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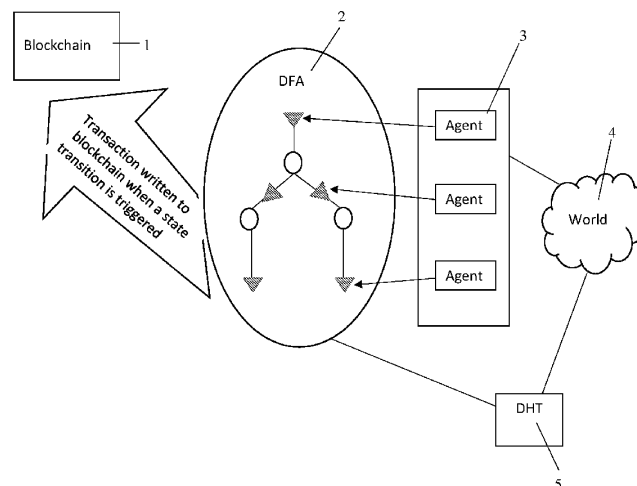
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(54) Title: **SYSTEMS AND METHODS FOR IMPLEMENTING DETERMINISTIC FINITE AUTOMATA (DFAS) VIA A BLOCKCHAIN**

FIGURE 1



(57) Abstract: The invention relates to a technique for implementing, controlling and automating a task or process on a blockchain such as, but not limited to, the Bitcoin blockchain. The invention is particularly suited for, but not limited to, automated execution of contracts such as smart contracts for financial agreements. However, other types of tasks and non-financial contracts can be implemented. The invention can be viewed as the implementation or incarnation of a state machine or DFA on a blockchain by using the unspent outputs of blockchain Transactions to represents the states of the machine, and spending of those outputs as the transition of the machine from one state to another. The invention provides a technical realisation and implementation of a mathematical model of computation conceived as an abstract machine that can be in one of a finite set of states, and can change from one state to another (transition) when a triggering event of a finite set (called input) occurs. The invention comprises compilation and codification techniques for the DFA implementation.

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