Innovative coin security methods for the prevention of counterfeiting

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Abstract:
Securing a coin means adding to a mixture of visible and invisible elements in order to preserve the currency from counterfeiting operations, which include the following elements such as the use of alternative materials and attractive designs with many and varied details with the use of complex materials to thwart the counterfeiters in order to add advantages with new techniques during the production process, in this study will be Shed light on the latest security methods used to protect the coin from counterfeiting worldwide, including but not limited to coin specification, edge, shape, micro-engraved, latent image, pad printing, illuminating ink, nanotech coloring and hologram Electro-Magnetic Signature, Multi-Clad Coins Strip (MCCS) and Micro-glyph Code. The research follows the analytical approach in presenting these means with a simple explanation of each technique and found after the study that it needs a high cost to apply it to the Egyptian coin. A low face value compared to foreign coins. The research problem: the lack of interest in insuring the Egyptian coin against counterfeiting operations using an innovative method, due to the decrease in the actual value of the Egyptian pound, which should not exceed its face value with the high costs of the new insurance means. The aim of the research is: to raise the nominal value of the Egyptian coin to the possibility of using modern technology in the field of insurance while achieving a convergence between it and the actual value of the currency and attention to designing the coin by choosing it as one of the elements of currency insurance, as well as the integration between metal bullions and non-metallic materials in the manufacture of currencies in an innovative way that achieves the insurance purpose.

References:
1. Larry R, "Felix Director Bureau of Engraving and Printing New Security Features and Technology": Planning the Next Generation of U.S. Banknotes
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