[0042] As seen in FIG. 3, the sensing bore 230 includes an insert portion 310 and a threaded portion 320. Likewise, the vein 130 includes a shank portion 330 and a threaded portion 340. As can be seen, the vein 130 defines a bore 350 extending from a shank end 360 of the vein 130 to a thread end 370 of the vein 130 such that the bore 350 is continuous along the entire length of the vein 130. The vein 130 is shown with its threaded portion 340 engaging the threaded portion 320 of the sensing bore 230. This interaction secures the vein 130 in place and seals an interior surface 380 of the vein 130 from an exterior surface 390. Although the vein 130 and the sensing bore 230 are cylindrical in the current embodiment, these shapes should not be considered limiting on the scope of the disclosure.

[0043] As seen, the vein 130 extends nearly the entire length of the sensing bore 230. Although some unengaged threads are shown along the threaded portion 320, the vein 130 is designed to extend as far as possible into the sensing bore 230. The vein 130 is made of brass, stainless steel, copper, plastic, or any other type of material subject to low corrosion in an aqueous environment. Typically, the body 110 and the bonnet 120 are made of cast iron, although other similar materials may be used in various embodiments. Because cast iron can be highly corrosive when exposed to water, the extension of the vein 130 into the sensing bore 230 prevents corrosion, pitting, and tuberculation from degrading the ability of fluid to t1ow through the sensing bore 230. Typically, the body 110 will have a protective coating, but, in some circumstances, such a protective coating may not be applied easily to the interior of the sensing bore 230. However, in some embodiments, no vein 130 will be needed to prevent corrosion because a protective coating may be applied inside the sensing bore 230. In some embodiments, the vein 130 or another vein may be used but may not need to be extended along the entire length of the sensing bore 230.

[0044] As seen in FIGs. 1-3, the sensing bore 230 is generally cylindrical although the notch 140 is not. The notch 140 includes a portion that is semi-cylindrical, but the remainder of the notch 140 extends to the outermost extent 257. This configuration of the notch 140 allows for easier assembly of the bonnet 120 onto the body 110 if the vein 130 is already in place. For example, in some embodiments, the vein 130 may be prefabricated with the body 110 or may be preassembled with the body 110 as provided. For another example, in some embodiments, the subassembly l00 may need to be serviced or the bonnet 120 may need to be replaced due to cracking or other failure. Gate valves are designed in sizes ranging from a few inches to several feet in diameter, wherein 1 inch equals 2.54 cm and 1 foot equals 30.48 cm. Particularly in embodiments with larger diameters, the bonnet 120 may be extremely heavy. Some gate valves are as large as 48-inches (122 cm) in diameter, and 24-inch (61 cm) diameter gate valves each include a bonnet weighing approximately 5,000 pounds (2,268 kg) . As such, attempting to align the vein 130 with a bore in the bonnet 120 may be very difficult. The notch 140 allows a user assembling the subassembly 100 to place the bonnet 120 onto the body 110 and then slide the bonnet 120 into place with the notch 140 aligned to the vein 130 and the

[0042] As seen in FIG. 3, the sensing bore 230 includes an insert portion 310 and a threaded portion 320. Likewise, the vein 130 includes a shank portion 330 and a threaded portion 340. As can be seen, the vein 130 defines a bore 350 extending from a shank end 360 of the vein 130 to a thread end 370 of the vein 130 such that the bore 350 is continuous along the entire length of the vein 130. The vein 130 is shown with its threaded portion 340 engaging the threaded portion 320 of the sensing bore 230. This interaction secures the vein 130 in place and seals an interior surface 380 of the vein 130 from an exterior surface 390. Although the vein 130 and the sensing bore 230 are cylindrical in the current embodiment, these shapes should not be considered limiting on the scope of the disclosure.

[0043] As seen, the vein 130 extends nearly the entire length of the sensing bore 230. Although some unengaged threads are shown along the threaded portion 320, the vein 130 is designed to extend as far as possible into the sensing bore 230. The vein 130 is made of brass, stainless steel, copper, plastic, or any other type of material subject to low corrosion in an aqueous environment. Typically, the body 110 and the bonnet 120 are made of cast iron, although other similar materials may be used in various embodiments. Because cast iron can be highly corrosive when exposed to water, the extension of the vein 130 into the sensing bore 230 prevents corrosion, pitting, and tuberculation from degrading the ability of fluid to t1ow through the sensing bore 230. Typically, the body 110 will have a protective coating, but, in some circumstances, such a protective coating may not be applied easily to the interior of the sensing bore 230. However, in some embodiments, no vein 130 will be needed to prevent corrosion because a protective coating may be applied inside the sensing bore 230. In some embodiments, the vein 130 or another vein may be used but may not need to be extended along the entire length of the sensing bore 230.

[0044] As seen in FIGs. 1-3, the sensing bore 230 is generally cylindrical although the notch 140 is not. The notch 140 includes a portion that is semi-cylindrical, but the remainder of the notch 140 extends to the outermost extent 257. This configuration of the notch 140 allows for easier assembly of the bonnet 120 onto the body 110 if the vein 130 is already in place. For example, in some embodiments, the vein 130 may be prefabricated with the body 110 or may be preassembled with the body 110 as provided. For another example, in some embodiments, the subassembly l00 may need to be serviced or the bonnet 120 may need to be replaced due to cracking or other failure. Gate valves are designed in sizes ranging from a few inches to several feet in diameter, wherein 1 inch equals 2.54 cm and 1 foot equals 30.48 cm. Particularly in embodiments with larger diameters, the bonnet 120 may be extremely heavy. Some gate valves are as large as 48-inches (122 cm) in diameter, and 24-inch (61 cm) diameter gate valves each include a bonnet weighing approximately 5,000 pounds (2,268 kg). As such, attempting to align the vein 130 with a bore in the bonnet 120 may be very difficult. The notch 140 allows a user assembling the subassembly 100 to place the bonnet 120 onto the body 110 and then slide the bonnet 120 into place with the notch 140 aligned to the vein 130 and the