PATENT APPLICATION: IP INGENUITY PROTOCOL

System and Method for Automated Intellectual Property Tokenization with AI-Powered Valuation, Discovery, and Decentralized Governance

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PATENT APPLICATION SUMMARY

Title: System and Method for Automated Intellectual Property Tokenization with AI-Powered Valuation, Discovery, and Decentralized Governance

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FIGURES DOCUMENT

FIGURE 1: System Architecture Overview

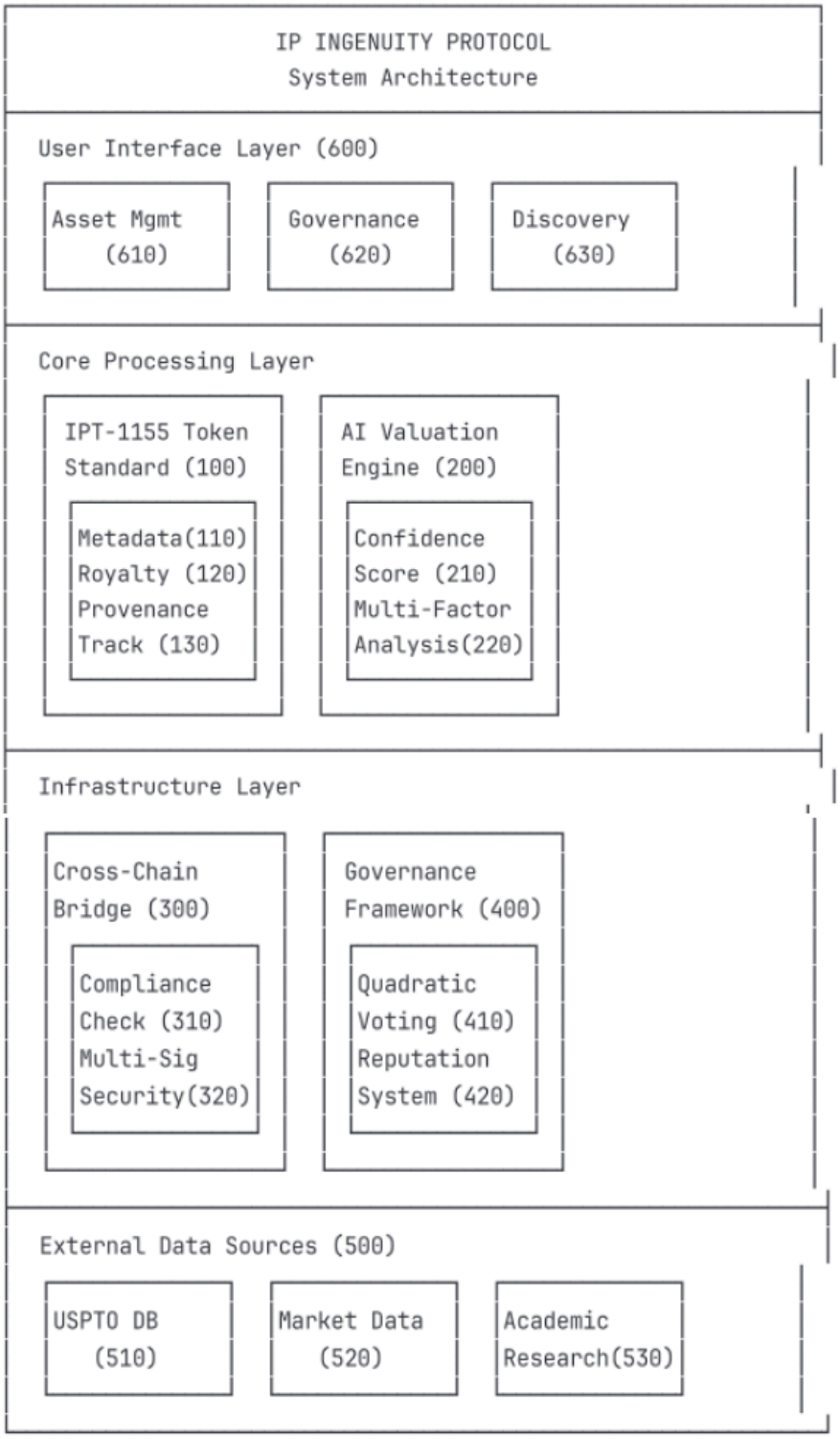

FIG. 1 System architecture diagram showing the integrated components of the IP Ingenuity Protocol, including: - IPT-1155 Token Standard module (100) - AI Valuation Engine (200) with confidence scoring (210) - Cross-Chain Bridge Protocol (300) with compliance verification (310) - Decentralized Governance Framework (400) with quadratic voting (410) - External Data Sources (500) including USPTO database (510), market data (520) - User Interface Layer (600) for asset management and governance participation**.**

FIGURE 2: AI Valuation Engine Flowchart

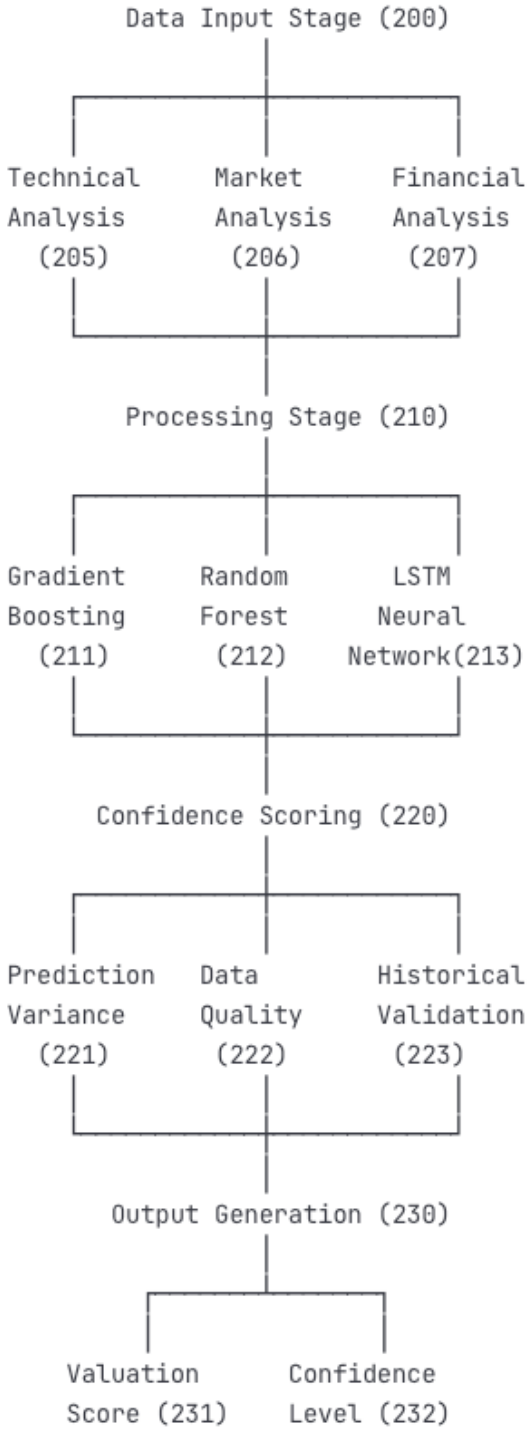

FIG. 2 Flowchart illustrating the AI valuation engine processing flow, showing: - Data Input Stage (200) with technical analysis (205), market analysis (206), financial analysis (207) - Processing Stage (210) with ensemble learning models (211-213) - Confidence Scoring (220) with variance analysis (221), data quality (222), historical validation (223) - Output Generation (230) with valuation score (231) and confidence percentage (232)

FIGURE 3A: Semantic Search - Input & Processing Pipeline

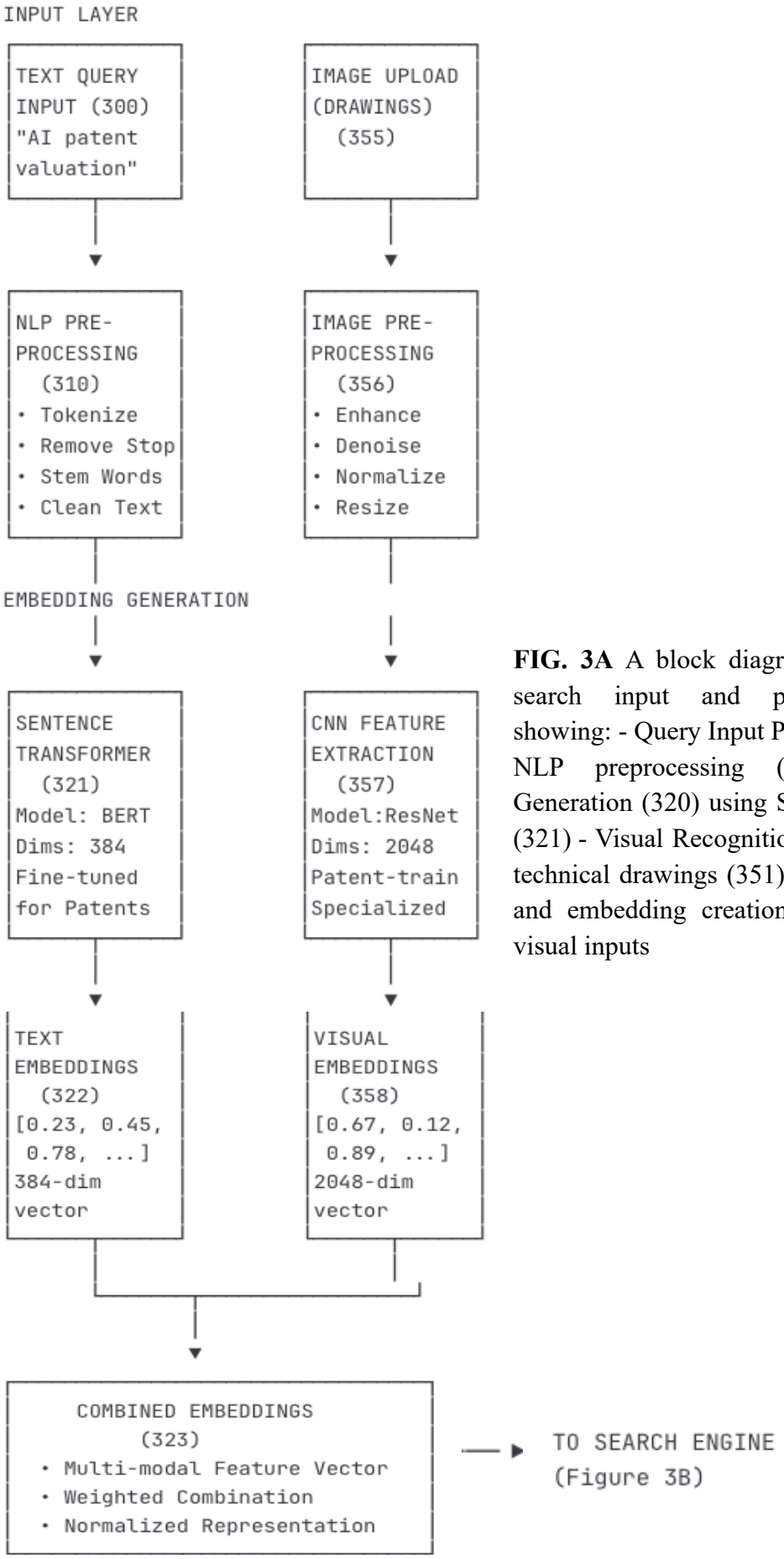

FIG. 3A A block diagram of the semantic search input and processing pipeline showing: - Query Input Processing (300) with NLP preprocessing (310) - Embedding Generation (320) using SentenceTransformer (321) - Visual Recognition Pipeline (350) for technical drawings (351) - Feature extraction and embedding creation for both text and visual inputs

FIGURE 3B: Semantic Search - Database & Results Pipeline

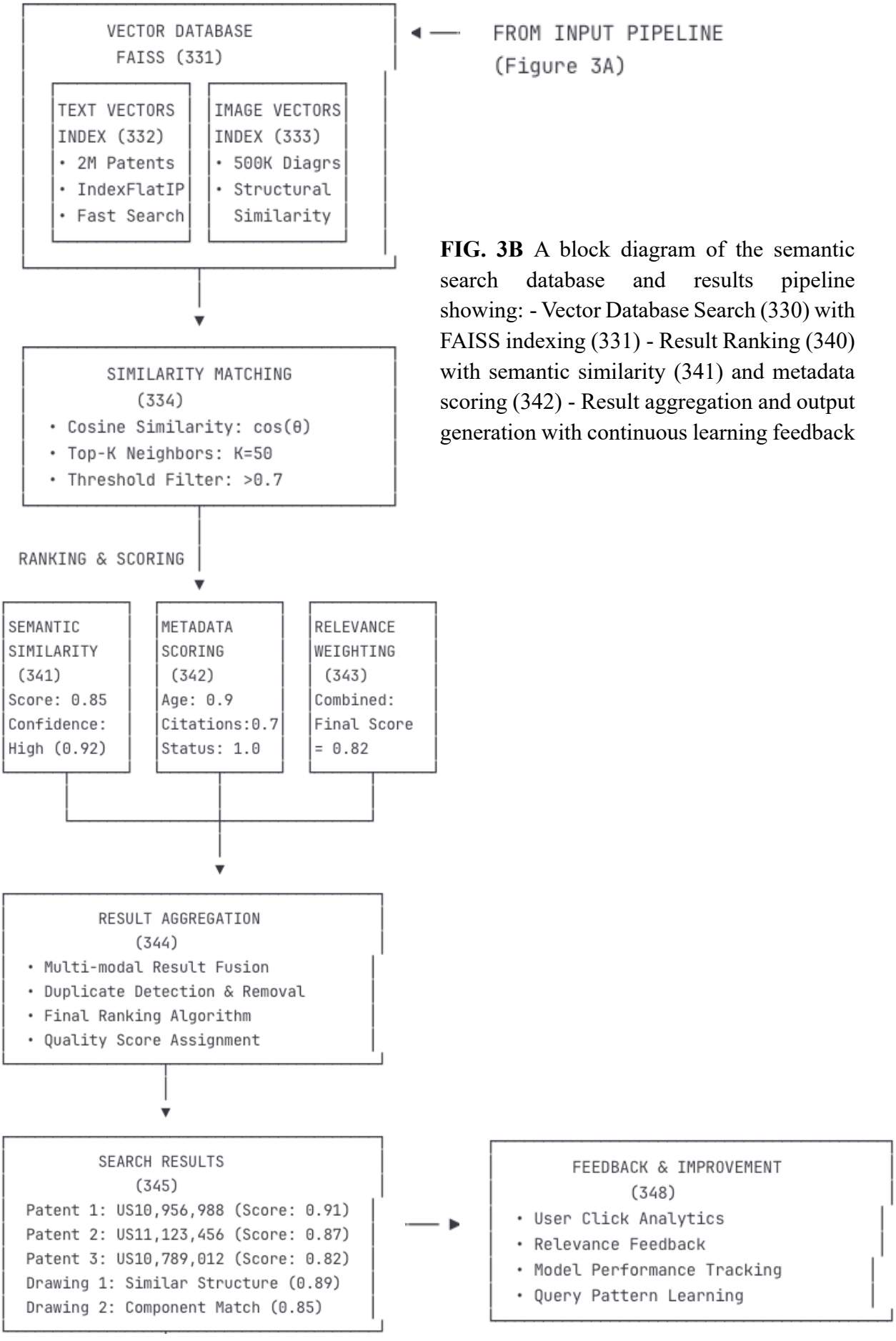

FIG. 3B A block diagram of the semantic search database and results pipeline showing: - Vector Database Search (330) with FAISS indexing (331) - Result Ranking (340) with semantic similarity (341) and metadata scoring (342) - Result aggregation and output generation with continuous learning feedback

FIGURE 4: Cross-Chain Bridge Protocol

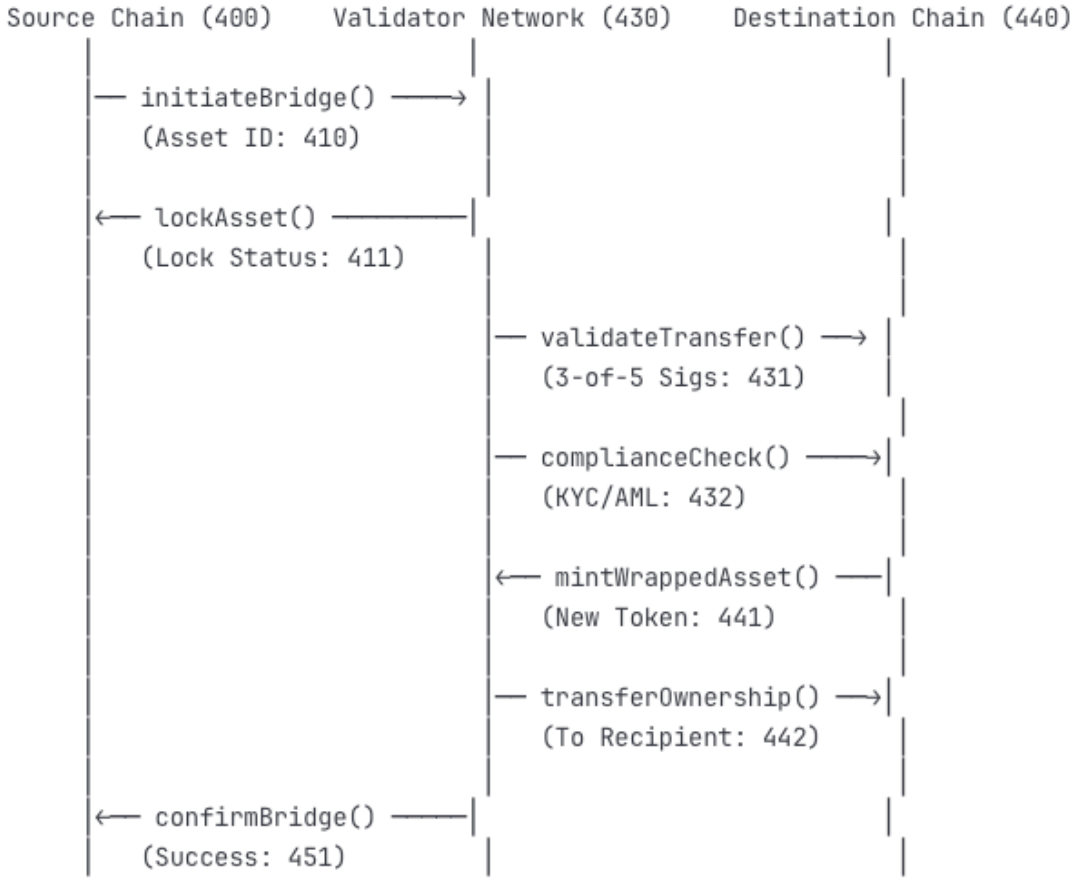

FIG. 4 A sequence diagram illustrating the cross-chain bridge protocol: - Source Chain Operations (400): Asset locking (410), metadata preservation (420) - Validator Network (430): Multi-signature validation (431), compliance checking (432) - Destination Chain Operations (440): Asset minting (441), ownership transfer (442) - Security Mechanisms (450): Time-lock protection (451), rollback capability (452)

Figure 5: Quadratic Voting Implementation

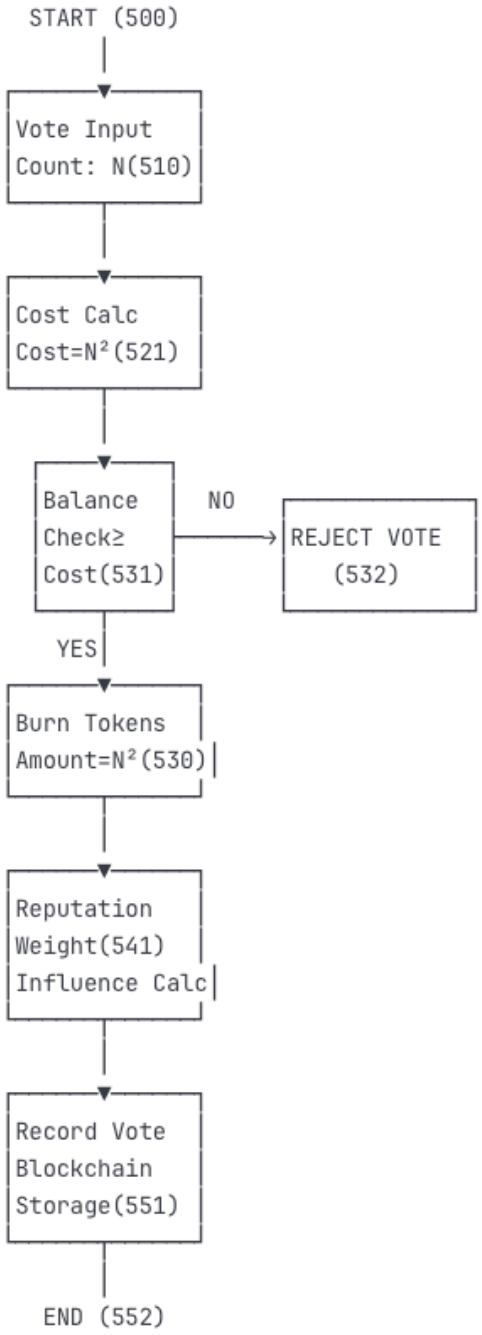

FIG. 5 is a flowchart showing the quadratic voting process: - Vote Submission (500) with vote count input (510) - Cost Calculation (520) using quadratic formula (vote count)² (521) - Token Burning (530) with balance verification (531) - Reputation Weighting (540) with influence calculation (541) - Vote Recording (550) with blockchain storage (551)

Figure 6: Multi-Signature Security Protocol

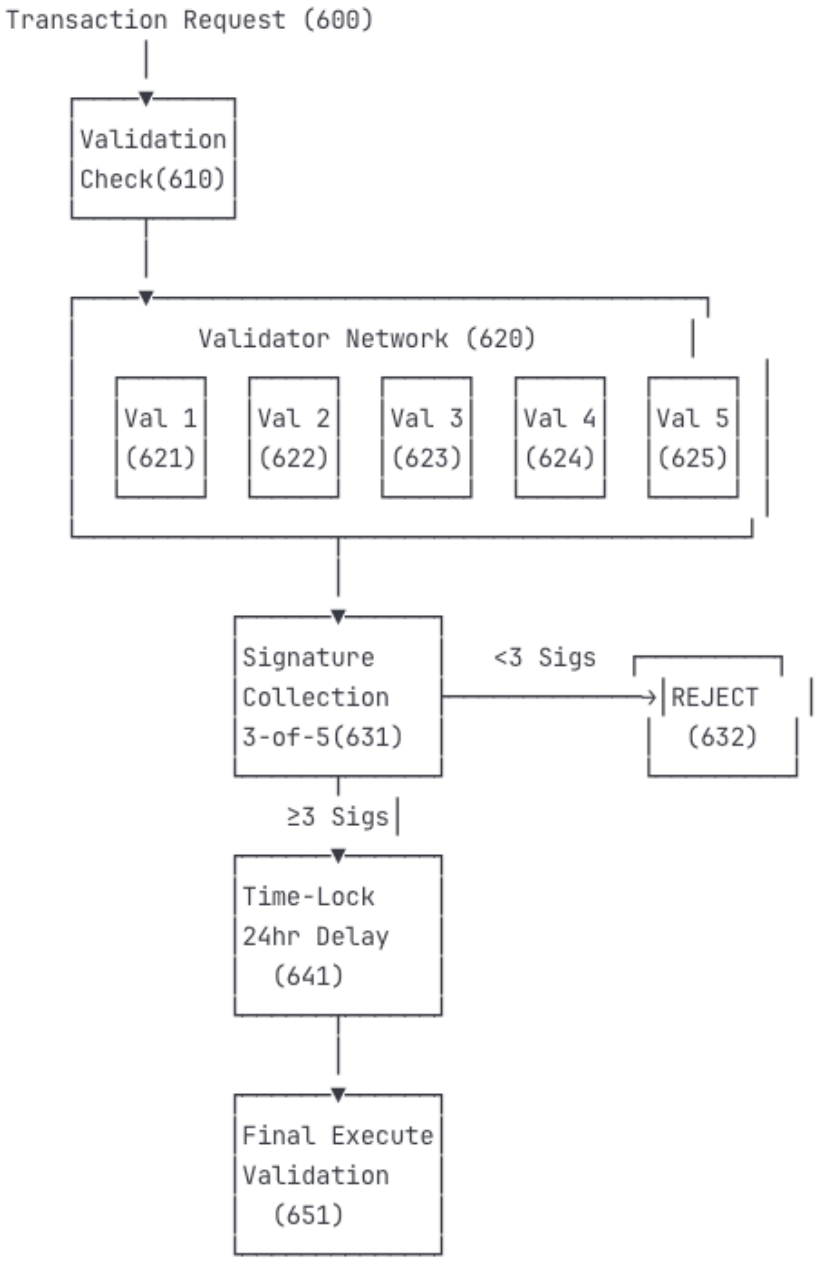

FIG. 6 A security protocol diagram showing: - Transaction Initiation (600) with request validation (610) - Validator Network (620) with 5 validator nodes (621-625) - Signature Collection (630) requiring 3-of-5 confirmation (631) - Time-Lock Mechanism (640) with delay period (641) - Execution Phase (650) with final validation (651)

Figure 7: End-to-End Data Flow

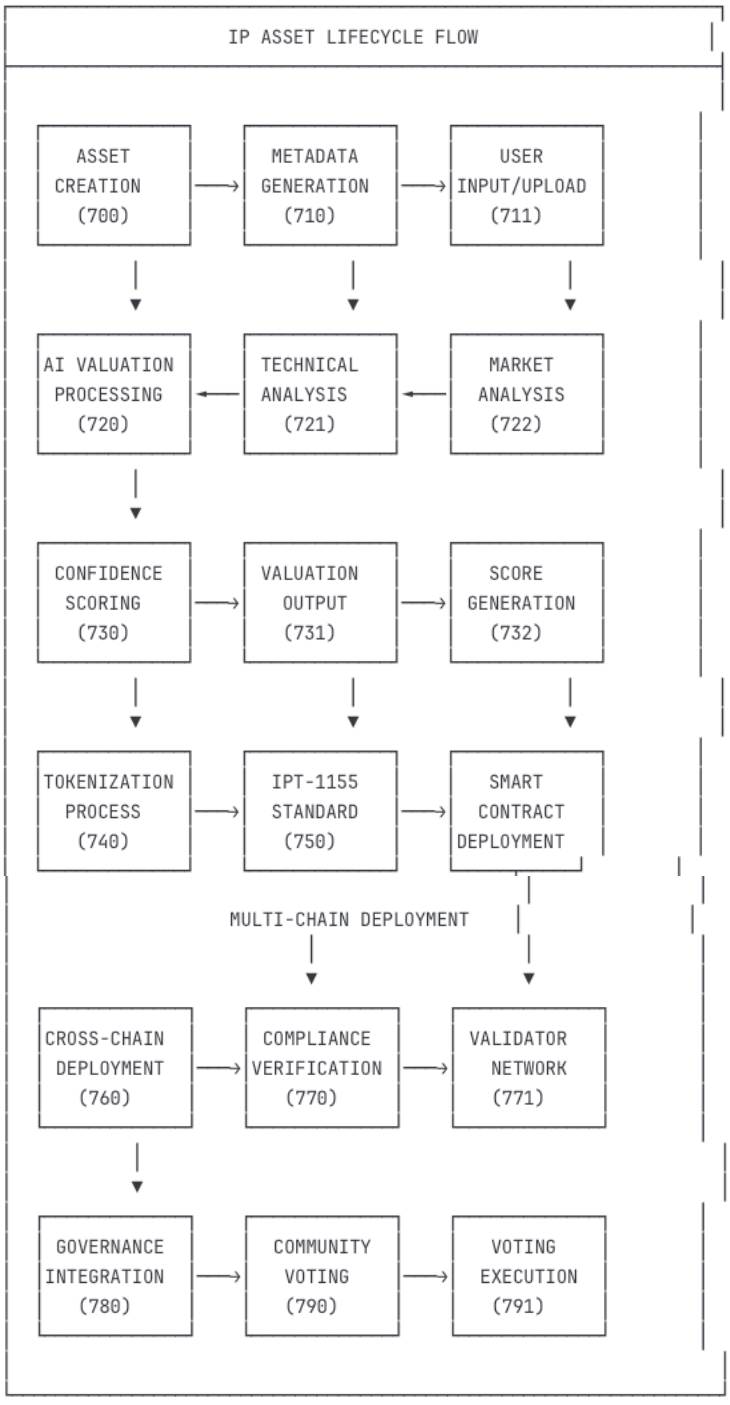

FIG. 7 A data flow diagram showing complete IP asset processing: - Asset Creation (700) with metadata generation (710) - AI Valuation Processing (720) with confidence scoring (730) - Tokenization (740) using IPT-1155 standard (750) - Cross-Chain Deployment (760) with compliance verification (770) - Governance Integration (780) with community voting (790).