Independent Claim 1 (System – OTP-Secured Non-Repeatable DLT for Tokenized RWAs)
A system for tokenizing and securing any physical asset, commodity, digital asset, security, contract, or other verifiable Real World Asset (RWA) as a digital twin or representation on a non-repeatable digital ledger technology, comprising: an IoT edge hardware layout with sensors, routers, and gateways that generate a continuous live non-repeating random number sequence from physical measurements; an encryption service that uses unique segments of the non-repeating sequence as a one-time pad key to encrypt RWA data or value tokens; a timestamp-based distributed ledger that records each OTP-encrypted digital twin or token identified solely by its encryption-start timestamp, with the one-time pad key segment returned exclusively to the owner and destroyed server-side; and a trading platform that enables secure transfer, swapping, or exchange of the OTP-secured tokens while maintaining perfect secrecy.

Dependent Claims for Independent Claim 1
The following is a complete set of dependent claims (Claims 2–22) that further specify and narrow the system of Independent Claim 1. Each dependent claim is fully supported by the disclosures in the attached document (Patent Filing Highlights US20210019429A1.docx), including the detailed descriptions of the IoT edge hardware layout generating a continuous live non-repeating random number sequence from physical measurements (voltage fluctuations, electromagnetic/thermal phenomena, etc.), the encryption service using unique OTP segments, the timestamp-based distributed ledger for OTP-encrypted records, server-side key destruction, Encryption as a Service model, applicability to any tokenized RWA/digital twin or physical/commodity asset, quantum-resistant perfect secrecy, trading platform integration, and the overall non-repeatable DLT architecture as of the January 15, 2018 priority date.

Full Claim Set in Formal USPTO-Style Format (Reordered to Start with Claim 1)

1. A system for tokenizing and securing any physical asset, commodity, digital asset, security, contract, or other verifiable Real World Asset (RWA) as a digital twin or representation on a non-repeatable digital ledger technology, comprising: an IoT edge hardware layout with sensors, routers, and gateways that generate a continuous live non-repeating random number sequence from physical measurements; an encryption service that uses unique segments of the non-repeating sequence as a one-time pad key to encrypt RWA data or value tokens; a timestamp-based distributed ledger that records each OTP-encrypted digital twin or token identified solely by its encryption-start timestamp, with the one-time pad key segment returned exclusively to the owner and destroyed server-side; and a trading platform that enables secure transfer, swapping, or exchange of the OTP-secured tokens while maintaining perfect secrecy.
2. The system of claim 1, wherein the IoT edge hardware layout comprises sensor devices, edge routers, and edge gateways configured to communicate using one or more wireless protocols selected from the group consisting of Bluetooth, Zigbee, WiFi, Z-Wave, Sub-Gigahertz, Cellular, Satellite, LoRaWAN, Sigfox, and combinations thereof.
3. The system of claim 1, wherein the IoT edge hardware layout continuously generates the live non-repeating random number sequence from fluctuating physical measurements including voltage fluctuations from solar panels or electrical grids, electromagnetic fields, thermal events, or barometric pressure.
4. The system of claim 1, wherein the encryption service normalizes the non-repeating random number sequence to a system clock at microsecond or finer granularity so that each encryption uses a unique timestamp-aligned one-time pad segment.

5. The system of claim 1, wherein the timestamp-based distributed ledger records each OTP-encrypted digital twin or token identified exclusively by its encryption-start timestamp without traditional hash-chain linking between records.
6. The system of claim 1, wherein the one-time pad key segment is returned securely to the owner via one or more of digital channels, physical media, or split-key distribution mechanisms and is immediately destroyed server-side.
7. The system of claim 1, wherein the system provides information-theoretic perfect secrecy and quantum-resistant security for all tokenized digital twins or representations through the one-time pad encryption and non-repeatable ledger architecture.
8. The system of claim 1, wherein the trading platform enables secure transfer, swapping, or exchange using market orders, limit orders, options, forwards, futures, swaps, or pre-market contracts while maintaining OTP perfect secrecy.
9. The system of claim 1, wherein the trading platform further supports advanced order types selected from the group consisting of short selling, trailing stop orders, conditional orders, One-Triggers-the-Other (OTO) orders, One-Cancels-the-Other (OCO) orders, One-Triggers-a-One-Cancels-the-Other (OTOCO) orders, and combinations thereof.
10. The system of claim 1, wherein the trading platform applies time-in-force rules to orders, the time-in-force rules selected from the group consisting of day orders, good-’til-canceled orders (up to 180 days), fill-or-kill orders, immediate-or-cancel orders, on-the-open orders, on-the-close orders, and combinations thereof.
11. The system of claim 1, wherein the blockchain ledger maintains multiple redundant copies across cloud environments to provide fault tolerance and Byzantine fault tolerance for the OTP-encrypted digital twin records.
12. The system of claim 1, wherein the system operates as Encryption as a Service for any RWA data or value token, enabling real-time OTP encryption, timestamp-based ledger storage, and secure key delivery for any physical asset, commodity, digital asset, security, contract, or other verifiable Real World Asset.
13. The system of claim 1, wherein the IoT edge hardware layout and encryption service support primary-market issuance of value tokens representing digital twins of any physical asset or commodity.
14. The system of claim 1, wherein the timestamp-based distributed ledger enables owner-initiated transfer or redemption solely by presentation of the matching timestamp and one-time pad key segment.
15. The system of claim 1, wherein the system registers unique identifiers for IoT sensors, routers, and gateways on the distributed ledger to cryptographically bind device provenance to the tokenized digital twin or representation.
16. The system of claim 1, wherein the system eliminates intermediaries by performing end-to-end OTP-secured tokenization, storage, and trading directly on the non-repeatable digital ledger technology.
17. The system of claim 1, wherein the non-repeating random number sequence is generated from IoT sensor measurements in a manner that is non-reproducible with earth-bound technology.
18. The system of claim 1, wherein the system further comprises automated monetization by transferring funds to the seller upon execution of a winning bid while simultaneously delivering the OTP-secured value token to the buyer.
19. The system of claim 1, wherein the trading platform supports high-frequency, derivative, and institutional trading of OTP-secured tokenized digital twins while maintaining perfect secrecy.

20. The system of claim 1, wherein the IoT edge hardware layout and timestamp-based ledger operate in real time or near real time to enable continuous measurement, OTP encryption, ledger recording, and trading of any physical asset or RWA as a digital twin.
21. The system of claim 1, wherein the distributed ledger employs the non-repeating one-time pad segments such that no key is ever reused, providing perfect forward secrecy for every tokenized digital twin or representation.
22. The system of claim 1, wherein the system supports scalable, industrial-scale tokenization and secure transfer of any physical asset, commodity, or other verifiable Real World Asset as a digital twin on the OTP-secured non-repeatable digital ledger technology.

These claims form a self-contained, commercially robust claim family that directly maps to the system for tokenizing and securing any physical asset, commodity, or verifiable Real World Asset (RWA) as a digital twin on a non-repeatable digital ledger technology using IoT-generated OTP encryption, timestamp-based storage, server-side key destruction, and integrated trading functionality as described in the January 15, 2018 provisional disclosure. The full set (renumbered to begin with Claim 1) can be incorporated into a non-provisional, continuation, or continuation-in-part application to further strengthen the Parisii patent portfolio for quantum-tolerant Web4 W4S security, tokenized Real World Assets, and blockchain-based RWA/digital twin infrastructure.