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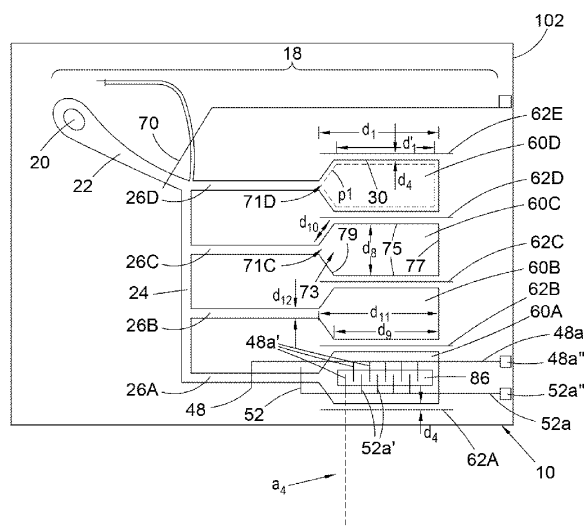


FIG. 2

(S7) Abstract: A microfluidic network of a polymeric microfluidic strip includes a liquid sample input port, a reagent zone, a detection zone, and a compressible chamber in fluidic communication via the microfluidic network. A polymer layer overlies the microfluidic network. When the microfluidic strip is inserted into a diagnostic reader, a mechanical actuator is configured to compress the chamber to expel gas from the chamber and move liquid sample in the microfluidic network toward the input port. The actuator decompresses the chamber to draw gas into the chamber and move liquid sample in the microfluidic network toward the chamber. To decrease the tension experienced by the polymer layer when compressed by the mechanical actuator, the polymer layer includes one or more tension relief zones adjacent the chamber. The tension relief zones may include laser-ablated slits extending at least partially through the polymer layer.

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