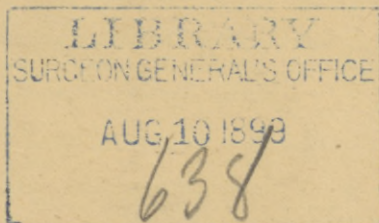


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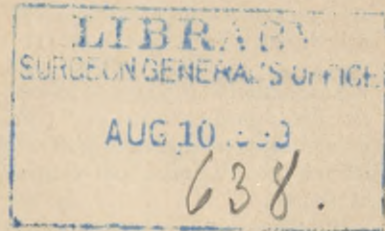
Sanitary reform ~~\_\_\_\_\_~~





Wm. R. Stone

Compliments of the Author.



## Sanitary Reform and Preventive Medicine.

Annual Address Delivered before the Medical Society of the County of Washington, on the Occasion of its 73d Anniversary, at Cambridge, June 24, 1879,

BY JOHN LAMBERT, M. D., PRESIDENT,

*Corresponding Member of the Gynecological Society of Boston, Permanent Member of the National Medical Association, and Delegate to State Medical Society.*

[PUBLISHED BY REQUEST OF THE SOCIETY.]

GENTLEMEN—We are again met in annual session.

For us, as much as for any class of men, has the universe of nature been kept in order another twelve months. We have given another year to the responsibilities of our professional duties; and we come together to-day to exchange fraternal greetings, to compare notes, and to extend mutual encouragement in the fid-  
lities that remain to us.

You are reminded that the first meeting of this society was held in Sandy Hill, on the 1st day of July, 1806, and that upon the same day "in the front court room of the City Hall," in the city of New York, was born "The Medical Society of the County of New York."

I recently noticed in the minutes of the Medical Society of the County of New York, just published, that their first president, Dr. Nicholas Romaine, supposed the

society to have been "the first medical institution, which has been carried into effect by the laws of this State,"

We may respectfully correct this error, if still indulged in, while we most cordially and chivalrously send greeting to this stalwart twin brother, and add our sincere wish, *florereat semper*.

I shall not seek to arrest your attention or detain you by attempting to discuss some novel or profound medical question.

When I had the honor of addressing you in this village, in 1873, under similar circumstances, it was my pleasure to note the progress of "Practical Medicine," during the preceding quarter of the century.

I desire to-day to ask you to recognize with me the claims of preventive medicine upon our attention, and to emphasize our duty to the public in the matter of Sanitary Reform and Public Hygiene.

A vast amount of research and learning has been expended in the development, defense, and overturning of the various theories and schools of medicine that have arisen from time to time; and yet in this process of evolution, sometimes amounting to revolution almost, real advancement has been steadily made, and permanent ground has been attained. Medical skepticism is becoming more and more a thing of the past.

Hitherto, during the centuries, until within a few years, it has been the special province of the physician to cure disease, or alleviate pain and suffering, to prolong life and make it endurable.

The demands of humanity and pecuniary rewards, (such as they have been) as well as higher motives with many, have been sufficient to stimulate our profession to work well and meritoriously.

The time is come, however, for us to advance to a still higher point of attainment and usefulness.

All the world is advancing in every department of human and divine knowledge; and the medical profession is not, and will not be, behind any in its proud march to a higher civilization.

There always have been, and will continue to be, unworthy and pretentious men and women calling themselves by our name, but they can never turn back the hands of our dial—they cannot long mislead.

Dr. O. W. Holmes has said, "There are people who think that everything can be done, if the doer, be he educator or physician, be only called in season. No doubt; but *in season* would often be a hundred or two years before the child was born, and people never send so early as that."

It requires a subtler insight into the forces of nature to discover the hidden germs of disease, and the conditions of its development, and to know how to prevent this, than does it to recognize a fully fledged disease, and bring it down with the abundant resources at command.

It requires a higher type of a man to labor

for the banishment of disease from the world, than it does to play the plausible nostrum dealer—as many do, to gain the world's applause and pelf.

It is surprising to note the apathy which has existed in the minds of men for ages regarding the causation and prevention of diseases, except when some direful epidemic or plague has swept away its victims past recovery.

The American people have been proverbially indifferent, until within a few years, to the conditions of life and health, although noted for their credulous resort to physicians and remedies when ill or sick; and, indeed, so true has this been, that it has been considered an almost indispensable and fashionable luxury to employ the *popular physician*.

It is because of our characteristics in these matters that a serious question has arisen in the minds of those well informed, whether the descendants of the original settlers of this country were not gradually giving place to other races, possessing more vigor physically, but having less nervous and mental activity.

I do not join in the apprehension, because the Americans are coming to *realize* the vital importance of the situation, and are coming to ask, as never before, what causes not only our fatal epidemics, but what produces each and every disease, and how can they be avoided.

The profession, I am proud to say, is coming rapidly forward to see and appreciate its responsibilities in the premises—and already most gratifying results have been attained in the increasing longevity and vigor of the people.

The intelligence, capacity or efficiency of the physician is no longer challenged—as heretofore—who asks, "Cannot he cure the patient by simply removing the cause of his disease? Is any medicine necessary? Can he do good by medication? May he not do evil? How little can he give to act efficiently?"

It is unquestionably true that longevity and vigor have been increased during the

past 25 years in this country and Europe, among the better and well-to-do classes, and this is, doubtless, due to the improved conditions of life enjoyed, and the more careful observance of the laws of life, as they have been developed during this period.

It is noticeable, in this connection, that able and efficient laymen, as writers—legislators, engineers, and municipal authorities, have been devoted to the cause of Public Hygiene, so vital to every community, and I apprehend that—such is the growing intelligence among the people regarding these matters—no physician can long sustain himself successfully by a resort to egotistical dogmatism in medicine—or to a showy polypharmacy.

Hereafter it shall not be the cunning man, nor average practitioner, who will meet the demands of the times—but the studious—thoughtful—and scientific physician, the one prepared at every point to meet the issues before him, whether these be the prevention or cure of disease.

Neither such teachings as those of our fellow countryman, Dr. Rush, "Turn nature out of doors, gentlemen, and appeal to art—" nor Cullen's, *vis medicatrix naturae*—give us our true theory of practice, but nature, and art and science based upon the unequivocal revelations of nature, can alone lead us to the safest results.

There is no medical skepticism here, gentlemen.

For a few years prior to the late war, the subject of sanitary reform was discussed by such laymen as Lemuel Shattuck, of Boston, and Edwin Chadwick, of London, and by various sanitary conventions, medical societies, and boards of health. Numerous papers and reports on filth diseases, etc., etc., were published by these individuals and organizations, and often under the patronage of state, municipal, or government authorities.

During the war great advance was made, and an immense amount of valuable knowledge was obtained and tabulated. Both at the North and South, the beneficent work

was carried forward by the respective governments, and the different sanitary commissions. Not only were many valuable lives saved and much suffering averted, but thousands inside and without the military lines were taught the necessity of observing Hygienic laws.

Valuable papers for the surgeons and the rank and file of the armies were written by experts and issued by the Government, and the principles inculcated were by no means lost when the struggle was finished. Since then, State and municipal Board of Health have published documents of great value. Statistics and pregnant facts bearing on the subject of preventive medicine, have been industriously gathered from every civilized nation, and many axiomatic principles have been declared.

The N. Y. Metropolitan Board of Health has added much to the advancement of popular, as well as professional, knowledge on the subject in hand. The state Board of Health of Massachusetts are publishing an invaluable series of yearly reports embracing a wide range of investigation, conducted in a thorough and scientific manner.

The American Health Association and the American Medical Association have issued important contributions on the origin and mode of transmission of diseases, quarantine, climatology, water-supply, etc. etc. The National government has been constantly gathering and tabulating facts for present and future use—and a bill has just passed congress, which will secure greater system and efficiency to the work.

Dr. Henry I. Bostwick, of Boston, is a most indefatigable and scientific worker in this department—and he is recognized as an authority—*facile princeps*—on Public Hygiene. The secular and religious press, the magazines, and public lecturers are constantly urging upon the people the necessity of drainage, sewerage, ventilation a pure water supply, etc., etc.

The fearful epidemic of last year at the South has given the subject of sanitary reform a marked impulse—and there has

been created almost a panic in reference to the sanitary condition of our watering places, hotels, and places of Summer resort. The local authorities, and the proprietors of houses of entertainment, even in the most rural districts are feeling the necessity of putting their places in the most perfect sanitary condition in all respects, in order to secure and retain the patronage of the tide of the city people who annually seek the country for rest and recuperation.

I have the best authority for saying that one of the most popular of our summer resorts, and one quite as dependent as Saratoga, came near losing its entire patronage last year, because of its pernicious system of privy vaults and cess pools, which so contaminated the air and impregnated the water as to induce serious apprehension of an epidemic, and—indeed—during the previous winter, typhoid fever and diphtheria had prevailed fatally, with this as the assignable cause. An efficient Board of Health, with an eminent sanitarian at its head, has removed the insanitary condition and restored confidence. It is safe to say that, within the last ten years, greater advance has been made towards a more perfect understanding of the causation of diseases and their prevention in all civilized countries, than during the whole previous period of the Christian era.

Gentlemen, we must not, and I am sure will not be idle spectators in the development of this new epoch in medicine, so full of promise and blessing to humanity, founded as it is in nature, art and applied science, and a careful observation of a multitude of relevant facts.

We shall abandon nothing of all the wonderful attainments that have been made—we shall take no step backwards.

Upon us largely will devolve the responsibility of educating the people of our respective localities, and of assisting them in carrying out intelligently the various measures necessary to the requirements of each

place. We shall not always find it an easy task to convince our neighbors of the necessity of these measures; and especially where ignorance, prejudice, or pecuniary considerations enter into the question.

In looking at the subject in hand, as it presents itself to us, situated as we are in villages and rural district, I can only refer to matters which more urgently demand our attention i. e: (a) the necessity for a radical change in the prevailing system for the disposition of filth, especially of human excrement; (b) the importance of drainage, especially house drainage; (c) the vital necessity of more perfect ventilation for private and public buildings, and especially school houses; (d) the demand for private funerals in cases of contagious diseases; and (e) the importance of establishing intelligent and efficient boards health in every town

Cleanliness in our habitations and surroundings is a prime condition to life, health, longevity and happiness. Filth is intimately associated with disease, death and misery.

No form of filth is more common, offensive, or dangerous to life and health than is human fecal excrement. A dangerous refuse in the body, it is cast out in the vicinity of our dwellings, and is stored, often for years, in vaults of most faulty construction, and situated near the well used to supply the family with water.

It often finds its way speedily into the well—or oozing into the surrounding soil much further and deeper than is usually supposed, it reappears in a gaseous form as a telluric poison in the atmosphere of the cellar or vicinity of the dwelling.

Now add to this fermenting mass of filth the germs of typhoid fever, or some other pernicious disease and you have all the conditions, in many cases, that induce disease and death.

The only safe plan is to remove the excrement speedily, and as far from human dwellings as possible—and by water carriage, where this can be done.

Among us this can seldom be accomplished; and we must, of necessity resort to some form of privy.

We need then,

"(a). Ease and inoffensiveness in removing the excrement.

(b). Security against its being absorbed by the material of the receptacle in which it is temporarily retained, or by the adjacent soil.

(c). Security against offense.

(d). Economy."

After giving the subject careful attention, I am convinced that these indications are best met by our people, in the village and on the farm, by adopting some form of earth closet. This should be so constructed as to have small, impervious, easily removed and cheap receptacles. They should not be large enough to receive more than a week's accumulation, and it is much better to have them emptied daily.

Coal ashes or perfectly dry earth, (loam) well sifted, should be added to the contents, either at each using or at short intervals. No slops of any kind should be thrown in. Proper urinators, well disinfected, are essential. Every privy, should be well ventilated and freely disinfected. A strong solution of copperas is probably the best and most available disinfectant. An ordinary privy so constructed as to admit the easy placing and removing of half a kerosene barrel, with a fresh and disinfected "pail," answers every purpose, either for the village or farm house.

The pails should be emptied into a heap and composted with lime, ashes, and such other materials as will be of value—and this should be applied to growing crops, which have been found to be the most efficacious agents for the disposition of the pernicious ingredients.

It is a matter of essential importance, in a sanitary view, that a proper and safe cess pool be provided by every family, that it be kept in good order and frequently emptied.

The common method of disposing of slops is by an open drain, or by a conduit

leading to the privy vault, or to a cess-pool quite near the dwelling, and so constructed as to drain off the contents without further trouble, until it fills up and overflows, and becomes an abomination.

The result is pernicious in the extreme, and the method is indefensible. The contents of cess pools undergo decomposition very rapidly, and deleterious gases escape freely. The soil is permeated by the filth, and the water of the well in very many cases is impregnated.

Absolutely water-tight cess pools should be constructed, and of moderate dimensions. They should be safely ventilated. Earth, lime, etc., should be freely used, and they should be emptied, disinfected, and the contents disposed of, as in the case of privy vaults.

Every country practitioner, and especially those doing business in a hilly country like our own county, must be aware of the liability to deleterious effects arising from the too common practice of locating barns, stables, cow-yards, pig-styes, privies and so on, too closely to, and frequently on a higher grade than, the dwelling houses of our farmers. Often these are neglected, filthy pools of stagnant water are allowed to stand for weeks, or they are washed by rain storms and melting snow, and their contents flow out infiltrating the soil and impregnating the air and drinking water.

It is no matter of surprise that typhoid fever is said to be a resident of the farm house.

We may and should use our influence to correct the evil.

The intimate relations existing between a water infiltrated, filth impregnated, soil, and some of our most formidable diseases are so intimate and patent, and have been so frequently and sadly demonstrated and recognized, that I need not discuss with you the necessity of drainage in general, and yet I apprehend that we shall find it exceedingly difficult to impress the people with the idea sufficiently to induce them to make the requisite outlay under competent engineers or overseers. This subject is at-

tracting very general attention in this country and Europe, and we shall from year to year feel its importance more and more. We may each keep the matter constantly before our respective communities.

The importance of securing *perfect* drainage and sewerage for dwellings and out-buildings cannot be over-estimated, nor can the pernicious effects of the dampness of the air of our cellars and houses be over-stated, and especially where the atmosphere is surcharged with telluric poisons, the emanations of decaying vegetables, and the accumulated stores of rubbish coming down through the centuries, almost.

The yearly cost in sickness, deaths, and money to this county from the want of perfect house drainage and sewerage is very large. Our people living on the side-hills are generally misled in supposing, from their comparatively dry surface, that they are well drained.

The fact is, in most locations, that the surface water, with all its freight of filth, finds its way to an underlying hard-pan, or impervious rock, and thence into the well, the cellar, or it may be it is stored in large pits in the earth as pestiferous reservoirs of disease. I have only time here to say that too great care cannot be exercised in reference to this branch of our subject. It has been thoroughly elaborated in various works on sanitary science.

It is estimated that 40 per cent. of all preventable diseases are produced by impure air. The number of deaths yearly from this cause alone, in Philadelphia, one of the healthiest cities in the world, is put down at 6,686. If this be true of such a city as Philadelphia, what must be the truth regarding New York city and London, where people are so closely packed in dormitories filled with every conceivable impurity of air. This immense expenditure of vital force is not confined, however, to the city; for everywhere, where men live in houses, we find the same pernicious influences to a greater or lesser extent.

What is the source of this impurity, and what is its remedy.

If you make an analysis of the external atmosphere, taking specimens from all parts of the world, from mountain to valley, and from the country and the city, you will find this vast ocean of air almost identical in its constituent elements—seldom containing neither more than 6 nor less than 4 parts of carbonic acid in ten thousand measures.

Now look at the atmosphere of the houses in which we dwell, where we worship, educate our children, or carry on our manufacturing, and what is the result? A lecture room, just as the lecture began, contained 42.5 parts carbonic acid, and at the close 67 parts in ten thousand. A bed room on rising in the morning contained 48 parts, and after being aired two hours 16 parts. A railroad car contained 34 parts, and, worst of all, a well filled school room will *average* 72 parts of carbonic acid in ten thousand. Next to a jail, the atmosphere of our American school rooms is dangerously pernicious.

I think that we will find, on a careful study of the subject, that the statement that "Man's own breath is one of his greatest physical enemies," is not far from the truth. It devolves upon us, as physicians, to keep the matter constantly before the people; to insist upon a free and perfect ventilation of all our private and public buildings—and I urge with especial earnestness that you exert yourselves strenuously regarding a thorough reform in the ventilation of our school houses—where the coming men and women of our county are literally incarcerated, for six hours daily, in an atmosphere loaded with deadly carbonic acid, coal gas, and baleful emanations from the bodies of many filthy and diseased children. It is astonishing to notice the indifference, ignorance, and unpardonable stupidity of all concerned, trustees, parents, teachers and physicians included, regarding this matter of prime and vital importance to the rising generation.

The children have every care and ex-



pense lavished upon them, and then are left to die prematurely, or to develop serious and permanent constitutional defects, simply because they are denied God's pure air, while struggling with educational problems.

Gentlemen, if I succeed in nothing else to-day, in my endeavor to awaken greater interest in sanitary matters among us, I implore you go home and ventilate your school houses. Dr. J. R. O'Sullivan, of New York city, is pre-eminently the leading apostle of school hygiene in the world.

The remedy for the evils of imperfect ventilation is simply so to adjust doors, windows, fire places, and the necessary ventilators, that you shall have a *current* of pure external atmosphere passing through your dwellings and public buildings day and night.

I have little confidence in any patent arrangements. They generally are defective, expensive, and at best only seldom properly operated.

I need only call your attention to the importance of greater care regarding the holding of public funerals in cases of contagious diseases. Medical literature abounds in illustrations of the danger of exposing the community under such circumstances, and we all have professional experience, which emphasizes our duty to the public in the matter.

As members of a liberal profession, and as the subject comes directly within our province, we shall, I doubt not, seek to induce our respective authorities to establish intelligent and efficient Boards of Health in every village and town.

There are sanitary matters in every community requiring attention, and there must necessarily be some organized and legally constituted body to enforce attention on the part of all concerned. I am pleased to say that, in the village of Salem, we have a Board of Health, fully sustained by an intelligent Board of Trustees. We have made material progress in the matter of public hygiene, and we hope soon to make our

village as healthy as it is delightful in situation.

I am fully aware of the imperfect manner in which I have covered the ground proposed.

It was with some hesitation that I determined to make the subject of Sanitary Reform and Preventive Medicine the text of the remarks expected of me officially to-day; feeling that your own intelligent apprehension of the subject would leave nothing new for me to add.

If I have succeeded in arresting your attention regarding our duties in the premises, my object will have been accomplished.

I cannot conclude these remarks more fittingly than by quoting the impressive words of Prof. S. D. Gross, the Nestor of American surgery, on the occasion of the assembling of the State Medical Society of Kentucky, on the 13th inst. (June), for the purpose of erecting a monument to the memory of Ephraim McDowell, who first performed (in 1809) ovariectomy, an operation which has already saved the lives of 2,000 women: They are thus:

"Young men of the Kentucky State Medical Society, listen to the voice of one who has grown old in his profession, and who will probably never address you again, as he utters a parting word of advice. The great question of the day is not this operation or that—not ovariectomy, lithotomy, or a hip-joint amputation, which have reflected so much glory upon Kentucky medicine; *but preventive medicine*—the hygiene of our persons, our dwellings, our streets—in a word, our surroundings, whatever and wherever they may be, whether in city, town, hamlet, or county, and the establishment of efficient town and state boards of health, through whose agency we shall be the better able to prevent the origin and fatal effects of what are known as the zymotic diseases, which carry so much woe and sorrow into our families, and often sweep like a hurricane over the earth, destroying millions of human lives in an incredibly short time. The day has arrived

when the people must be aroused to a deeper sense of the people's welfare and suitable measures be adopted for the protection, as well as the better development of their physical, moral and intellectual powers. This is the great problem of the day; the question which you, as representatives of

the rising generation of physicians, should urge, in season and out of season, upon the attention of your fellow-citizens; the question which, above and beyond all others, should engage your most serious thoughts and elicit your most earnest co-operation."

June 1879.

To the Hon. Board of Trustees of the village of Salem.

The Board of Health respectfully submit their annual report for the year ending June 1879.

The Board constituted by your action, organized at a meeting held at this office: John King, Chairman; John Lambert, M. D., Health Officer; Wm. McMorris, Chairman of committee of inspection with powers to command the services of the members of the Board. Joseph Oliver, Secretary.

A thorough examination of the premises of every occupant in the village was determined upon, as preliminary to a more definite understanding of the sanitary condition and necessities of our village.

This inspection was made personally by two or more members of the board, and 254 premises were visited.

There were found of deep privy vaults.	131
Surface privy vaults.....	97
Privies connected with open water courses.....	8
And of earth, or well arranged water-closets.....	18

254

Open drains, or cess-pools, connecting directly or indirectly with the source of our water supply used for drinking and culinary purposes were found to be almost wholly prevalent; a few families, less than twelve, having adopted suitable and safe measures for the disposition of slops.

Eighty-two persons were notified in writing to attend to various matters pertaining to private and public hygiene.

The Board are gratified to report that, in a few instances, parties thus notified have manifested a prompt and intelligent interest in the matter.

They regret to be compelled to add that not a few of those notified have indicated less concern thereto than, in our judgment, should be permitted in any well regulated community.

Whatever questions may arise touching private rights and privileges, all must concede that every one is bound to observe such wholesome regulations as are necessary to protect public health.

After mature deliberation, as to the sanitary requirements of our situation, the following regulations were adopted, July 26, 1878, I. e. (See Regulations of the Board of Health.)

These were printed upon substantial card-board, and posted very generally in public places.

In adopting these regulations, the Board endeavored to secure conformity only to such sanitary measures as they deemed essential to the public welfare.

The Board make complimentary mention of the promptness and efficiency of street-commissioner McFarland in keeping our streets clean and free from deleterious garbage.

## RECOMMENDATIONS.

(a) The Board recommend, as of first and prime importance to the health and welfare of our village, that the Board of Trustees take into immediate consideration the necessity of adopting a peremptory ordinance, which shall require the abatement, at the earliest possible day, of the prevailing system of privy vaults and cess-pools, and which shall secure the substitution therefor of absolutely water-tight vaults—or earth closets; these to be regularly cleaned, well ventilated and freely disinfected during the summer months.

b. The Board recommended, as of second importance in this connection, that the Trustees take under early consideration the advisability and necessity of adopting a more thorough system of drainage, by which our village shall be effectually freed from surplus water and a water infiltrated soil.

c. The Board recommended that all superfluous trees be removed from our streets, and that a judicious, but rigid pruning of those that remain be carried into effect, in order that the unobstructed rays of the Sun, and free currents of air may have access to the entire line of our streets.

The Board is aware of the action of the Trustees forbidding the construction of any *new* privy vaults on the old plan; but the matter is of such vital importance in our opinion, that safety can only be secured by adopting and enforcing the radical changes recommended.

We are satisfied from personal intercourse, that most of our citizens are intelligently prepared for such action; many of them having assured us that they would cheerfully acquiesce in such a measure, when it should become of general application.

It has been demonstrated beyond question that a damp or water infiltrated soil is unhealthy to live upon; and this becomes positively dangerous, when the water is saturated with filth, as is often the case in the thickly populated places, when proper drainage and sewerage have not been secured.

In the opinion of the Board, efficient drainage can be secured to our village at a moderate outlay, now that Mr. Williams has practically abandoned the mill dam, and in view of the present low price of labor, if this is directed by a competent engineer.

In some localities of our village during the summer months, the dense foliage of the trees effectually excludes the direct rays of the sun and free currents of air, resulting in unhealthy dampness for days and weeks after showers, rain storms, or excessive use of the sprinkler.

The Board call the especial attention of the Trustees to these recommendations, as coming more peculiarly and legitimately within their province.

While the Board have not accomplished all they desired—yet they feel assured that an important step in the right direction has been taken; and it is to be hoped that another year will witness a still more decided improvement in the sanitary condition of our beautiful and naturally healthy village.

An apprehension has been expressed that the agitation of Sanitary matters in our midst may deter summer visitors from coming to Salem to enjoy our invigorating atmosphere and magnificent scenery.

We think this view will prove unfounded, since it is found that this class are intelligent regarding such matters, and they seek, by marked preference, such places as are under the care of an efficient Board of Health.

We take pleasure in recognizing the courtesy and encouragement extended to the Board in their labors by your President and members of the Board of Trustees.

All of which is respectfully submitted.  
JOHN KING, President,  
WM. McMORRIS,  
JOHN LAMBERT, Health Officer.  
J. OLIVER, Secretary.

At a meeting of the Board of Health of the village of Salem, held at the office of Dr. John Lambert, July 9th, 1879, the following resolution was offered and adopted:

*Resolved,* That Sylvanus Dickinson be appointed by the Board with instructions to visit the several premises in the village, once a month, or oftener if necessary during the summer months, for the purpose of ascertaining the sanitary condition of said premises, and he is hereby further instructed and required to enforce the regulations of the Board of Health and report at once to the Board all neglect or violation of said Regulations.

J. OLIVER, Secretary.



