AN EXPERIMENTAL VERIFICATION OF THE THEORY FOR CLASSICAL WATER HAMMER

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by
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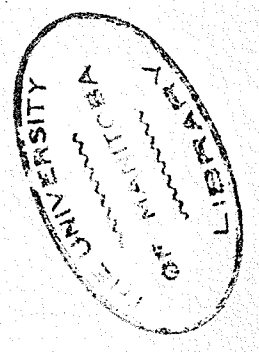

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ABSTRACT

Title: AN EXPERIMENTAL VERIFICATION OF THE THEORY FOR CLASSICAL WATER HAMMER.

This thesis is an investigation of the water hammer effect caused by sudden closure of a valve on a closed conduit, when the pressure of the negative wave is allowed to drop to absolute zero thereby causing a break in the water column.

Study of the water hammer pressure waves was carried out by the use of a cathode ray oscilloscope and a brass pressure cell with SR-4 strain gauges mounted on it.

The conclusions drawn from this investigation were: 1) The water column does not hold together when the pressure drops to absolute zero during the negative wave.

2) The wave form of the negative wave at the mid-point of the pipe does not occur as expected theoretically.

3) The coefficient of rebound decreases with an increase in velocity.

4) Le Conte's method of analysis gives a very close approximation of the actual conditions.

T.W. Godfrey

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