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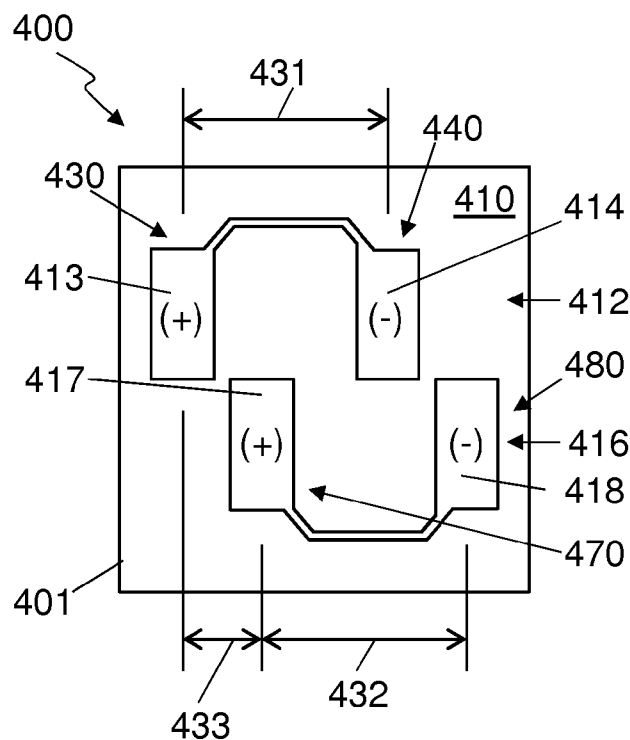
(54) **Title:** MOTION DETECTION

FIG. 4A

(57) **Abstract:** A motion sensor has at least two tiers of monitored volumes that are offset from each other. Electromagnetic radiation, such as infrared light, is directed from the monitored volumes onto at least two sets of detector elements having separate outputs on a pyroelectric substrate of an infrared detector. As a warm object, such as a human or an animal, moves through the monitored volumes, the warmth from the object causes the voltage on the outputs of the infrared detector to change. The resultant waveforms are compared and if the two waveforms have a phase relationship corresponding to a critical phase angle that is based on the pitch of the monitored volumes and the offset between the tiers of monitored volumes, an animal-immune motion indication is generated.

**Declarations under Rule 4.17:**

- as to the identity of the inventor (Rule 4.17(i))
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

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