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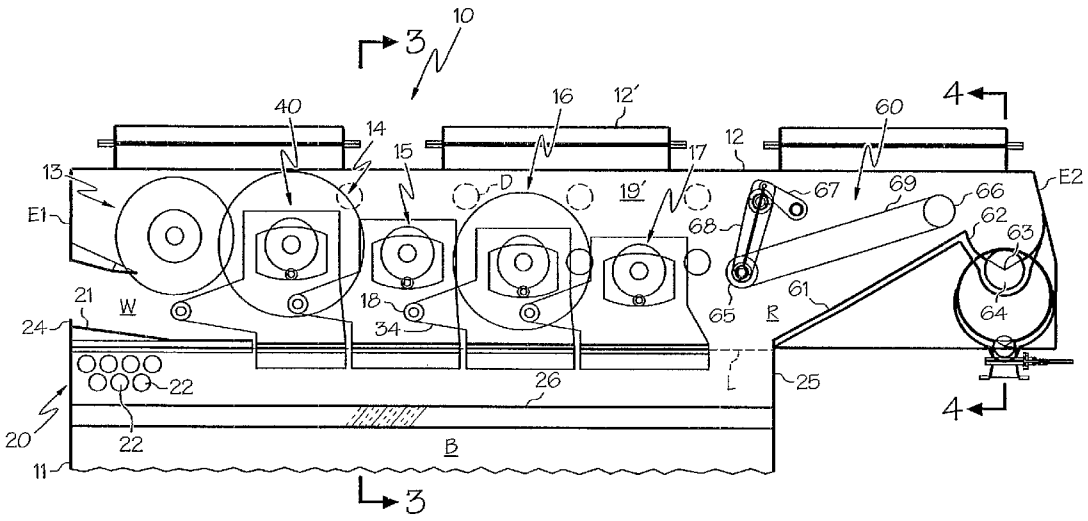
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(54) **Title:** TRANSVERSE-FLOW PYROCATALYTIC REACTOR FOR CONVERSION OF WASTE PLASTIC MATERIAL AND SCRAP RUBBER



(57) **Abstract:** A pyrolysis reactor wherein plastic and rubber waste is catalytically converted into hydrocarbons which are recovered as vapor issuing from a molten lead bath. The waste is mixed with a unique catalyst as the mixture is moved along the molten lead along the length of the bath to a residue-discharged end. Vapors of hydrocarbons generated within the reactor, which vapors are readily condensable in a cold water heat exchanger, are recovered. The recovered, condensed hydrocarbons are refined for use as diesel fuel, gasoline and heating oil; and the non-condensible hydrocarbons, along with carbon monoxide and carbon dioxide are preferably recycled as a gaseous recycle stream to provide fuel for burners used to generate hot gases to heat the bath.

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