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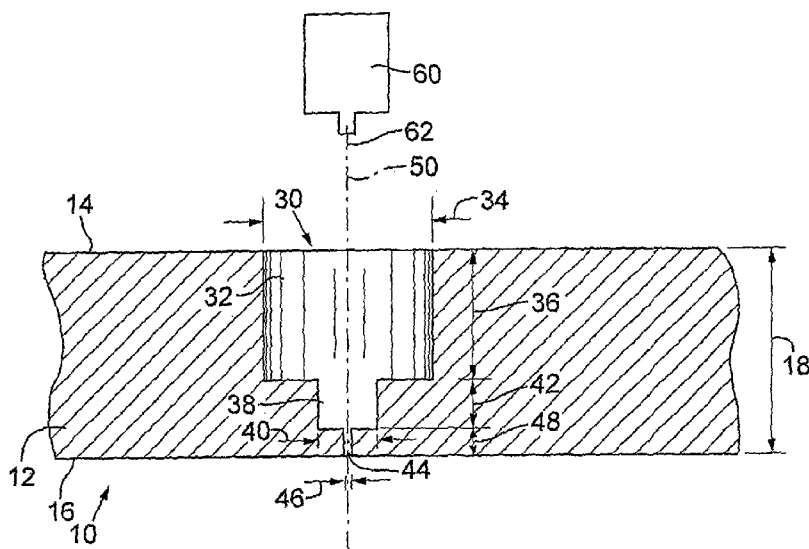
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(54) Title: MICROPOROUS FILTER



(57) Abstract: A laser-based drilling technique provides a microporous filter (10) having very small holes (30, 30') with known diameters and locations. One embodiment of the technique entails using a laser beam (62) with one or more uniform spot sizes to form each hole. The laser beam ablates material depthwise for corresponding known distances into a substrate (12) to form a desired number of hole steps (32, 38, 44) in each hole. Another embodiment of the technique entails using an imprint patterning toolfoil (80) to stamp in the substrate depressions (32, 38) of specified diameters and distances that correspond to the hole steps. In both embodiments, a laser beam of Gaussian shape removes the last portion of material to form a very small diameter final hole step (44).

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