

Specification of John Sylvester : constructing doors and frames for closing the openings of fire-places, &c.;

Contributors

Sylvester, John, 1798-1853

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A.D. 1840 N^o 8406.

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

OF

JOHN SYLVESTER.

**CONSTRUCTING DOORS AND FRAMES FOR
CLOSING THE OPENINGS OF
FIRE-PLACES, &c.**

LONDON:

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A.D. 1840 N^o 8406.

**Constructing Doors and Frames for Closing the Openings
of Fire-places, &c.**

SYLVESTER'S SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, JOHN SYLVESTER, of Great Russell Street, Bloomsbury, Engineer, send greeting.

WHEREAS Her present most Excellent Majesty Queen Victoria, by Her Letters Patent under the Great Seal of Great Britain, bearing date at
5 Westminster the Third day of March, in the third year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said John Sylvester, Her especial licence, full power, sole privilege and authority, that I, the said John Sylvester, my exors, admors, and assigns, or such others as I, the said John Sylvester, my exors, admors, or assigns, should at any
10 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 "**IMPROVEMENTS IN THE CONSTRUCTION OF DOORS AND FRAMES FOR CLOSING THE OPENINGS OF FIRE-PLACES, ASH-PITS, FLUES, CHIMNIES, AND CERTAIN**
15 **RETORTS;**" in which said Letters Patent is contained a proviso, that I, the said John Sylvester, shall cause a particular description of the nature of my said Invention, and in what manner the same is to be performed, to be inrolled in Her said Majesty's High Court of Chancery within six calendar months next and immediately after the date of the said in part recited Letters
20 Patent, as in and by the same, reference being thereunto had, will more fully and at large appear.

NOW KNOW YE, that in compliance with the said proviso, I, the said John Sylvester, do hereby declare my Invention of "**Improvements in the Construction of Doors and Frames, for Closing the Openings of Fire-places,**
25 **Ashpits, Flues, Chimneys, and certain Retorts,**" to consist,—

Sylvester's Improvements in Doors and Frames for Fire-places, &c.

Firstly, in suspending the door against the opening in such a manner that the tendency of the door to fall with its centre of gravity under its point of suspension shall press against the frame and close the opening without the aid of latch or other fastening, and thus prevent the passage of air or other matters between the door and its frame when the inner surface of the door and outer 5 surface of the frame are truly wrought into plane surfaces meeting each other and when no considerable internal pressure exists.

Secondly, in providing that by such mode of suspension the door may be in a condition to be slidden against the face of the door frame to any required distance for leaving the opening wholly or partially free, the use and intention 10 of this sliding motion being to clear away any extraneous substances which might have been deposited against the said surfaces and therefore that the door may have a better opportunity of seating itself closely against the truly wrought plane surface of the frame, this sliding motion being in some cases facilitated by the application of two produced rails continuing the truly wrought 15 plane surface for the door to slide against in passing from before the opening to its place of rest while the opening is free.

And thirdly, in the case of certain retorts in which pressure exists to such a degree that the proportion of weight with which the door may be made conveniently to press against the frame or mouth piece by the force of gravity, as 20 before mentioned, will not be sufficient to keep it close and air-tight, I add to the door suspended in the manner herein-before described any of the already known methods of producing a sufficient pressure against the front of the door to close the opening and keep the closure air-tight.

And I hereby further declare that the manner in which I carry these my 25 improvements into effect is shewn in four examples by the Drawings hereunto annexed, and by the description herein-after contained, reference being had to the letters marked on the Drawings in correspondence with the similar letters inserted in the description.

DESCRIPTION OF THE DRAWINGS.

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Figure 1 represents a front view of a furnace with the fire door and ash-pit door shewn as suspended from two horizontal bars and partly slidden from before the openings. Figure 2, a vertical section of the same in the line A, B, of Figure 1. The same letters of reference indicate the same parts in both Figures. *a*, brickwork against which the door frame is secured; *b*, the door 35 frame of cast iron; *c*, the door of cast iron; *d*, the plane surface of the door frame against which the plane surface of the door slides; *e*, rails for elongating the plane surface of the door frame; *f*, horizontal bars from which the doors are

Sylvester's Improvements in Doors and Frames, for Fire-places, &c.

suspended; *g*, links suspending the doors from the bars; *f*, the upper eyes of the links turning and sliding on the bars and the lower ends of the links hinged to about the middle part of the height of the doors, so that the doors may press with nearly equal force against the frames both above and below; *h*, ears to
 5 guide the upper ends of the links and keep them parallel with the side edges of the ash-pit door; *k*, the hinges of the links and doors. Figure 3 a front view of a furnace in which the suspended sliding door is shewn as being made to move up and down before its openings. Figure 4, side elevation of the same. Similar letters refer to similar parts in Figures 3 and 4. *a*, the brickwork;
 10 *b*, the door frame; *c*, the door; *d*, the plane surface of the door frame; *e*, two rails for elongating the plane surface of the door frame; *l*, a chain fastened to the upper edge of the door and passing over two pulleys to a balance weight; *m*, a pulley working in a plane parallel to the plane of the truly wrought surface of the door and door frame; *n*, a vertical pulley from
 15 which the weight depends; *p*, the weight; *q*, four clips rivetted on the door to prevent lateral motion. Figure 5, a front view of a door and frame, the door being suspended by a pair of hooks catching over a ledge of the frame so as to allow the removal of the door by merely lifting it from the ledge. Figure 6, vertical section of the same in the line C, D, of Figure 5. The
 20 letters of reference are the same in Figures 5 and 6. *a*, brickwork; *b*, door frame; *c*, the door allowing of sufficient sideways sliding to clear the plane surfaces of dirt; *d*, the plane surface of the door frame; *r*, the hooks from which the door depends; *s*, the ledge over which the hooks catch. Figure 7, a front view of a retort door and frame, a mouth piece shewing the door as
 25 suspended by two links against the vertical face of the frame from a horizontal bar placed behind that vertical plane. Figure 8, a vertical section of the same in the line E, F, of Figure 7. Similar letters represent similar parts in Figures 7 and 8. *a*, brickwork; *b*, the door frame or mouth piece; *c*, the door; *d*, the plane surface of the door frame; *f*, a horizontal bar from which
 30 the door is suspended; *g*, two links fixed by their upper parts to the ends of the horizontal bar *f*, the lower ends being hinged to two studs projecting from the sides of the door near the middle of its height; *t*, two plumber blocks in which the bar *f* turns and has a sufficient degree of sliding motion to effect the scraping off of any dirt adhering to the plane
 35 surfaces. These plumber blocks are placed so far behind the plane of the truly wrought surface as to give a strong pressure of the door against its frame, the proportion of the pressure depending on the distance of the point of suspension behind the plane; *u*, a chain fastened to the door and supposed to be passed over two pulleys to a balance weight in some convenient situation,

Sylvester's Improvements in Doors and Frames for Fire-places, &c.

the intention of this chain and counterbalance being to facilitate the opening of the door and to hold it open while access is had to the interior.

And I further declare that I disclaim the application of the balance weight and chain passing over pulleys, shewn in Figures 4 and 5, except in combination with the suspended door sliding against the truly wrought plane surface 5 of the frame surrounding the opening. And I disclaim the means of forcibly holding the door closely against the frame to resist pressure from within a retort, except in combination with my suspended sliding door. And I disclaim the retort and mouth piece, as shewn in Figure 7 and 8.

But I claim the Invention of a door suspended in such a manner that the 10 tendency of the door to fall with its centre of gravity immediately under its point of suspension shall cause it to press with a sufficient proportion of its weight against the door frame to close the opening without the aid of a latch or other fastening when the inner surface of the door and outer surface of the frame are truly wrought into plane surfaces, the door being at liberty to be 15 slidden for a greater or less distance against the frame to clear away any extraneous substances which may adhere either to the working surface of the door or to the frame, as herein-before shewn and described.

And I claim the combination of the said suspended doors with any of the known methods of applying pressure against the outside of the door in case of 20 certain retors in which the interior pressure is too great to be resisted by the weight of the door alone.

In witness whereof, I, the said John Sylvester, have hereunto set my hand and seal this Second day of September, in the year of our Lord thousand and eight hundred and forty.

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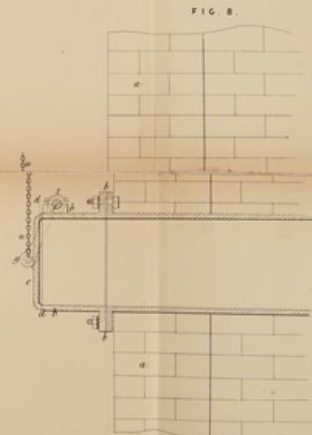
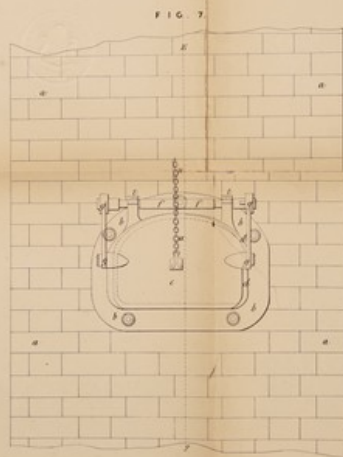
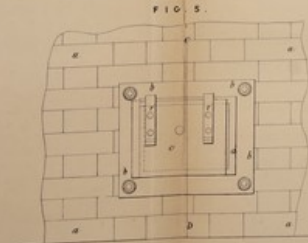
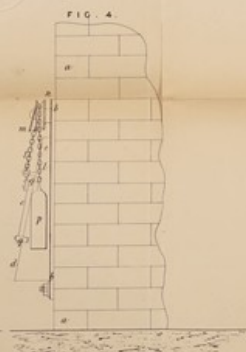
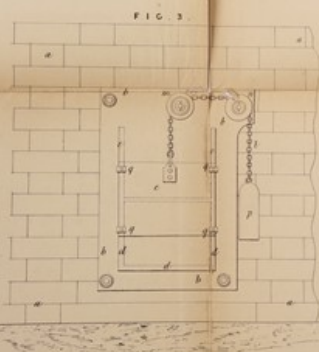
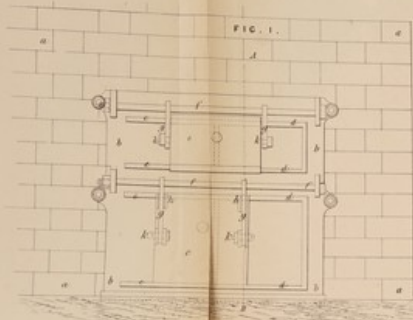
JOHN (L.S.) SYLVESTER.

AND BE IT REMEMBERED, that on the Second day of September, in the year of our Lord 1840, the aforesaid John Sylvester came before our said Lady the Queen in Her Chancery and acknowledged the Specification aforesaid and all and every thing therein contained and specified in form above 30 written. And also the Specification aforesaid was stamped according to the tenor of the Statute made for that purpose.

Inrolled the Third day of September, in the year of our Lord One thousand eight hundred and forty.

LONDON :

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Printers to the Queen's most Excellent Majesty. 1857.



The enrolled drawing is referred

