momentum to viscosity can more readily make tl
flow pathway **91"**. Outlet **95** of branch flow pathway **91"** can be located within chamber **90** such that high viscosity fluid passing therethrough can undergo less rotational motion via bypassing the portion of chamber **90** that induces rotational motion in the fluid and/or by being located in or near channel **92**, which leads to fluid outlet **94**. In some embodiments, outlet **95** can completely bypass chamber **90** such that a fluid passing therethrough is discharged directly into outlet **94**.

[0064] Similar to the embodiments described above, chambers having fluid inlets with both main and branch flow pathways can likewise be series coupled to one another. FIGURE 8B shows a cutaway top view schematic of a variable flow resistance system in which multiple chambers having a fluid inlet with a main flow pathway and a branch flow pathway are series coupled together. As drawn in FIGURE 8B, outlet **95** of branch flow pathway **91"** discharged near channel **92**. FIGURE 8C shows an alternative embodiment to that presented in FIGURE 8B, in which fluid outlet **95** of branch flow pathway **91"** is discharged directly into fluid outlet **94**, thereby preventing a fluid passing therethrough from undergoing rotational motion. In FIGURE 8C, branch flow pathway **91"** is structurally connected to fluid outlet **95**, thereby allowing chamber **90** to be bypassed altogether. In both cases, main flow pathway **91'** discharges into chamber **90** and fluid therein can undergo rotational motion.

[0065] Another embodiment of a variable flow resistance system having a branch flow pathway is shown in FIGURE 9. FIGURE 9 shows a side view schematic of a variable flow resistance system **110** having multiple fluid inlets **111** and fluid outlets **112** interconnecting chambers **113**, **114**, **115** and **116**. Lower viscosity fluids (solid line) such as, for example, oil and gas can enter main flow pathway **118** and undergo rotational motion within chamber **114**. The lower viscosity fluids can subsequently bypass branch flow pathways in chambers **114** and **115** and undergo additional rotational motion in these chambers. In contrast, a higher viscosity fluid (dashed line) such as oil, for example, can enter branch flow pathway **118'**. As the higher viscosity fluid enters chamber **114**, it has less opportunity to undergo rotational motion and can subsequently enter branch flow pathways in chambers **114** and **115**. Accordingly, the transit rate of the higher viscosity fluid relative to the lower viscosity fluid can be increased.

momentum to viscosity can more readily make the required turn into branch flow pathway **91"**. Outlet **95** of branch flow pathway **91"** can be located within chamber **90** such that high viscosity fluid passing therethrough can undergo less rotational motion via bypassing the portion of chamber **90** that induces rotational motion in the fluid and/or by being located in or near channel **92**, which leads to fluid outlet **94**. In some embodiments, outlet **95** can completely bypass chamber **90** such that a fluid passing therethrough is discharged directly into outlet **94**.

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