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- (54) **Title:** A NOVEL METHOD AND AN APPARATUS IN CONVERTING UNSORTED MUNICIPAL SOLID WASTE INTO
GEO-POLYMER PELLETS/BRIQUETTES AND GEO-POLYMER BRICKS/PAVER BLOCKS

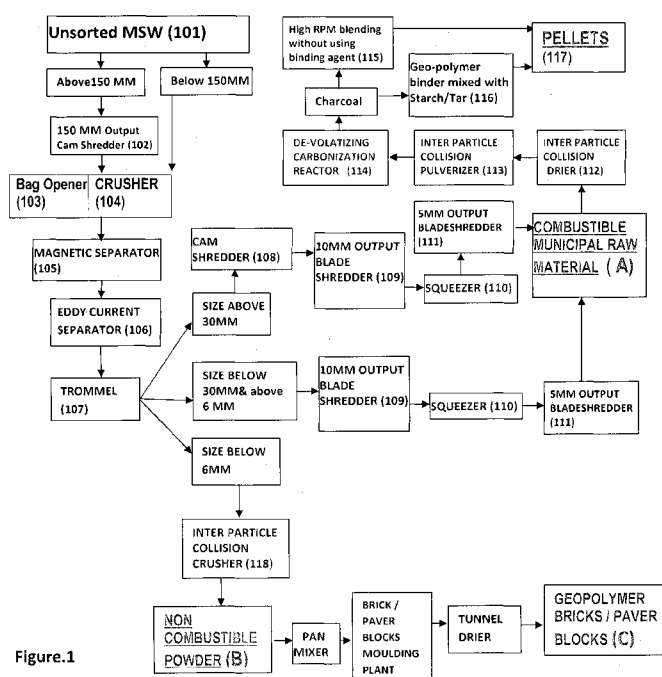


Figure.1

(57) **Abstract:** Apparatus and method in converting municipal solid waste into geo-polymer briquettes and geo-polymer bricks comprising bag opener cum crushers, magnetic separators for ferrous and eddy current separators for non-ferrous things; squeezer for removing liquid content; inter particle collision driers for drying; pulverizer for pulverizing, and devolatilizing carbonization reactor for carbonisation of combustible MSW to produce solid char with low water content. Solid char is mixed with geo-polymer binding agent/starch/tar/ to form combustible pellet/briquette. These highly combustible briquette/pellets have high calorific value. The pellet/briquette is formed by rotating combustible char at high rpm and compaction. Pellet has a water content of less than 5% by weight and fuel value of 5500 to 6500 KCAL This process produces non-combustible geo-polymer brick. The non-combustible MSW separated by a trommel is crushed by inter particle collision crusher and pan mixers mixing with geo-polymer binding agent/fly ash/quarry dust/chips or china clay and moulded.