

USING EXPLOSIVES TO CLEAR MANHATTAN'S EAST RIVER OF NAVIGATIONAL HAZARDS -- THE GREAT HELL GATE PROJECT OF THE 1870's

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ABSTRACT

Reefs, exposed rocks, and fast currents made the Hell Gate section of New York's East River a treacherous passage ever since man attempted to sail through the area. As the harbor's importance grew, attempts to improve the channel were made, starting in 1851. This paper discusses the first major organized effort to clear the area, which began in 1869 and culminated in a single large blast in September 1876.

Of particular interest to the Society will be the fact that the project was set in an historically transitional time for the excavation industry. Techniques were produced in progression by hand, diamond, steam, and pneumatic drills, and blasting progressed from the use of black powder to liquid nitroglycerin, and finally to dynamite.

The paper includes a complete description of the background of the project, the methods used, the plan of the underground works, and the method of firing the final blast.