

Specification of David Evans : apparatus for sweeping and regulating draught in chimneys.

Contributors

Evans, David.

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A.D. 1843 N° 9921.

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

OF

DAVID EVANS.

APPARATUS FOR SWEEPING AND REGU-
LATING DRAUGHT IN CHIMNEYS.

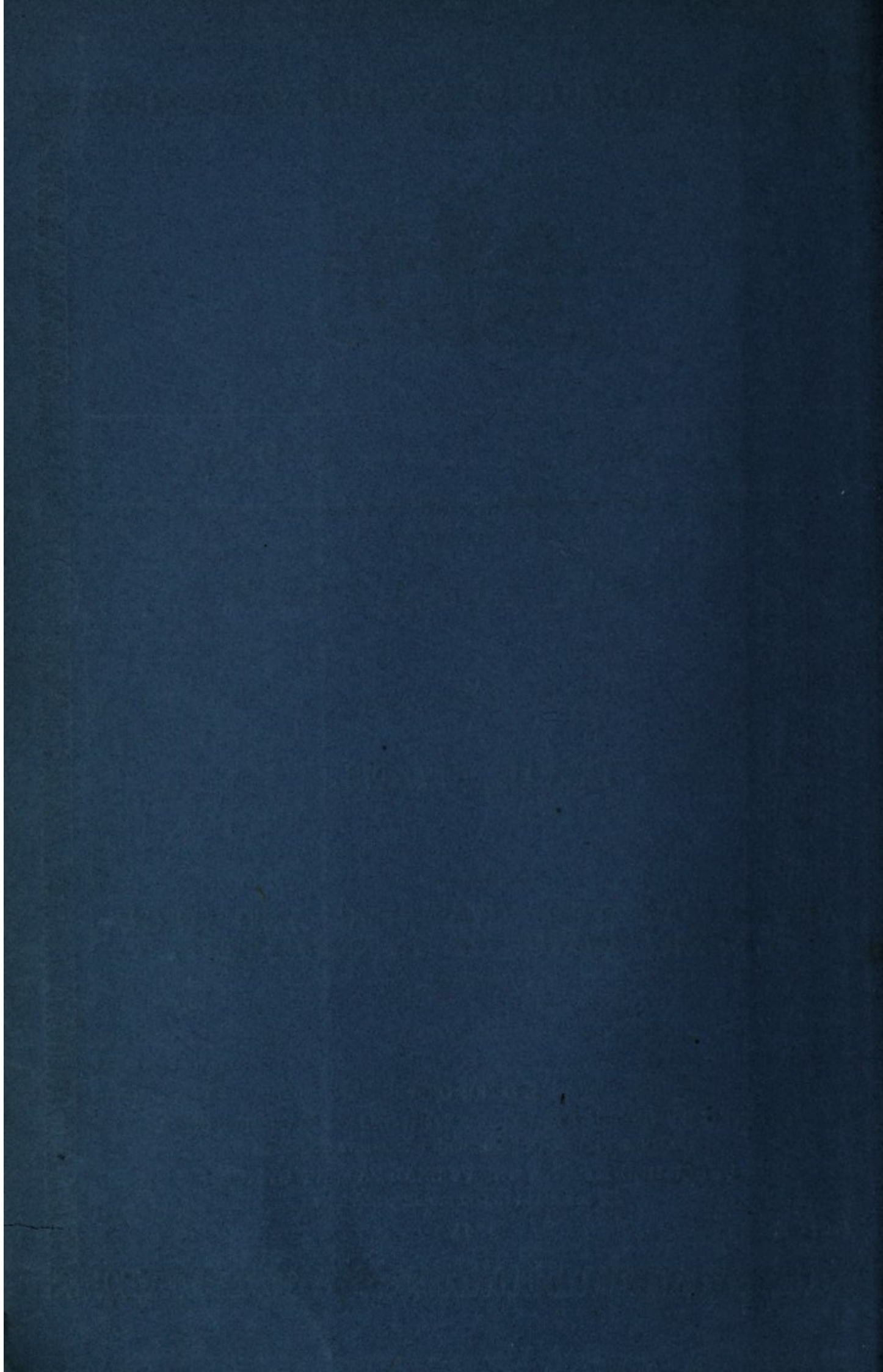
L O N D O N :

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A.D. 1843 N° 9921.

**Apparatus for Sweeping and Regulating Draught in
Chimneys.**

EVANS' SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, DAVID EVANS, of Coleshill Street, Eaton Square, in the County of Middlesex, Engineer, send greeting.

WHEREAS Her present most Excellent Majesty Queen Victoria, by Her
5 Royal Letters Patent under the Great Seal of Great Britain, bearing date at
Westminster, the Second day of November, in the seventh year of Her reign,
did, for Herself, Her heirs and successors, give and grant unto me, the said
David Evans, my exors, admors, and assigns, Her especial licence, full power,
sole privilege and authority, that I, the said David Evans, my exors, admors,
10 and assigns, and such others as the said David Evans, my exors, admors,
and assigns, should at any time agree with, and no others, from time to time
and at all times thereafter during the term of years therein expressed, should
and lawfully might make, use, exercise, and vend, within that part of the
United Kingdom of Great Britain and Ireland called England, Her Dominion
15 of Wales, and Town of Berwick upon Tweed, my Invention of "**CERTAIN
IMPROVEMENTS IN SWEEPING AND CLEANSING CHIMNIES AND FLUES, AND IN EN-
CREASING THE DRAFT THEREIN, AND IN PREVENTING THE SAME FROM SMOKING;**"
in which said Letters Patent there is contained a proviso obliging me, the said
David Evans, to particularly describe and ascertain the nature of my said In-
20 vention, and in what manner the same is to be performed, by an instrument
in writing under my hand and seal, and to cause the same to be enrolled in

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Her said Majesty's High Court of Chancery within two calendar months next and immediately after the date of the said in part recited Letters 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 5 David Evans, do hereby declare the nature of my said Invention, and in what manner the same is to be performed, to be fully described and represented in and by the following statement thereof, and by the Drawings hereunto annexed, and the figures and letters marked thereon, that is to say:—

The first part of these improvements relates to sweeping and cleansing 10 chimnies and flues, and consists in a novel and peculiar arrangement and combination of certain parts (hereafter fully described and represented) constituting an apparatus for the purpose of removing soot and other accumulations therefrom, whereby the operation is rendered more simple and the apparatus less expensive than those hitherto employed for that purpose; moreover the 15 necessity for cutting or disturbing the brickwork of chimnies for inserting or fixing friction rollers, plates, or other iron work at the angles or bends is by these improvements entirely dispensed with, as also soot doors or other openings for a similar purpose, whereby the nuisance arising from the emission of sulphurous vapour or smoke at these parts is entirely avoided, and the safety 20 of buildings considerably enhanced; and further, by the above-mentioned improved apparatus (which requires little exertion to work it) the angles or bends of the chimney undergo scarcely any change, whilst with the apparatus hitherto employed, great exertion being*required to work them, the chimney at these parts soon becomes damaged by the friction of the different parts of 25 the said apparatus forcing out the bricks in the "withs" or partitions, as likewise injuring the pargetting or plastering, thus rendering the chimney not only unsound but liable to smoke. In order to explain this first part of my said improvements as completely as possible, and to point out the means of obviating the objections attending the apparatus or machines hitherto employed 30 for cleansing chimnies or flues, I will proceed to describe the arrangement of parts which I consider well calculated for that purpose, and for carrying out my said Invention, which arrangement will be found to answer extremely well.

DESCRIPTION OF THE DRAWINGS, FIGURES 1, 2, 3, 4, 5, AND 5*, 6, 7, AND 8. 35

Figure 1 represents a vertical section of a chimney, shewing the internal arrangement of some of the parts of the apparatus to be employed in sweeping or cleansing the same. Figure 2, a vertical section of a chimney, shewing the

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apparatus as in use. Figure 3, a detached plan view of a brush to be employed in sweeping chimnies. Figure 4, a vertical section of the same. Figure 5, a detached front view of a metal chimney pot. Figure 5* an isometrical view of a chimney stack, with improved metal pots. Figures 6, 7, 8, represent
5 detached parts of the apparatus. In Figure 1, *a, a*, represents the inside of a chimney, at the top of which a chimney pot *b, b*, of metal or other suitable material, is securely fixed; at the upper part of this metal pot a hook *c* is made fast, for the purpose of carrying a pulley *d*, which is suspended therefrom by an eye *e* (see detached Figures 6 and 7); over this pulley a wire rope or
10 chain *f, f*, is passed, the ends of which are furnished with hooks, which are passed over hooks 4 and 5 fixed to the brickwork at each side of and at a convenient distance above the fire grate or stove, so as to remain suspended in the chimney, when it is not required to use the other parts of the apparatus, in the employment of which the operation of cleansing chimnies is conducted in
15 manner following:—Metal hooks (similar to that shewn at detached Figure 8) being attached to the ends of a hempen rope *g*, (which for durability I prefer being of similar construction to that known as Patent “sash line,”) the operator connects it to one end of the wire rope *f* by the hook fixed thereto, when by pulling the other end of the wire rope in the direction of the arrow's
20 flight, the hempen rope will be passed over the pulley *d*, the operator continuing to pull until he has brought the entire length of the wire rope down the chimney, and disconnecting the ropes, proceeds next to connect the brush *h* to the rope *g*, by passing the hook fixed thereto through an eye 3, fixed to the brush, as shewn, and subsequently passing the other end of the rope through
25 the centre of the brush (which is constructed with a hole through it for that purpose (see detached Figures 3 and 4), connects it to the under side of the brush in manner as before. This comprises the whole of the apparatus, the action of which is as follows:—The operator having introduced the brush into the chimney, imparts to the same an upward motion by pulling the cord 1; but
30 in order that the brush as it advances may be more effectual in the removal of the soot, it will be found necessary to pull the cord 2 slightly, which will impart to the brush a rocking or vibrating motion, thereby rendering it very effective, particularly at the angles or bends of the chimney, which require more than the ordinary motion of the brush to remove the accumulation of
35 soot at these parts; the operator having worked the brush a sufficient time according to his judgment, traverses the brush downwards, and disconnecting the same from the rope *g*, proceeds to replace or suspend the wire rope *f* in the chimney; to effect which, similar means are employed to those for passing the cord over the pulley. This being done, and the ends of the wire rope or

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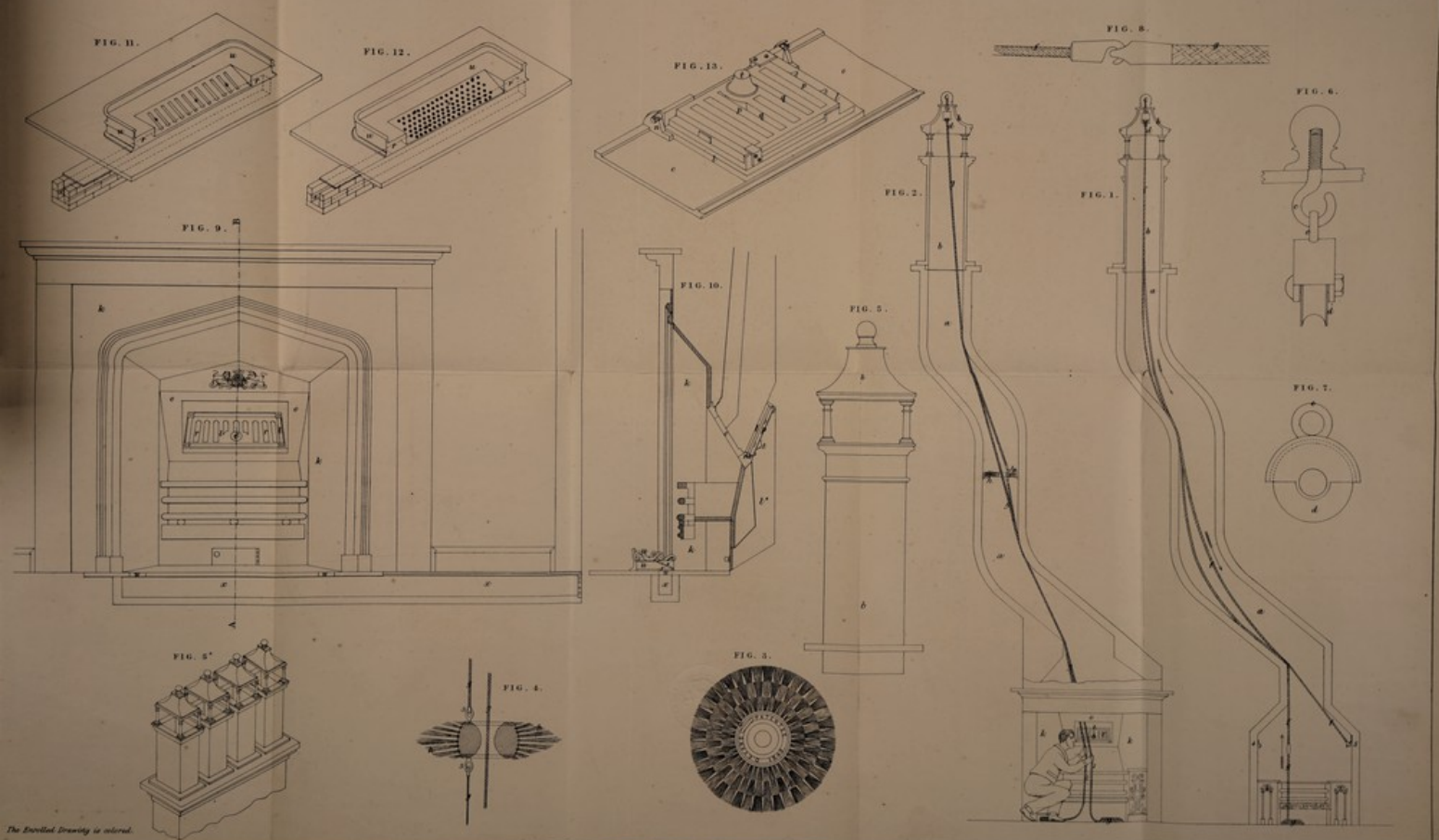
chain *f* placed upon the hooks 4 and 5, the other parts of this apparatus may be put away until again required. It will appear evident that the wire rope or chain which is left in the chimney is employed solely for the purpose of conducting the hempen cord over the pulley *d*.

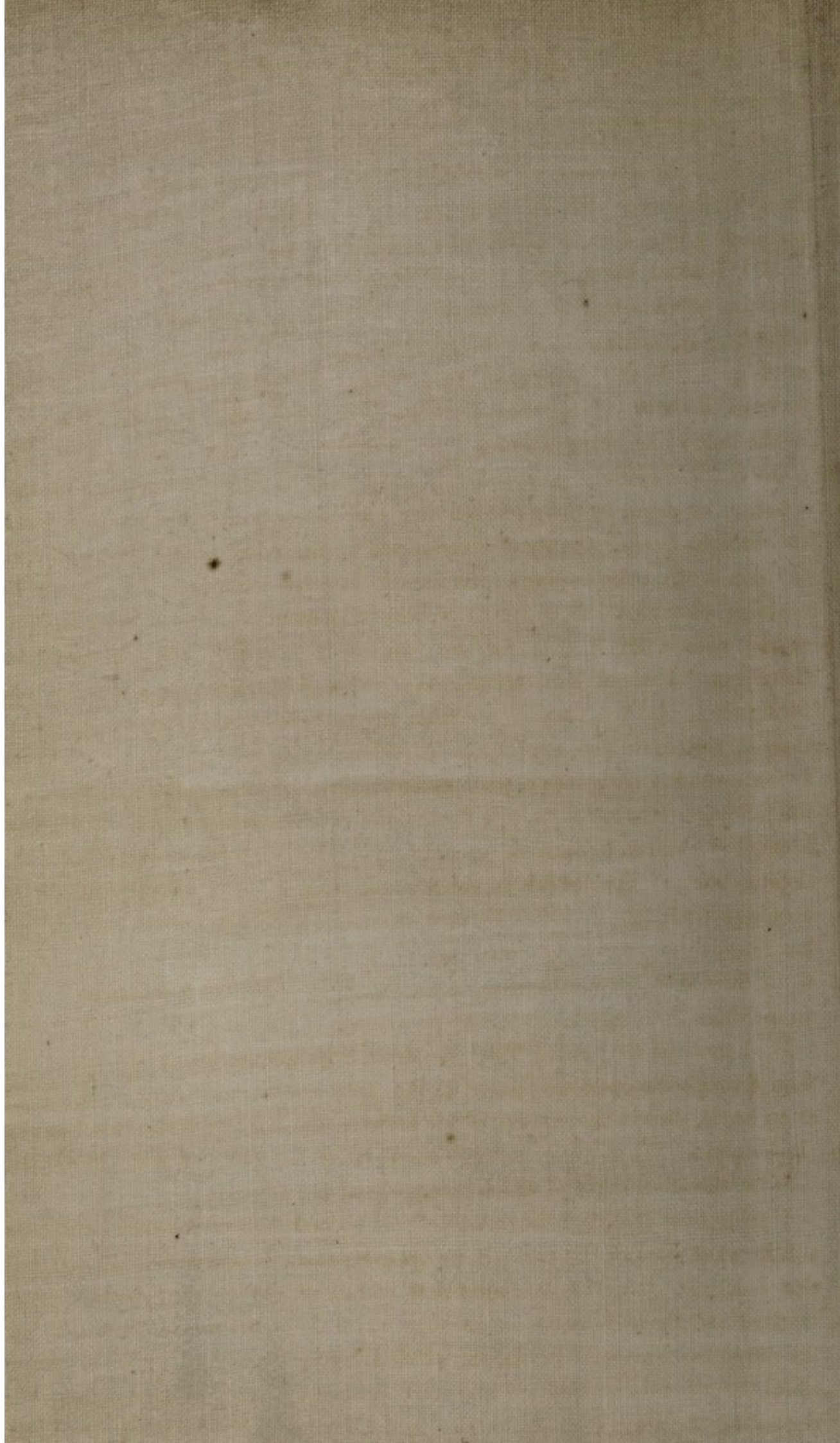
Having now described the nature of this first part of my said Invention, and 5 in what manner the same is to be performed, I wish it to be understood that I do not claim the exclusive use of any of the separate parts of the improvements in sweeping and cleansing chimnies and flues, as above described and referred to, except so far as the same may be employed for the purposes above mentioned; neither do I claim the exclusive use of wire rope, the same having 10 been used for a similar purpose; but what I do claim is the construction and application of the combined apparatus of the brush and parts connected therewith, constituting an apparatus for sweeping and cleaning chimnies and flues, as above described and represented by the Drawings hereunto annexed.

The second part of these improvements relates to a method of increasing the 15 draught in chimnies, and in preventing the same from smoking, and consists, firstly, in a novel and peculiar arrangement and construction of certain parts of a stove, by which the quantity of air passing up the chimney may be easily regulated by an arrangement hereafter described for increasing or diminishing the area of the opening thereof, and consequently preventing the chimney from 20 smoking; secondly, in a new mode of introducing or supplying atmospheric air to the fire by directing the same through the fender, and subsequently between the bars of the stove; the air being thus caused to pass through the fire, renders combustion more perfect. And in order to explain this second part of my said improvements as completely as possible, I will proceed to describe 25 the arrangement of parts which I consider well calculated for that purpose, and which will be found to answer extremely well.

DESCRIPTION OF THE DRAWINGS, FIGURES 9, 10, 11, 12, AND 13.

Figure 9 represents a front view of a stove, shewing the arrangement of some of the parts for the air to pass through. Figure 10, a vertical section of 30 a stove and chimney, taken through the line A, B, (Figure 9,) and also a transverse section of a fender and air drain. Figure 11, a detached view of a fender and air drain. Figure 12, another form of construction of fender. Figure 13, a detached enlarged isometrical view of one of the parts of a stove. *k, k*, a stove somewhat similar to that known as a register stove; *l, l*, a move- 35 able back, constructed with pivots *m, m*, working in bearings *n, n*, formed in the casting *o, o*, which is set in the brickwork of the chimney, as shewn; the construction and arrangement of the parts of this moveable back will be better





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understood by referring to the detached Figure 13, in which the moveable back *l, l*, is represented as being constructed with a sliding piece *p*, having openings *q, q, q*, corresponding with openings *r, r, r*, formed in the moveable back *l, l*, which has a hole *s* formed therein (see Figure 9) for the purpose of inserting a poker or other instrument. The action of this moveable back is as follows:—Assuming the fire to be lighted, and the back in the position shewn at Figure 10, the draught of the chimney may be regulated by bringing forward the back until it rests upon the casting *o, o*, when by inserting a poker in the hole *s* and corresponding hole formed in the boss *t* upon the sliding piece *p*, the openings *q, q*, and *r, r*, may thus be brought opposite to each other, or be made to cover one another partially or wholly, thereby regulating the draught by the quantity of air admitted up the chimney, and also to prevent the rain or wind descending to the fire-place, or the annoyance from the smoke of other chimnies. *t**, a flue to prevent lodgement of ashes or soot, and furnished with a small door, for the purpose of removing any accumulations therefrom. I would here remark, that although I employ air drains for supplying air to the fire, they do not form any part of my said Invention, further than as relates to the application of them in conjunction with my improved fender (which I designate a pneumatic fender), the same being constructed in the following manner:—*u, u*, a fender, the external configuration of which is somewhat similar to that of an ordinary fender, with these exceptions: the sloping part of the fender is constructed with a series of perforations or openings * * * (see detached Figures 11 and 12), and the bottom part thereof has likewise openings *v, v*, formed therein, which fit over corresponding openings *w, w*, formed in the hearthstone, as shewn; these openings communicate with an air drain *x, x*, which extends to the outside of the building. It will appear evident that the air passing along the drain *x* cannot escape by any other way than through the openings formed in the drain and fender, which being placed at an angle, directs the current of air between the spaces of the bars forming the bottom of the stove, or through the front of the stove, as found most convenient, the advantages of which arrangement are obvious.

Having now described the nature of the second part of my said Invention, and in what manner the same is to be performed, I wish it to be understood that I do not claim the exclusive use of any of the separate parts therein referred and above mentioned, except so far as the same may be employed for the purposes of my said Invention, which I hereby declare to consist in and I claim the general combination and arrangement of parts to be employed for regulating the draught in chimnies. And I further claim the mode herein set forth of supplying air to fires in stoves for the purpose of supporting com-

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bustion, disclaiming the use of air drains for that purpose, except when employed in conjunction with a fender or fenders constructed as above described and represented by the Drawing hereunto annexed, and for the purposes before mentioned.

In witness whereof, I, the said David Evans, have hereunto set my 5
hand and seal, this Thirtieth day of December, in the year of our Lord
One thousand eight hundred and forty-three.

DAVID (L.S.) EVANS.

AND BE IT REMEMBERED, that on the Thirtieth day of December,
in the year of our Lord 1843, the aforesaid David Evans came before our said 10
Lady the Queen in Her Chancery, and acknowledged the Specification aforesaid,
and all and everything 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.

Enrolled the Second day of January, in the year of our Lord One 15
thousand eight hundred and forty-four.

LONDON:

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