

# TESLA TURBINE THEORY

2<sup>nd</sup> Edition

## CONTENTS

1. Performance characteristics of a friction disc turbine, by E. W. Beans (paraphrase of pages 1-3).....	1
2. Tesla turbine design criteria, taken from Tesla & Possell.....	3
3. Tesla turbine patent #1,061,206, May 6, 1913.....	6
4. Address given by Tesla, Nat'l Electric Light Assn .....	11
5. A machine as big as a derby hat that generates horsepower.....	12
6. The rotary heat motor reduced to its simplest terms .....	17
7. The Tesla steam turbine .....	18
8. Bladeless turbines .....	19
9. A step toward the maximum attainable efficiency .....	20
10. Theory of the Tesla turbine .....	22
11. Blower works like Tesla's lost turbine .....	23
12. Vortex gas turbine, patent #3,045,428, W.B. McLean.....	25
13. Laminar flow over an enclosed rotating disc.....	28
14. An analytical and experimental investigation of multiple disk pumps and compressors .....	38
15. An analytical and experimental investigation of multiple disk turbines .....	42
16. Investigation into the performance characteristics of a friction turbine .....	45
17. Potential flow between two parallel circular disks with partial admission .....	47
18. Flow at low Reynolds number with partial admission between rotating disks.....	48
19. Laminar inward flow of an incompressible fluid between rotating disks, with full peripheral admission.....	49
20. Experimental investigation of the flow between corotating disks.....	54
21. Integral method for flow between corotating disks .....	56
22. Flow regime definition for flow between corotating disks .....	58
23. Calculated design data for the multiple-disk turbine using incompressible fluid .....	60
24. An integral solution for compressible flow through disc turbines.....	63
25. New efforts aim at practical application of multiple-disk-pump concept in industry .....	67
26. The Tesla turbine .....	70
27. Possell bladeless pumps.....	80
28. Non-destructive technology demonstrated .....	83
29. Tesla turbine technology now a reality .....	88
30. Photos and letter from Jake Possell .....	92
31. Boundary layer breakthrough .....	94
32. Tesla pump patents by Possell and Gurth.....	106
33. Discflo... a quantum leap in technology .....	108
34. Possell controversy .....	119
35. Current research and results (LaBine).....	124
36. Independent research craft (LaBine) .....	125
37. Super steam—power for the 21 <sup>st</sup> century .....	128
38. Merging Tesla's turbine and pump technologies.....	133
39. Ted Praast on Tesla turbines .....	139
40. Theses and dissertations bibliography .....	143