primary cell-wall has small triangular spaces at the places where neighbouring cells meet, and always shows a tendency to split (as in the ripening of fruits in which the cells separate one from the other by splitting of primary cell-wall), little difficulty will exist in separating the fibres one from the other if the walls are strong and thick enough to bear it. The thick-walled fibres used by the Natives, and in which the fibres are separable, demonstrate this fact clearly. As the cells of the *Phormium* differ in no way from all other tissue-cells in the way in which they are united, it is hardly necessary to say more on this point.

N.B.—All measurements in fraction of an English inch.

§ 11.—Measurements of Fibres of Native-dressed Samples of New Zealand Flax.

No. 1.—*Harakeke*, washed.

No. 1*a*. 8 Fibres examined.

	Diameter of Fibre.	Diameter of Cavity.
A	·0006	·00015
B	·0007	·00015
C	·00065	·000125
D	·00065	·00015
E	·000625	·00015
F	·00075	·00015
G	·0008	·00015
H	·000675	·00025
Mean	·000681	·000159

No. 1*b*. 5 Fibres examined.

	Diameter of Fibre.	Diameter of Cavity.
I	·0009	·000625
J	·0008	·00045
K	·000825	·0005
L	·000725	·0003
M	·0008	·000325
Mean	·00081	·00044

No. 1*b* was selected from a sample of No. 1. The fibres were closely adherent, and very difficult to separate. In the mass it appeared as a dull white thread wanting lustre. Only one was observed in the sample.

No. 2.—*Harakeke*, unwashed.

9 Fibres examined.

	Diameter of Fibre.	Diameter of Cavity.
A	·0007	·0002
B	·0007	·0001
C	·00065	·000125
D	·00025	·000175
E	·0008	·00025
F	·000055	·00015
G	·0005	·00015
H	·0006	·0001
I	·0006	·00012
Mean	·00063	·00015

No. 3.—*Harakeke*, back of leaf.

No. 3*a*. 3 Fibres examined.

	Diameter of Fibre.	Diameter of Cavity.
A	·0005	·000125
B	·00055	·0001
C	·00055	·0001
Mean	·00053	·000108

Best looking samples of No. 3 fibres stained in places.