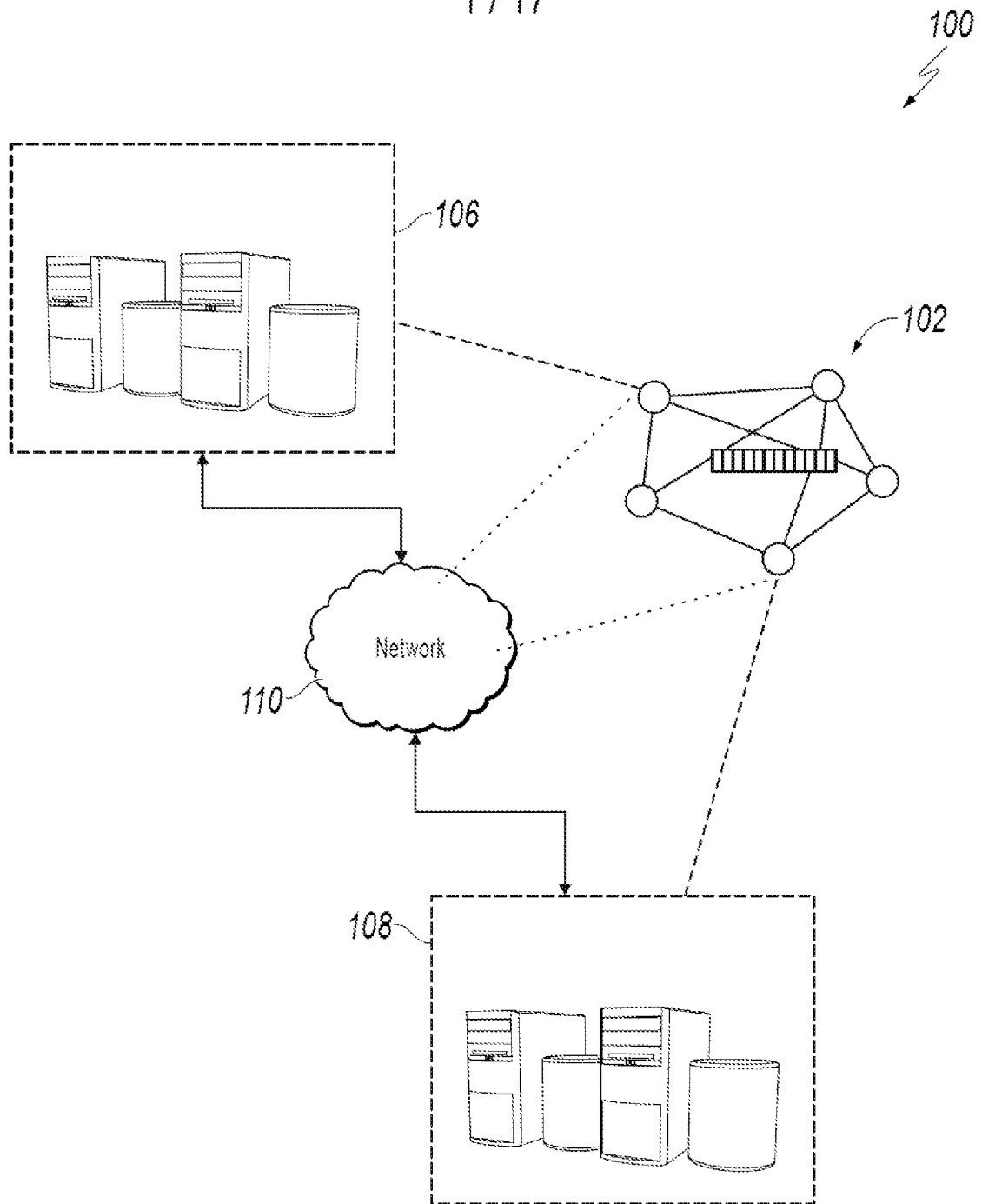


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**FIG. 1**

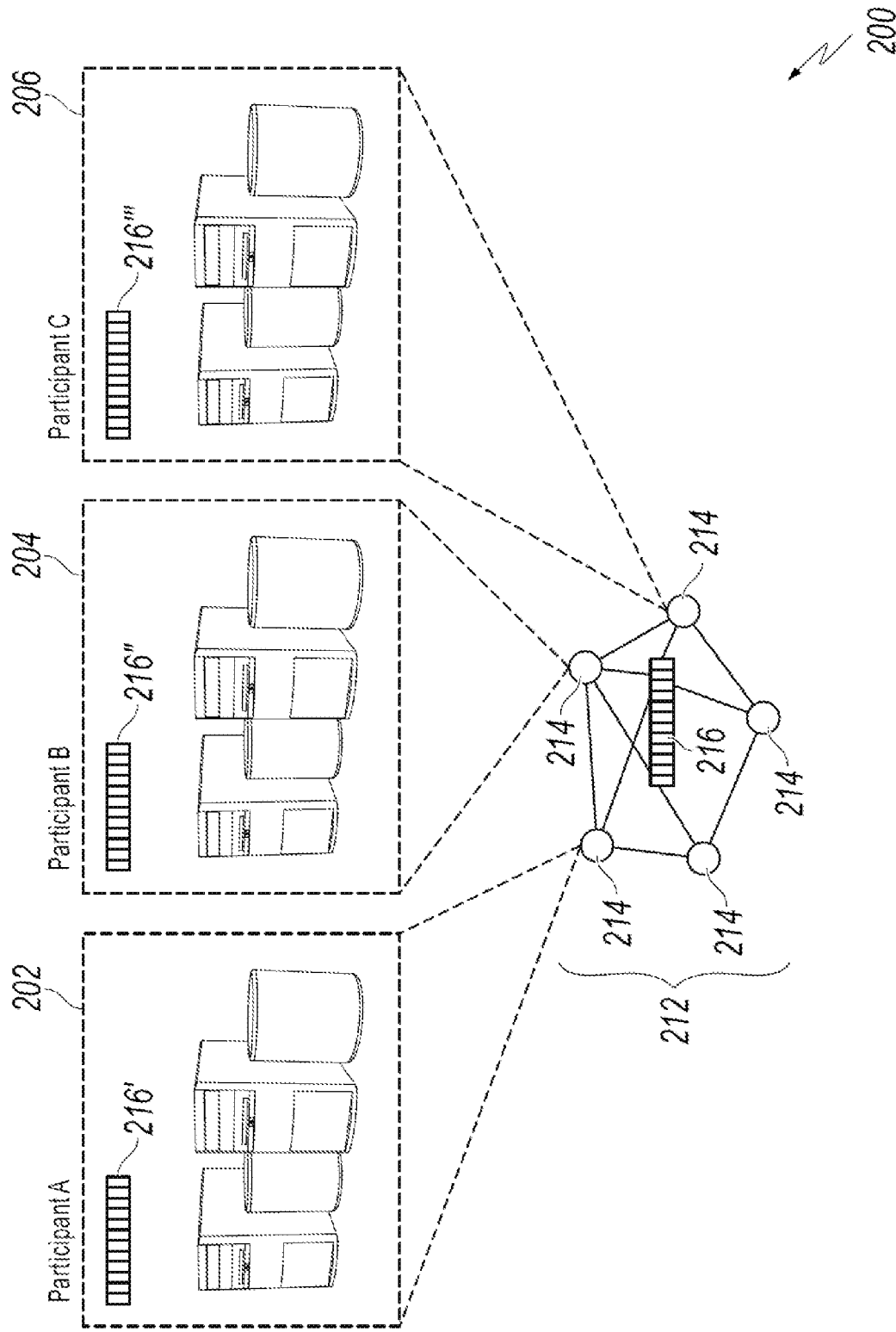
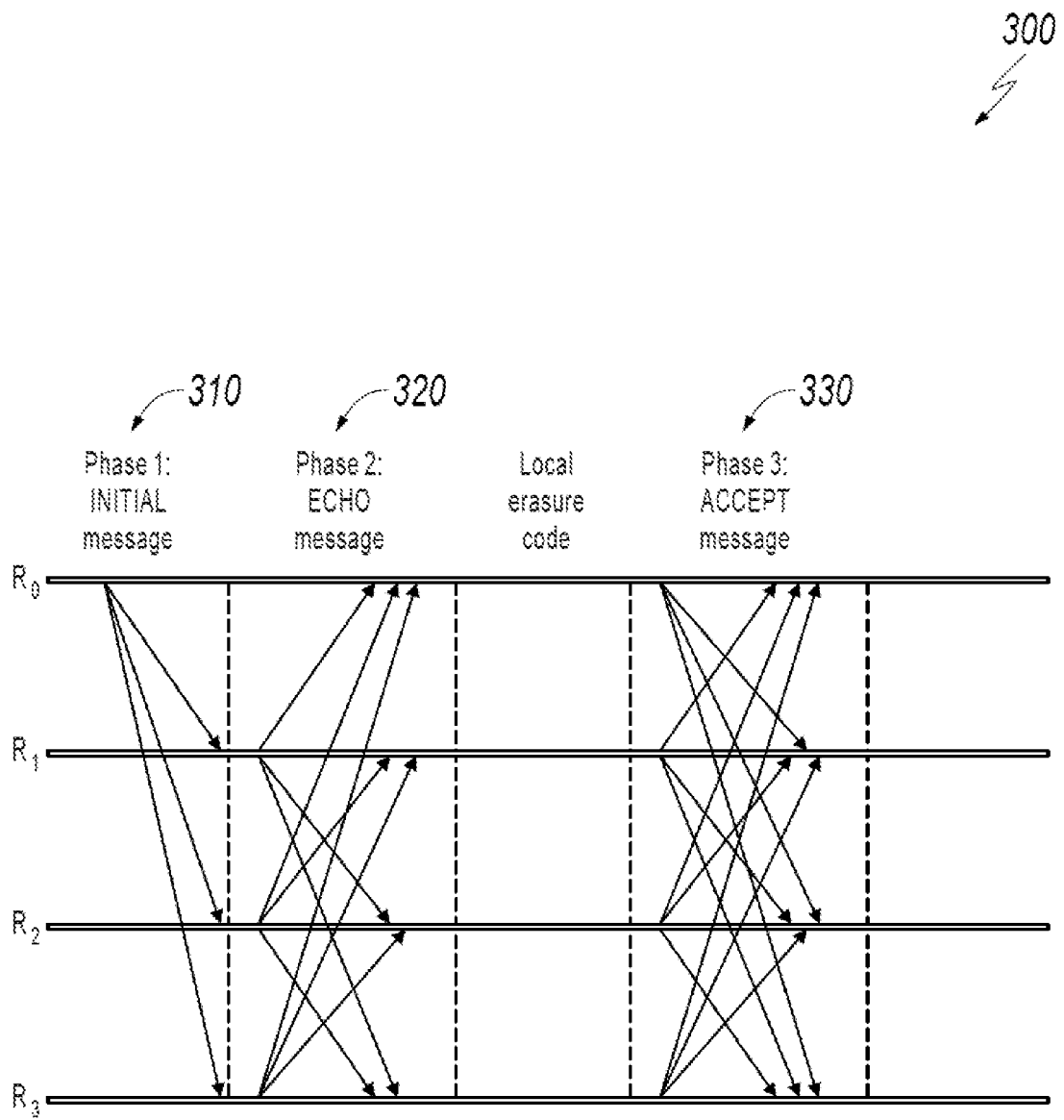


FIG. 2

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**FIG. 3**

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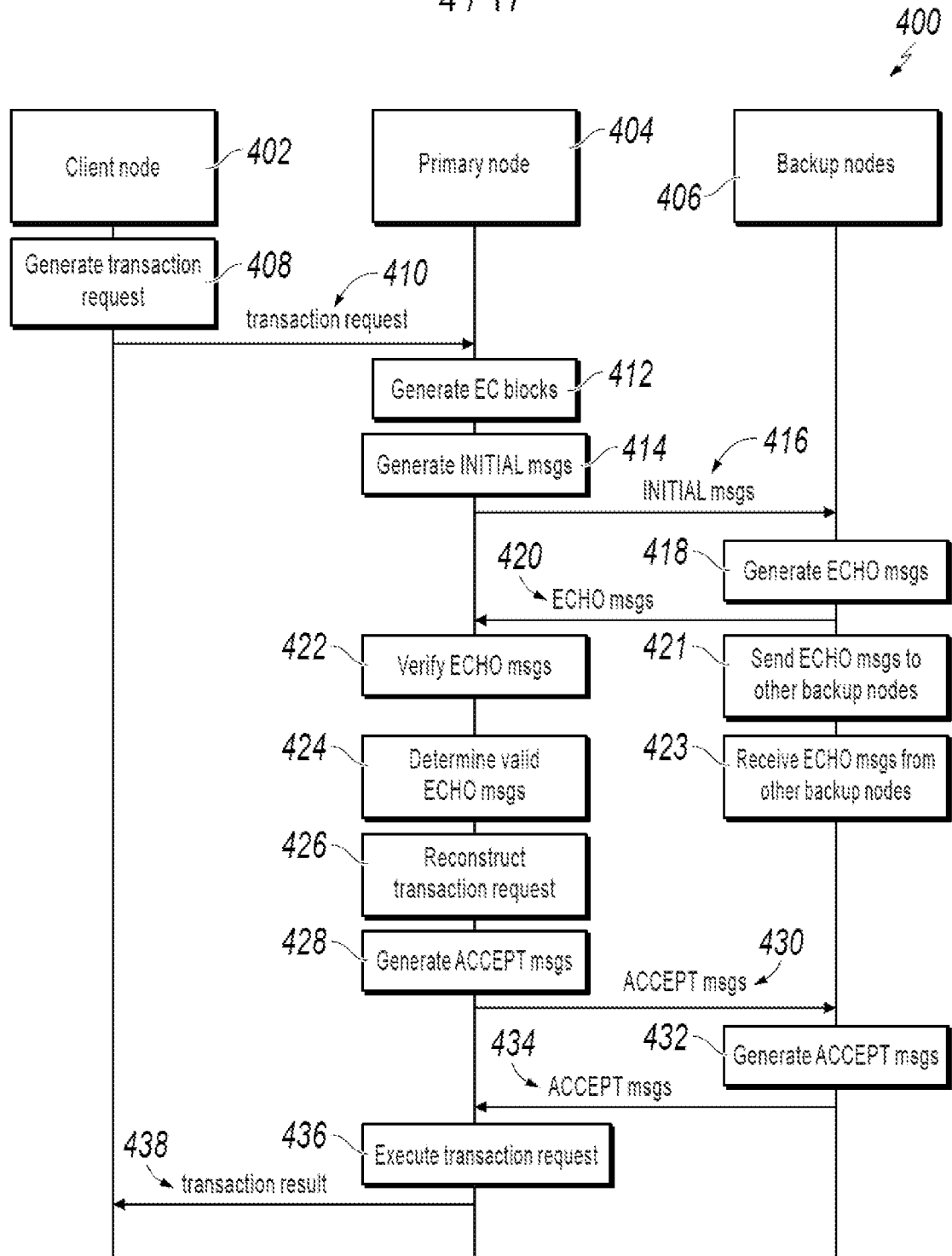


FIG. 4

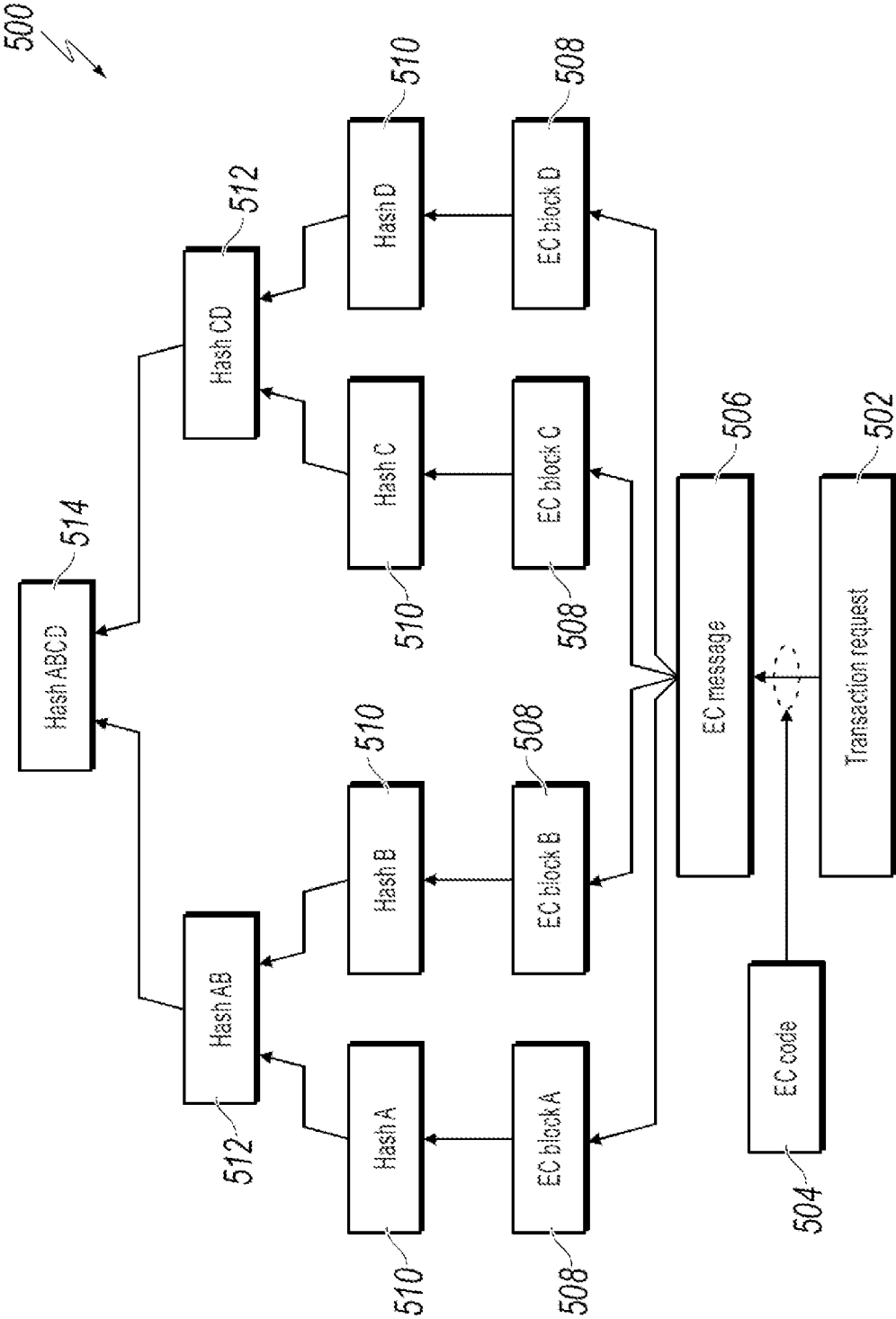


FIG. 5

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Initial<epoch, tx_root_hash, ec_block_hash, ec_block, seq, j>
Echo<epoch, tx_root_hash, ec_block_hash, ec_block, seq, sign_proof, j>
Accept<epoch, tx_root_hash, seq, sign_proofs, j>

FIG. 6

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700
↘

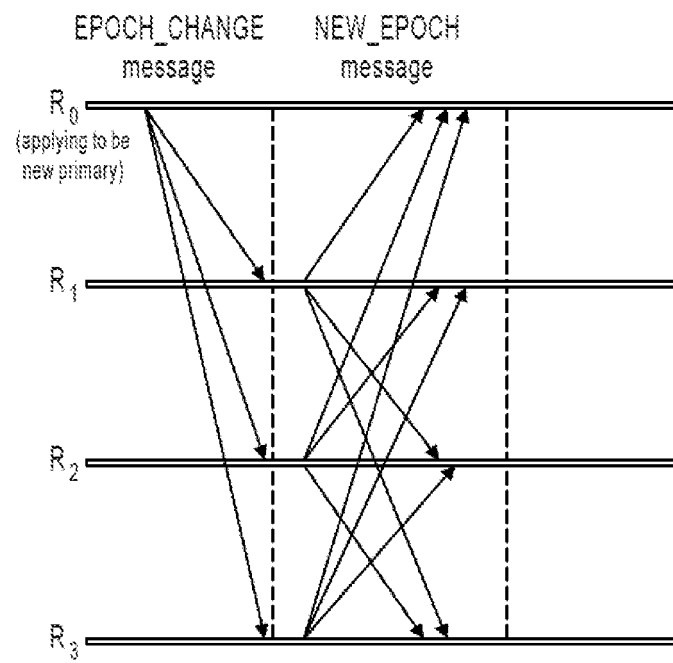


FIG. 7

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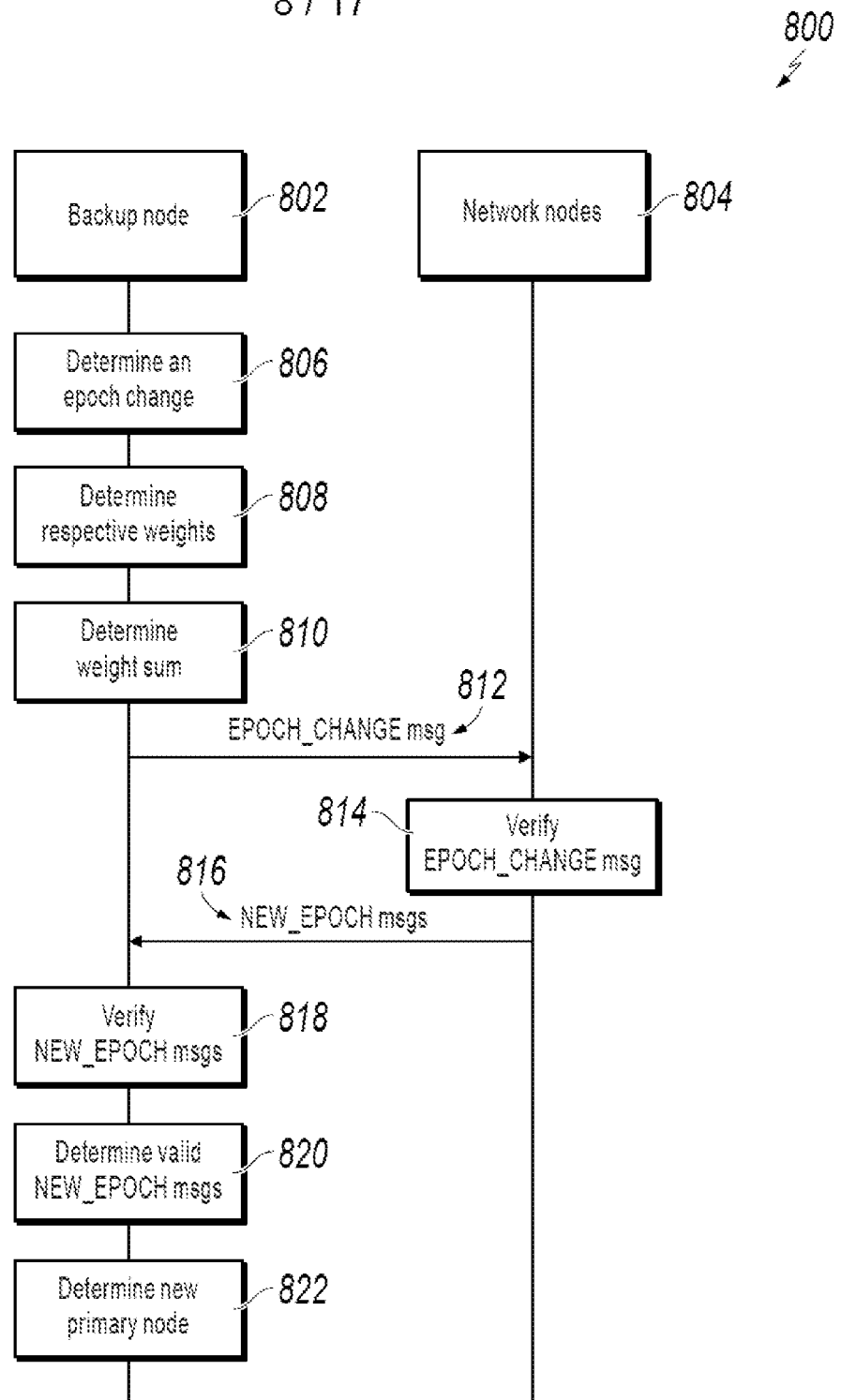


FIG. 8

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```
Epoch_change <weight, epoch+1, Echo(), Accept(), j>  
Echo {<epoch, seq, sign_proof, j>}  
Accept {<epoch, tx_root_hash, sign_proofs, seq, j>}  
New_epoch <epoch+1, i, j, seq, ec_digest>
```

FIG. 9

1000

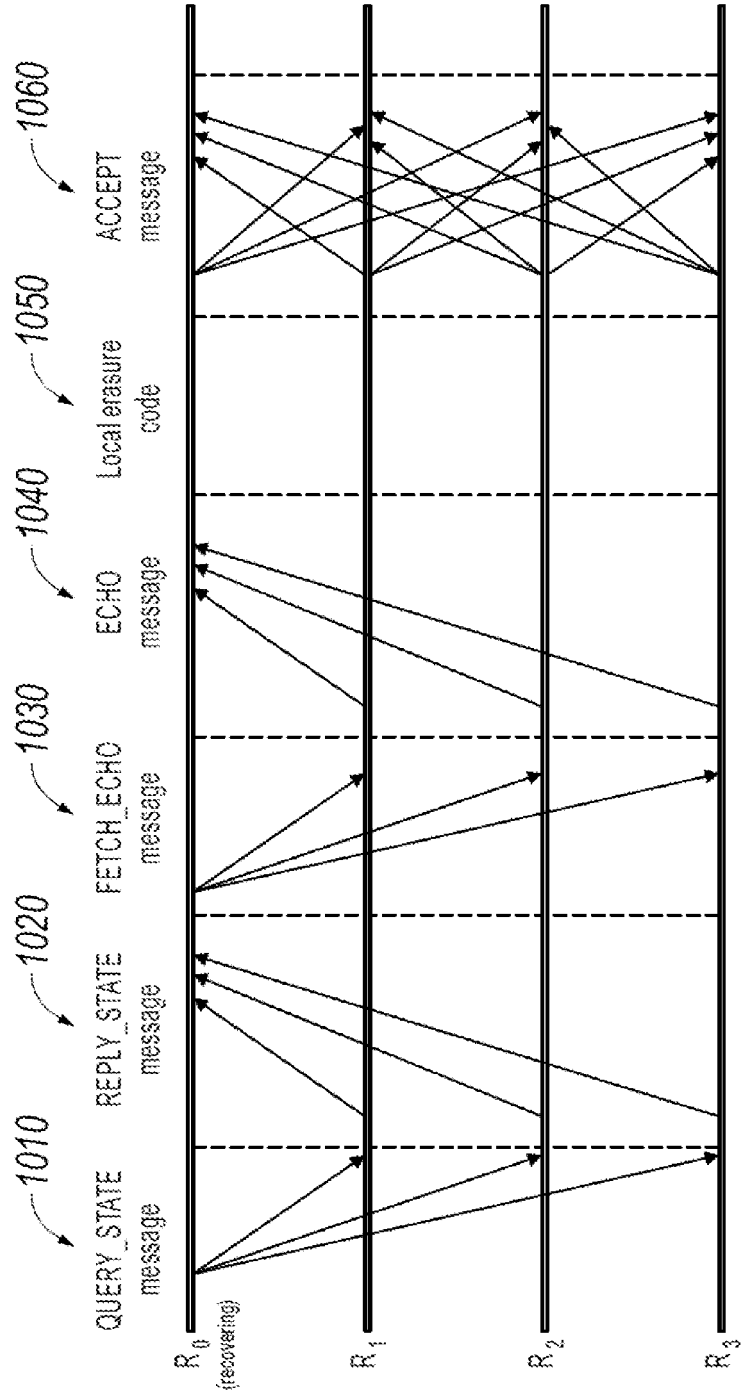
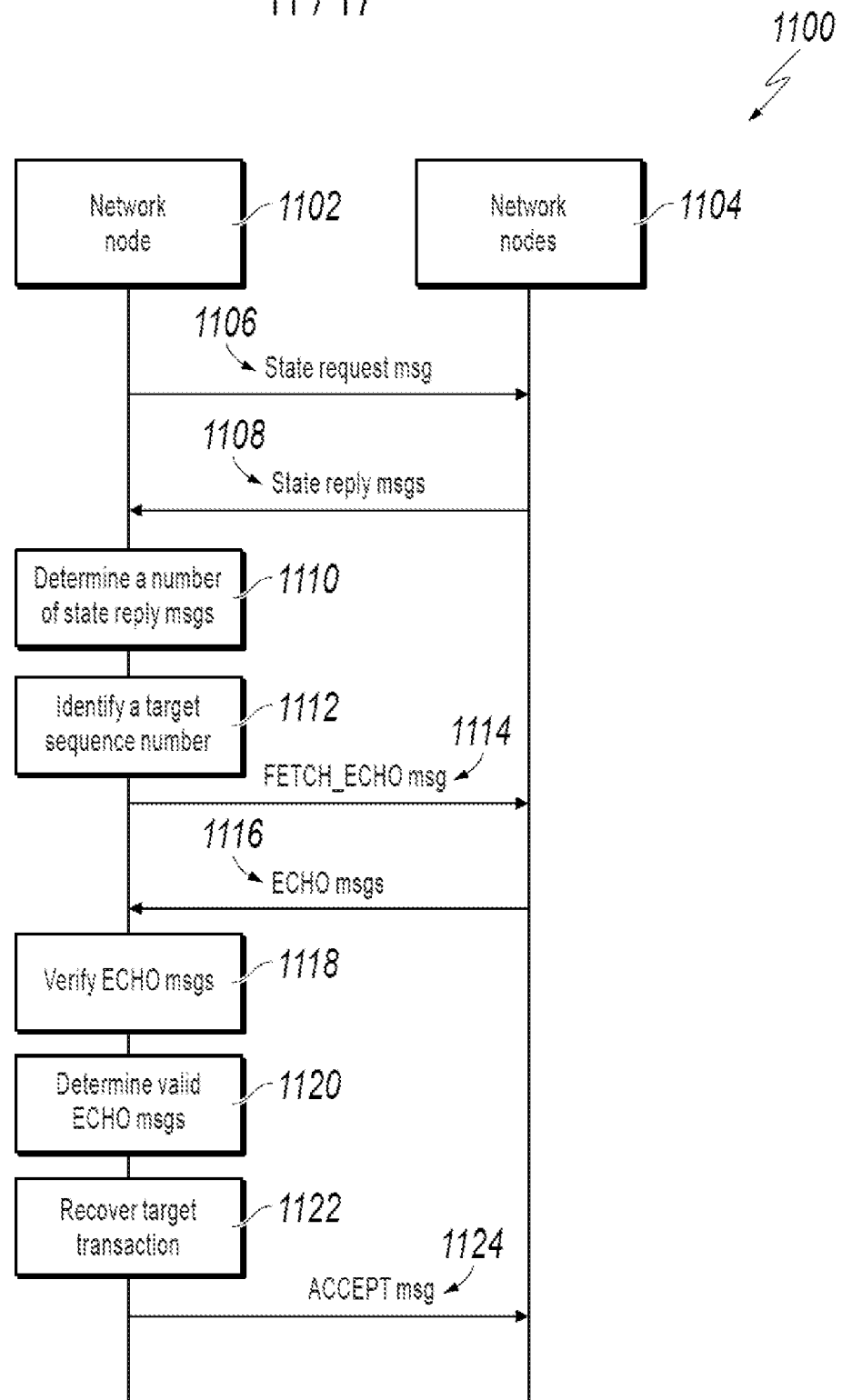


FIG. 10

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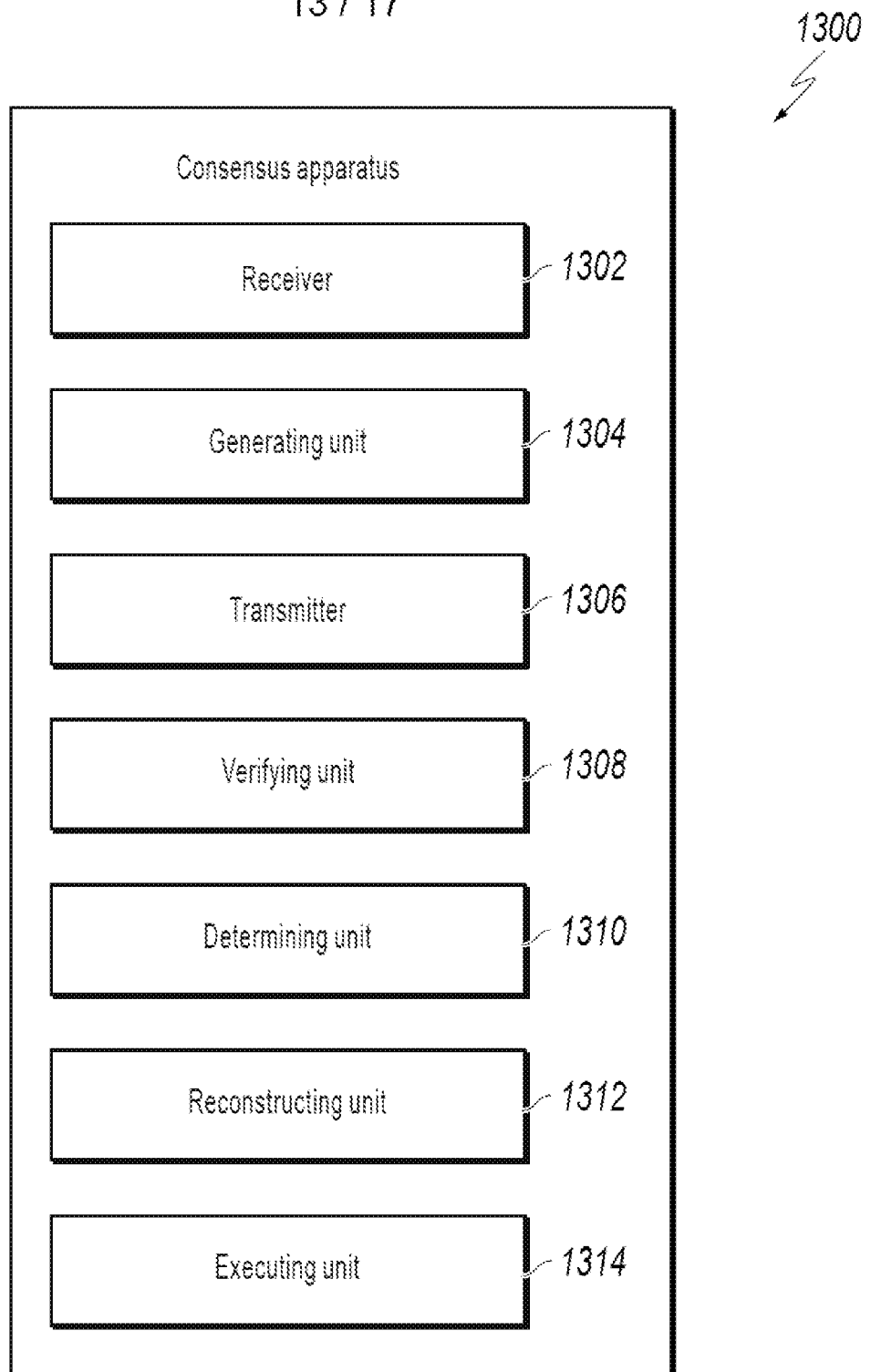
**FIG. 11**

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Query_state <j, seq>
Reply_state <j, last_seq>
Fetch_echo <j, last_seq+1>

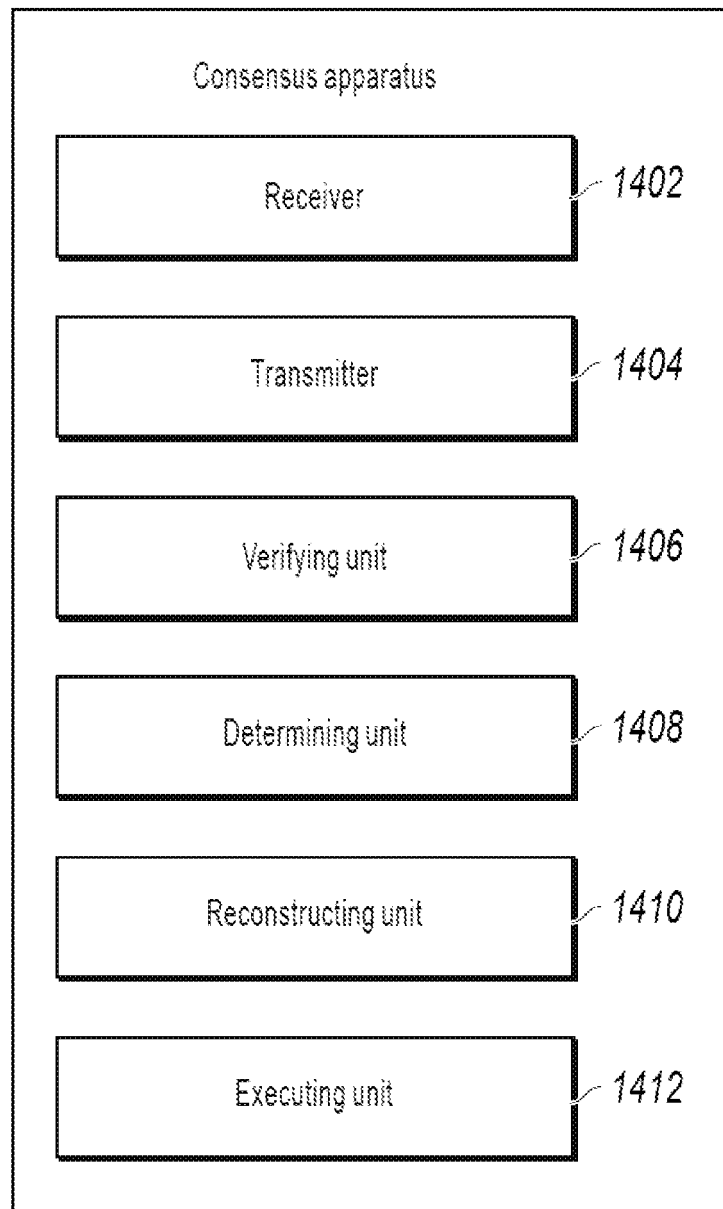
FIG. 12

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**FIG. 13**

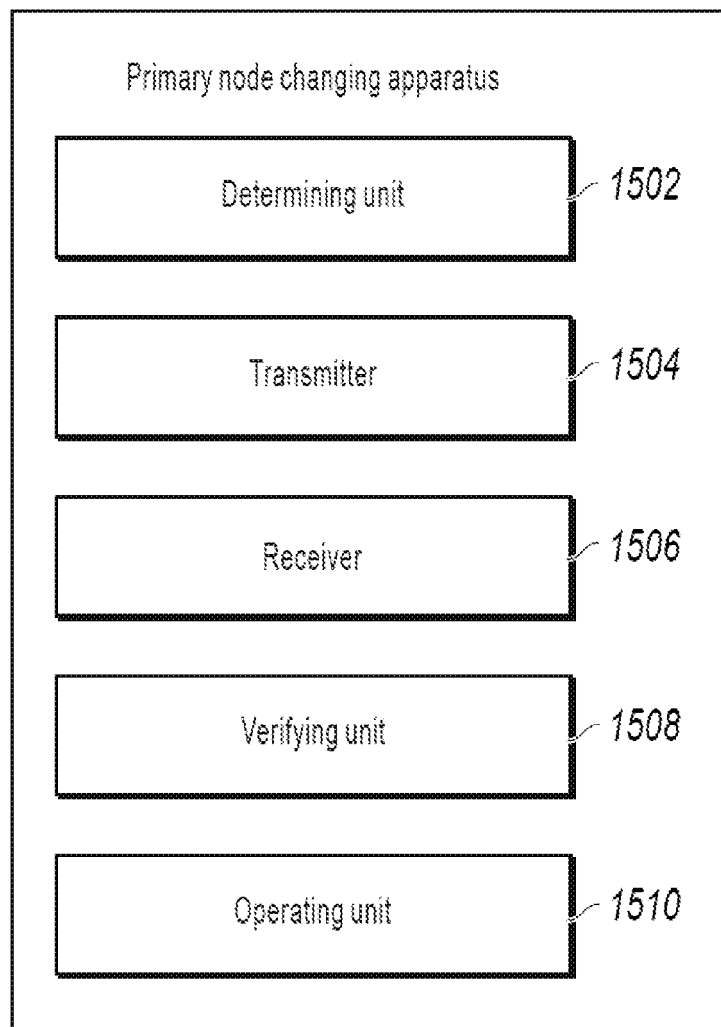
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1400

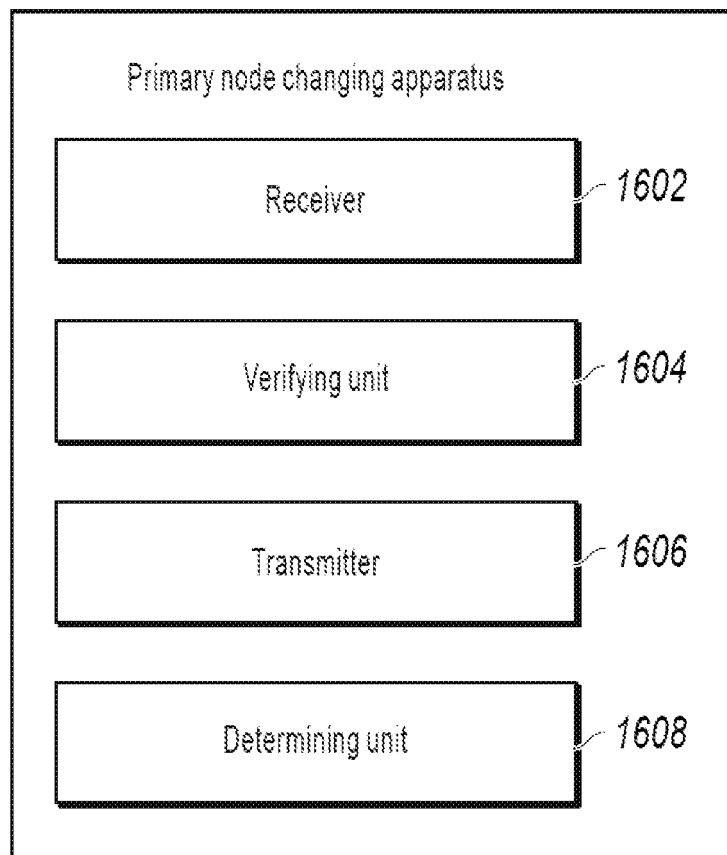
**FIG. 14**

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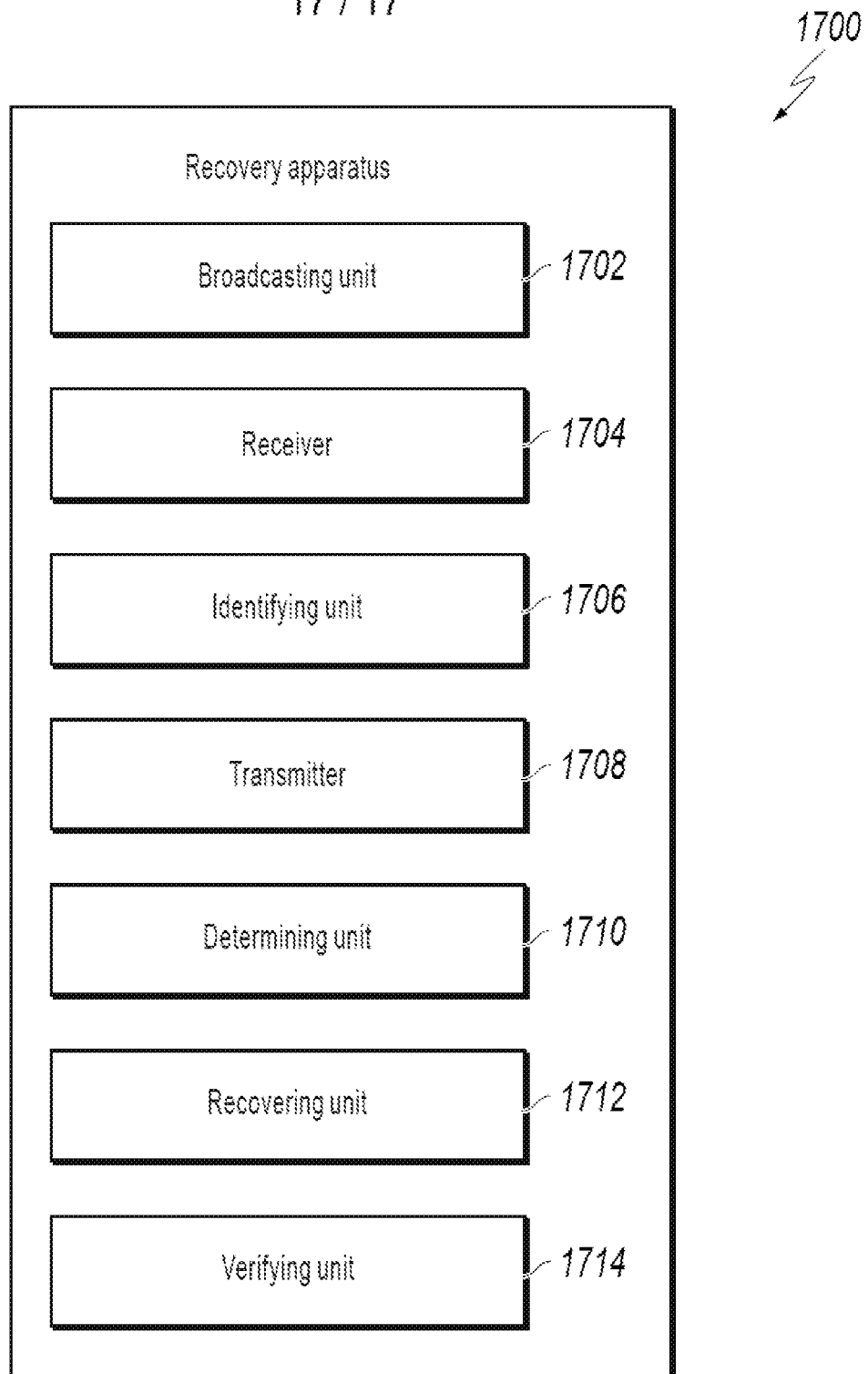
1500

**FIG. 15**

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1600
↙**FIG. 16**

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**FIG. 17**