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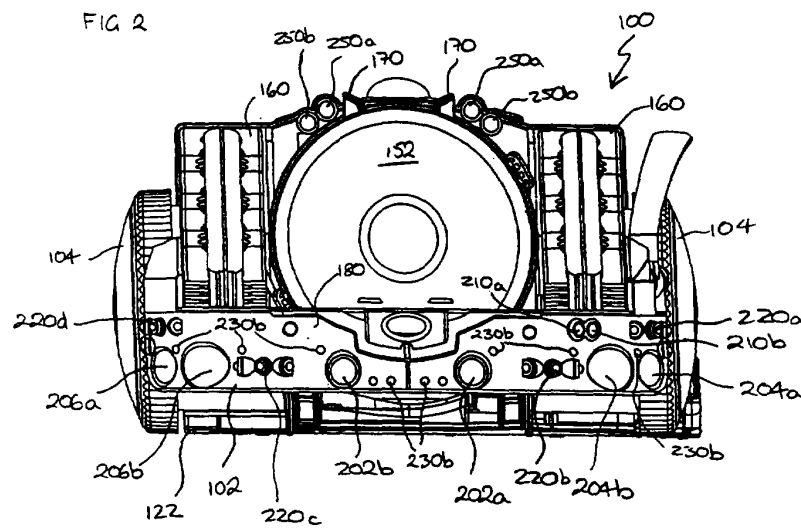G01S 15/93 // G01S 17/93 , G05D 1/03

(52) UK CL (Edition R)
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(58) Field of Search
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(54) Abstract Title
Obstacle detection system

(57) The invention provides an autonomous vehicle (100) having a plurality of sensors for detecting obstacles in the path of the vehicle (100), characterised in theat at least one forward looking sensor (250) is located at or near an uppermost extremity of the vehicle (100). It is disclosed that some infra-red emitters (220) are characterised in that the infra-red emitters (220) are arranged in groups of three or more (220a, 220b, 220c, 220d) and are capable of emitting a signal over 160°. It is also disclosed that the infra-red emitters (220) and receivers (230) on the forward surface of the vehicle may be arranged such that at least two emitters are capable of sending a signal to a given point. Furthermore, ultra-sonic sensors (202, 204, 206) facing forward, left, right and rear directions are characterised in that a further ultra-sonic sensor (210) is located so as to face in a direction between forward and left or right. In a further disclosure, there are at least two infra-red sensors are arranged to face outwardly in substantially parallel directions on one side of the vehicle. A body carrying a plurality of sensors for detecting obstacles in the path of the vehicle (100) is also disclosed, where at least some of the sensors consist of infra-red sensors, and the vehicle (100) comprises a vacuum cleaner with a cleaner head housing a brush bar, characterised in that the cleaner head protrudes beyond the periphery of the body and at least one infra-red sensor is located so as to look along the cleaner head and beyond the protruding end thereof.
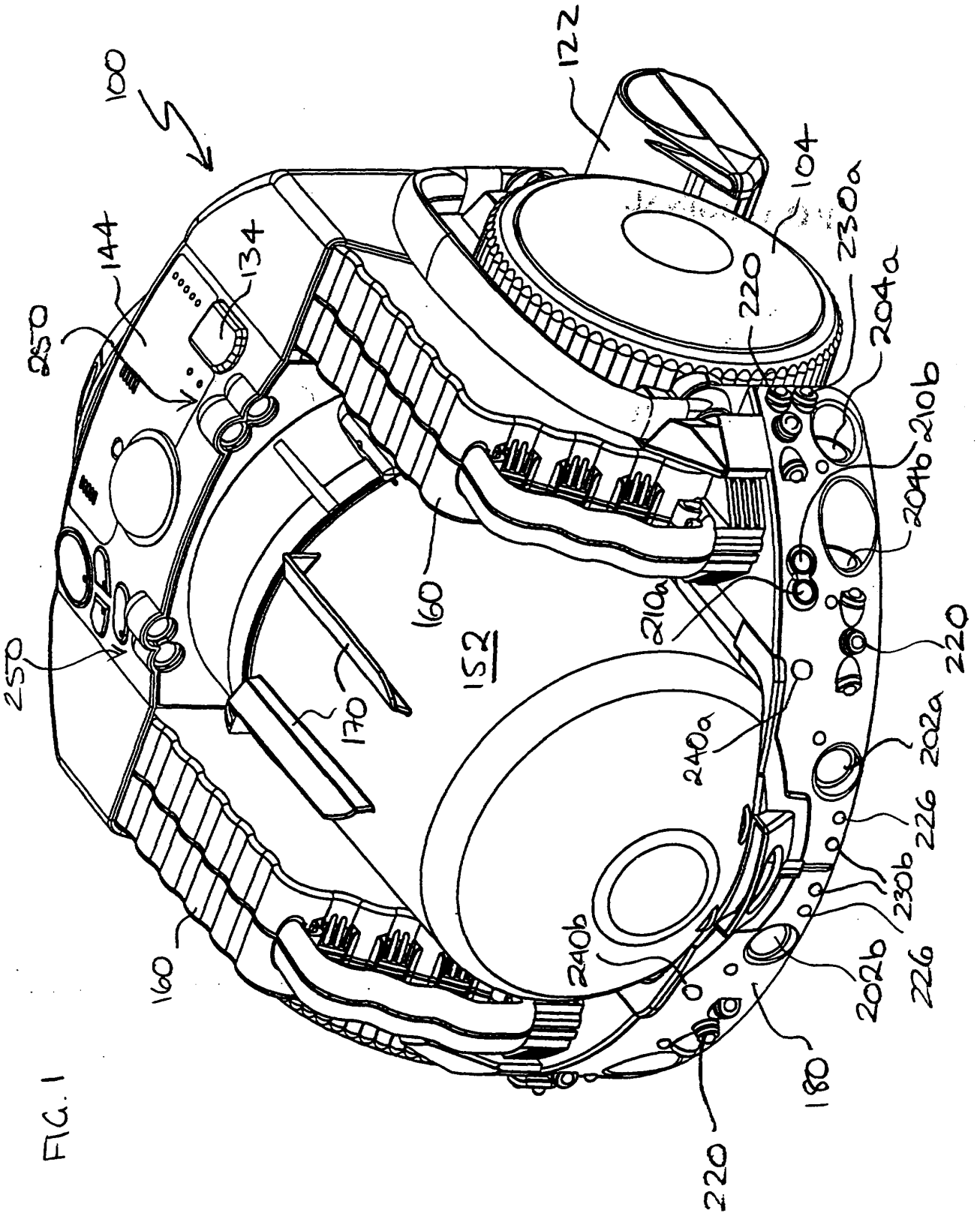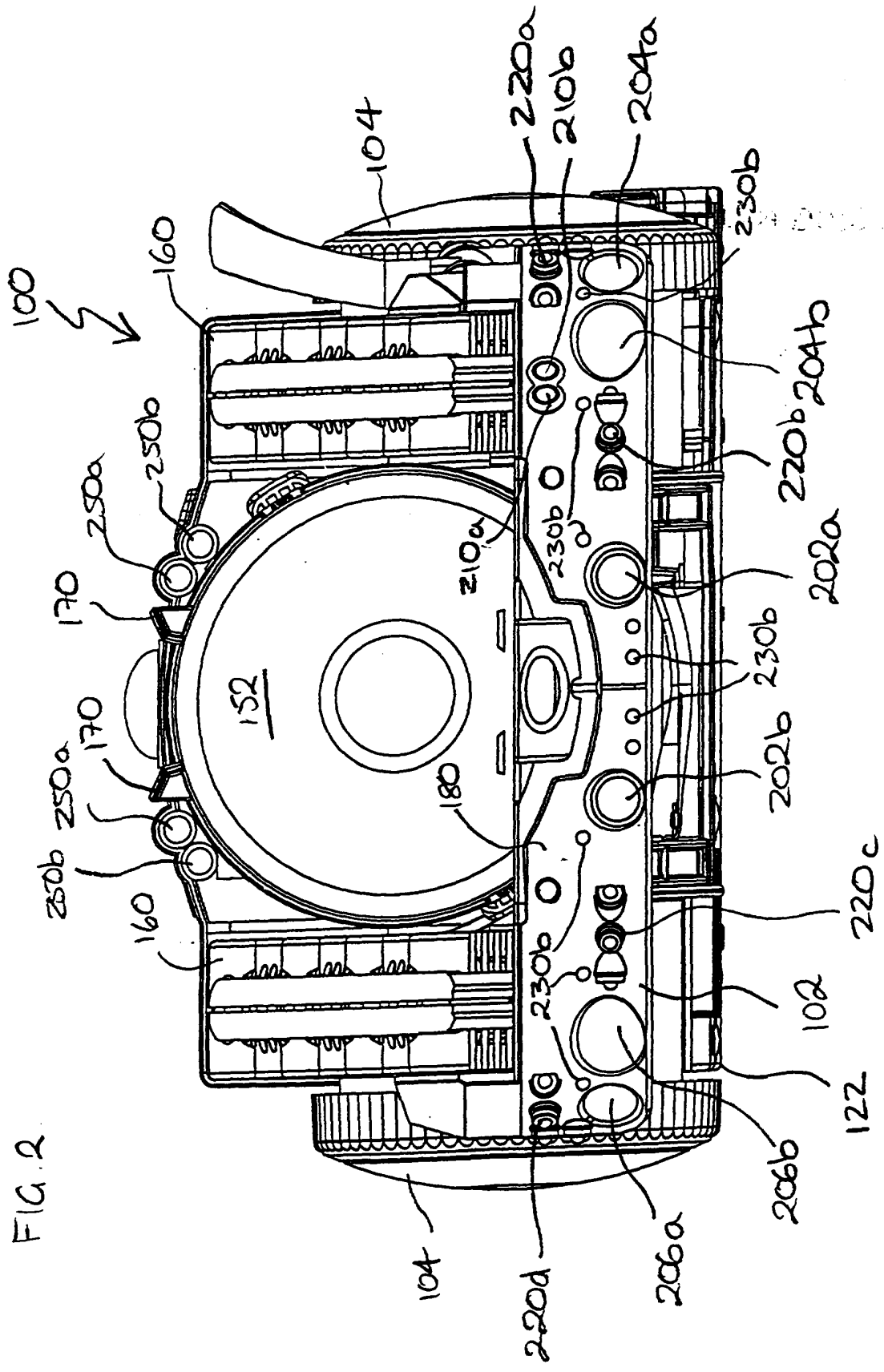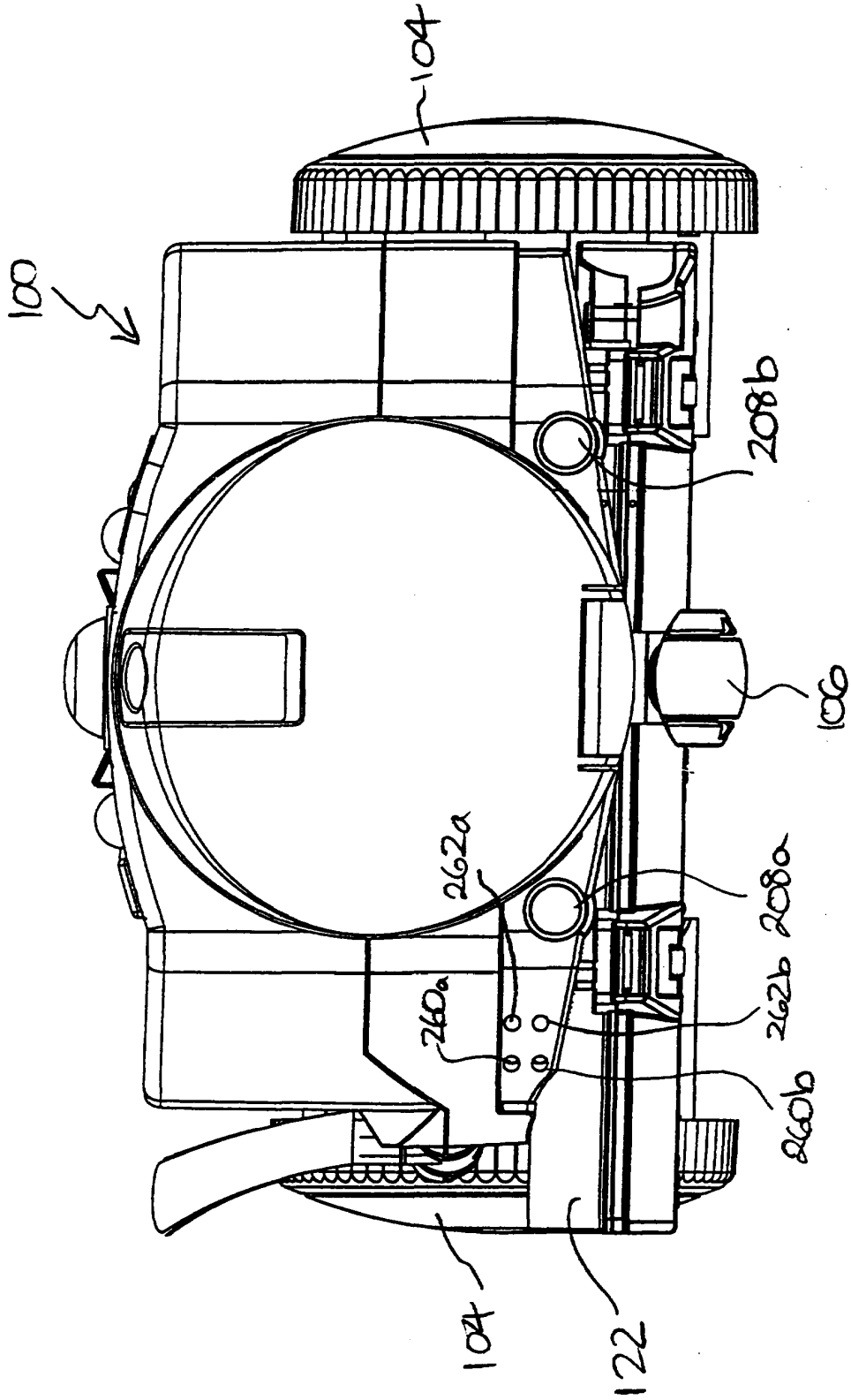
FIG 2

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FIG. 1

FIG. 2

FIG. 3.

FIG. 4a

FIG 4b

DOCKET ALARM
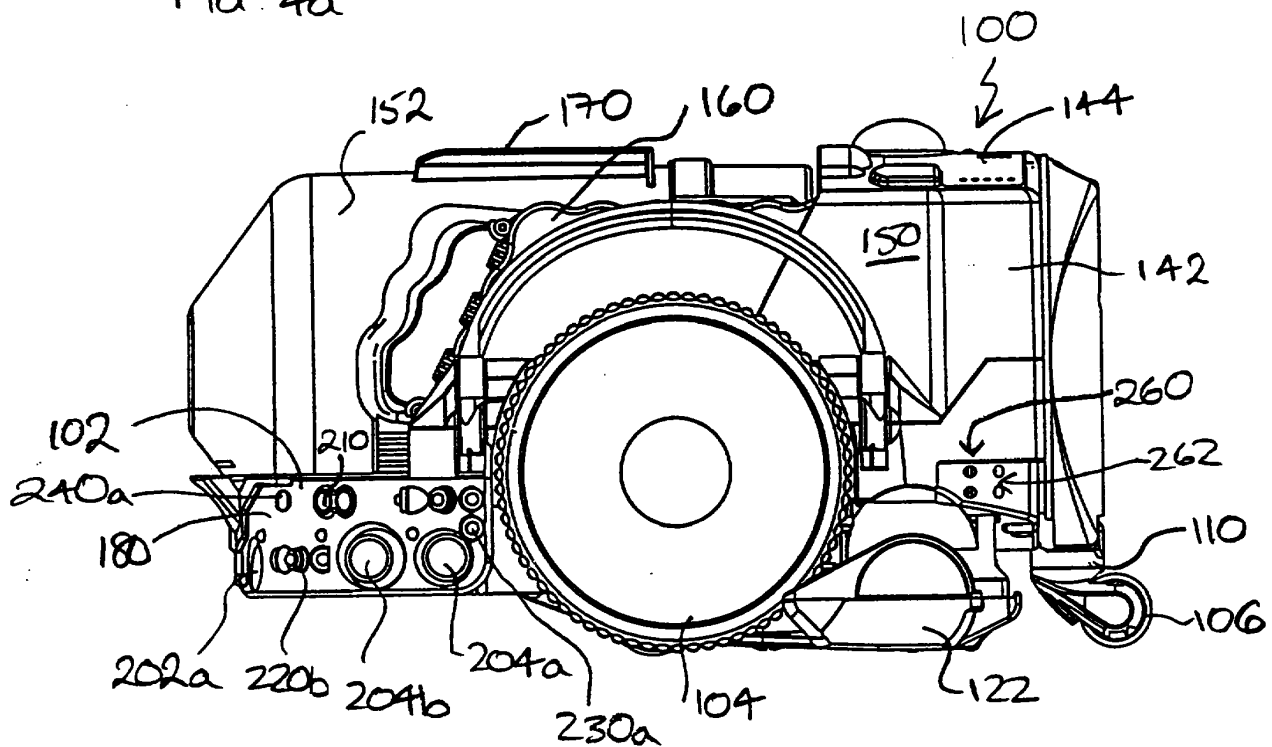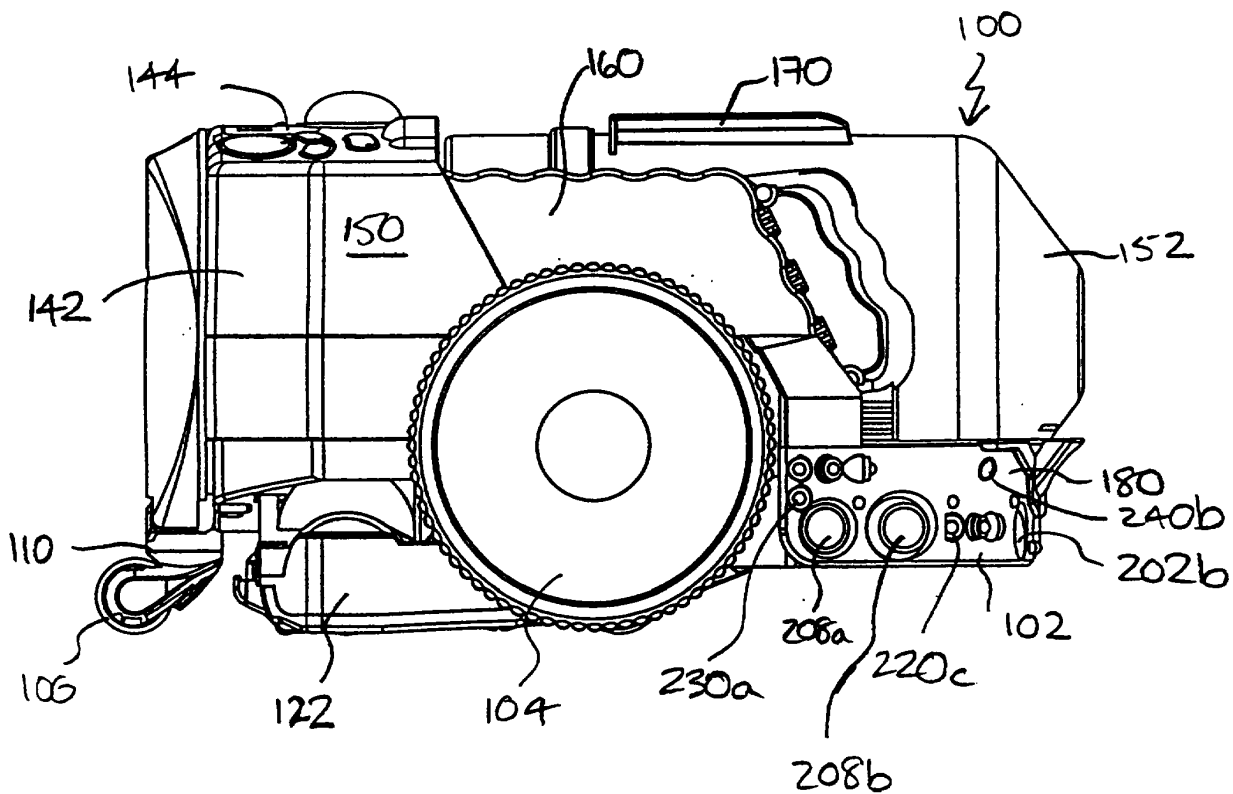
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