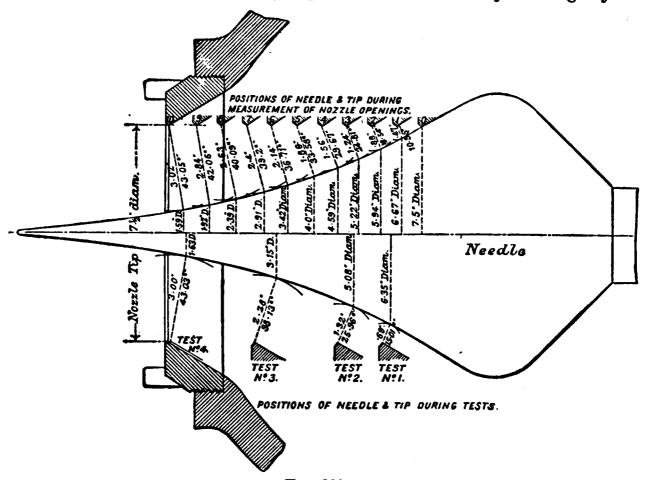
and a Pelton wheel nozzle with needle regulator. From these it appears that the central velocity at a point distant ½ inch from the tip of the needle is only 68 of the maximum velocity. At a section 3½ inches from the tip this ratio becomes 90, while when the distance is 9½ inches it becomes 96.

At mid opening (diameter 1.25 inches) the coefficient of velocity diminishes slightly as the head increases, from about .992 with 23 feet head to .978 with 120 feet head. With a given head the velocity was slightly the



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greatest with the nozzle half open. The efficiencies in these experiments varied from '964 to '993. The maximum jet diameter was 1.50 inches.

Experiments on a larger nozzle, giving a jet up to 7 inches diameter under heads up to 850 feet,<sup>2</sup> showed the following results:

Distance from centre of jet (inches).	0.0	•5	1.0	2.0	3.0
Velocity (feet per second)	212.7	228.7	229·3	229.9	227:8

<sup>&</sup>lt;sup>1</sup> From a Thesis by H. C. Crowell and G. C. Lenthe (Massachusetts Institute of Technology, 1903).

<sup>&</sup>lt;sup>9</sup> W. R. Eckhart, Inst. Mech. Engineers, January, 1910.