American authorities advise that in town reticulations, even in suburban or residential areas, no pipes less than 6 in. in diameter should be employed. Mr. John Freeman, the well-known engineer and recognised American authority, in his treatise on this subject, writes, "Four-inch pipes should never be used for a hydrant main unless it be to protect scattered detached dwellings in situations similar to a country village, or where the closest economy of first cost must be practised in order to get any general waterworks pipe system at all, and in these cases it should be clearly understood that, starting with, say, 75 lb. pressure, a line of 4 in. pipes one-half mile long, as soon as it becomes old and roughened by rust, can only deliver water enough for a single 100-gallon fire stream $\frac{3}{4}$ in. in diameter."

The number of moving-picture entertainments being given in this country is steadily on the increase, and, although here in New Zealand we have been remarkably free from accidents in that connection, hardly a week passes that one or more fires or panics more or less serious—as a rule, caused by the films catching fire—is not reported in the Home or foreign papers. Should a panic take place in some of the theatres and halls where these shows are given here—owing to faulty construction, inadequate exits, and other causes—very serious results must be expected. This does not apply so much to most of the larger towns, where attention has already been given and precautions taken in these matters; but I would suggest that some general regulations should be made as to the manner of use and precautions to be taken to minimise this danger as much as possible.

As an amendment to the Fire Brigades Act of 1908, a clause was added giving Fire Boards power to borrow money by means of issuing debentures; but upon several Boards trying to obtain a loan by this method, they found it impossible to do so, owing to no power to give legal security for the loan having been included in the said amendment. The money being urgently required for capital expenditure, these Boards have found it necessary to include a proportion thereof in the estimates of maintenance for the current year. By adopting this method the cost of maintaining their respective brigades will be very largely increased for the next few years, and, in view of the heavy burden this will prove to the contributory bodies, I would respectfully submit that an amendment to the Act, giving the necessary legal security, should be made during the coming session.

Another subject for amendment to the Act that I suggest should receive immediate attention is the following: There is a certain amount of insurance business carried on in the Dominion by British or foreign companies who have no representatives in New Zealand, and who thus escape any levy for fire-brigade maintenance. If the insured under these circumstances were made by law the agent or representative of the insurer (*vide* Fire Brigades Act, clause 2, heading "Insurance Company"), they would then be placed on the same footing as a company with its recognised office in New Zealand, and be compelled to pay their just proportion according to the amount of business done.

There are also other minor amendments required to the Act for its better administration.

Though not directly in connection with the Fire Brigades Act, I would most respectfully bring under your notice the matter of the great and quite disproportionate fire waste obtaining throughout New Zealand. That this waste is out of all proportion to that prevailing in other countries is forcibly evidenced by the following extract from an editorial published in the *Australasian Banking and Insurance Record* for July, 1908: "A comparison of the annual fire waste of various countries would afford an interesting little study for students of economics, but unfortunately it is difficult to procure reliable statistical information on the subject in very many cases. In the United States, where very elaborate returns are compiled by the Government, the total property loss by fire last year was stated at $200,000,000, or say £40,000,000 sterling, but the insurance losses were little more than half that sum, being £20,500,000. This gives an insurance loss of a little over 5s. per head of the population, while in the older European countries it has been estimated that the annual loss by fire does not exceed 1s. 6d. per head. The losses in New Zealand for the past five years, as reported by the insurance companies, work out at something like 7s. per head per annum, and that figure has already been exceeded for the first half of this year, a result for which the Christchurch conflagration is largely responsible. A country where, on a *per capita* basis, the insurance loss of the United States is so easily exceeded may pretty nearly claim to hold the world's record for the highest proportion of annual fire waste."

The insurance loss per head in New Zealand, quoted above, is considerably underestimated when averaged for the five years ending December, 1908, for, taking the population (Pacific islands excluded) over that period as averaging 950,000, and the insurance loss closely approximating £417,480 per annum, the loss works out at nearly 8s. 9½d. *per capita;* but to arrive at the actual fire waste there must be added the value of property destroyed that was not covered by insurance. By reference to the above extract it will be seen that the fire waste in the United States is estimated at £40,000,000 sterling, or 95 per cent. over and in addition to the insurance loss of £20,500,000. Judging from observation, and such figures as I have been able to gather, the percentage of uninsured loss over that insured is not nearly so high in this country, and may be accounted for as follows: Firstly, a more general insurance of property throughout the Dominion; secondly, higher cover over property in ratio to its value. Therefore, if 33⅓ per cent. be added to the insurance loss, the resulting amount should be pretty close to the fire waste under this heading, and that will give an average loss in New Zealand of £556,640 per annum for the last five years, or slightly over 11s. 8½d. per head, so that property to the value during that period of over £2,750,000 sterling has vanished in smoke. But even this huge sum does not cover our actual fire waste, for the expenses entailed by wear-and-tear of fire plant and appliances, fuel used for conveying the appliances to and extinguishing fires, &c., amounts to a fair sum per annum, and these and other contingent charges should be included to arrive at a true estimate. The comparison stands as follows: