

Sanitation at Boston (U.S.A.) / by Francis Vacher.

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North-Western Association of Medical
Officers of Health.

SANITATION AT BOSTON (U.S.A.)

BY

FRANCIS VACHER.

Read at the Meeting on March 9th, and Printed by Request.

BIRKENHEAD :

PRINTED BY E. GRIFFITH AND SON, HAMILTON STREET.

1882.

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Medical Officer's Department,
Municipal Offices,

BIRKENHEAD,

April 1st 1882

My dear Amos

I hope you will find
the enclosed worth the
use of your time - it
shows what has been
done & what left undone
in perhaps the most
advanced city in the
States. In some things
I think we might copy
Boston with advantage -

notably in licensing
midwives & fixing
tariffs of charges for
them - but in most
matters Boston stands
far behind us. You
will observe that the
City Physician is a
health officer, police
magistrate, public vaccinator,
& a sort of coroner. I
found a young man gets
appointed first physician
& after doing duty for

two or three years on
Deer Island and to City
Physician, & after two or
three years in this capacity
set up in private practice.
The world seems too hard
for a man to stick to
as a permanent.

The opposition to my
compulsory notification as
Classes here is as strong
as ever & I think
we are making some
headway against it. I
got 120 of the certificates

filled in & forwarded
during the quarter just
ended, which I consider
fairly satisfactory. The
last manifestation of
the Movement in the class
is the enclosed receipt
handbill, which is being
given away at the works
left ~~at~~ on chemists count
of delivered at private
- in fact some Grand
on the form. Some
on permission in giving
no information, of some
as later will force us to
make martyrs of them.

SANITATION AT BOSTON.

Last year I issued a little tract containing a brief summary of the public health regulations in the State of Massachusetts, and some account of the arrangements for giving effect to them. I thought the Massachusetts Board of Health might not unfairly be regarded as a representative State Board of Health, whose efforts and results might be accepted as indicating generally the aims and achievements of the western states of North America, as respects sanitation. I purpose now to supplement this tract by a paper, in which I shall try to convey to you some idea of the sanitary administrative of Boston—a representative City Board of Health. Thus you will have some account of *urban* sanitary regulations and work in America—shall I say nearly at their best?

Before the close of the first half of the present century it was recognised that powers vested in the City Council relative to the public health and the quarantine of vessels should be carried into execution by the appointment of one or more health commissioners, and the City Council was empowered to constitute any committee of their number the Board of Health for all or for particular purposes. Under the General Statutes (cap. 26, §§ 3 and 4) every Board of Health may appoint a salaried physician to the Board, to hold office during its pleasure; and under chapter 271, § 1, of the Acts of 1866, town Boards of Health may appoint agents to act for them, such agents so appointed exercising the authority of the Board appointing them, but being required to report their action in each case within two days to the Board for their approval. Under General Statutes, cap. 26, and other statutes also, Boston and all the cities and towns belonging to the Commonwealth have many powers in respect of nuisances, infectious diseases, vaccination, quarantine, offensive trades, cemeteries, burials, tenement houses, inspection of provisions, offences against public health, &c., which will be referred to shortly.

It was not, however, till late in 1872 that the measure was passed which provided for the appointment of the Boston Board of Health as now constituted, and prescribed its duties. The measure is termed "An Ordinance relating to the Public Health." It passed on December 2nd, 1872, and was amended on January 10th following.

The opening sentence of this Ordinance might well be placed at the head of every Corporation Act containing sanitary clauses. "It shall be the duty of the Mayor," says the Ordinance, "to be vigilant and active in protecting the public health." The next matter referred to after the duties of the Mayor are the constitution and duties of the Committee of Health. The Committee is to be appointed annually, in January, and is to consist of two aldermen and three councilmen. They are to examine once a month the records and accounts of the Board of Health, and to examine all applications for appropriations for the Health Department, and report thereon to the City Council. The Committee shall have control of all expenditures on account of city teams and stables, the cleansing of streets and cesspools, the collection of ashes and offal, and the employment of labourers thereon. Annually, on or before February 15th, the Committee shall make an estimate of the appropriations required during the ensuing financial year, for and on account of city teams, &c., and shall add the amount so estimated to the amount estimated by the Board of Health, and transmit the same to the auditor.

Board of Health.—The Mayor is required, as soon after the passing of the Ordinance as may be, to appoint, subject to the approval and confirmation of the City Council, three persons, not members of the City Council, who shall constitute the Board of Health, and enter upon the duties of their office forthwith. One of these three is to go out in rotation on the first Monday in May in each year; and the vacancy so created, as well as all vacancies occurring otherwise, shall be filled by the Mayor, with the approval of the Council. The members of the Board are at all times subject to removal by the Mayor for cause. They shall receive such compensation for their services as the Council may from time to time determine. The Board shall annually make choice of one of their members as chairman, and shall also choose a clerk, who shall not be a member of the Board. The Board shall have and exercise all the powers vested in the City Council or board of aldermen as a Board of Health under the statutes and ordinances in force, and may appoint such subordinate officers, in addition to those hereinafter designated, as they may deem necessary. The Board shall send in to the Committee of Health, on or before February 15th in each year, an estimate in detail of the appropriations required (except for the purposes in respect of which the Committee are required to prepare an estimate) during the next financial year. The Board shall annually, in May or June, present to the Council their report made up to April 13th preceding, the said report to contain a full and comprehensive statement of the acts of the Board during the year, and a

review of the sanitary condition of the city. The Board shall at the same time transmit to the Council reports covering the same period from the superintendent of health, city physician, and port physician.

Superintendent of Health.—The Board shall annually, in April, and whenever a vacancy occurs from any cause, appoint, subject to the approval of the Mayor, a Superintendent of the Health Department. The Superintendent is to hold his office for one year from May in the year in which he is appointed, or until he is removed. He shall receive such compensation for his services as the City Council may from time to time determine. The Superintendent shall, under the Committee of Health, have charge of the city teams and stables, the cleansing of the streets, and the removal of refuse. He is required to give bond that he shall faithfully perform all the duties of his office. The pay roll of labourers employed under the direction of the Committee of Health is to be made up and certified by the Superintendent.

The City Physician is to be appointed annually, in April, and whenever a vacancy occurs. The appointment is to be made by the Board, and subject to the approval of the Mayor, and the tenure of the office is from year to year. The City Council fixes the "compensation" for services to be rendered. The chief duties of the City Physician are:—

1. When notified thereof, to examine into all nuisances, sources of filth, and causes of sickness on board any vessel at any wharf within the harbour of Boston, or which may have been landed from any vessel on any wharf; and under the direction of the Board to cause the same to be removed or destroyed. (When any vessel arrives in Boston harbour between April 1st and November 15th, having on board any hides, hide-cuttings, skins, rags, or fruit, the master and consignees are required to give immediate notice of the arrival to the harbour master or the City Physician.)

2. To vaccinate and re-vaccinate, without charge, any inhabitant of Boston who may apply for that purpose, and to give certificates of vaccination.

3. To have on hand, as far as is practicable, a sufficient quantity of vaccine virus, and to supply the same without charge to the physicians of the city institutions and the dispensary.

4. When called upon by the Mayor or Board of Health, to inquire into all causes of disease within the city, and into all sources of danger to the public health, and give his professional services and advice thereon.

5. To attend all cases of disease, and perform all professional services required in the jail, city prison, temporary home, and in

all the police stations except those at South and East Boston. To examine, when requested, all police candidates, police officers absent from duty from disability, and all cases of accidental injury whereby the city may become liable.

6. To report to the city registrar, when requested by him, the causes of death of all persons dying with no physician in attendance.

The Port Physician is to be appointed annually in the same manner as the City Physician. He is required to reside at Deer Island. (The quarantine grounds of the city of Boston consist of Deer Island and Gallop's Island, in Boston harbour.) He is superintendent and physician of the quarantine establishment on the island, and either physician or assistant physician of all the city establishments on the island. He must perform all services required of him by the Mayor or Board of Health in relation to quarantine. The Port Physician may, with the concurrence of the Board, appoint an assistant port physician to hold office as long as the Board shall determine, and to be paid for his services by the City Council.

The interment of the dead is, by the Ordinance, under the superintendence of the Board of Health. The Board have the custody of all burying grounds in the city, and give licenses for burials or for the removal of bodies from the city. The Mayor, by and with the consent of the aldermen, shall annually appoint such a number of funeral undertakers as he may deem expedient. The hired undertakers and the porters employed by them may be removed at the pleasure of the Mayor. No person not so appointed shall open any grave for the purpose of depositing or removing a dead body, and no grave shall be opened or dug without the permission of the Board of Health. Interments must take place between sunrise and sunset, except when otherwise permitted by the Board. Funeral bells are not allowed without a special permit from the Mayor or Board of Health. According to the Ordinance undertakers are entitled to receive the following fees and no more:—

For digging a grave 8ft. deep, and covering					
the same ...	...	...	...	...	\$3. 50
Do.	6½ft.			do.	2. 0
Do.	5ft.			do.	1. 75
Do.	4ft.			do.	1. 50
Do.	3½ft.			do.	1. 25

When the ground is frozen the charge for digging graves may be augmented at the discretion of the city registrar.

For opening and closing a tomb	...	...	\$1. 50
For placing a corpse in a coffin and removing			
the same down stairs	...	...	1. 50

For carrying a corpse to the grave, including the assistance of funeral porters and one horse	\$5. 0
Do. do. do. with two horses	7. 50
For carrying a corpse out of the city—for each mile beyond the limits of the city ...	50.
For carrying a corpse into a church for a funeral service	2. 0
For lighting a cemetery	1. 0

For the burial of children under 10 years of age undertakers are entitled to the following fees:—

For service at the house	\$1. 0
For carrying the corpse to the carriage and from the carriage and interring the same...	1. 0
For the use of a pall	25

Vaults and Drains.—The sections of the Ordinance coming under this head show the sanitary provisions of Boston in no favourable light.* Section 40 had better be quoted in full—"The owner, agent, occupant, or other person having the care of any tenement used as a dwelling-house, or of any other building with which there is a privy connected and used, shall furnish the same with a sufficient drain underground to carry off the waste water, and also with a suitable privy, the vault of which shall be sunk underground and built in the manner hereinafter prescribed, and of a capacity proportionate to the number of inhabitants of such tenement, or of those having occasion to use such privy. Any such owner, agent, occupant, or other person who shall neglect to comply with the provisions of this section shall be liable to a penalty of not less than five dollars, nor more than twenty dollars, for each and every week during which such offence shall continue." The privy-vaults are required to be made of brick and cement, and to contain at

* *Extract from the Report of the Board—1879-80.*—"Few things have given the Board of Health more annoyance, or the residents of the older part of the city more serious cause for complaint and disgust, than privy vaults. Among the nuisances attended to by the Board during the year, there were over seven thousand which arose from privy vaults alone. Two thousand of these were defective or overflowing, or leaking into somebody's cellar, yard, or well of water, or in some way so faulty as to bring complaints to this office and require record, orders to repair, and several visits from the officers of the Board before being repaired. The other five thousand vaults were made endurable by frequent and powerful disinfection. Thousands of these vaults are old and decayed, and many others are illegally constructed from wood. Most of them have leaked into the ground until the earth about them is thoroughly saturated, and has become a bed of the most poisonous miasm. They are sometimes cleaned out once a year, and sometimes once in twenty years. More frequently only a load is removed, leaving much solid matter in the bottom from year to year for an indefinite period."

least 80 cubic feet; and unless by consent at least two feet distant from the line of every adjoining lot, or public or private way. They must be made tight, so that the contents cannot escape except as provided, and must be convenient of access. The Board of Health is authorised to permit the construction of a sufficient passage-way underground for the purpose of conveying the contents of any vault into any common sewer or drain. The Board on being satisfied that any tenement used as a dwelling-house is not provided with a suitable privy-vault, and drain, or either of them, shall give notice to the owner, &c., to provide the same, and in case of neglect or refusal to comply with the terms of such notice the Board shall cause the work to be done at the expense of such owner, &c. Whenever any vault, privy, or drain becomes offensive or obstructed, the owner, &c., shall remove, cleanse, alter, amend, or repair the same within reasonable time after notice in writing to that effect given by the Board or the Superintendent of Health, and in case of neglect or refusal to comply with the terms of such notice the Board may cause the work to be done at the expense of the owner, &c., who shall also be liable to such penalties as are prescribed. No cesspool, vault, or privy shall be emptied without a permit from the Superintendent of Health, and only in the mode* and at the time he may direct, subject to the regulations of the Board, and always at the expense of the owner or other person in charge of the tenement in which the vault is situated. Books, in which shall be entered applications for cleansing vaults, &c., shall be in charge of the Superintendent of Health; and the Committee of Health shall from time to time determine the sum to be paid by persons making such application. To ascertain the proper sum to fix, the Committee shall advertise for proposals for such service for a term not exceeding three years, and shall report to the Board of Health a contract or contracts for their approval. No vault shall be opened between June 1st and September 15th in each year, unless the Board shall be satisfied of the necessity of the same. No person shall suffer any waste or stagnant water to remain in any cellar, or upon any lot, or vacant ground he owns or occupies.

When the number of persons occupying any tenement or building is so great as to be a cause of nuisance and sickness, and the source of filth, or that such tenement is not furnished with vaults, privies, drains, as required by the Ordinance,

* In the Report of the Board for the year ending April, 1878, it is stated that the removal of night-soil "has been done, in every case where it was practicable, with the odourless excavating apparatus, and the contractors are so satisfied with the process, and with their ability to clean all vaults by it, that they are about abandoning the old implements and process altogether."

the Board of Health may issue their notice to the occupants to quit such tenement within reasonable time. If the person or persons so notified shall neglect or refuse to comply with the terms of the notice, the Board is authorized forcibly to remove them, and the person or persons shall be liable to a penalty and the expense of their removal.

House offal, ashes, &c.—All house offal, whether consisting of animal or vegetable substances, shall be placed in suitable vessels, and no ashes or other refuse mingled therewith. The offal is to be kept in a convenient place, and removed by the city scavengers twice a week. Ashes kept for removal by the Health Department shall not be mixed with other substances, but placed in suitable metallic vessels till removed. No person shall remove or carry through the city house offal or any grease or bones, unless expressly licensed by the Board of Health. Ashes and cinders from steam engines, forges, &c., shall be removed, at the expense of the owners, at such times and in such manner as the Board may direct. No person, without the license of the Board, shall leave any refuse animal or vegetable matter, soot, ashes, cinders, &c., on any street, wharf, public enclosure, vacant lot, pond, &c.; nor shall any person throw into or upon any dock, flats or tide water within the jurisdiction of the city, any dead animal or other foul matter, except as provided in case of fish cleansings. If refuse be thrown from a house, warehouse, &c., the owner or occupant must remove the same within two hours after receipt of a written notice from the Superintendent of Health, or such removal shall be made under the direction of the Superintendent at the expense of the owner or occupant. All animal or vegetable refuse, soot, ashes, cinders, &c., in any house, warehouse, yard or other place, which the Board of Health deem injurious to the health of the city, shall be removed by the owner or occupant of such house, &c., within twenty-four hours, or such other time as the Board of Health may deem reasonable, after notice in writing to that effect; or such removal shall be made under the direction of the Board, and the expense thereof borne by such owner or occupant, who shall also be liable to a penalty.

Sale of Fish regulations.—No person is permitted to bring into the city for sale, to sell or offer for sale, halibut, cod, haddock, or mackerel, until the same have been cleansed of their entrails and refuse parts, and these entrails, &c., are to be thrown overboard, below low water mark. Until thrown overboard they must be kept in a safe manner, but they must never be kept beyond the flowing of the tide next after the fish are cleansed. No person may sell fish of any kind except flounders, smelts and other small fish, salmon and shad, until the same

have been cleansed. Vendors of fish must keep their goods in covered stalls, covered carts, or boxes, or otherwise well secured from the rays of the sun. No person may sell or offer for sale in any street, lane, or alley, any fish, lobsters, oysters, or shellfish, except by permission of the Board of Health, and under such conditions as they order.

Sale of Vegetables.—No person is permitted to bring into the city, or have in his possession for sale, or sell, or offer for sale, any vegetables (excepting green peas and beans in pods, and green corn in the inner husks), which have not previously been divested of the parts not used for food. No person may have such in his possession in any place in the said city.

Miscellaneous.—No fowls, swine or goats may be kept within the city without the license of the Board of Health, and only in such place and manner as they may direct.

Carriages and horses may not be washed in the streets or public ways. Stables and stable-yards must be kept clean, and not more than three cords of manure is permitted in or near the same at any one time between May 1st and November 1st. Between the same dates manure may be removed only between midnight and two hours after sunrise.

No person may bring into the city, or land on any wharf or other place, any decayed or damaged grain, rice, coffee, fruit, potatoes, or other vegetable product, or any tainted or damaged meat or fish, without a permit from the Board of Health or in any manner other than as they direct.

Every person offending against any of the provisions of this Ordinance, for which no penalty is prescribed by the laws of the Commonwealth, shall forfeit a sum not less than five dollars nor more than fifty dollars for each offence.

The Board of Health are authorized to make other regulations, not inconsistent with the foregoing, which they may deem necessary for the public health.

The Ordinance gives the Board of Health charge of any buildings, which are or may be established by the City Council, within the city limits or on the islands in Boston harbour, for patients suffering from small-pox or other infectious disease. The Board is to make rules and regulations for the control of the same, subject, however, to the approval of the City Council.

The Ordinance repeals an Ordinance passed in December, 1869, and all other Ordinances or parts of Ordinances inconsistent with this, the repeal taking effect on the organisation of the Board of Health here designated.

Nuisances, &c.—Under General Statutes, cap. 26, and some other

Acts, the Board of Health is required to examine into all nuisances,* sources of filth, and causes of sickness, and to serve written notices demanding the abatement or removal of the same. When the person served does not comply with the terms of the notice or order, the Board may cause the nuisance, &c., to be removed at his expense. When a person is convicted on an indictment for a nuisance injurious to health, the court may order it to be removed or destroyed, at the person's expense. The Board may make compulsory examination of premises, when refused admission, on obtaining a justice's warrant for the same.

Infectious Diseases.—The Board is required to make effectual provision for the safety of the town inhabitants by removing to a separate house or otherwise any person suffering from infectious disease, dangerous to the public health, and by providing means, assistants and necessities, at the charge of the person, his parents or master, if able, otherwise at the charge of the town to which he belongs, or at the charge of the Commonwealth. If the infected person cannot be removed without danger to health the Board may make provision for him in the house in which he may be, "and may cause the persons in the neighbourhood to be removed." Two justices of the peace may, if need be, issue a warrant requiring the removal, under the direction of the Board, of any person infected with contagious sickness, and the taking of convenient houses, lodgings, &c., and other necessities, for the accommodation and relief of the sick. When, upon the application of the Board it appears to a justice of the peace that there is just cause to suspect any baggage, clothing, &c., of being infected and dangerous to the public health, the justice shall, by warrant addressed to the sheriff, or any constable, require him to impress as many men as the said justice may judge necessary to secure the same, and to post men as a guard over the house or place where such articles are lodged. Or, by the same warrant, officers, under the direction of the Board, may take houses or stores for the safe keeping of such articles, and may cause them to be removed thereto and detained till, in the opinion of the Board, they are freed from infection. The charges for securing such articles shall be paid by the owners. When a person confined in a common jail, or workhouse, has a disease which, in the opinion of the physician the Board may consult, is dangerous to the health of other prisoners or of inhabitants of the town, the

* It may be interesting here to draw attention to a rather important ruling as regards what constitutes a nuisance. "In order to amount to a nuisance, it is not necessary that there should be a corruption of the atmosphere such as to be dangerous to health; it is sufficient that the effluvia are offensive to the senses and render habitations uncomfortable."

Board shall, by its order in writing, direct the removal of such person to some hospital or other place of safety, there to be provided for and kept.

Vaccination.—Parents and guardians are required to cause all their children to be vaccinated before they attain the age of two years, and re-vaccinated whenever the selectmen or Mayor and aldermen shall, after five years from the last vaccination, require it. For every year's neglect the party offending shall forfeit five dollars. The selectmen, Mayor or aldermen of a town are required to enforce the vaccination of all inhabitants, and, whenever in their opinion the public health requires it, the re-vaccination of all not successfully vaccinated or re-vaccinated within five years. Any adult who neglects to comply with such requirement shall forfeit five dollars. Towns must furnish the means of vaccination to those unable to pay. The superintendents or officers of all incorporated companies, factories, almshouses, industrial schools, lunatic asylums, and all other places where sick poor are received, or which are supported or aided by the State, shall, at the expense of their respective establishments, cause all inmates to be vaccinated immediately upon their entrance, unless they produce evidence of previous successful vaccination within five years.

Quarantine.—A city may establish a quarantine ground, or two or more cities may establish a common quarantine ground, and the Board of Health in each seaport town may from time to time establish the quarantine to be performed by vessels arriving within its harbour, and may make such quarantine regulations as it judges necessary. The owner, consignee, or master of a vessel who makes a false declaration is liable to a penalty not exceeding 500 dollars and six months' imprisonment, either or both. Anyone violating a quarantine regulation after notice is liable to a penalty of not less than five nor more than 500 dollars. If a master, seaman, or passenger belonging to an infected or suspected vessel refuse to answer on oath such questions as may be asked him relating to such infection by the Board of Health, he is liable to a penalty not exceeding 200 dollars, and if not able to pay, six months' imprisonment. The Board may at all times cause a vessel arriving foul and infected, so as to endanger the public health, to be removed to the quarantine ground and thoroughly purified at the expense of the owners, and may cause all persons arriving in or going on board such vessel, or handling the cargo, to be removed to any hospital under the care of the Board, there to remain under their orders.

Hospitals and Infectious Diseases.—Any town may establish within its limits and be constantly provided with one or more hospitals for the reception of infectious patients. Such hos-

pitals shall be under the Board of Health or a committee of the town appointed for the purpose. Anyone erecting or using any building for a hospital in such place as the Mayor and aldermen or selectmen prohibit shall forfeit a sum not exceeding 50 dollars for every month he so uses such building, and any justice of the supreme court may issue an injunction to prevent such erection or use. When a disease dangerous to public health breaks out in any town the Board shall immediately provide a hospital or place of reception for the sick, and the Board may cause any sick and infected person to be removed thereto, unless his health would be endangered by such removal, in which case the house or place where he remains shall be considered as a hospital, and persons therein shall be subject to the regulations of the Board. The selectmen and Board of Health shall use all possible care to prevent the spread of infection, and to give public notice of infectious places to travellers by displaying red flags at proper distances, and by all other means which in their judgment shall be most effectual for the common safety. Whoever obstructs the selectmen, &c., or wilfully removes, defaces, or handles the red flags shall forfeit for each offence not less than 10 nor more than 100 dollars. When a householder knows that a person within his family is taken sick of small-pox or any other disease dangerous to the public health, he shall immediately give notice thereof to the selectmen or Board of Health of the town in which he dwells. If he refuse or neglect he shall forfeit a sum not exceeding 100 dollars. When a physician knows that any person whom he is called to visit is infected with small-pox or any other disease dangerous to the public health, he shall immediately give notice thereof to the selectmen or Board of Health of the town; and if he refuses or neglects to give such notice he shall forfeit for each offence a sum not less than 50 nor more than 100 dollars.

The city of Boston is specially authorized by an Act passed in 1873 to provide temporary wooden buildings for hospitals; every such hospital to be constantly guarded outside by a force of at least three police officers.

Offensive Trades.—The Board of a town shall from time to time assign places for exercising offensive trades, or may prohibit the exercise of such trades within the limits of the town or in any particular locality thereof. Such an assignment may, on complaint, be revoked by a superior court, and an order of prohibition served on the occupant of the premises where such trade is exercised. A person refusing or neglecting to obey the order shall forfeit a sum not less than 50 nor more than 500 dollars; but he may appeal therefrom to the court (or in vacation time to any justice of the court) for a jury. During

the pendency of the appeal such trade shall not be exercised contrary to the order; but when the verdict of the jury (which may either alter the order, or affirm or annul it) is returned to court and accepted, it shall have the authority and effect of an original order from which no appeal had been taken. If the order is confirmed by the verdict, the town shall recover costs against the appellant; if it is annulled, the appellant shall recover damages and costs against the town; and if it is altered, the court may render such judgment as to costs as in their discretion may seem just.

Of course all the provisions of chapter 26 of the General Statutes extend to cities only so far as they are not inconsistent with their several Charters or Acts.

By an Act passed in 1868 the provisions of General Statutes cap. 26, relating to the preservation of public health, are extended as follows:—

Nuisance from Wet Lands.—When any lands in any city or town are wet, spongy, or covered with stagnant water, so as to be offensive or injurious to health, any one or more persons claiming to be injuriously affected thereby may, by petition, apply to the Board of Health or health officer, whereupon such Board or officer shall proceed to view the premises, and if upon examination the Board or officer shall be of opinion that the prayer of the petition or any part thereof should be granted, he or they shall appoint a time and place for a hearing upon the petition and cause reasonable notice of the same to be given to all concerned. At the time and place appointed the Board of Health or health officer shall hear the parties, and after such hearing may cause the nuisance to be abated, according to his or their discretion, and for that purpose may enter and make such excavations, embankments and drains upon any lands, and under and across any streets and ways, as may be necessary. They shall also determine in what manner and at whose expense the improvements made shall be kept in repair, and shall estimate and award the amount of damage sustained by and benefit accruing to any person by reason of such improvement. If the Board or officer shall unreasonably refuse or neglect to proceed in the matter of said petition, the petitioner may apply to the superior court, or any justice thereof, who, upon a hearing and good cause shown, may appoint three commissioners, who shall proceed in the manner hereinbefore provided. Any person aggrieved by the decision of the Board or officer or commissioners in their estimate and award of damages, may, at any time within a year, appeal to the county commissioners.

Undertakers.—By an Act passed in 1872 any undertaker in charge of a funeral shall forthwith obtain and return to the

clerk of the city or town in which the deceased resided or the death occurred, the facts required by chapter 21 of the General Statutes, to be recorded by the said officer concerning the deceased. The clerk is thereupon to give to the undertaker a certificate which he is to deliver to the person having charge of the burial.

Burial Grounds and Interments.—By chapter 28 of the General Statutes every town or city is required to provide one or more suitable places for the interment of persons dying within its limits; and Boards of Health are empowered to make all regulations they may judge necessary as to burial grounds and interments within their respective limits, due notice of such regulations being given by publishing or posting the same. Boards of Health may also, after due notice, order the closing of tombs or burial grounds. Any one aggrieved may appeal at any time within six months from the date of the order, the said order remaining in force until a decision shall be had.

Unwholesome Food.—Under chapter 166 of the General Statutes, whoever *knowingly* sells any kind of diseased, corrupted, or unwholesome provisions, whether for meat or drink, *without making the same fully known to the buyer*, shall be punished by imprisonment in the jail not exceeding six months, or by fine not exceeding 200 dollars. (The words in italics appear to be unfortunate and calculated to make prosecutions under this clause very uncertain.)

Under an Act passed in 1866, whoever kills or causes to be killed, for the purpose of sale, any calf less than four weeks old, or knowingly sells or has in his possession with intent to sell, the meat of any calf killed when less than four weeks old, shall be punished by imprisonment in jail not exceeding six months, or by fine not exceeding 200 dollars, or by both such imprisonment and fine; and such meat may be seized and destroyed. On application a search warrant may be granted to search for such meat.

Adulteration of Food and Drugs.—Under the same Act, whoever fraudulently adulterates, for the purpose of sale, bread or any other substance intended for food, with any substance injurious to health, shall be punished by imprisonment not exceeding one year, or by fine not exceeding 300 dollars; and the adulterated article shall be forfeited and destroyed. The adulteration, for purpose of sale, of any liquor used or intended for drink, with any substance poisonous or injurious to health, and knowingly selling the same, is punishable under the same Act by imprisonment for a term not exceeding three years, and the forfeiture of the articles adulterated. The adulteration, for the purpose of sale, of any drug or medicine, or knowingly selling the same, is, under this Act, punishable by imprisonment for a

term not exceeding one year, or by fine not exceeding 400 dollars, the drug or medicine to be forfeited and destroyed.

Corrupting Springs, Selling Poison, &c.—Wilfully corrupting any spring, or injuring any pipe, water connection, &c., is, under the same Act, punishable by a fine not exceeding 1000 dollars, or by imprisonment not exceeding one year. An apothecary selling arsenic, strychnine, corrosive sublimate, or prussic acid, without the written prescription of a physician, must keep a record of the date of sale, the article, the amount, and the purchaser, and for each neglect shall forfeit a sum not exceeding 50 dollars. A purchaser giving a false name is punishable by fine to the same amount.

Inspection of Provisions.—Under an Act passed in 1872, the Mayor and aldermen of cities and the selectmen of towns may annually appoint one or more persons to be inspectors of provisions. It defines the powers and duties of such inspectors, requires magistrates, on cause shown, to grant search warrants in respect of diseased or unwholesome food. Knowingly selling, offering or exposing for sale, or having in possession with intent to sell such food is punishable by imprisonment for a period not exceeding sixty days, or by fine not exceeding 100 dollars. The name and place of business of every offender convicted under this Act is to be published in two local newspapers.

This Act is only in force in any city or town adopting it. It was adopted in Boston in June, 1872.

Tenement Houses and Common Lodging Houses.—Under Acts passed in 1871 and 1873 the tenement houses and common lodging houses of Boston are regulated. Every such house is required to conform in its construction and appurtenances to the provisions of the Acts, to have the means of escape in case of fire, a water-tight roof, and not less than one closet or privy for every twenty occupants. No such house shall have a cess-pool in or under or connected with it, except when it is unavoidable. No horse, cow, calf, pig, sheep or goat shall be kept in such house; and no portion thereof shall be used for the storage of any article combustible or any article dangerous to life or detrimental to health. Such houses must be kept clean, and the walls and ceilings whitewashed twice a year (in April and October). The keeper must at all times, when required by any officer upon whom any authority is conferred by the Act, give him free access. The keeper must also give notice of every case of infectious disease on the premises. The Board of Health may cause the premises to be cleansed and disinfected when necessary, or even to be vacated. Every such house must have a water supply and ashpit, and the floor of the cellar must be properly cemented so as to be water-tight.

This concludes my summary of the powers and regulations

of the City of Boston Sanitary Authority. I propose now to refer to the more recent work of the Boston Board of Health. This will be best judged of by a glance over (the pamphlets produced) the sixth, seventh, and eighth annual reports of the Board, the latter being for the financial year 1879-80. Perhaps the most important work is that in connection with the river-flats. Almost at the commencement of the sixth report we read that complaints of bad odours have been made more frequently during the past year than ever before. "Large territories have been at once, and frequently, enveloped in an atmosphere of stench so strong as to arouse the sleeping, terrify the weak, and nauseate and exasperate nearly everybody." After careful enquiry the Board were able to report that "the sewers and sewer-flats in and about the city furnish nine-tenths of all the stenches complained of," and ever since the work of filling in the flats, covering the mud with clean gravel, or keeping portions of them covered with water, has been pushed on with commendable zeal; but to remedy the whole evil would involve an expenditure of money too large for the appropriations of the Department. Besides the nuisance is mainly due to causes outside Boston. While Boston is spending millions of dollars to prevent a nuisance in the waters and upon the flats of Charles river; Cambridge, Somerville, Charlestown, Chelsea and East Boston are left to discharge over sixty sewers into the same waters, and over the same flats, on the other side. The extent of the flats in Charles river, Mystic river, Chelsea creek, and around East Boston is 2,069 acres. The mud on the flats is from one to four feet in depth, and the sewage of not less than 200,000 inhabitants flows over or lodges upon the flats.

A still more important work than covering over the flats with water or gravel is the construction of a large intercepting sewer to carry away the sewage, which at the time of the issue of the eighth report was in progress. It is, I believe, now completed.

Early in 1878 a small-pox hospital was completed. It is situated upon the main land, about 250 feet back from the street, remote from dwelling houses and yet easily accessible. It consists of a main building 38 feet by 54 feet, two stories high, and two wings, each 24 feet by 46 feet, one story high, the wings forming the wards. About 100 feet from the hospital is a stable and ambulance-house. The hospital cost 31,388 dollars.

The Board have also recommended that the cemeteries within the limits of the city proper should be closed against further burials. The Board regret that "several instances have occurred where workmen, employed to cut the grass and clean up the grounds, have suddenly broken through the crumbling tombs and completely disappeared from view, much to their

terror and alarm, but fortunately, thus far, without serious bodily injury."

The Board have repaired and enlarged the city Morgue. A new wing, containing a commodious autopsy room, has been erected; and in order that the building may be properly cleansed and kept in order a permanent superintendent has been appointed, who is in constant attendance.

One of the most recent and important works of Boston is the erection of a new abattoir, designed to furnish accommodation for the rapidly increasing trade of the port. This abattoir leaves little to be desired, and all the details have had the approval of the Board of Health. The main building is 120 feet by 90 feet, the height 36 feet in the centre and 33 feet at the eaves. There is a shed, the width of the main building, extending 31 feet in front; and a second shed the same width extending 18 feet to the rear. The total space occupied by the buildings and yards is 120 feet by 182 feet. The cooling-rooms are four in number, each being 48 feet by 28 feet, the four having a capacity for storing 500 beeves. Above the cooling-rooms are eight ice-boxes, having a storage capacity of 1,000 tons of ice. An ice-house 100 feet by 75 feet has been erected for supplying the cooling-rooms of the new abattoir exclusively, and two cooling-houses have also been erected in connection with the other slaughter-houses of the establishment. It is estimated about 500 cattle can be slaughtered daily in the new building.

By an Ordinance passed by the City Council in December, 1879, the care of public baths was transferred to the Board of Health. There are twelve bath-houses for males, six for females, and one for both sexes. The number of bathers each season is upwards of 1,000,000.

Since 1877 the Board have, by vote or order:—

- (1) Prohibited the attendance at school of any child from a family in which scarlatina has appeared, until the expiration of four weeks from the commencement of the last case in such family.
- (2) Prohibited the driving of any horse with glanders or farcy through the streets. The owner, or person in charge of the animal, or veterinary surgeon called in, is required to report the disease, and the animal is to be disposed of under the direction of the Board.
- (3) Required physicians and surgeons to give immediate notice to the Board of cases of scarlatina and typhus fever.
- (4) Forbidden the exercise of the trade of artificial manure making within the limits of the city, except on the islands or places assigned or to be assigned for such purpose.

- (5) Prohibited the sprinkling of salt upon the streets and side-walks.

The expenditure of the Health Department during:—

The year ending April 30th, 1878 was \$356,506. 11			
Do.	do.	1879	321,117. 60
Do.	do.	1880	322,973. 25

The sums paid into the treasury and credited to the Department were:—

For the year ending April 30th, 1878 \$45,035. 3			
Do.	do.	1879	37,690. 57
Do.	do.	1880	32,583. 85

The most important item in the expenditure of each year was for scavenging streets and removing refuse. The receipts each year were for the most part for ashes and offal sold.

In conclusion, I have only to submit a set of forms, orders, and blanks in current use by the Department. A list is appended:—

1. Circular of recommendations with reference to scarlet fever.
2. Circular of recommendations with reference to diphtheria.
3. Blank for particulars of nuisance inspected.
4. Notice that premises are not in conformity with the public health laws.
5. Notice to baby-farmer, with extract from the Act for the better protection of infants, 1876.
6. Notice to physician, naming the infectious diseases respecting which notification is compulsory.
7. Post-card for physician to notify cases of infectious disease.
8. Notice to occupier of dwelling-house to quit premises.
9. Blank for physician to certify cause of death.
10. Undertaker's return to the Board of Health. (The particulars required to be filled in include—maiden name, colour, place of birth, place of interment, name of deceased's father and his birthplace, name of deceased's mother and her birthplace, &c.)
11. Return of death to the city registrar.
12. Circular note to physician asking for further information respecting cause of death.
13. Form of permit to store or cure green or green-salted hides or skins.
14. Order of Board of Health with reference to green hides, or horns, and extracts from General Statutes and City Ordinances giving authority for order.
15. Circular notifying fish sellers of the sections of the Ordinances controlling the trade, and of the intention of

the Board to cause the provisions of the same to be strictly enforced.

16. Form of license to sell fish, for one month.
17. Form of license to remove from the city bones, grease, and refuse matter, for one month.
18. Circular notifying the Board's regulations with reference to glanders or farcy, with copy of regulations.
19. Notice to owner of horse affected with glanders to have the horse killed, &c., in accordance with regulations.
20. Notice to stable-keepers of regulations as to removal of nuisance.
21. Permit to remove stable manure.
22. Copy of order in respect of quarantine.
23. Copy of order that vessels arriving in harbour from certain ports named shall stop at the quarantine station; with extracts from special laws and General Statutes.

