tube 20 and any discharge heads and/or from the site of the leak. The discharge tube 20 and any discharge heads may actually be unpressurised and/or open to allow any free flow of air into and out of the discharge tube 20. Overall, any release or leak or change of pressure in the detection tube 18 could have significant consequences. For example, a slow release of pressure from the detector tube 18 would eventually cause the system to be falsely activated.

The techniques disclosed herein may provide an equalising function to automatically re-pressurise the detection tube 18 if the detection tube 18 slowly loses pressure. The valve member 30 includes a first part (carrier component) 32 and a second part (sealing component) 34 wherein the second part 34 is effectively carried and mounted to the first part 32.

The valve member 30 includes a re-pressurising or equalising passageway 90 including an internal valve mechanism. In particular, the carrier component 32 includes a passageway 90 defined therethrough. This passageway 90 cooperates with a passageway 93 provided in the sealing member 34. These two passageways connect to provide a continuous passageway from the primed chamber 42 to the detection chamber 40. However, an internal valve mechanism is arranged to selectively restrict the flow through this connecting passageway.

The internal valve mechanism comprises a ball 94 or spherical valve member which is arranged to seal the connecting passageway 90 on the detection of a fire. In a normal inoperative condition, the ball 90 is contained within the passageway 90 but there is an equalising passageway extending from the detection chamber 40 to the primed chamber 42 such that the pressures will be equalised. As shown in Figure 1, a greater pressure within the detection chamber 40 would only force the ball member 94 away from the tapered or flared sealing surface of the passageway 90. A slight decrease or gradual decrease in the pressure within the detection chamber 40 would not produce a sufficient force or move the ball 94 into engagement with the sealing surface of the passageway 90. Accordingly, a small or gradual decrease in the pressure within the detection chamber 40 will be

1. A fire suppression system, comprising:
a cylinder configured to contain a fire extinguishant material;
a control valve connected to the cylinder and configured to controllably seal the cylinder under a first pressure, wherein the control valve comprises:
an inlet fluidly linked to the cylinder;
a first outlet port open to a second pressure;
a second outlet port;
a valve member movable between a closed position and an open position within the control valve for opening and closing:
a first extinguishant release passageway between the inlet and the first outlet port; and
a second extinguishant release passageway between the inlet and the second outlet port;
a detector tube connected on a first end to the first outlet port, wherein:
the detector tube is configured to be held at the second pressure; and
a loss of the second pressure from the detector tube due to a rupture causes the valve member to move from the closed position to the open position to unseal the cylinder and open both the first and second extinguishant release passageways to allow the simultaneous release of the fire extinguishant material from the first and second outlet ports; and
a discharge tube connected to the second outlet port.

2. A fire suppression system according to claim 1, wherein the control valve further comprises an equalizing passageway to enable pressurized fluid to flow therethrough when the valve member is in the closed position.

3. A fire suppression system according to claim 2, wherein the equalizing passageway:
is open when the detection tube is pressurized; and
is closed when the detection tube is ruptured.

4. A fire suppression system according to claim 2, wherein the equalizing passageway is configured to maintain the second pressure in the detector tube.

5. A fire suppression system according to claim 2, wherein the equalizing passageway:
is open when the valve member is in the closed position; and
is closed when the valve member is in the open position.

6. A fire suppression system according to claim 1, wherein:
the closed position of the valve member closes off the first and second extinguishant release passageways to prevent the release of the fire extinguishant material.

7. A fire suppression system according to claim 1, wherein the control valve further comprises:
a primed chamber disposed between the inlet and a first side of the valve member, wherein the first side comprises a first surface area exposed to the first pressure; and
a detector chamber disposed between the first outlet port and a second side of the valve member, wherein:
the second side comprises a second surface area exposed to the second pressure; and
the second surface area is larger than the first surface area.

8. A fire suppression system according to claim 1, further comprising:
a second cylinder connected to a second end of the detector tube, wherein the second cylinder is configured to contain a second fire extinguishant material; and
a second control valve disposed between the second cylinder and the second end of the detector tube, wherein the second control valve is configured to controllably seal