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- (81) **Designated States** (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM,

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Declarations under Rule 4.17:

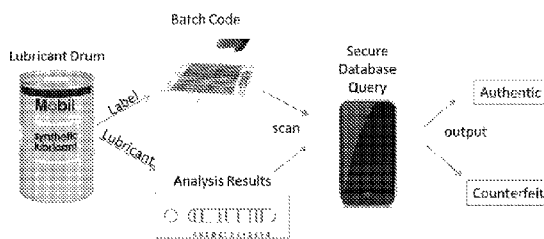
- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
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(54) **Title:** METHODS FOR AUTHENTICATION AND IDENTIFICATION OF PETROLEUM PRODUCTS

Fig. 4



(57) **Abstract:** A method is provided that associates a taggant with a product to produce a signature product. The taggant, when associated with the signature product, is visually undetectable; and comprises one or more amide compounds (e.g., a taggant array that comprises two or more amide compounds). The method also identifies the taggant in the signature product by an immunoassay specific for the taggant; maps the taggant of the signature product to a batch code of the signature product; obtains a test product to determine authenticity or identity of the test product; identifies the presence or absence of a taggant in the test product by an immunoassay specific for the taggant; and compares results of the immunoassay carried out on the test product with results of the immunoassay carried out on the signature product to determine authenticity or identity of the test product. Lubricating engine oils are provided containing the taggant.