These values lead to values of the factor $(1-c_v \cos \delta)$ as given in the following table :—

TABLE II.

N	h = 175 ft.	h = 235 ft.
300	1.939	1.940
400	1.938	1.940
500	1.936	1.939
600	1.934	1.938
700	1.932	1.937
800	1.930	1.935
900	1.927	1.933
1000	1.923	1.931

The following values are thus obtained for the theoretical efficiency of the wheel with a $\frac{3}{4}$ in. diam. nozzle :—

TABLE III.

N	h = 175 ft.	h = 235 ft.
300	59.3	53.0
400	72.3	68.7
500	81.8	75.8
600	88.0	83.5
700	90.9	88.5
800	90.3	91.0
900	86.6	91.2
1000	79.4	88.8
	max. 91.1 @ 738	max. 91.5 @ 857

The differences between these calculated values and the actual values obtained are exhibited in Table IV. These results are illustrated graphically in figures 16 and 17.

TABLE IV.

N	h = 175 ft.			h = 235 ft.		
	MATHEM	ACTUAL	DIFF.	MATHEM	ACTUAL	DIFF.
300	55.9	.....	.....	63.0	.....	.....
400	72.3	58.4	13.9	65.7	52.5	13.2
500	81.8	64.8	17.0	75.8	59.3	16.5
600	88.0	68.2	19.8	83.4	65.0	18.4
700	90.9	69.2	21.7	88.5	69.5	19.0
800	90.3	66.2	24.1	91.0	70.0	21.0
900	86.6	.....	.....	91.2	66.2	25.0
1000	79.4	.....	.....	88.8	.....	.....

From this last table it is apparent that there is still a waste of from 15 to 25 per cent. of the original energy of the water which has not been accounted for. The loss due to friction of bearings would be small in a simple machine of this sort, and the greater part of the 15 to 25 per cent. loss must be due to some departure in practice of the phenomena of action from those assumed.

It is suggested that the loss arises wholly or in part from the imperfect action of the vanes or buckets in turning back the water.

It will be remembered that one of the functions of the wedge was described to be to cause the water to be discharged to the side of the wheel. A little consideration, however, will show that during a part of the period of action the wedge does not perform this function.