

**REPORT OF THE JOINT
COMMISSION, CONSISTING OF
THE BOARD OF HARBOR
COMMISSIONERS AND STATE
BOARD OF HEALTH**

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Report of the Joint Commission, consisting of the Board of Harbor Commissioners and State Board of health by Phinehas Ball

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PHINEHAS BALL

**REPORT OF THE JOINT
COMMISSION, CONSISTING OF
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REPORT

OF THE

Massachusetts

JOINT COMMISSION,

CONSISTING OF THE

Board of Harbor Commissioners

AND

STATE BOARD OF HEALTH,

CHARGED BY THE LEGISLATURE WITH THE DUTY OF DEVISING A PLAN
FOR THE ABATEMENT OF THE MILLER'S RIVER NUISANCE,
SO CALLED, AND REPORTING THE SAME TO
THE CITIES OF CAMBRIDGE AND
SOMERVILLE, WITH THE

REPORT OF PHINEAS BALL, CIVIL ENGINEER,

TO THE COMMISSION.

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*To the Mayors and Aldermen of the
cities of Cambridge and Somerville :*

The Joint Commission, consisting of the Board of Harbor Commissioners of the Commonwealth, and the State Board of Health, created by Chap. 353 of the Acts of the year 1872, entitled, "An Act for the abatement of a nuisance in the Lower Basin of Miller's River, and for the preservation of health in the Cities of Cambridge and Somerville," and charged by said Act with the duty of devising a plan of draining and abating a nuisance in a district in said Act described, bordering upon Miller's River in Cambridge and Somerville, and of reporting the same to the Mayors and Aldermen of said cities, hereby transmit the following as their report and the plan devised by them, in accordance with said Act.

After hearing the evidence and arguments of all parties interested in this subject, who appeared before the Commission in answer to its published invitation, the Commission proceeded to choose an Engineer to make such additional independent investigations as would enable it to come to a conclusion which it could feel satisfied met all the requirements of the problem to be solved. Having ascertained the high reputation and large experience in work of this character of Mr. Phineas Ball, of Worcester, the Commission engaged him to make these indispensable investigations. The results of his labors and his reasoning upon these results, are embodied in the elaborate, thorough and exhaustive report to this commission, a copy of which, and of the accompanying plan is appended to this communication.

The Commission has arrived at its conclusions, by considering; First—The causes of the nuisance. Second—The remedies to be applied.

They are satisfied that the nuisance is caused; First—By the use that is made of the Miller's River basins as receptacles of the sewage draining into Miller's River from large areas of the City of Cambridge, and still larger areas of the City of Somerville; Second—By the fact that the basins of Miller's River, within the district of the nuisance, in consequence of the absence of any current through them during the ebb tide, the shallowness of some of them, and of the contracted outlets of all of them, act as precipitating basins for the permanent deposit of the whole burden of insoluble animal filth borne up to them by the incoming tide, and collected throughout the whole extent of Miller's River, from Prison Point Bridge, to the farthest limit of the upper basin; Third—From the fact that the slaughtering establishments below Prospect street, have used the basins of Miller's River to cast into their waters not only blood in large amounts, but also the animal filth from without and within the bodies of over half a million hogs a year, slaughtered in these establishments, and dressed by a process in which each slaughtered hog, while still bleeding, is plunged into scalding water, and there kept until the epidermis, and all the attached dirt are so softened that they can be scraped off. And the Commission further find this cause to be the main cause of the foul and putrid mass of animal corruption concentrated in these basins, and constituting the nuisance to be abated.

The remedies considered by the Commission are; First—Those that bear upon the prevention of further accumulations of offensive material in this district; Second—The disinfection or removal of existing offensive accumulations.

To prevent further accumulations, the material that is now deposited here must be deposited elsewhere, and in a locality where it will be taken up by a strong current in the ebb tide, and be scattered and borne out to sea. Otherwise in arresting the action of causes that make a nuisance in this district, another nuisance will be created in another place.

The Commission is of the opinion that Miller's River is an unsuitable place into which to empty a main sewer that

shall have connection with the slaughtering establishments on Miller's River, and receive the animal matter that has heretofore been cast into its waters. Only a connection with deep water, having a strong ebb current, would enable a sewer to empty without offense what it received from these establishments. Charles River and Mystic River only have the accessible deep water, possessing a strong ebb current, and into one or the other or both of these rivers the Commission has no doubt that the sewage of this district should drain.

Cambridge can easily disconnect all its sewers with Miller's River, and direct all its sewage into the Charles. This being done, the plan of providing the two cities with the means of draining their respective territories, so as to relieve this district of offense, is rendered much less difficult. The drainage of Somerville alone then remains to be provided for.

This, in the judgment of the Commission, should be accomplished by directing the outlet of the whole system of sewers in Somerville, toward the Mystic, instead of either Miller's River or the Charles.

In this direction through Washington street to Tuff's Dock, a line to deep water has been found by Mr. Ball, which seems to the Commission to present the most favorable conditions for the construction and maintenance, at the least public inconvenience and expense, of a main sewer, which will drain not only substantially all the territory in Somerville, but also a considerable portion of the territory of Charlestown, on its westerly borders, that now requires, or can hereafter require a proper system of sewerage, emptying into deep water. This is the sixth of the main lines of drainage discussed by Mr. Ball in his report, and is highly commended by the Commission, as original, simple, comprehensive and economical.

Having provided by this system of sewerage against any increase of the nuisance in the district under consideration, the next question is how to provide a remedy for the nuisance that now exists, either by disinfecting or removing

the offensive accumulations that have already gathered. The most obvious, the simplest and most economical remedy, and an effective one, is undoubtedly to fill up with clean gravel the basins that contain these accumulations, and this plan of disinfection is recommended by the Commission.

That the foul mud at the bottom of these basins may do no harm to those who may build over it in the future, the Commission advise that the filling proceed from the sides to the middle of the basin, that a space fifty feet in width be reserved through their whole extent, and that the mud in this space be finally excavated before the gravel filling is completed.

The work of excavation should be done only in the months from November to April inclusive, to guard against the influence which the emanations from this material might have upon the public health.

This reserved canal will serve also to continue the present method of drainage until the new system is in operation. If the Commission were to regard simply the most feasible plan for abating the nuisance arising from existing offensive accumulations, it would make no distinction in the treatment of these basins. The filling of the lower basin with clean gravel, seems to it as truly the best mode of abating the nuisance there as in the basins above. The only other remedy would be to excavate and remove from the basin its foul mud, construct perpendicular walls all around its borders, and extend this wall outside the slaughtering and rendering establishments on its banks, so that it should no longer be the easiest and cheapest mode of disposing of the animal refuse from the great number of hogs here annually killed and dressed, to let it drop through the openings in the floors into the water below; and then establish and maintain an efficient police to enforce the necessary regulations to secure the basin from pollution. The cost of this remedy is estimated by Mr. Ball at \$133,000.00. The cost however of abating the nuisance in this basin by filling, would probably be defrayed by the proceeds of the sale of the land created in the process of abat-

ing the nuisance. But the Statute creating this Commission contains this limitation upon its action: "Which plan shall provide, if practicable, for the preservation and improvement, of so much of the channel and basins of Miller's River, as is now flowed by the tide below the point where the Grand Junction Railroad, in Somerville, crosses such river and basin."

What, then, is the meaning of the word "practicable," according to the intent of the Legislature, as expressed by the Statute? Without reference to the Statute, and according to the ordinary acceptation of the word, it could be practicable, after providing the system of sewerage already described, to abate the nuisance within the limits of the lower basin, by dredging it out, providing perpendicular walls to its sides, and building these walls outside the limits of the establishments on its borders. But the plan for abating this nuisance, while preserving and improving the lower basin, must be practicable, under the Statute, and the means provided by it, for executing any plan this Commission may devise.

The only parties authorized by this Statute, to execute this plan, are the cities of Cambridge and Somerville. If they do not execute the plan, it is inoperative, the Statute is without effect, and the nuisance will remain. The Legislature clearly intended to give these cities a fair opportunity to relieve themselves of this nuisance. The plan must therefore be not merely capable of execution as a matter of engineering, but one which it would be reasonable for both cities of Cambridge and Somerville to execute. For certainly the Legislature could not have intended that this basin should be preserved and improved by these cities, under a plan which it would be unreasonable and unjust to require them to carry into effect, to obtain the relief they desire. In this view certain findings of fact by the Commission that have been already stated, become very material. These are; First—That the cost of abating the nuisance in the lower basin, if it is preserved, will be very much larger than by the plan of filling it up. Second—That establishments on and over this