

## “KEEPING PACE” - #4

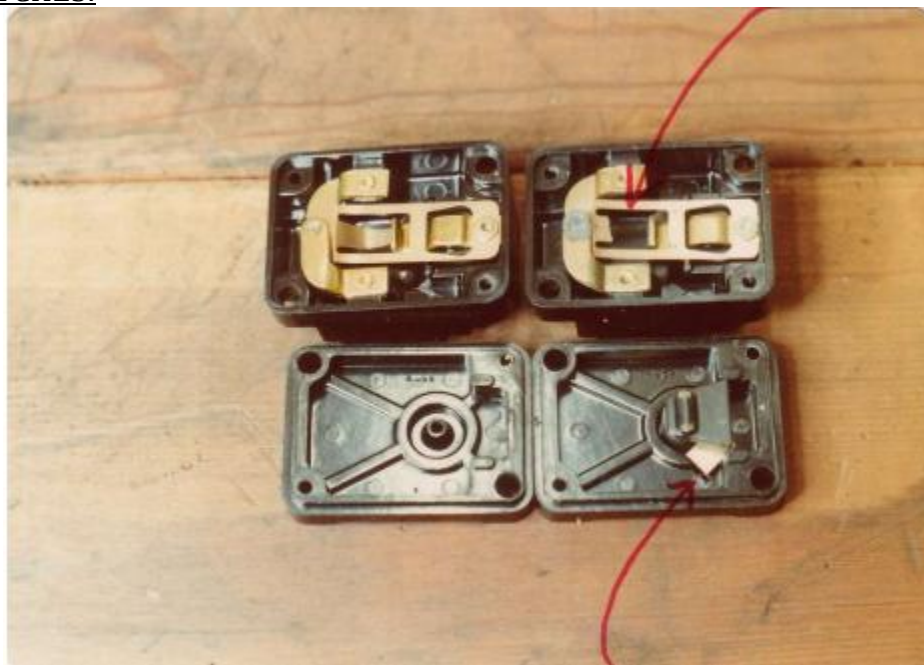
(Page 1)



### LICENSED IN SIX STATES:

The map shows the six States in which I am licensed as a Professional Engineer, and the area I drive to investigate fires and accidents of all types. I also fly to other States when the distance from Cincinnati to the site is more than 600 miles.

### MICROSWITCHES:



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(Page 2)

The photograph on the previous page shows a defective microswitch and a similar new microswitch. The defective microswitch had been used to stop the movement of a blade in a hogs head splitting machine in a meat processing plant. The microswitch is used to automatically stop the ax blade at the end of its cycle of travel. However, when the microswitch failed in the continuously “on” position, the blade kept going and cut off a workman’s finger. During that case, I wrote the plant manager a certified letter to the effect that he should install another, second microswitch as a back-up safety in case the first microswitch failed again. This was not done, and now there is a new case involving a second workman’s finger which was cut off by the ax blade. It is interesting to note that there are many machines in industry which have only one limit microswitch and not a second one as a back-up safety device. As of this writing, a settlement of \$250,000 has been offered by the defendant in this second case.

**GAS MAIN LEAKS:**

Another case was reported recently in Cincinnati of a gas main leak in the street which allowed gas to filter into a home over a few hours time, causing the building to explode. In spite of the fact that natural gas is lighter than air, it can still diffuse and be blown around in such a manner that it enters a distant building. P.A.C.E. has investigated four such cases. Another memorable case was the grocery store in Charleston, West Virginia which exploded from a gas main leak forty feet away across a street, in October 1983.

Sincerely,



Frederick F. Franklin, P.E.  
Forensic Engineer