

BOYLE'S
LATEST PATENTED & IMPROVED
VENTILATING APPLIANCES.

PART V.

ALL PREVIOUS PRICE LISTS CANCELLED.

"They are constructed on sound scientific principles, act in strict accordance with the laws of nature, and cannot fail to operate."—PROFESSOR GRANT.

Boyle's Patent "Air-Pump" Ventilator.

(Latest Patent.)

"There is no time throughout the whole year but when there is a sufficient movement in the atmosphere to cause the 'Air-Pump' Ventilator to act."—PROFESSOR MACQUORN RANKIN.

Description.

The latest patented form of the "Air-Pump" Ventilator consists of an arrangement of metal plates at certain angles enclosing a central chamber, from which the air is exhausted through a series of protected openings, by the movement of the external air through annular spaces and deflected across the openings at given angles in a compressed form, creating an induced current and also a partial vacuum by exhausting the air from the central chamber and removing the pressure of the atmosphere from the top of the shaft. The foul air in the room being ventilated immediately ascends the shaft to take the place of the air exhausted, a continuous and powerful upward current being maintained.

The "Air-Pump" Ventilator is constructed on sound scientific principles, acts in strict accordance with the laws of nature, and the different parts are so nicely adjusted that the gentlest movement of the air impinging upon them acts as a motive power for exhausting the vitiated air.

Advantages.

"The 'Air-Pump' Ventilator illustrates a great law of nature. The power which operates in producing the currents being as constant as gravity, there is no need of that perpetual examination required in mechanical ventilation."—ARCHITECT.

The "Air-Pump" Ventilator is a fixture, has no mechanical movement, cannot get out of order, requires no attention, and when once fixed there is no after cost.

It creates a continuous and powerful up-draught, is free from down-draught, and impervious to snow, rain, or sleet.

It removes the pressure of the external atmosphere from the top of the outlet shaft, permitting, at all times, of the unimpeded exit of the heated air expelled from the lungs and emanating from the body, ensuring a constant change of the air in a building, even when there is absolutely no perceptible movement of air outside.

It acts in all weathers—in a dense fog and on the closest day in summer.

It does not require wind to make it act.

It can be made to harmonise with every style of architecture, and to fit into turrets.

NOTE.—The extracting power of a properly constructed roof ventilator lies exclusively in the head, and is solely determined by the size of the same, and not by the diameter of the shaft attached to it.

How the "Air-Pump" Ventilator IS Always in Operation.

"Science proves that there is not a moment of time but when there is a movement of the air, and that this movement properly utilised is sufficient at all times to change the air in a building and secure ventilation."

—CHARLES HOUGHTON, C.E.

"Incessant movement of the air is a law of nature. We have only to allow the air in our cities and dwellings to take share in this constant change, and ventilation will go on uninterruptedly without our care."—PARKES.

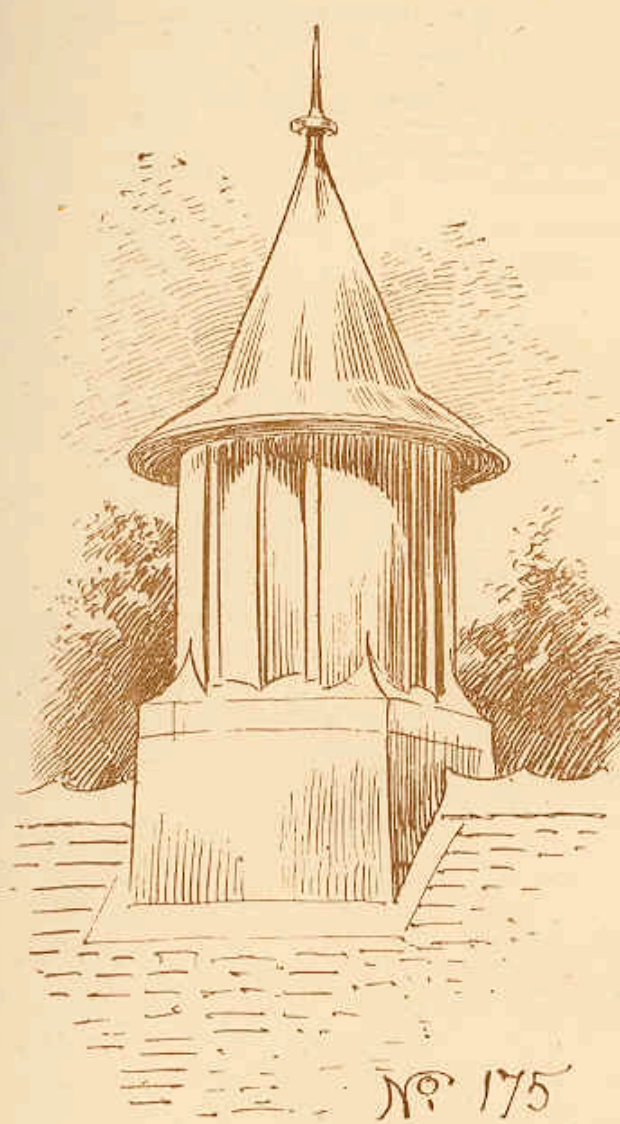
The latest patented form of the "Air-Pump" Ventilator utilises to the fullest degree this continuous movement in the atmosphere as a never-ceasing exhausting force.

Professor MACQUORN RANKIN (Professor of Engineering, Glasgow University), after twelve months' careful experiment, reports: "There is no time throughout the whole year but when there is a sufficient movement of the atmosphere to cause the 'Air-Pump' Ventilator to act."

Independent of its value as an exhaust the "Air-Pump" Ventilator, by removing the pressure of the external atmosphere from the top of the outlet shaft, prevents down-draughts and permits at all times of the unimpeded exit of the warm vitiated air, which naturally ascends to the highest point. This ascensional movement, assisted by the action of the ventilator, induces an inflow of fresh air through the inlets at the lower levels, effectually changing the air in a building, even when there is no perceptible movement of the air outside.

The "Air-Pump" Ventilator does not require wind to make it act.

The "Air-Pump" Ventilator acts efficiently in all conditions of the weather on the coldest day in winter, in a dense fog, and on the closest and warmest day in summer.



BOYLE'S PATENT "AIR-PUMP" VENTILATOR (LATEST PATENT)

It HAS DOUBLE THE
EXTRACTING POWER
OF EARLIER FORMS.

PRICE LIST Carriage Paid.

Dia. of Head. Ins.	Inside of Base Ins.	Dia. of Pipe Ins.	Dia of Pipe Recom- mended.	No 175. £ s. d.
12	12×12	4 to 8	6 ins.	1 5 0
14	14×14	5 " 9	7 "	1 10 0
16	16×16	6 " 10	8 "	2 2 0
18	18×18	7 " 11	9 "	2 15 0
20	20×20	8 " 12	10 "	3 10 0
24	24×24	10 " 14	12 "	4 10 0
27	27×27	11 " 16	14 "	5 5 0
30	30×30	12 " 18	15 "	6 10 0
36	36×36	15 " 21	18 "	8 15 0
42	42×42	17 " 24	21 "	11 15 0
48	48×48	20 " 28	24 "	14 17 6
54	54×54	24 " 32	28 "	18 18 0

ROOF SEATS NOT INCLUDED.

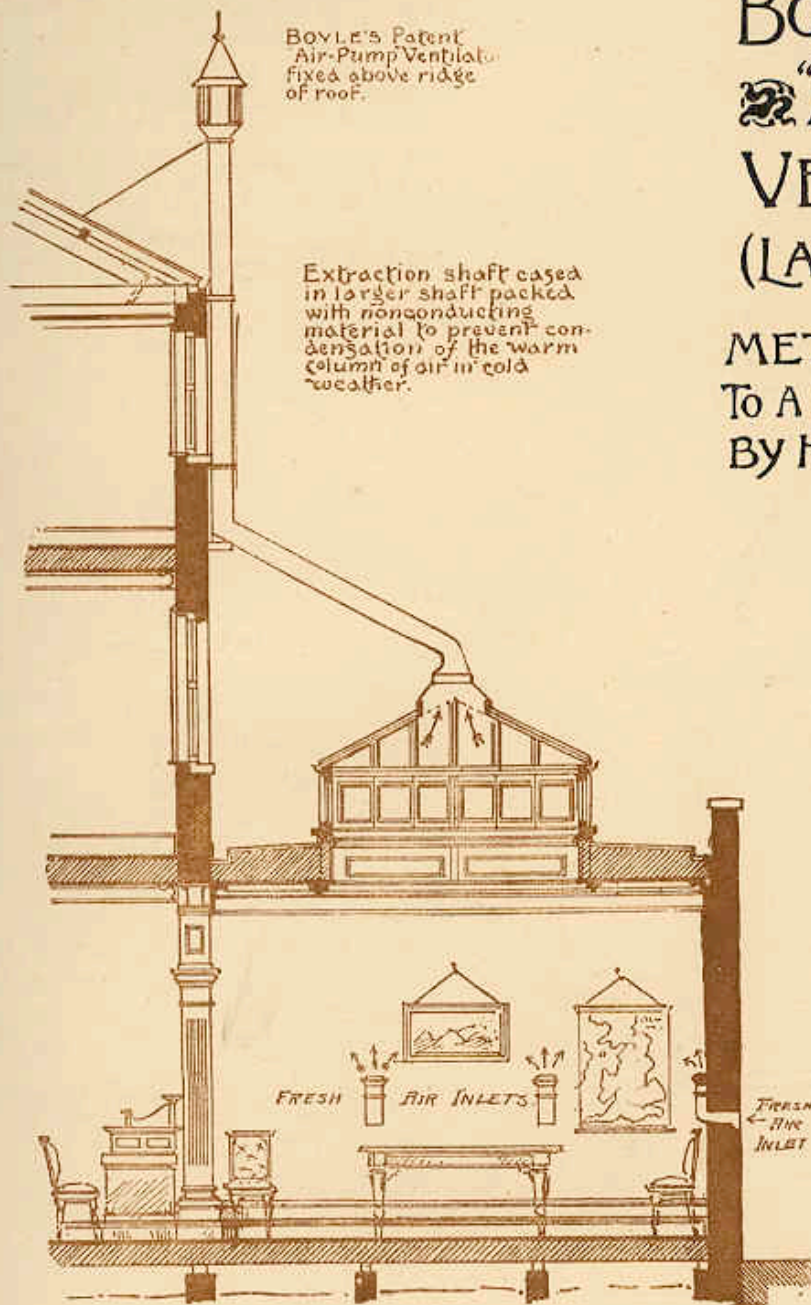
MADE FIREPROOF TO FIT OVER
SUNBURNERS 10% EXTRA.

FOR TABLE OF SIZES REQUIRED,
~~SEE~~ SEE PAGES 148-149.

N.B. When specifying or ordering the following formula should be used "Boyle's Latest Patent 'Air-Pump' Ventilator, Design No., Dia of head, Dia of pipe, Price each"

Note: Each Ventilator has the accompanying TRADE MARK affixed without which none are genuine.





BOYLE'S Patent
Air-Pump Ventilator
fixed above ridge
of roof.

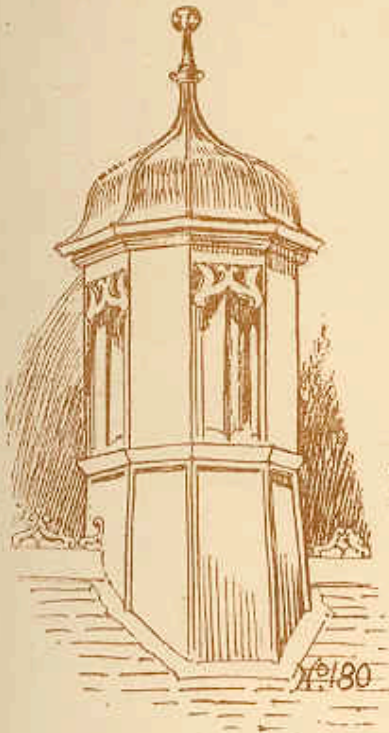
Extraction shaft cased
in larger shaft packed
with nonconducting
material to prevent con-
densation of the warm
column of air in cold
weather.

BOYLE'S PATENT "AIR-PUMP" VENTILATOR (LATEST PATENT)

METHOD OF FIXING
TO A ROOM OVERTOPPED
BY HIGHER BUILDINGS

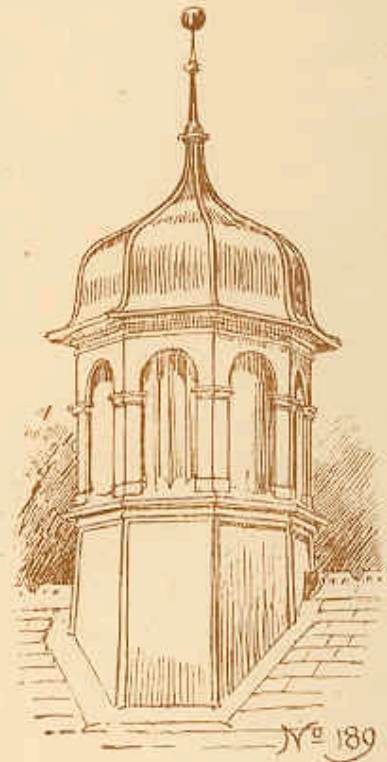
IMPORTANT.

The "Air-Pump" Ventilator should be fixed above the level of the ridge of the higher building so that the wind can reach it unobstructedly from every quarter. No Roof Ventilator will act efficiently if overtopped by higher structures. Where it is impracticable to carry the Ventilator above the higher building a self-acting valve should be



BOYLE'S PATENT "AIR-PUMP" VENTILATOR (LATEST PATENT)

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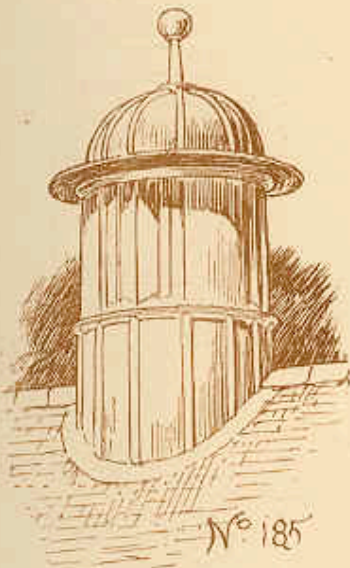


PRICE LIST

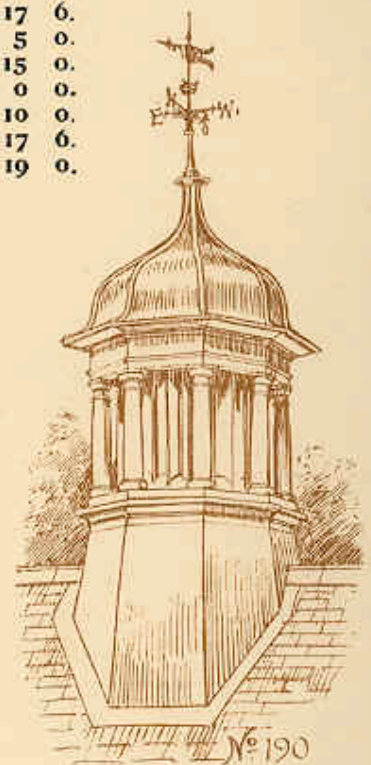
Dia of Head. Ins.	Dia of Pipe. Ins.	Dia of Pipe Recom- mended.	No 180 & 185.			No 189.			No 190.		
			£.	s.	d.	£.	s.	d.	£.	s.	d.
18.	7 to 11.	9 ins.	5	10	0.	7	7	0.	9	5	0.
20.	8 "	12. 10 "	6	6	0.	8	15	0.	11	11	0.
24.	10 "	14. 12 "	8	8	0.	11	11	0.	14	17	6.
27.	11 "	16. 14 "	9	9	0.	14	10	0.	18	5	0.
30.	12 "	18. 15 "	12	0	0.	16	10	0.	20	15	0.
36.	15 "	21. 18 "	16	10	0.	20	10	0.	28	0	0.
42.	17 "	24. 21 "	21	10	0.	28	18	0.	37	10	0.
48.	20 "	28. 24 "	27	10	0.	37	0	0.	47	17	6.
54.	24 "	32. 28 "	34	15	0.	46	15	0.	59	19	0.

ROOF SEATS NOT INCLUDED.

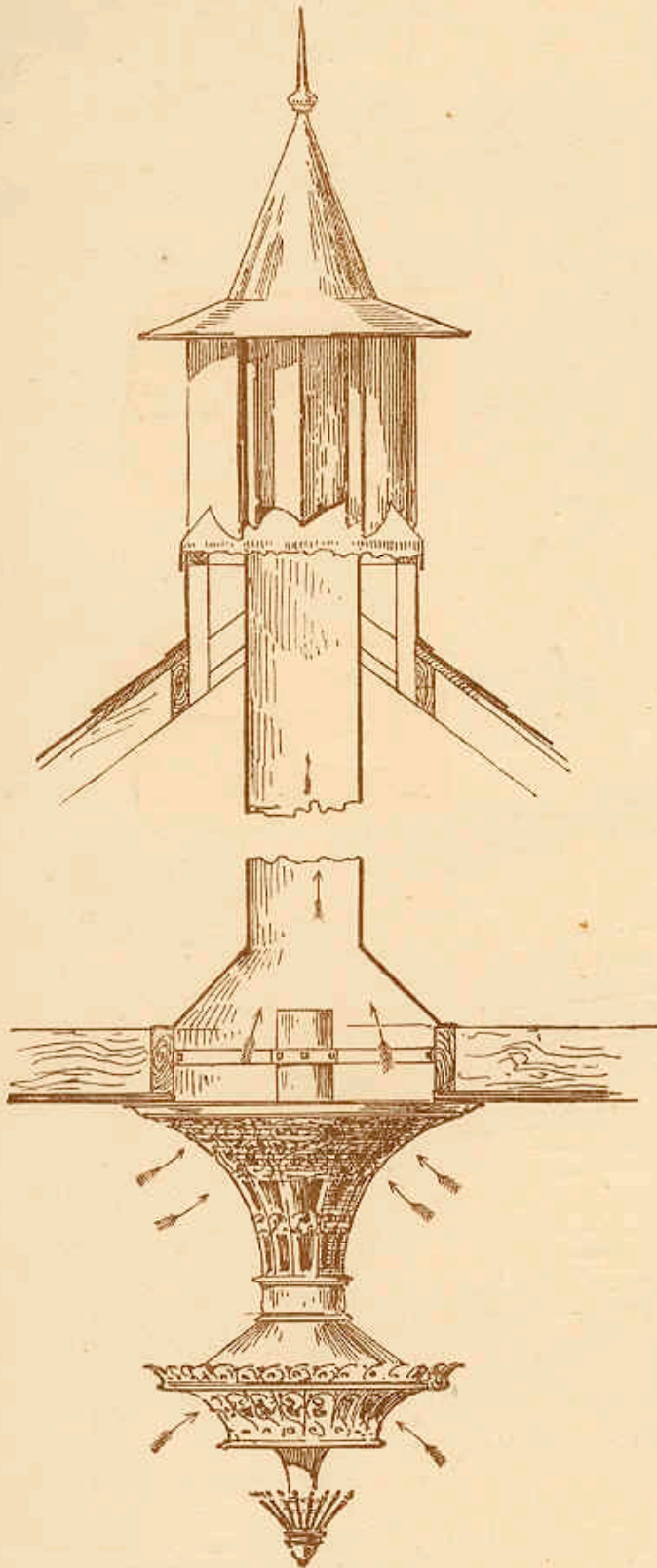
N.B. When specifying or ordering the following formula should be used "Boyle's Patent 'Air-Pump' Ventilator Design No., Dia of head, Dia of pipe, No required, Price each"



Note: Each Ventilator has the accompanying TRADE MARK affixed without which none are genuine.



BOYLE'S PATENT
"AIR-PUMP"
VENTILATOR
(LATEST PATENT)
AS APPLIED TO
A SUNBURNER



BOYLE'S THEROLITE (PATENT) Trade Mark

FOR ASSISTING THE UP-DRAUGHT IN SLUGGISH VENTILATING SHAFTS AND FLUES.

The Therolite may be usefully employed in combination with the "Air-Pump" Ventilator for the prevention of condensation and the removal of exhausted steam from Wash-houses, Laundries, Drying Rooms, Breweries, Malt Kilns, &c. It is also of assistance where ventilating shafts or flues are surmounted with ordinary cowls, which fail to create a sufficient up-draught and are subject to down-draught.

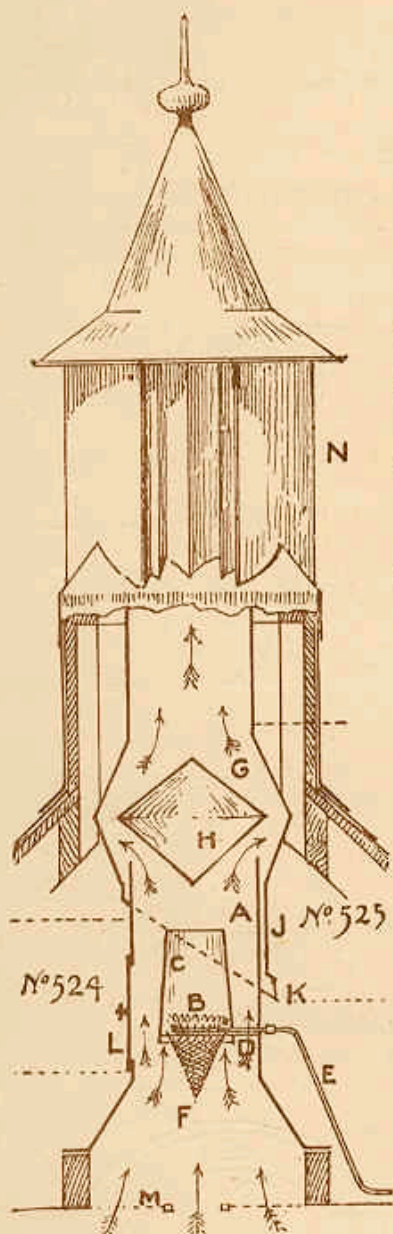
When the "Air-Pump" Ventilator is employed—which creates at all times a powerful and continuous exhaust—the Therolite is unnecessary. Where it is desired, however, to make assurance doubly sure, the Therolite may be used in conjunction with the "Air-Pump" Ventilator—particularly for such buildings as the above-mentioned—as it superheats the cold steam or vapour at the point of exit, and warms the Ventilator and shaft, preventing condensation, and accelerating the exhaust.

Description.

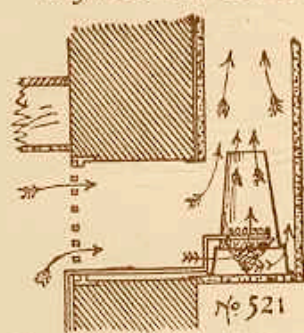
- A Section of shaft of Therolite 2 in. larger than ventilating shaft.
- B Coil burner of improved construction, giving the maximum of heat with a minimum consumption of gas.
- C Cone for accelerating the velocity of the hot-air current.
- D Supporting rods.
- E Gas pipe.
- F Flame protector.
- G Expansion chamber.
- H Double spreader, for deflecting the heated air on to sides of expansion chamber, and diverting any down current into outer cylinder J, from whence it passes through valve K. The spreader also acts as a calorifer for superheating the up-current and further assisting the exhaust.
- L Door in shaft giving access to Therolite.

NOTE.—Where the ceiling is not too high the Therolite may be lighted from below by means of a taper and long rod.

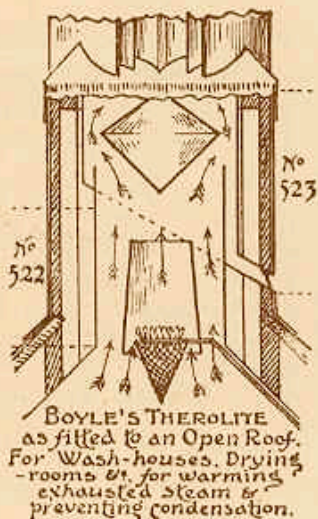
- M Ventilating ceiling panel, with opening in centre, to permit of lighting from below.
- N Boyle's Patent "Air-Pump" Ventilator, made fireproof.



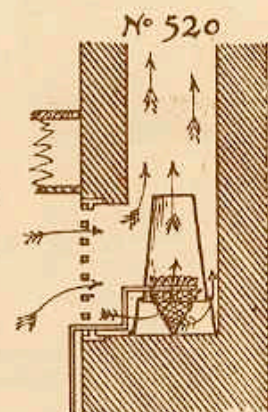
BOYLE'S THEROLITE as fitted to a Ceiled Roof:



BOYLE'S THEROLITE for fitting into External Pipes



BOYLE'S THEROLITE as fitted to an Open Roof. For Wash-houses, Drying-rooms &c. for warming exhausted steam & preventing condensation.



BOYLE'S THEROLITE for fitting into Ventilating Flues.

Dia. of THEROLITE Pipe.	Dia. of Upper Ventilating Pipe.	Nos 520 AND 521 THEROLITE for fitting into Flues & external pipes of areas equal to Ventilating pipes	Section. No 522 * THEROLITE in pipe for open roof	Section. No 523 Expansion Chamber fitted with Calorifer & down draught Cylinder	Section. No 524 † THEROLITE in pipe fitted with door	Section. No 525 Expansion Chamber fitted with Calorifer & down draught Cylinder
INS.	INS.					
11	9	£0 18 6	£1 1 0	£1 12 6	£1 3 0	£1 15 0
12	10	1 2 6	1 5 0	1 15 0	1 8 0	1 17 6
14	12	1 10 6	1 12 6	2 0 0	1 16 0	2 5 0
16	14	1 17 6	1 19 0	2 7 6	2 3 0	2 12 6
17	15	2 5 0	2 3 0	2 12 6	2 7 6	3 0 0
20	18	2 15 0	2 12 6	3 5 0	2 17 6	3 12 6
23	21	3 5 0	3 5 0	4 0 0	3 10 0	4 12 6
26	24	3 19 0	3 18 6	5 5 0	4 3 6	5 17 6
30	28	4 18 6	4 15 0	7 0 0	5 0 0	7 15 0

* May be used separately or in conjunction with No. 523.

† " " " " " " No. 525.

BOYLE'S BACTOLITE (PATENT)

FOR DESTROYING
DISEASE GERMS.

The Bactolite is intended for use in small-pox and other infectious diseases hospitals. The disease germs in the air of the hospital are entirely consumed in their passage through the asbestos furnace situated in the roof and connected with the "Air-Pump" Ventilator, so that they do not pass into and contaminate the outer air, spreading infection.

With the "Boyle" system of ventilation, as applied to small-pox hospitals, the air inlets communicate direct with the outer air through specially constructed openings made in the walls fitted with self-acting valves to prevent the air of the hospital from passing by any chance out through these openings.

The incoming air is warmed in cold weather to an agreeable temperature by means of Boyle's Ventilating Radiators without the deterioration and discomfort which results when hot air heating is employed.

In warm weather the fresh air supply is cooled in its passage through the refrigerating chambers attached to the Radiators, and washed and purified by filtration through saturated and medicated screens.

The outlets and inlets are accessible in all parts for cleansing purposes.

Description.

- A Boyle's Patent "Air-Pump" Ventilator made fireproof.
- B Main extraction shaft encased in larger shaft with space between packed with non-conducting material.
- C Double grill with space between filled with perforated asbestos balls, through which the disease germs pass and are consumed.
- NOTE.—More than one of these double grills may, where required, be fitted one above the other.
- D Ring of atmospheric burners, the flames from which render the asbestos balls incandescent.
- E Fireproof chamber containing grills.
- F Door giving access to chamber for lighting and other purposes.
- G Gas pipe.
- HH Branch extraction shafts connected with openings in ceiling.
- J Cone covering opening in ceiling.
- K Weighted regulating valve.
- LL Doors giving access to extraction shafts for cleansing purposes.

Estimates Given.

