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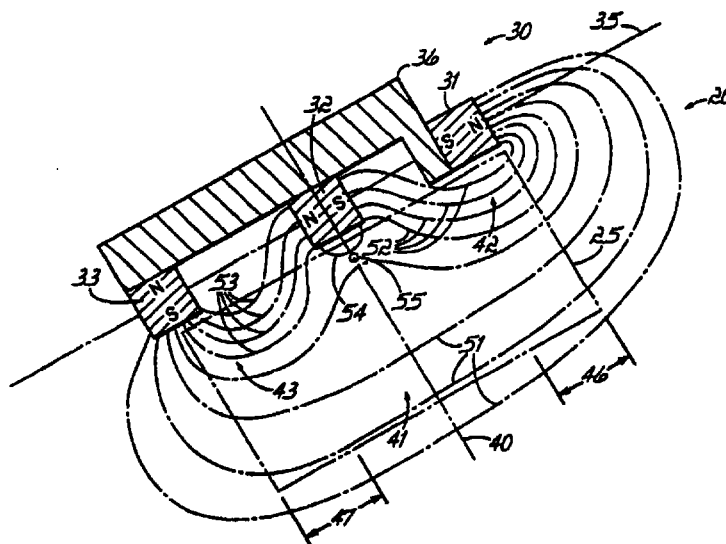
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(54) Title: HIGH TARGET UTILIZATION MAGNETIC ARRANGEMENT FOR A TRUNCATED CONICAL SPUTTERING TARGET



162162

(57) Abstract: Magnetron sputter coating system has magnetron cathode (20) that includes frusto-conical target (25) having cone-shaped magnet assembly (30) that causes erosion rate to be highest under main magnetic tunnel at intermediate radius or centerline of target (25) when the target (25) is uneroded, with location of highest erosion rate gradually shifting to two areas as target erodes, one being inner area at radii less than that of target centerline and one being outer area at radii greater than target centerline. As a result, target erosion tends to be equalized over target area during life of target (25), improving target utilization. Magnet assembly (30) includes inner ring (31) and outer ring (33) having poles magnetically connected by a yoke (36), forming main magnetic tunnel, and intermediate magnet ring (32) oriented to produce field opposite to orientation of poles producing main magnetic tunnel.

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