fails to fully retract the hose and return the spray head to its docking position. Some faucets also utilize magnets (attached to the spray head and to the spout tube) that, combined with the weight on the hose, act to fully dock the spray head after use. However, depending on where the weight is mounted on the hose, any length of the hose beyond the mounting location cannot be pulled out of the faucet spout.

SUMMARY OF THE INVENTION

Generally speaking, it is an object of the present invention to provide embodiments of a new pull-out or pull-down faucet hose retraction system that avoids the disadvantages of conventional constructions.

According to an aspect, there is provided a faucet, comprising: a spout; a spray head; a hose disposed in the spout and fluidly coupled to the spray head; and at least one constant force coil spring coupled to the hose and configured to provide a recoil force sufficient to retract the hose when the hose is extended from the spout.

According to another aspect, there is provided a hose retraction system for a pull-out faucet, the pull-out faucet having a shank, a spout, a spray head, and a hose disposed in the spout and fluidly coupled to the spray head, the system comprising: a support bracket configured to couple to the shank; a housing mountable to the support bracket; and at least one constant force coil spring disposable in the housing and configured to (i) at least partially couple to the hose and (ii) provide a recoil force sufficient to retract the hose when the hose is extended from the spout.

According to an embodiment of the present invention, a pull-out or pull-down faucet hose retraction system includes one or more constant force coil springs disposed in a

cylindrical housing to return the faucet spray head to its home docking position. The housing is mounted (e.g., on its side) onto a support bracket that is partially open. The bracket is fastened (e.g., via press-fit, clip-and-notch, male-to-female threaded coupling, or the like) to a shank, such as, for example, a fixation shank of the faucet.

In one embodiment, the coil spring has a narrow strip at one end. The narrow strip has a hole that interacts with an attachment member fixed to the hose to secure the coil spring to the hose. The narrow strip can, for example, be positioned against the hose, inserted into a crimp on the hose, and coupled, via the hole, to a hook on the crimp. The other end of the coil spring is then free to spin within the cylindrical housing during hose extension and retraction.