

Specification of Zachariah Barratt : apparatus for sweeping, ventilating and extinguishing fires in chimneys.

Contributors

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A.D. 1818 N° 4225.

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

OF

ZACHARIAH BARRATT.

APPARATUS FOR SWEEPING, VENTILATING,
AND EXTINGUISHING FIRES IN CHIMNEYS.

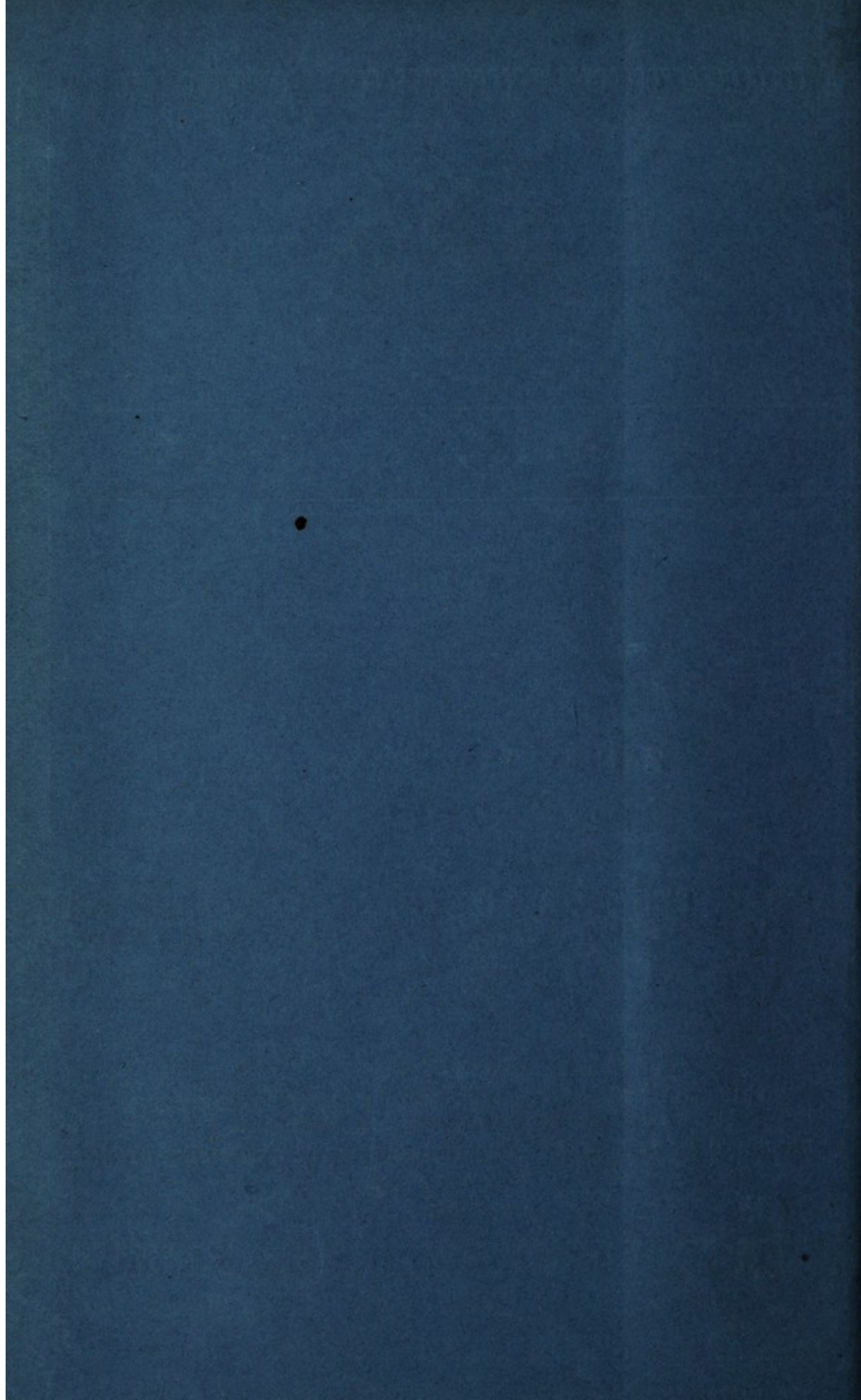
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1854.





A.D. 1818 N° 4225.

**Apparatus for Sweeping, Ventilating, and Extinguishing
Fires in Chimneys.**

BARRATT'S SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, ZACHARIAH BARRATT, of 27, Windmill Street, Tottenham Court Road, in the County of Middlesex, Cabinet Maker and Carpenter, send greeting.

WHEREAS His present Majesty King George the Third, in and by His
5 Letters Patent under the Great Seal of Great Britain, bearing date at West-
minster, the Tenth day of February last, for Himself, His heirs and successors,
did give and grant unto me, the said Zachariah Barratt, His special licence,
full power, sole privilege and authority, that I, the said Zachariah Barratt,
my eñors, adñiors, and assigns, and every of them, by myself and themselves,
10 or by and their deputy or deputies, servants, or agents, or such others as I, the
said Zachariah Barratt, my eñors, adñiors, or 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 unexpired, should and lawfully might make, use,
exercise, and vend, within England, Wales, and the Town of Berwick upon
15 Tweed, my Invention for "**CURING, CLEANSING, SWEEPING, AND VENTILATING
CHIMNIES, AND WHEN CHIMNIES ARE ON FIRE FOR EXTINGUISHING THE SAME;**" in
which said Letters Patent there is contained a proviso obliging me, the said
Zachariah Barratt, by an instrument in writing under my hand and seal,
particularly to describe and ascertain the nature of my said Invention,
20 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 within two calendar
months next and immediately after the date of the said recited Letters

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Patent, as in and by the same, reference being thereto had, will more fully appear.

NOW KNOW YE, that in compliance with the said proviso, I, the said Zachariah Barratt, do hereby describe and ascertain the nature of my said Invention, and in what manner the same is to be performed, by the Plan or Drawing in the margin of these Presents and the following description thereof, that is to say:—

I make a tube of sheet iron, tin, or copper, square at one end, to fit chimnies of different sizes, with a flanch of about two inches, more or less, to build on chimney; the other end of the tube to be round, about ten inches diameter, more or less; the tube may be about twenty inches high, more or less, to which tube I rivet about seven standards, more or less, about seven inches high, made of iron or copper wire, set off about half an inch; on the top of standards I rivet another tube of iron, tin, or copper, about eleven inches diameter, and about twelve inches high; the distance between the two tubes being the space intended for the escape of the smoke. In this tube, about six inches high, I rivet three pieces or stubs of iron for a circular plate of iron, tin, or copper, to lay on; in which plate I cut an oblong square hole, over which I rivet or screw a frame and pulley for cord or chain to work or act upon in the operation of sweeping the chimney; at the top of the upper tube I fit a cover with rim to take off. In the centre of cover I cut out a hole about two inches and half in diameter for oil box to pass through, about two inches above the surface of the cover; on the under side of cover I fix or rivet a supporter, to project down about two inches, more or less, with a hole in centre to admit a screw from the bottom of oil box to pass through, with screw nut under the supporter to screw oil box tight to the supporter. In cases where chimnies do not smoke I do not attach the curtain or external tube, nor the oil box in the cover of the inner upper tube. For the curtain or external tube for curing smoky chimneys, I make a tube of iron, copper, or tin, of about fourteen inches diameter and about twenty-three inches high, more or less, on the top of which I fold on a cover; in the centre of cover I rivet a strong piece of iron with a hole in the centre of both plate and cover for spindle to pass through up to the collar, which collar is to support this tube or curtain; on the top of cover I put a piece of loose iron or copper, cast or wrought, about five inches diameter, and raised up to the centre, about one inch, being the segment of a sphere with a hole in the centre, the size of spindle, for the screw part of spindle, to pass through. I then attach a nut of copper or iron to spindle to screw down curtain or tube; in the bottom of tube or curtain I fold a wire inside to strengthen the

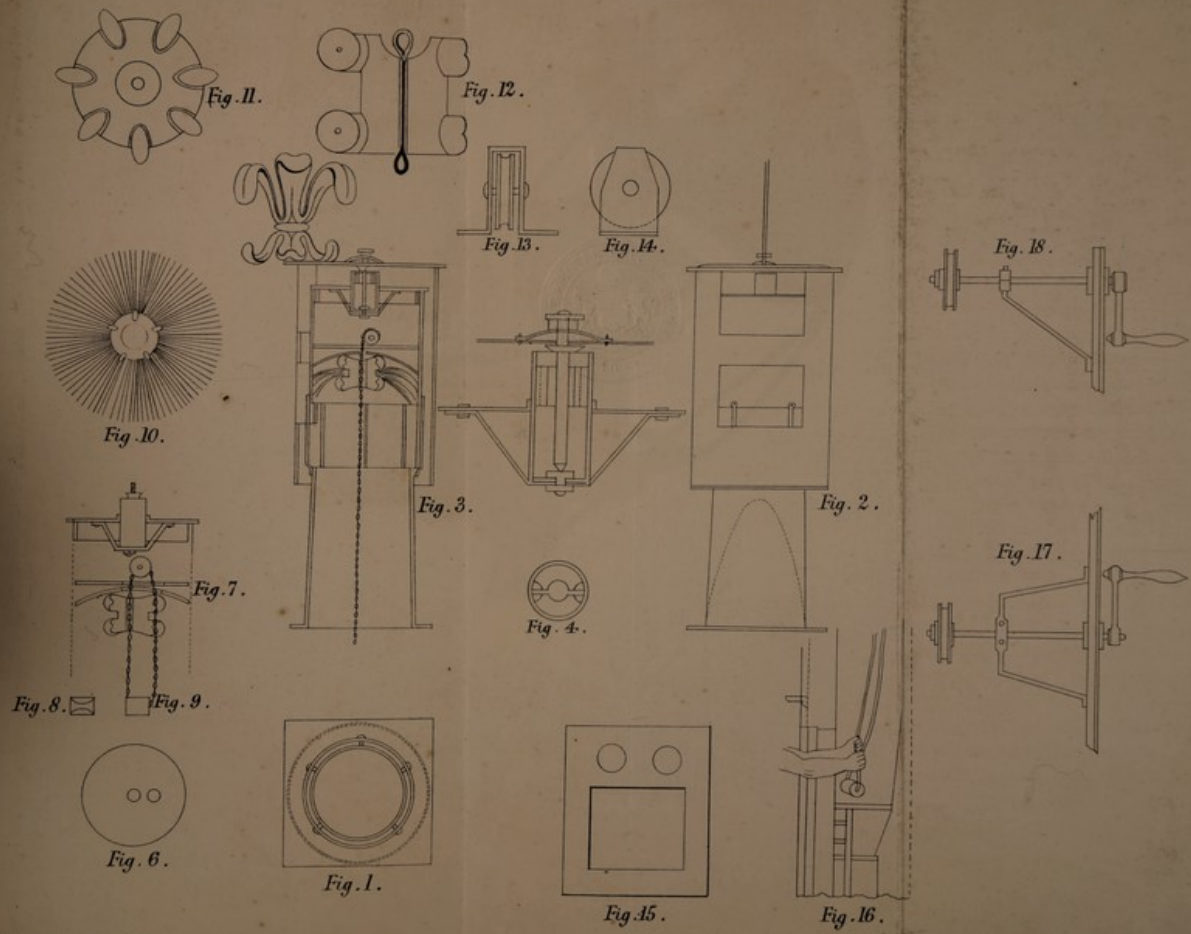
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same. On the top of the cover of curtain or tube I rivet a piece of iron, tin, or copper, plain or ornamented, about ten inches by nine, more or less, to project beyond the tube or curtain about five inches, more or less, to act as a vane. I cut two apertures in front of tube or curtain, about ten inches
 5 wide and seven inches high, more or less. I leave a part or portion about three inches wide to strengthen the tube or curtain between the apertures, which apertures are for the escape of the smoke from the inner tubes. The oil box may be made of wrought or cast metal about four inches long and two inches and a half in diameter. The bolt which fastens oil box to supporters,
 10 I make with a square head, capp^d with steel and tempered, about an inch square and three eighths of an inch thick, with a centre for spindle to work on, the shank of which bolt goes through the bottom of oil box, with a leather collar and white lead to prevent leakage; the spindle I make about three inches and a half long, the centre capp^d with steel and tempered, under
 15 a collar projecting about five eighths of an inch, which collar is to support the external tube or curtain; above the collar I continue the spindle about two inches, which should be screwed down to collar with a copper or iron nut, to secure the external tube or curtain from lifting off.

In the inside of oil box I leave projecting cheeks or grooves, sides and
 20 bottom, to support a piece of brass with a hole through the centre for spindle to work or act in the same; I then drill one hole through each side of the oil box into the brass, into which I put a piece of iron or copper wire to fit tight; I also drill a hole in spindle directly under the brass, in which I put a key of wire, which prevents the spindle or brass lifting out of oil box; on the top
 25 of oil box I put a cover of leather to prevent soot or dirt getting to the oil; on the top surface of the brush I have contrived a plate of iron or copper, which I raise to the centre, about one inch, being the segment of a sphere, to prevent lodgment of water or damps, and as hereafter more particularly explained; in which plate I make two holes to correspond with pulley, in
 30 upper part of upper tube, one hole in the centre and another hole about one inch and three quarters distance from the centre hole, which holes should be according to the size of cord or chain that may be used in the operation of sweeping; the plate is to lay in the upper tube above the brush, and as the brush is drawn down into the chimney, the plate follows on top of brush until
 35 the brush enters the bottom tube, then the plate remains on the top of bottom tube and partially closes the vent, which in cases of chimneys taking fire will with this and the advantage of working the brush down the chimney effectually extinguish and bring the soot down; the plate will likewise shut up the top of bottom tube, that when there is no fire in the grate, or the flue not in use, it

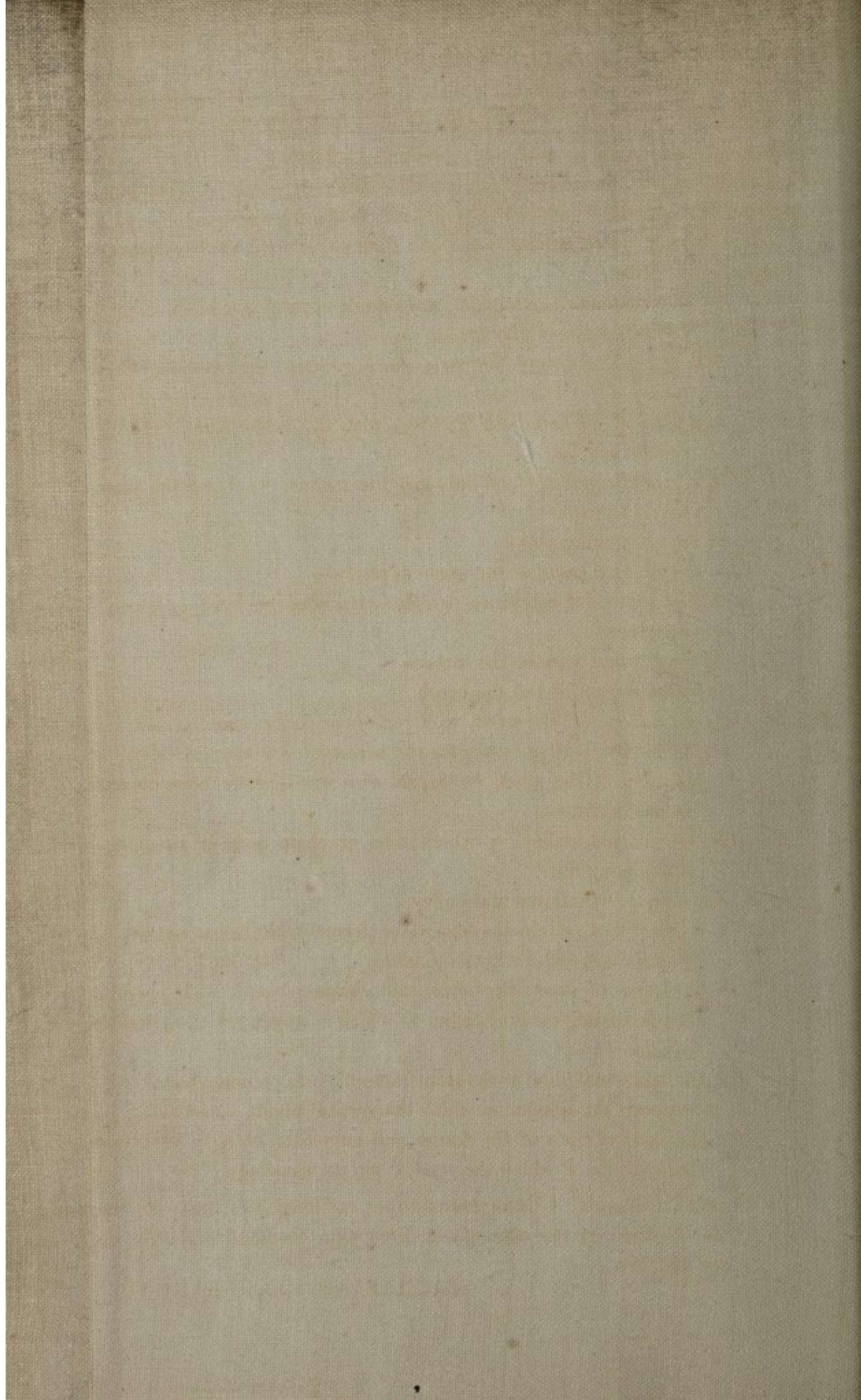
Barratt's Impts. in Apparatus for Sweeping and Ventilating Chimneys.

will prevent condensed air or damps from entering the flue ; when the brush is worked up the plate ascends into upper tube on the top of brush. I sometimes fix three or four pieces of wire into the upper tube and to outside of bottom tube for the stedying of the condensing plate in descending and ascending, in which plate I make corresponding holes for the wire to pass through. I make 5 a stock for brush of wood, about four inches and a half diameter, and about the same in height with the hedges rounded off, leaving a surface of about three inches diameter on top and bottom. I reduce the middle part of the stock to about three inches in diameter, and about one inch and a half in height, leaving the top and bottom of the stock projecting about one inch and a 10 quarter, the edges of the projections rounded off, into which I cut seven grooves, more or less, into which grooves I fix rollers or pulleys with iron or copper wire, made secure in grooves sunk in the projecting edges of the stock ; the rollers or pulleys are intended to ease the action of the brush in passing the angles in the chimney, likewise to prevent the stock of the brush breaking 15 or rubbing off the plaster or parging ; in the middle part of the stock I make about twenty-four holes, more or less, with a centre or nose bit, in which I fix whalebone or bristles, with pitch and rosin, or copper wire ; the whalebone to be of sufficient length to sweep the angles of common chimneys, say, about seven or eight inches long, but which may be lengthened to any sized flue. 20 In the centre of the stock I make a hole for wire of iron or copper to pass through with an eye or bow at each end to attach the cord or chain to, which cord or chain acts upon the pulley in the upper part of the upper tube for the purpose of working the brush down and up the chimney. The operation of sweeping or shutting up the flue can be performed by hand or windlass, with 25 cord or chain, or partly cord and partly chain ; if performed by hand, I make a chimney board or frame, in the upper part of which I cut two circular holes of about six inches diameter, to which I attach two sleeves of leather or cloth, with gloves for the operator's hands while working the brush down and up the chimney, by which means the soot is prevented entering the room ; if performed 30 by windlass, I attach an iron frame to the back of chimney board to support a spindle, on the end of which is fixed a vertical pinion wheel with cheeks, which frame must be varied according to the construction of the chimney or fire-place. To fix the brush when a machine is first put up, the cord or chain which works the brush down and up the chimney must be put over the pulley 35 in upper tube, then through the holes in condensing plate, then pass through the weight that is to prevent the cord or chain coiling or twisting in descending to the fire-place, then fasten the cord or chain, one end to the eye or bow at the top of the brush, the other end to eye or bow at the bottom of



The Envelled Drawing is colored.

Malby & Sons. Lith.



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the brush; the cord or chain thus becomes endless with the hollow weight suspended in the fire-place, which may be hung upon a hook when out of action in the jambs, or most convenient part of the fire-place.

The following are references to the said Plan or Drawing in the margin:—

- 5 Figure 1, the plan.
 2, the external or elevation of machine or apparatus, and the apertures for the escape of the smoke.
 3, a general section of the parts which compose the machine or apparatus.
 10 4, a plan of oil box with grooves, with the brass fixed, which the spindle acts in.
 5, a general section of oil box, and the manner of fixing the same to covers or caps.
 6, the condensing plate.
 15 7, the internal parts of the inner upper tube.
 8, the section of cylindrical weight, suspended on cord or chain, in fire place.
 9, the external view of the same.
 10, shews the surface of the brush.
 20 11, the surface of the stock, with pulleys or rollers, fixed in the same, with sunk hole in centre for the wire eye or bow to lay in.
 12, a section of the stock for brush, with wire-eyes or bows to attach cord or chain to.
 13, the grooved pulley on which cord or chain acts in sweeping or
 25 shutting up flue.
 14, a side view of frame and pulley.
 15, a front view of chimney-board or frame with holes, sleeves, and gloves for operator's hands to enter.
 16, a section of stove, fire-plate, and chimney-board, with operator's
 30 hands holding cord or chain, to which is suspended the cylindrical weight.
 17, the horizontal view of the iron frame fixed to chimney-board, which supports the spindle on which the vertical pinion wheel acts.
 18, the vertical view of the frame and supporter of horizontal frame
 35 and spindle on which the vertical pinion wheel acts.

In witness whereof, I, have hereunto set my hand and seal, the Ninth day of April, in the year of our Lord One thousand eight hundred and eighteen.

ZACHARIAH (L.S.) BARRATT.

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HARVEY.

AND BE IT REMEMBERED, that on the Ninth day of April, in the year of our Lord 1818, the aforesaid Zachariah Barratt 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 5 the tenor of the Statute made for that purpose.

Inrolled the Tenth day of April, in the year of our Lord One thousand eight hundred and eighteen.

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