of my said Invention by the following description thereof, reference being had to the Drawing and figures marked thereon (that is to say):—

Be it known that I have made a new and useful improvement in an instru- 5  
 ment called the "Lithonriptor," lately introduced in Paris by M<sup>r</sup> Civiale, M.D.,  
 for the purpose of destroying the stone in the bladder without the operation of  
 lithotomy. The instrument of M<sup>r</sup> Civiale consists of a straight cylindrical  
 catheter, sound, or tube of silver or other metal, through which is introduced a  
 second tube, formed of steel, terminated by three curved elastic branches or 10  
 prongs, which remain closed so long as they continue in the exterior tube, but  
 when pushed out open by virtue of their elasticity, and form a kind of cage,  
 in which the stone is made to enter, and which is then shut upon it by drawing  
 the exterior tube backwards. When the stone is thus engaged, drills, files, &c.,  
 are introduced through the tubes, and by their means the stone is destroyed. 15  
 The improvement which I claim to have made consists in adapting to the  
 elastic branches or prongs, which may be either three, four, or more in  
 number, fine springs of steel or other metal, which are fastened at one end to  
 one of the branches or prongs by a hinge or otherwise, and pass across to an  
 opposite branch or prong through small eyes or holes, then pass along the 20  
 interior of the tube in separate branches or united, until it reaches the handle  
 of the instrument. It then passes out of the tube through a small transverse  
 hole or holes, and is attached to a collar which slides betwixt the handle and  
 end of the instrument. When this collar is drawn back the elastic branches  
 or prongs may be pressed together, and the whole readily introduced through 25  
 the catheter or conductor into the bladder; when there, the branches or  
 prongs expand, and the springs are pushed forward by the operator, so that  
 a kind of basket or net work is formed, into which the stone or calculi is  
 introduced. The springs are then drawn tight upon it, and fastened by a  
 screw at the sliding collar or otherwise. The instruments intended to destroy 30  
 the stone are then introduced through the inner tube alongside of the springs,  
 which, being curved, occupies but a small portion of the cavity of the tube.  
 In another arrangement of the springs they are attached at one end to a small  
 ring by a hinge or otherwise, corresponding in number to the branches or  
 prongs of the basket forceps, the extremity of which each prong is provided 35  
 with a small eye. The springs pass through those eyes, and into the interior  
 of the tube, and then is managed as above described in the first arrangement  
 of the springs. This instrument may be curved, should it be wanted for  
 withdrawing small calculi through the mithra.

*Lukens' Surgical Instrument for Destroying the Stone in the Bladder, &c.*

The duck-bill forceps :—This instrument is intended for the purpose of removing fragments of the calculi or gravel, by passing it through the conductor. It consists of two tubes of steel or other metal, one inside the other. The exterior one is furnished with two elastic branches or bills, standing open at their  
5 extremity, and somewhat smaller and contracted at their base, which admits of a small ring or collar to embrace the bills, leaving them standing open at their extremity. The inner tube is also furnished with two slender branches, which are attached to the inside of the ring or collar ; by pushing the inner tube forward the collar is made to slide along the bills, and close them ; and the  
10 reverse motion to open them. The inner tube is somewhat longer than the exterior one, and is furnished with a ring for the thumb or finger of the operator. Small drills or other instruments may be introduced through the tubes to reduce the fragments should they be found too large to withdraw.

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## DESCRIPTION OF THE FIGURES.

Fig. 1. A, B, the conductor, three and a half lines in diameter and ten inches long, slightly funnel-shaped at H, for the purpose of more readily introducing the basket forceps.

Fig. 2. C, D, the basket forceps, eighteen inches long, and of a size to pass  
20 into the conductor without much friction, and is provided with four elastic prongs, differing a little in their length ; Y, Y, the extremity of two of the longest prongs, to which is attached by hinges two fine springs of steel, which cross each other at L, then pass through small eyes at J, J, and then pass into the interior of the tube and is united, then pass out through a small transverse  
25 hole at x, and is attached to the sliding collar ¶ ; P is a screw for fastening it ; U, the handle of the basket forceps ; W, a collar with a screw, for the purpose of keeping the conductor in its place and giving support to the prongs.

Fig. 3<sup>rd</sup> represents part of the basket forceps and conductor as if broken off,  
30 holding a calculi. B, the conductor ; C, the forceps tube ; D, the spring, which is slit at one end, and passes through small eyes at the extremity of two of the prongs, and cross each other at L, and are attached by small hinges at N, N.

Fig. 4. D represents part of the basket forceps ; P, a small ring, to which is attached by hinges four small springs ; D, D, D, D, small eyes, through  
35 which the springs pass, and then enter the interior of the tube, the ends of which are seen at F, and then is managed the same as in Fig. 2<sup>nd</sup>, by passing them out of the tube through a small transverse hole or holes, and is attached to the sliding collar ¶.

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*Lukens' Surgical Instrument for Destroying the Stone in the Bladder, &c.*

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Fig. 5<sup>th</sup>. I, K, the duck-bill forceps. O, O, the bills; A, the inner tube; N, a small collar, attached to the branches of the inner tube, for the purpose of closing the bills; M, a ring, for the thumb or finger of the operator.

Fig. 6<sup>th</sup>. E, F, a drill, with a square cutting end; L, a small cone, to prevent the escape of urine; r, a collar, with a fastening screw to regulate the drilling, and to prevent injury being done to the patient.

Fig. 7<sup>th</sup>. G, H, a rimmer; V, an arm, moving on a pivot; S, a cone to prevent the escape of urine; T, a collar and fastening screw to regulate the movement.

Fig. 8<sup>th</sup>, a drill stock, enclosed in a cylinder so as to prevent the cord H from being disengaged. L, a square hole, for the reception of the drill; G, the breastplate or base.

In witness whereof, I, the said Isaiah Lukens, have hereunto set my hand and seal, this Fourteenth day of March, in the year of our Lord One thousand eight hundred and twenty-six. 15

ISAIAH LUKENS. (L.S.)

**FARRER.** AND BE IT REMEMBERED, that on the Fourteenth day of March, in the year of our Lord 1826, the aforesaid Isaiah Lukens came before our said Lord the King in His Chancery, and acknowledged the Specification aforesaid, and all and every thing therein contained and specified, in form above written. And also the Specification aforesaid was stamped according to the tenor of the Statute made for that purpose. 20

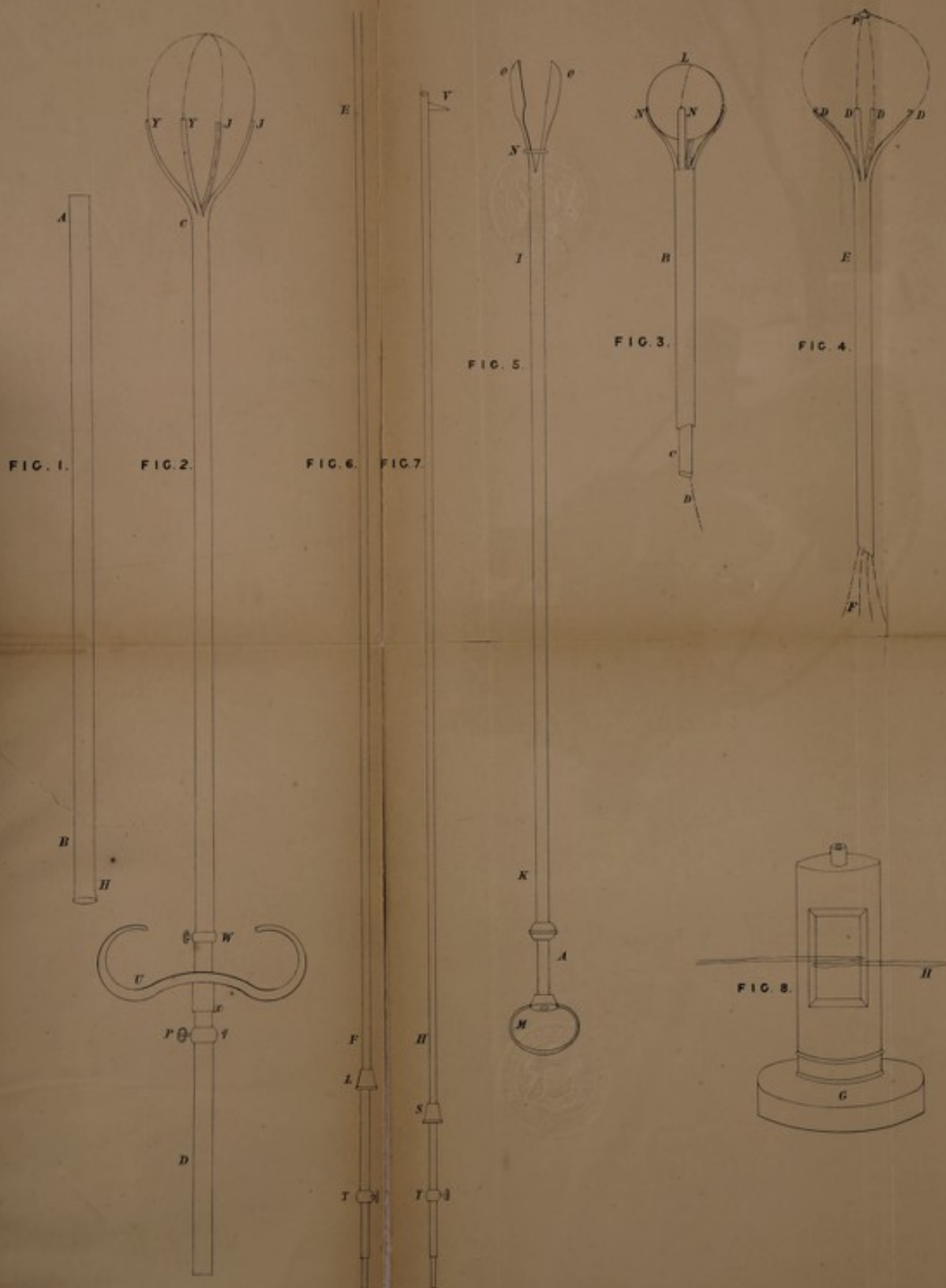
Inrolled the Fourteenth day of March, in the year of our Lord One thousand eight hundred and twenty-six.

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The enrolled drawing is colored



