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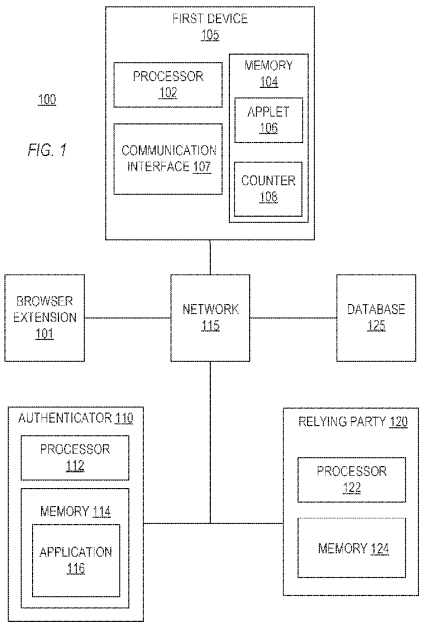
(54) Title: SYSTEMS AND METHODS FOR CONTACTLESS CARD COMMUNICATION AND MULTI-DEVICE KEY PAIR CRYPTOGRAPHIC AUTHENTICATION



(57) Abstract: Systems and methods for authentication may include an authenticator. The authenticator may include a processor and a memory. The processor may be configured to: receive one or more challenges; generate a first instruction, the first instruction including a request to retrieve a first Fast Identity Online (FIDO) key; transmit the first instruction; receive the first FIDO key; sign the one or more challenges using the first FIDO key; and transmit one or more signed challenges for validation using a second FIDO key.

[Continued on next page]

TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

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— *as to the identity of the inventor (Rule 4.17(i))*
— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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