Independent Claim 6 (System – Multi-Cloud Redundant Blockchain for RWA Digital Twins)
A system for secure tokenization of any physical asset or RWA as a digital twin on blockchain, comprising: an IoT data acquisition layer that collects and transmits verified RWA data; a blockchain distributed ledger spanning multiple cloud environments that mints value tokens representing the digital twins with redundant copies for fault tolerance; and a native exchange platform built on the ledger that enables trading, swapping, and derivative execution while maintaining permanent immutability.

Dependent Claims for Independent Claim 6
The following is a complete set of dependent claims (Claims 2–22) that further specify and narrow the system of Independent Claim 6. Each dependent claim is fully supported by the disclosures in the attached document (Patent Filing Highlights US20220180374A1.pdf), including the detailed descriptions of the IoT data acquisition layer (sensor devices, edge routers, gateways, wireless protocols, real-time/continuous measurement), blockchain distributed ledger spanning multiple cloud environments (value token minting as digital twins, redundant copies for fault tolerance and Byzantine fault tolerance), native exchange platform built directly on the ledger (trading, swapping, derivative execution, cryptographically linked block recording), permanent immutability, integration with prior IoT-driven validation/certification, primary-market issuance, automated settlement/ownership transfer, fraud reduction, and the overall secure tokenization and exchange architecture for tokenized digital twins of any physical asset or RWA as of the December 26, 2017 priority date.

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

1. A system for secure tokenization of any physical asset or RWA as a digital twin on blockchain, comprising: an IoT data acquisition layer that collects and transmits verified RWA data; a blockchain distributed ledger spanning multiple cloud environments that mints value tokens representing the digital twins with redundant copies for fault tolerance; and a native exchange platform built on the ledger that enables trading, swapping, and derivative execution while maintaining permanent immutability.
2. The system of claim 1, wherein the IoT data acquisition layer 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 data acquisition layer continuously collects and transmits verified RWA data in real time or near real time from physical facilities, infrastructure, renewable resources, or efficiency systems.
4. The system of claim 1, wherein the IoT data acquisition layer transmits data that has been automatically validated and certified by an IoT cloud platform to produce a certified digital RWA certificate prior to minting on the blockchain distributed ledger.
5. The system of claim 1, wherein the blockchain distributed ledger automatically mints value tokens by creating an immutable digital asset record that includes one or more of public-key addresses, cryptographic block linking, timestamps, transaction data, user identifiers, equipment identifiers, validation reports, and verification statements.

6. The system of claim 1, wherein the blockchain distributed ledger registers all participants and equipment associated with the physical asset or RWA to prevent double-spending or fraud and to establish verifiable ownership and provenance of the digital twin.
7. The system of claim 1, wherein the blockchain distributed ledger spanning multiple cloud environments maintains redundant copies that provide fault tolerance and Byzantine fault tolerance for the minted value tokens and all trading records.
8. The system of claim 1, wherein the native exchange platform built on the ledger supports trading, swapping, and derivative execution using market orders, limit orders, options, forwards, futures, swaps, or pre-market contracts.
9. The system of claim 1, wherein the native exchange 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 native exchange 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 native exchange platform automatically matches and executes trades, swaps, or derivatives in real time or near real time by recording every transaction as a new cryptographically linked block on the distributed ledger.
12. The system of claim 1, wherein the native exchange platform records every trade as a cryptographically linked block that employs cryptographic hashing of each new block to prior blocks to ensure permanent immutability and auditability.
13. The system of claim 1, wherein the native exchange platform automatically effects ownership transfer of the value token (digital twin) to the buyer and fund settlement to the seller in real time or near real time upon execution of each trade, swap, or derivative.
14. The system of claim 1, wherein the system provides permanent verification and auditability of every tokenized digital twin and trade through immutable recording on the blockchain distributed ledger.
15. The system of claim 1, further comprising automated monetization by transferring funds to the seller while simultaneously delivering the value token (digital twin) to the buyer upon execution of each trade, swap, or derivative.
16. The system of claim 1, wherein the value token represents an immutable digital twin of any commodity, security, physical asset, financial instrument, or other RWA that is verifiable and cannot be double-spent due to the immutable nature of the blockchain distributed ledger.
17. The system of claim 1, wherein the system operates in a closed-loop automated process from IoT data acquisition through validation, token minting as a digital twin, listing, and real-time trading, swapping, and derivative execution on the native exchange platform.

18. The system of claim 1, wherein the native exchange platform built on the ledger eliminates intermediaries by performing end-to-end secure tokenization and exchange without off-chain custodians or centralized clearinghouses.
19. The system of claim 1, wherein the system supports high-frequency, derivative, and institutional trading of tokenized digital twins of any physical asset or RWA while maintaining permanent immutability and fraud reduction through cryptographically linked block recording.
20. The system of claim 1, wherein the blockchain distributed ledger treats the minting of value tokens as a primary market activity based on certified RWA data from the IoT data acquisition layer.
21. The system of claim 1, wherein the IoT data acquisition layer and blockchain distributed ledger are in continuous communication to enable real-time or near real-time minting of value tokens representing digital twins from verified physical asset data.
22. The system of claim 1, wherein the system enables scalable, industrial-scale secure tokenization and exchange of tokenized digital twins of any physical asset or RWA by combining the IoT data acquisition layer with the multi-cloud redundant blockchain distributed ledger and the native exchange platform built directly on the ledger.

These claims form a self-contained, commercially robust claim family that directly maps to the system for secure tokenization of any physical asset or RWA as a digital twin on a multi-cloud redundant blockchain ledger with a native exchange platform, including IoT data acquisition, redundant ledger features, and full trading/swapping/derivative functionality as described in the December 26, 2017 provisional disclosure (and the incorporated earlier provisionals). The full set (renumbered to begin with Claim 1) can be incorporated into a non-provisional, continuation, or continuation-in-part application (alone or in combination with the claim families of Independent Claims 1–5) to further strengthen the Parisii patent portfolio for tokenized Real World Assets and blockchain-based RWA/digital twin infrastructure.