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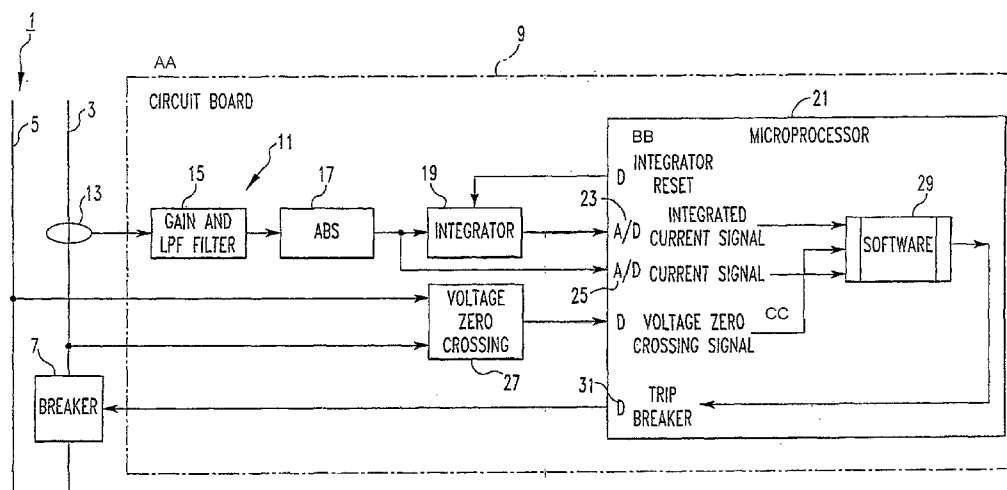
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(57) Abstract: An arc fault detector analyzes patterns in a sequence of counts of interval to interval increases or decreases in integrated current for patterns characteristic of arc faults. In AC systems, the interval can be a full cycle or in an alternative embodiment, the changes in integrated current for positive and negative half cycles are separately determined and then interleaved before the change counts are calculated. The count sequence is reset when patterns characteristic of phenomena other than an arc fault are detected to avoid nuisance trips.

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