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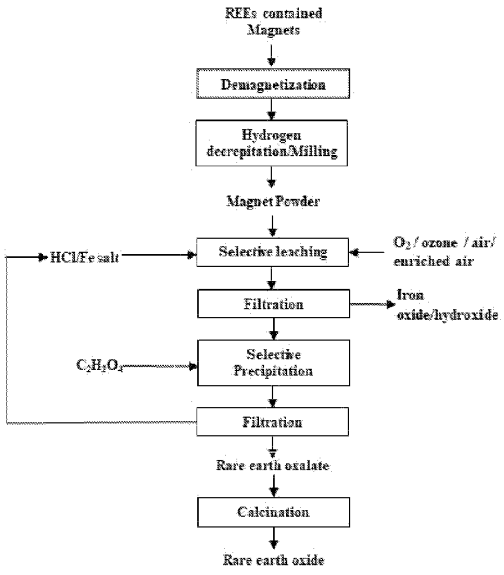

Figure 1

(57) Abstract: A process is provided for selective recovery of rare earth elements(REEs) from spent neodymium iron boron(NdFeB) magnets comprising steps of (a) providing magnet powder post demagnetizing and pulverizing/milling of neodymium iron 5 boron(NdFeB) magnets for aeration leaching; (b) performing aeration leaching of said magnetic powder for dissolution of REEs including as rare earth salts and completely precipitating iron out as iron oxide and/or hydroxide by-product based on oxidation of Fe2+ to Fe3+during said aeration leaching and thus generating mother liquor containing rare earth salts followed by (c) reacting the filtered mother liquor 10 with oxalic acid to precipitate rare earth elements as rare earth oxalate for further calcination and obtaining rare earth oxide for rare earth elements(REEs) recovery therefrom, which process is advantageously low in acid consumption, involves low capital cost, low reagent consumption and at the same time enables iron oxide and/or hydroxide as by-product.

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