

- [54] **MASS AIRFLOW SENSOR**
- [75] Inventors: **Kelvin Shih**, Brighton; **Kurt A. Pochert**, Hartland, both of Mich.; **James M. Dunford**, Cupertino, Calif.
- [73] Assignee: **General Motors Corporation**, Detroit, Mich.
- [21] Appl. No.: **419,937**
- [22] Filed: **Sep. 20, 1982**
- [51] Int. Cl.³ **G01F 1/68**
- [52] U.S. Cl. **73/204**
- [58] Field of Search **73/204; 338/25, 28**

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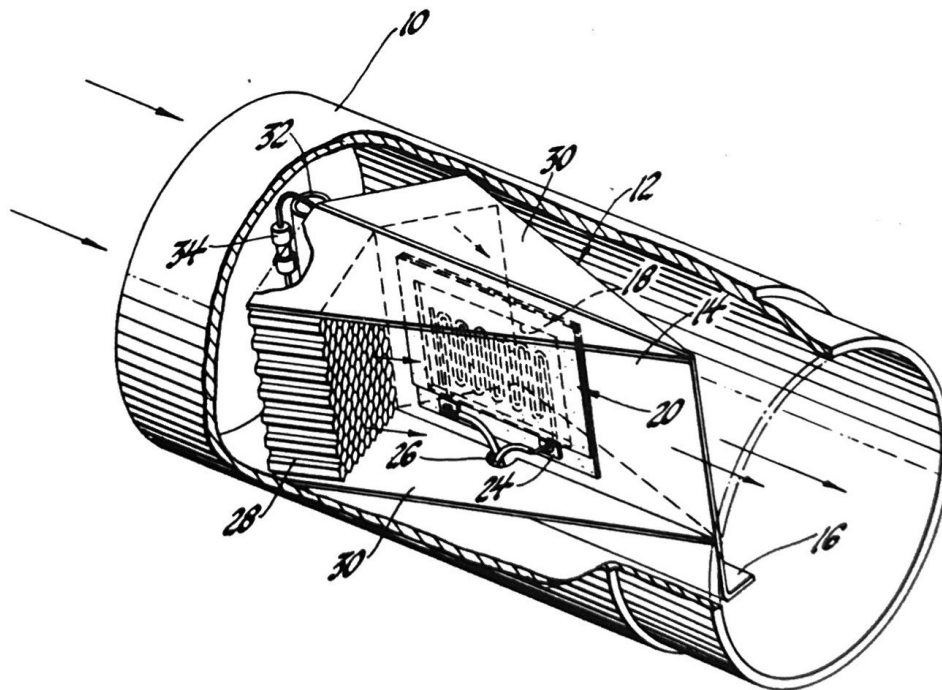
Primary Examiner—Herbert Goldstein
Attorney, Agent, or Firm—Warren D. Hill

[57] **ABSTRACT**

An airflow sensor for a constant temperature anemome-

ter comprises a copper foil resistor mounted on a polyimide foil which is supported in the airstream to be measured. The support preferably is a flat frame having an aperture over which the foil sensor is mounted so that the airstream can strike the sensor on both sides of the film. Airflow directors mounted upstream of the sensor are placed at an angle to direct the airstream toward each side of the film at a definite angle to obtain a positive cooling effect of the film by the airstream and consistent airflow. The sensor assembly is mounted in a duct with the plane of the sensor along the longitudinal axis of the duct for measurement of the flow through the duct. Another embodiment has a diamond shaped body mounted in an airflow such that a straight airflow impinges upon two forward sides of the body at a specific angle. A dielectric film mounted on the forward surfaces supports a metal film resistor on each face and a cavity in the body intersects the forward faces in the region of the metal film to isolate the film from the mass of the body to minimize the thermal mass of the sensor resistor element.

8 Claims, 6 Drawing Figures



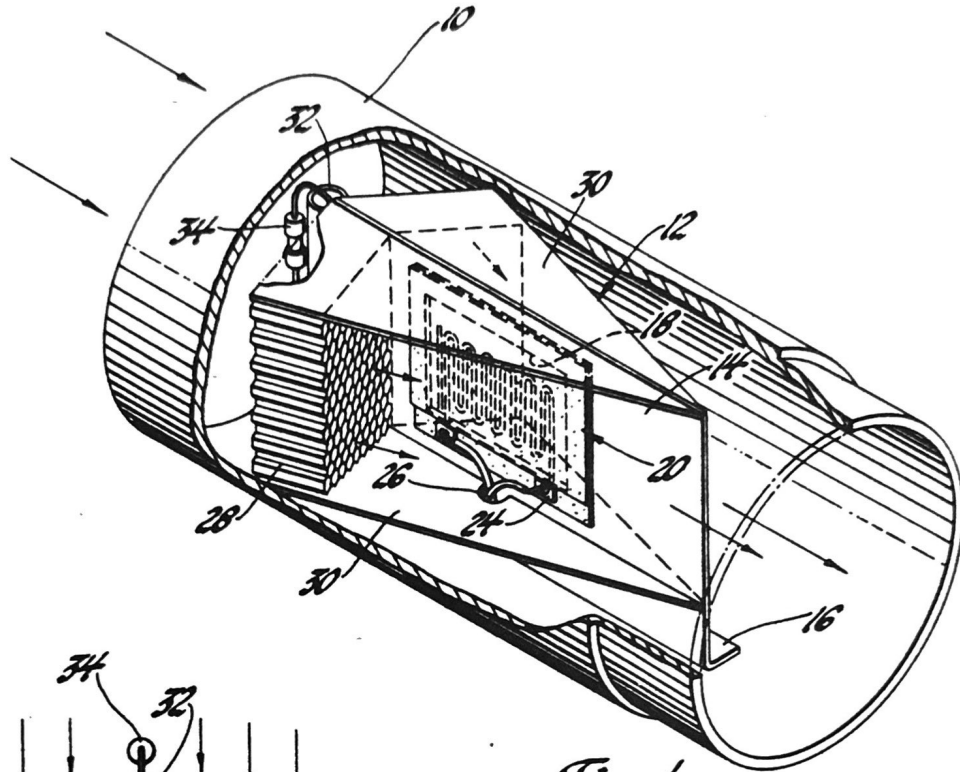


Fig. 1

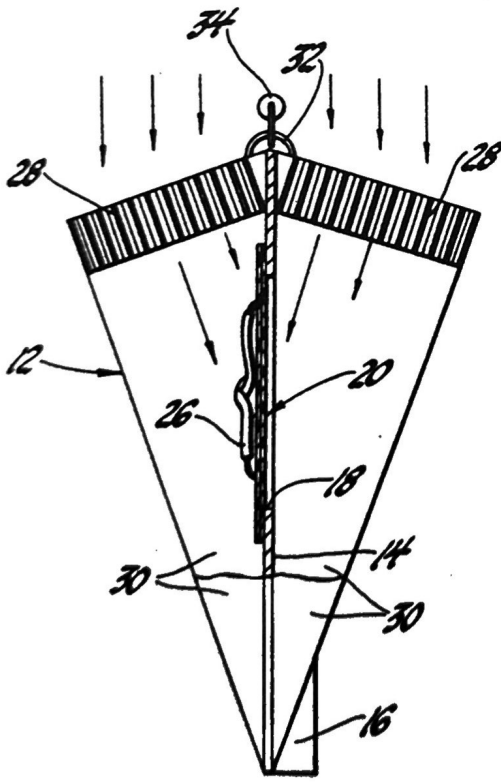


Fig. 2

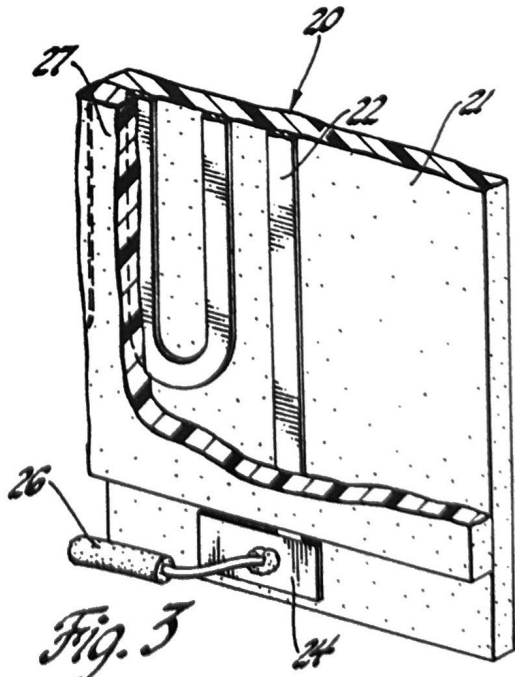


Fig. 3

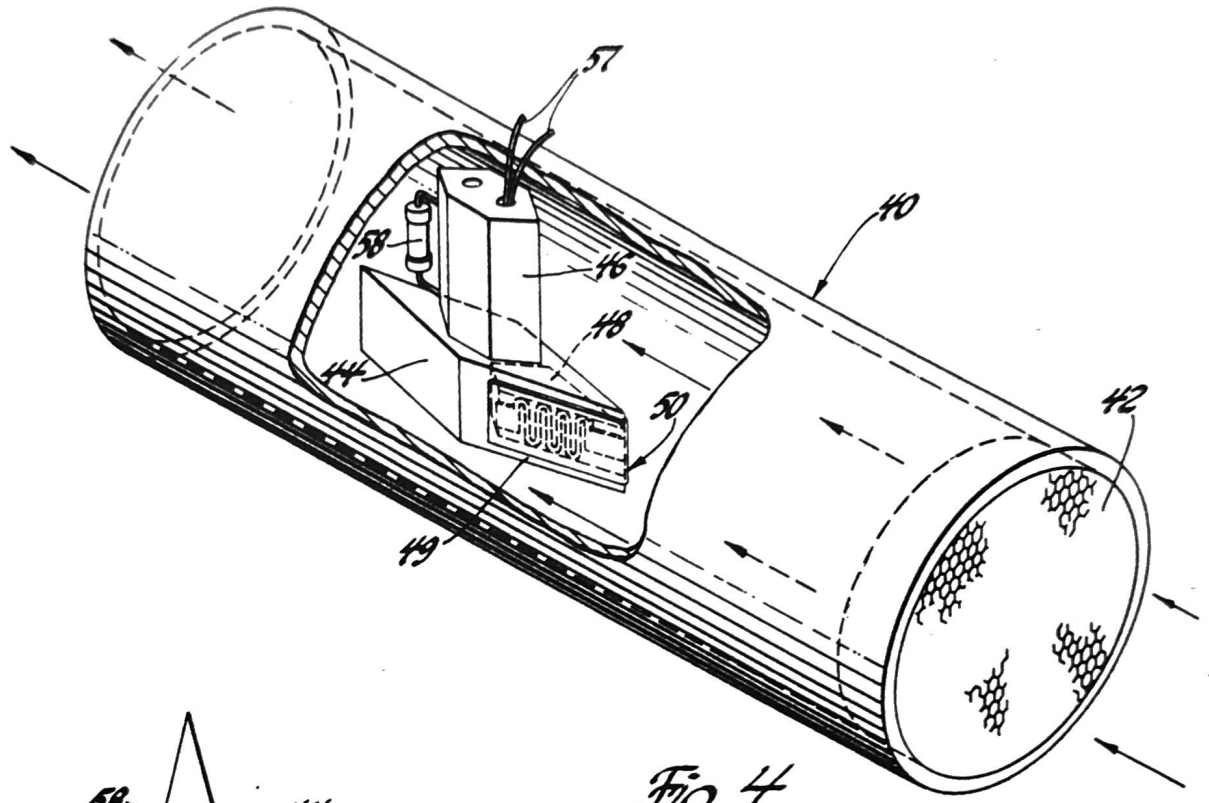


Fig. 4

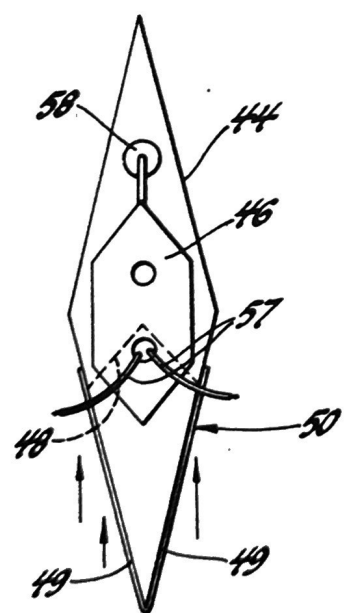


Fig. 5

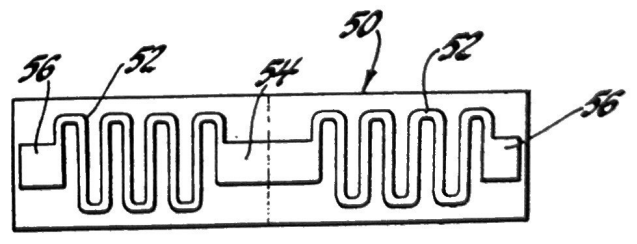


Fig. 6