hydraulically force the seal energizer 114 so as to disengage from the seal 110. The embodiments of FIGS. 2 to 4 will be discussed in greater detail below.

[0029] A locking mechanism 136 can be employed to hold the seal energizer in place in relation to the seal when the seal is energized. In an embodiment, the locking mechanism can be a C- ring, which can be biased to move under the seal energizer 114 when seal energizer 114 is positioned to engage seal 110, as illustrated in FIG. 3.

[0030] The operation of the seal energizer 114 can be independent from the operation of landing and locking the tubing hanger 102. For example, tubing hanger 102 can be positioned into throughbore 104 and locked into place prior to energizing the seal 110. Thus, the motion of positioning the tubing hanger in the wellhead housing during the landing and locking processes is not necessarily employed to energize the seal 110. Any suitable landing and locking mechanisms can be employed. An exemplary landing mechanism 150 and locking mechanism 152 is illustrated in FIG. 1 and can be employed to position and lock tubing hanger 102 in wellhead assembly 100, as described in detail in co-pending U.S. Patent Application No. ~~[ATTY DOCKET NO. AKER.014U]~~, the disclosure of which is hereby incorporated by reference in its entirety.

[0031] In an embodiment, tubing hanger 102 can comprise a suitable mechanism for de-energizing the seal 110. De-energizing seal 110 can involve disengaging energizer tip 134 of seal energizer 114 from seal 110. As mentioned above, a suitable de-energizing mechanism 140 is illustrated in FIGS. 3 to 4. By employing both the seal energizer 114 and the de-energizing mechanism 140, the seal 110 can be repeatedly energized to bridge the gap 112 and repeatedly de-energized to form the gap 112.

hydraulically force the seal energizer 114 so as to disengage from the seal 110. The embodiments of FIGS. 2 to 4 will be discussed in greater detail below.

[0029] A locking mechanism 136 can be employed to hold the seal energizer in place in relation to the seal when the seal is energized. In an embodiment, the locking mechanism can be a C- ring, which can be biased to move under the seal energizer 114 when seal energizer 114 is positioned to engage seal 110, as illustrated in FIG. 3.

[0030] The operation of the seal energizer 114 can be independent from the operation of landing and locking the tubing hanger 102. For example, tubing hanger 102 can be positioned into throughbore 104 and locked into place prior to energizing the seal 110. Thus, the motion of positioning the tubing hanger in the wellhead housing during the landing and locking processes is not necessarily employed to energize the seal 110. Any suitable landing and locking mechanisms can be employed. An exemplary landing mechanism 150 and locking mechanism 152 is illustrated in FIG. 1 and can be employed to position and lock tubing hanger 102 in wellhead assembly 100, as described in detail in co-pending U.S. Patent Application No. 12/543,929, the disclosure of which is hereby incorporated by reference in its entirety.

[0031] In an embodiment, tubing hanger 102 can comprise a suitable mechanism for de-energizing the seal 110. De-energizing seal 110 can involve disengaging energizer tip 134 of seal energizer 114 from seal 110. As mentioned above, a suitable de-energizing mechanism 140 is illustrated in FIGS. 3 to 4. By employing both the seal energizer 114 and the de-energizing mechanism 140, the seal 110 can be repeatedly energized to bridge the gap 112 and repeatedly de-energized to form the gap 112.