This appears to have been taken up and patented at Home and rather extensively applied to a great variety of fibres. Mr. Cross pointed out that he obtained a quantity of the fibre and submitted it to Mr. Strangman. It was put through this process and converted into the highest quality of twine-making fibre. He indicates that the results of these experiments will be reported; but no report of them has yet reached the colony, so far as I am aware. Again, he states that Mr. Barlow has undertaken further experiments to reduce the fibre so as to make it into staple—like raw cotton—a treatment which he states has been successfully applied to the spinning of yarn from various waste fibre products. The reduction is effected in a special machine and produces a substance called "wool," and which is afterwards taken through the carding and spinning process and converted into weft-yarn. He states that the result of the trial of this process will be duly reported. Again, he states that experiments have been undertaken under the auspices of the Executive Commission (the Commission of the Exhibition of 1886), starting with machine-dressed fibre, to test the various treatments with different alkaline sulphites, which in more recent times have been successfully applied to other raw fibre. And he implies, from the context, that the result of these experiments will be also reported. These are the three points to which I wish to call special attention, as it is important to procure these reports if they were ever made. I applied Mr. Cross's process to a considerable sample of the green leaves of the *Phormium tenax* and produced a fibre of which I produce this sample. I am sorry to say it is rather shabby, as it has been handled a great deal. It has been much admired, but through the handling its colour has been impaired. An examination of this sample will show that the fibre is quite as strong as the Maori fibre, and it is perfectly clean. The fine fibres that are intermixed with the long fibres are simply what would be called the tow in any other process. The great interest of that specimen is that it contains 26·41 per cent. of the weight of the green leaf before it was treated. Now, the highest production, so far as I know, under any ordinary process of preparing fibre from the leaves, is only about 12 per cent., so that here we have double the quantity produced, and I think, on the whole, it is of much superior quality. There is, therefore, a very sufficient margin for covering any increased cost of this process of preparation. These remarks are only meant to illustrate your question, for this book contains all the information I possess on the subject. I think these are the chief points that are not fully touched on in the book.

763. Can you give us any idea as to the expense of this process you speak of?—It is stated that the cost of the sodic-sulphite, when manufactured, is one-third the cost of soap. I have not been able to ascertain the exact process that is employed for making it, but it has been reduced enormously in cost of late years. I am aware that since I described the process a number of persons have tried to experiment with it in different ways in the colony; but the probability is that they would fail, because the sulphite is very prone to change its nature. It is difficult to keep except in bulk. If a package is opened and a small parcel taken out, and not kept carefully from the atmosphere, it passes rapidly into a sulphate of soda. The action of that would be injurious upon the fibre instead of beneficial, and would fail to effect any cleansing process. I think it is very likely that many of the failures that have taken place in trying this sulphite process have arisen from that circumstance. Of course the cost would depend upon the cost at which the sulphite could be got. At page 12 I have described all the necessary processes through which the fibre would need to be put. There is no doubt it would be more expensive than merely running the flax-fibre through the stripping machine. But I have always been of opinion that, at the present, the object in dealing with the flax-plant is merely to produce an article that will compete with manila, and this has led to very wasteful and misdirected efforts on the part of flaxmillers.

764. Do you consider that flax could be produced to meet your view in that respect?—It would be more useful for binder-twine, I think.

765. But not for the purposes for which Italian flax is used?—Phormium could never be used for the same purpose as Italian flax; it is fundamentally a different fibre altogether. What I mean is that the process adopted in treating the leaves of the phormium so as to produce a fibre that will compete with manila does not exhaust the whole valuable properties of the leaf.

766. *Mr. Walker.*] If there was a large demand for this sulphite could it be supplied at a reasonable price?—It could be manufactured in the colony.

767. If there was a demand it could be easily produced at a low cost?—Yes; I think so.

768. *The Chairman.*] From our own natural products?—Yes; but if it is obtained as a by-product from some other manufacture at Home they might be able to produce it cheaper on that account, and it might be better to import it.

769. Do I understand that by the process indicated here you could produce a flax that would merely enable it to compete against manila?—Oh, not at all! You get the whole of the cellulose in the plant separated from it—what I might call the fibre-cellulose matter from the pulpy matter. You get the fibre in the plant absolutely pure. The pure fibre contains 67½ per cent. of that cellulose, which is the element that renders it valuable. The value of the manufactured article so far as durability is concerned depends upon the quantity of cellulose in the fibre. This, of course, can be divided up into various fibres by mechanical process.

770. *Major Steward.*] With chemical preparations?—Yes, having been produced in that condition by chemical process, and the process of heckling and scutching. The whole of the waste from that could be converted into very valuable material by what is known as the hydrolytic process—boiling with caustic potash or soda. It then passes into a state of pulp. It is perfectly non-tenacious or soft when it is wet, but when it is dry it has great tenacity. This sample of cloth is quite strong. I produce it to illustrate the nature of the stuff that can be made. It is quite strong like ribbon; if you damp it, it will not bear its own weight. That is a very valuable quality, because you can work it up into any form of article; and then you can fix it by adding something of the nature of a size, such as gelatine, and many other things. That is the essential feature of the art of converting fibres by hydrolytic action. Another important point is that the New Zealand flax has ultimate fibres of considerable length