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(54) Title: A PROCESS FOR OPTIMIZATION OF ISLAND TO TRENCH RATIO IN PATTERNED MEDIA

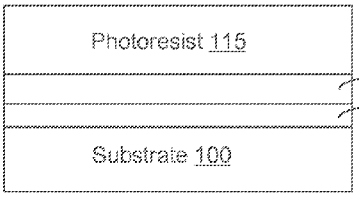

Figure 1A

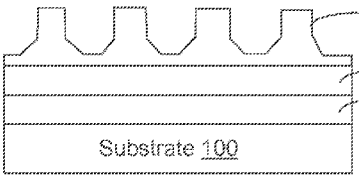

Figure 1B

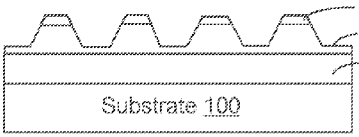

Figure 1C

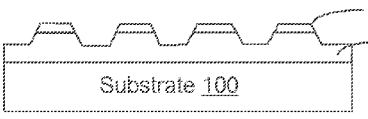

Figure 1D

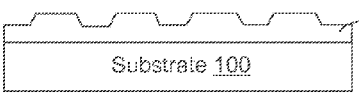

Figure 1E

(57) Abstract: A sequence of process steps having balanced process times are implemented in sequence of etch chambers coupled linearly and isolated one from the other, resulting in the optimization of island to trench ratio for a patterned media. A biased chemical etching using active etching gas is used to descum and trim the resist patterns. An inert gas sputter etch is performed on the magnetic layers, resulting in the patterned magnetic layer on the disk. A final step of stripping is then performed to remove the residual capping resist and carbon hard mask on top of un-etched magnetic islands. The effective magnetic material remaining on the disk surface can be optimized by adjusting the conditions of chemical etch and sputter etch conditions. Relevant process conditions that may be adjusted include: pressure, bias, time, and the type of gas in each step.

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