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Automatic Patio Door Closer

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AUTOMATIC PATIO DOOR CLOSER

PREPARED FOR DR. WARREN W. WORTHLEY, CHAIRMAN
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INDIANA UNIVERSITY - PURDUE UNIVERSITY AT FORT WAYNE

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MAY 4, 1981
FOR MET 497

ABSTRACT

Significant problems can be associated with the popular patio door which is found in many homes. The problems relate to energy conservation and insect entrance which occur when the patio door is left open. In order to solve these problems, an Automatic Patio Door Closer has been designed, built, and tested. The Automatic Patio Door Closer automatically returns either the glass or screen portion of a patio door. It is a totally mechanical device which operates by using a spring-loaded cylinder and leverage mechanism. The closer is adaptable to most patio doors and is adjustable for various closing forces. It attaches at one point to the wall section on the border of the patio door and at another point near the bottom of the screen or glass door. Test results have shown that the closer was adjustable for the opening forces up to and including 9 lbs., the rate of closing was 8 in./sec. or less and the % increase in opening force was 70% or less. The prototype cost for materials was \$22.67. Production quantities could reduce this amount significantly.

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