

**NEW SYSTEM OF VENTILATION,  
WHICH HAS BEEN THOROUGHLY  
TESTED UNDER THE PATRONAGE  
OF MANY DISTINGUISHED  
PERSONS**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649341016

New System of Ventilation, Which Has Been Thoroughly Tested Under the Patronage of many Distinguished persons by Henry A. Gouge

Except for use in any review, the reproduction or utilisation of this work in whole or in part in any form by any electronic, mechanical or other means, now known or hereafter invented, including xerography, photocopying and recording, or in any information storage or retrieval system, is forbidden without the permission of the publisher, Trieste Publishing Pty Ltd, PO Box 1576 Collingwood, Victoria 3066 Australia.

All rights reserved.

Edited by Trieste Publishing Pty Ltd.  
Cover @ 2017

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form or binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

[www.triestepublishing.com](http://www.triestepublishing.com)

**HENRY A. GOUGE**

**NEW SYSTEM OF VENTILATION,  
WHICH HAS BEEN THOROUGHLY  
TESTED UNDER THE PATRONAGE  
OF MANY  
DISTINGUISHED PERSONS**



NEW  
SYSTEM OF VENTILATION,

WHICH HAS BEEN

THOROUGHLY TESTED

UNDER THE PATRONAGE OF

MANY DISTINGUISHED PERSONS,

BEING ADAPTED TO

PARLORS; DINING AND SLEEPING ROOMS; KITCHENS AND BASEMENTS; CELLARS, VAULTS AND WATER-CLOSETS; TENEMENT-HOUSES; SCHOOL, LECTURE, AND COURT-ROOMS; CHURCHES; LEGISLATIVE HALLS; POOR HOUSES, PRISONS, AND HOSPITALS; FACTORIES AND DYE HOUSES; BREWERIES AND DISTILLERIES; POWDER MAGAZINES; STORES AND SHOW WINDOWS; BANKING HOUSES; HOTELS AND RESTAURANTS; FRUIT AND PROVISION CLOSETS; PORK PACKING HOUSES; STABLES; SHIPS AND STEAMBOATS; ETC., ETC., ETC.

---

SECOND EDITION.

---

BY HENRY A. GOUGE.

"If we breathe a gas that is noxious, or air that contains but a very small proportion of carbonic acid, we die."—*Anatomy, Physiology, and Hygiene*. By PROF. JOHN C. DRAPER.

BROOKLYN:

UNION STEAM PRESSES, 10 FRONT STREET.

1867.

Eng 2608.67.5

1868, Feb. 1.  
Gift of Hon. Elias Loring  
(N. C. 1830.)

## REFERENCES.

THE Patentee respectfully refers to the following gentlemen and business firms, who have used his apparatus, or given orders for the erection of it on their premises. See also certificates at the end of this pamphlet.

|                                   |       |  |   |
|-----------------------------------|-------|--|---|
| MESSRS. HITCHCOCK, DARLING & Co., | ..... | Fifth Avenue Hotel, New-York.                    |   |
| ALBERT CLARK, Esq.,               | ..... | Proprietor Brevoort House,                       | " |
| PARAN STEVENS, Esq.,              | ..... | 244 Fifth Avenue,                                | " |
| S. H. GAY, Esq.,                  | ..... | Editor of <i>New-York Tribune</i> ,              | " |
| J. A. HAMILTON, Esq.,             | ..... | 46 Exchange Place,                               | " |
| A. B. DARLING, Esq.,              | ..... | 40 West 23d street,                              | " |
| SAMUEL SINCLAIR, Esq.,            | ..... | Publisher of <i>New-York Tribune</i> ,           | " |
| MRS. G. S. ROBBINS,               | ..... | No. 17 West Seventeenth street,                  | " |
| JAS. H. BANKER, Esq.,             | ..... | .98 Fifth Avenue,                                | " |
| HON. JUDGE HENRY HILTON,          | ..... | 222 Madison Avenue,                              | " |
| DANIEL DEVLIN, Esq.,              | ..... | City Chamberlain,                                | " |
| HON. WILLIAM DENNISON,            | ..... | Postmaster-General, Washington City.             |   |
| GEORGE RIGGS, Esq.,               | ..... | Banker,  | " |
| MESSRS. JAY COOKE & Co.,          | ..... | Bankers  | " |
| HON. S. A. BOWEN,                 | ..... | Postmaster, Washington City                      |   |
| THOMAS McELRATH, Esq.,            | ..... | 8 Washington Place, New-York                     |   |
| MESSRS. BREEDEN & SOUTHWICK,      | ..... | 109 Liberty street,                              | " |
| JOHN TAYLOR, Esq.,                | ..... | International Hotel,                             | " |
| S. D. BABCOCK, Esq., Firm }       |       |  |   |
| of BABCOCK BROTHERS, }            | ..... | Bankers,   | " |
| MARTIN BATES, Esq.,               | ..... | 51 Broadway,                                     | " |
| CHARLES A. MEIGS, Esq.,           | ..... | Banker, Exchange Place,                          | " |
| MESSRS. MIDDLETON & Co.,          | ..... | Shippers,  | " |
| R. W. MILBANK, Esq.,              | ..... | 82 Front street,                                 | " |
| LYMAN FISK, Esq.,                 | ..... | Stevens House,                                   | " |
| A. MCKINNEY, Esq.,                | ..... | 121 Beacon street, Boston.                       |   |
| J. P. RICHARDS, Esq.,             | ..... | Belmont Hotel, New-York.                         |   |
| MESSRS. SYMONS & HAVENS,          | ..... | Market, Fulton street, Brooklyn.                 |   |
| D. D. WINCHESTER, Esq.,           | ..... | Western Hotel, New-York.                         |   |
| MESSRS. CLARK & SCHENCK,          | ..... | Merchants' Hotel,                                |   |
| JOHN W. RITCH, Esq.,              | ..... | Architect, 153 Broadway,                         | " |
| MESSRS. WILLIAM FIELD & SON,      | ..... | Architects, 54 Wall street,                      | " |
| WILLIAM B. DYMARS, Esq.,          | ..... | Architect, 18 South Seventh street,              | " |
| CHARLES COOPER, Esq.,             | ..... | Fulton Market,                                   | " |
| CHARLES SCHEDLER, Esq.,           | ..... | No. 24 Broad street,                             | " |
| MESSRS. CLARK & SON,              | ..... | No. 115 Washington "                             |   |
| B. CASHERLY, Esq.,                | ..... | Gen. Superintendent Commissioners of Emigration, | " |
| McPHERSON SMITH & }               |       |  |   |
| DONALD SMITH Esq., }              | ..... | Brewers, No. 160 West 18th street,               | " |

|  |   |
|--|---|
| JAMES E. COULTER, Esq.,  | Warden City Prison, New-York.   |
| ELIE CHARLIER, Esq.,   | Charlier Institute, 24th street, "                                      |
| REV. S. A. FARRAND,  | Sixth Avenue, "   |
| E. V. HAUGHWOUT, Esq.,   | Cor. Broome & Broadway, "   |
| MESSRS. SAMUEL RAYNOR & Co.,                                       | No. 115 & 117 William street, "   |
| JOHN HAYES, Esq.,  | { Chairman Warming and Ventilating Committee<br>Board of Education, "   |
| Major-General O. O. HOWARD,  | Washington, D. C.   |
| P. ROESSELE & SON,   | Proprietors Delavan House, Albany.                                      |
| MESSRS. RITCH & GRIFFITHS,   | Architects, 153 Broadway, New-York.                                     |
| ROBERT S. HONE, Esq.,  | President Republic Insurance Co., "                                     |
| HORACE H. DAY, Esq.,   | No. 23 Cortlandt street, "  |
| HORACE GREELEY, Esq.,  | Editor <i>New-York Tribune</i> , "                                      |
| EDWARD CAREY, Esq.,  | Editor <i>Brooklyn Union</i> .  |
| WALTER BROWN, Esq.,  | No. 58 Broadway, New-York.  |
| MESSRS. CAPE, CULVER & Co.   | No. 16 & 18 Leonard street, "   |
| MESSRS. F. A. FERRIS & Co.,  | No. 263 Broome " "  |
| MESSRS. ARNOLD, CONSTABLE & Co.,                                   | No. 307 Canal street, "   |
| JOHN G. LATIMER,   | Proprietor of Latimer's Hall, Brooklyn.                                 |
| MISS JAY,  | No. 272 Madison Avenue, New-York.                                       |
| P. B. ROBERTS,   | 228 Fifth Avenue, "   |
| Brig-General C. H. HOWARD,   | Washington, D. C.   |
| B. B. FRENCH, Esq.,  | Commissioner of Public Buildings, " "                                   |
| H. D. COOK, Esq.,  | Firm of J. Cook & Co., " "  |
| ISAAC BELL, Esq.,  | { President Commission of Public Charities and<br>Correction, New-York. |
| JOHN E. WILLIAMS, Esq.,  | President Metropolitan Bank, "  |
| A. V. STOUT, Esq.,   | " Shoe and Leather " "  |
| BENJ. R. WINTHROP, Esq.,   | " Deaf and Dumb Asylum, "   |
| H. W. MEEKER, Esq.,  | Cashier of Bank of New-York, "  |
| C. H. LOUTREL, Esq., Firm }<br>of FRANCIS & LOUTREL, }             | No. 45 Maiden Lane, "   |
| NATHAN BISHOP, Esq.,   | No. 11 East 24th street, "  |
| MESSRS. ROBERT HOE & Co.,  | No. 29 Gold " "   |
| R. HOE, JR., Esq.,   | No. 48 West 32d " "   |
| JOHN DUNHAM, Esq.,   | Engineer of the Board of Education, "                                   |
| W. E. DODGE, Esq., Firm of PHELPS, DODGE & Co.,                    | Cliff street, "   |
| CALVARY BAPTIST CHURCH,  | No. 5 West 23d " "  |
| W. H. WARNER, Esq.,  | No. 8 Murray " "  |
| JOHN HOUSTON, Esq.,  | Engineer, Erie Railroad, "  |
| C. E. DOUGLASS, Esq.,  | No. 170 Fifth Avenue, cor. 23d street, "                                |
| D. G. FARWELL, M.D.,   | Cor. of Court & Joralemon streets, Brooklyn.                            |
| GEO. A. THAYER, Esq.,  | No. 71 Pierrepont street, "   |
| MESSRS. ACKERT & QUICK,  | Builders, Yonkers, New-York.  |
| WILLIAM A. BUTLER, Esq.,   | " " " "   |
| WILLIAM WORTHEN,   | Engineer Metropolitan Board of Health, "                                |
| MESSRS. SPOTTS & HAWK,   | St. Nicholas Hotel, "   |
| A. R. WETMORE, Esq.,   | President New-York Juvenile Asylum, "                                   |
| SAMUEL D. BROOKS, M.D., Supt. and Physician N. Y. Juvenile Asylum, | " "   |
| MESSRS. THOMAS & SON,  | Architects, No. 470 Broadway, "   |

## CONTENTS.

|  | PAGE  |
|--|-------|
| References .....   | 5 & 6 |
| New System of Ventilation .....  | 7     |
| Foul Air and Diseases Synonymous—The New-York Tribune .....  | 8     |
| The Food we eat—Ventilated Provision Closets .....   | 10    |
| Noxious Gases—How they act upon and destroy the Blood—Dr. Mattson's Testimony .....  | 10    |
| To Architects and Builders .....   | 12    |
| Paran Stevens, Esq.—Ventilation of his Stable, Kitchen, and Refrigerator—Meat-House in the Fifth Avenue Hotel .....  | 13    |
| Ventilation in New-York Hotels—Albemarle, Brevoort House—Fifth Avenue Hotel—St. James's—St. Nicholas—Braudreth House—Merchants' Hotel—Western Hotel—Stevens House—International Hotel .....                      | 16    |
| Pork House Ventilation—Messrs. Silverhorn, Millemann, and Lockett—Pork cured at Fifty Degrees of Temperature .....   | 17    |
| Ventilation of Stables—Horses sicken and die from bad air—Zoölogical Gardens—Varnish of Carriages Destroyed—Cow Stables—Poisonous Milk—Statement by Professor Doremus .....                                      | 19    |
| Palaces and Stables in New-York City—A Word about "Fresh Milk"—Peevish Mothers .....   | 22    |
| Water-Closet Ventilation .....   | 24    |
| Smoking-Rooms—Regard for the Health of your Wife and Family .....  | 25    |
| Sub-Cellars, Basements, etc.—Goods Saved from Rusting .....  | 25    |
| Fruit-Rooms—Preservation of Fruit in its natural state—Strawberries kept ten days, and Ripe Peaches three weeks .....  | 26    |
| Show-Window Ventilation .....  | 27    |
| Refrigerators .....  | 28    |
| Facts Concerning the Preservation of Meat, Butter, and Milk—Ventilated Milk and Butter Houses—Testimony of Mrs. G. S. Robbins .....  | 29    |
| Banking-Houses—Judge Hilton and his Stable—Ventilation of the New-York Bank—Pure Air a Valuable Panacea .....  | 30    |
| Washington City Post-Office—A Fact for the Skeptical—Orders from Jay Cooke and Geo. W. Riggs, the noted Bankers .....  | 31    |
| Bank-Vaults—Powder-Magazines—Sailing Vessels—Commodore Foote .....   | 32    |
| Churches—A new Mode of Ventilation tested—Anecdote of a Distinguished Clergyman .....  | 33    |
| Inefficiency of Flues or Chimneys as a means of Ventilation—Origin of Chimneys—Divided Flues .....   | 35    |
| The New Method of Ventilation Explained—Theories considered—Adaptation of the Ventilator—Prof. Draper's Mode of Ventilation—Advantages of the Ventilator—Question for Physicians .....                           | 37    |
| Ventilation of School-Rooms—A Startling Fact .....   | 44    |
| Driftings of the Public Mind in reference to Ventilation—The Air we breathe—Tribune—Judge Dikeman—Unventilated Cow-Stables—Protest to Mr. Beecher—Beecher and the Medical Profession—Harriet Beecher Stowe ..... | 44    |
| Want of Ventilation in School-Rooms—Foul Air of Court-Rooms .....  | 49    |
| Food and Fresh Air contrasted—Arsenic and Prayer-Meetings—Tavern Life in Connecticut .....   | 50    |
| Experiment in Church Ventilation—Receipt for Consumption, Dyspepsia, etc. .....  | 51    |
| Testimonials .....   | 52    |



## NEW SYSTEM OF VENTILATION, &c.

---

THIS pamphlet is written for the purpose of giving a brief explanation of what is termed "*Gouge's Atmospheric Ventilator*," which was invented and patented some years ago. It has been extensively used since that time, having been put into practical operation in hundreds of instances, and in every instance with complete and entire success. In view of this positive assertion, which, it is believed, will be sustained by the gentlemen who have honored the writer with their names as references, it may as well be stated that the patentee never asks to be paid for his services until he has fully accomplished the object for which he has been employed. In this way he hopes to win the confidence of those who apply to him for his professional services. Although the principle involved in the new system of ventilation, which will be hereafter explained, is simple and obvious, yet the successful application of it is sometimes very difficult, owing to conditions and circumstances which he will not attempt in this place to describe; but with the varied experience which he has had for many years, ventilating, as he has done, some of the most difficult places that can be imagined, he believes that he will be able to render full and entire satisfaction to every one who may apply to him for his services.

### FOUL AIR—WHAT MAY BE DONE BY VENTILATION.

Foul or noxious air, in any of its forms, is eminently dangerous to health and life, as every physician who has thoroughly studied the subject will admit; but if we have the *bans*, we also have the *antidote*. The Atmospheric Ventilator, when properly adapted to the purposes required, will banish foul air and unwholesome odors and gases from every part of one's domicile, workshop, store, office, building, or other unsavory or infected place, and furnish in their stead a full supply of fresh, pure, dry air, which will keep the blood in healthful circulation, and aid in counteracting the many tendencies to disease. The air of one's kitchen may be rendered as sweet as that upon the mountain-top, instead of being

permitted to permeate and contaminate the whole house, imparting a kitchen odor to one's parlors, bedrooms, and even the dresses in one's wardrobe.

Water-closets may be deprived of their effluvia, and thereby truly rendered what is termed a "*modern improvement*;" cellars and basements may be rendered dry and sweet, so that you may go into them without the risk of contracting an asthma or a rheumatism; and your sleeping rooms may have the carbonic acid gas which is discharged from the lungs in breathing, with other poisons exhaled from the surface of the body, carried off as rapidly as they are formed, instead of being taken back again into the lungs; and in the place of these noxious agents, you will have pure air, in a steady, gentle, continuous volume, introduced into your rooms without exposing the occupants to draughts, as is the case when the windows are opened; and thus, upon rising in the morning, you will feel refreshed and invigorated, fully prepared for the duties or toils of the day, instead of suffering with that languor and debility which are so frequently experienced after sleeping all night in a close and poorly ventilated room. Ladies will have a finer *rouge* upon their cheeks than they can get from pink saucers, if they will only accustom themselves to sleep all night in a fresh and pure atmosphere.

FOUL AIR AND DISEASE SYNONYMOUS—THE NEW-YORK TRIBUNE.

The writer of this is not a physician, but in the course of his professional duties, ventilating kitchens, basements, water-closets, offices, stables, and all sorts of places, he has seen enough to satisfy him that a great deal of disease results from bad air without the cause oftentimes being suspected. The people have yet to learn that pure air is one of the most essential requisites of a healthy existence. The influence of bad air has been constantly apparent to the writer. He recently visited a poor-house, in which there was no adequate ventilation, and the children were nearly all suffering with sore eyes and other marks of disease. They were wretched-looking objects. The directors feared the approach of cholera, and wished to have the place ventilated. When this is done, it will be found that much of the prevailing disease will disappear.

We ventilated a large banking-house in New-York City in which the air was extremely foul, and, when the work was done, the clerks experienced an immediate change in the atmosphere;

they felt refreshed and invigorated, instead of experiencing that sense of weariness and lassitude which accompanies a noxious air. One of the clerks, who had been for a long time asthmatic, immediately recovered his health.

A gentleman occupying a very handsome residence, had what he considered a damp and unwholesome parlor, for he scarcely ever came home from his counting-room and threw himself upon the sofa without feeling as though he had taken a severe cold. Underneath the parlor was a damp sub-cellar, to which I attributed the difficulty, and, upon establishing a proper ventilation, he ceased to take cold, and ceased also to be troubled with frequent attacks of rheumatic pains.

Let me add the authority of the *Tribune* in relation to the pernicious influence of bad air. My first introduction into the *Tribune* office was in consequence of a water-closet which had given them a great deal of trouble, imparting a disgusting odor to the editorial rooms. It had been pulled down and newly erected three times, but still the nuisance was not abated. The proprietors of the establishment wished to avail themselves of my mode of ventilation, which was duly established, and which gave so much satisfaction that I was complimented with an editorial notice in the *Tribune*, from which I make the subjoined extract: "More deaths occur annually in New-York which may be directly traced to bad ventilation, than are produced by all epidemical diseases combined. The atmosphere of many of the offices and counting-rooms is so poisonous that any one entering them from the fresh air is actually stifled, though unnoticed by the inmates, except by general lassitude, headaches, and incapacity for work. In our office we have introduced Mr. Gouge's system of ventilation with marked success. There may be as good, or even a better plan, but we have found this as effectual as any thing can be in ill-contrived rooms. But what we desire to see is some plan adopted whereby the exhausted and impure air which is generated in the crowded shops, offices, schools, and factories of our city may be constantly displaced by the introduction of fresh and vital air."

Not only man but the domestic animals suffer from impure air. We have frequently noticed this in ventilating horse stables. The poor animals, not having a full supply of pure air, gradually sicken, and begin to lose their sight. There is an immense amount of blindness among horses on this account. It does not seem to be understood that a horse needs fresh air quite as much as he needs hay or oats. We have seen splendid horses, which have cost the