I think there can be no doubt but that the issuing of licenses does lead to a very extravagant waste of the forest. It also prevents its sale as freehold by destroying the valuable timber, and also by causing an unfair competition in the production of sawn timber.

I cannot recommend any system of supervision by which the forests might be thinned without their absolute destruction. I regard the destruction of all the forests, excepting those composed of the different varieties of the Fagi, as inevitable (and these will be preserved from their position, and from the readiness with which young trees come up and grow on the outskirts of the forests). I am therefore of opinion that legislation should lead rather to the encouragement of the new plantations than to the very doubtful attempt to preserve the old forests.

12th April, 1869.

C. DAVIE, Chief Surveyor, Canterbury.

## Sub-Enclosure to Enclosure in No. 8.

Mr. R. Townsend to Mr. C. Davie.

SIR,-Christchurch, 23rd March, 1869. In reply to your letter containing a series of questions relating to the destruction of bush upon the Crown and freehold land in Banks Peninsula, I have the honor to send the following

1. What causes have led to the destruction of the forest, particularizing the relative effect of accidental fires, felling by holders of bush licenses, and destruction by cattle?—The principal fires which have occurred upon the Peninsula have been accidental: in fact, through starting from clearings where holders of bush licenses have been working. The circumstances have been favourable to the spreading of any accidental fire once started. The great fire which passed through the whole of the bush from the back of Ohuku, and finished at the Pigeon Bay Road, was an accidental one. The fire which destroyed the forest between Barry's Bay and Wainui was caused by one of the settlers firing the fern land in French Farm, and from thence spreading to the forest. The fire in Okain's Bay was the land in French Farm, and from thence spreading to the forest. The fire in Okain's Bay was the result of accident in its origin, but the bush being full of saw-pits and dead timber left by those who had been working under bush licenses, every facility was given for the fire to spread. I do not think that cattle do any damage to the bush, but rather good, in breaking down the underscrub. The present cause for the destruction of timber is to be looked for in the felling timber on freehold lands, and as the driest weather and most violent N.W. gales are chosen as the fittest time for burning the felled timber, it does and must spread to the uncut bush lands; and as clearing bush lands for laying down in grass is every year on the increase, I see nothing to prevent the total destruction of the bush on the Peninsula.

2. State any damage done to agricultural land or other destruction of property, such as mills, and caused by floods or droughts rendered more severe through the destruction of the forest.—I know of no damage done to land or property that can be fairly traced to the cause mentioned in this question, the only marked damage having occurred in February, 1868, when the whole country suffered equally. The only stream observed to flood quicker and contain less water in summer is the Pigeon Bay Stream. But this is not a fact established by direct observation of any one, but simply what several fancy they have noticed; but it presents the most favourable features for observation, as nearly all the land in its course has been cleared of timber and laid in permanent grass. The reason, it appears to me, why other streams have not shown more sudden floods and lessened ordinary supply, is that the head feeding streams have still the covering of undisturbed bush; and even where the fire has passed through the timber, the rapid growth of Mako-ngaio and other small trees protect the ground and watercourses from the sun, and possibly assist (according to the received notion) in causing the fall of rain.

3. Are bush reserves advisable, or should the forests be sold as freeholds with a view to their better conservation than at present?—I do not think that bush reserves will in any way tend to preserve the timber, believing as I do that the principal future cause of destruction will be the spreading of fire from freehold clearings, and the next really dry summer will in all probability finish what the last dry

summer began.

4. Do bush licenses lead to an extravagant waste of the forest, and can you propose any system by which the forests might be thinned without their absolute destruction?—Bush licenses have in time gone by been the means of extravagant waste of the forest, from the difficulty of supervision and the universal encroachment upon the privilege, but as made use of at the present I do not think they do. The licenses are at present held by those working at and for the different saw-mills, and almost every timber tree is used. Formerly, the holders of licenses having generally no interest either in country or district, were utterly reckless and evtravagantly wasteful, picking and choosing among the timber, destroying far more than they used. This is not the case at present; and furthermore, as it is the object of all upon the Peninsula to get rid of the timber from the ground and have grass in its place, and the timber used by the mills rarely grows except upon land that will grow grass well, the effect generally of the labours of the license-holders at the different saw-mills is preparing ground for other people to buy and settle upon. This has at least been the effect in the several saw-mills upon the

I have seen and communicated with the owners and workers of the several saw-mills, and they say that at the present price of timber they could not afford to buy the land only for the purpose of taking the timber from it, and would, in the event of timber licenses being stopped, have to give up the cutting of timber. This I can hardly reconcile with the amount of royalty they give to owners of timber in their vicinity.

I cannot with confidence suggest any method by which the timber might be thinned without oying the remainder. All the plans that suggest themselves to me would so interfere with the destroying the remainder. All the plans that suggest themselves to me would so interfere with the long-established method of bushwork, and would, I am afraid, be impracticable. Nor do I think that the timber trade will last long enough upon the Peninsula to make it worth while to attempt to save timber: a few more years and it will cease to be a timber-producing district.