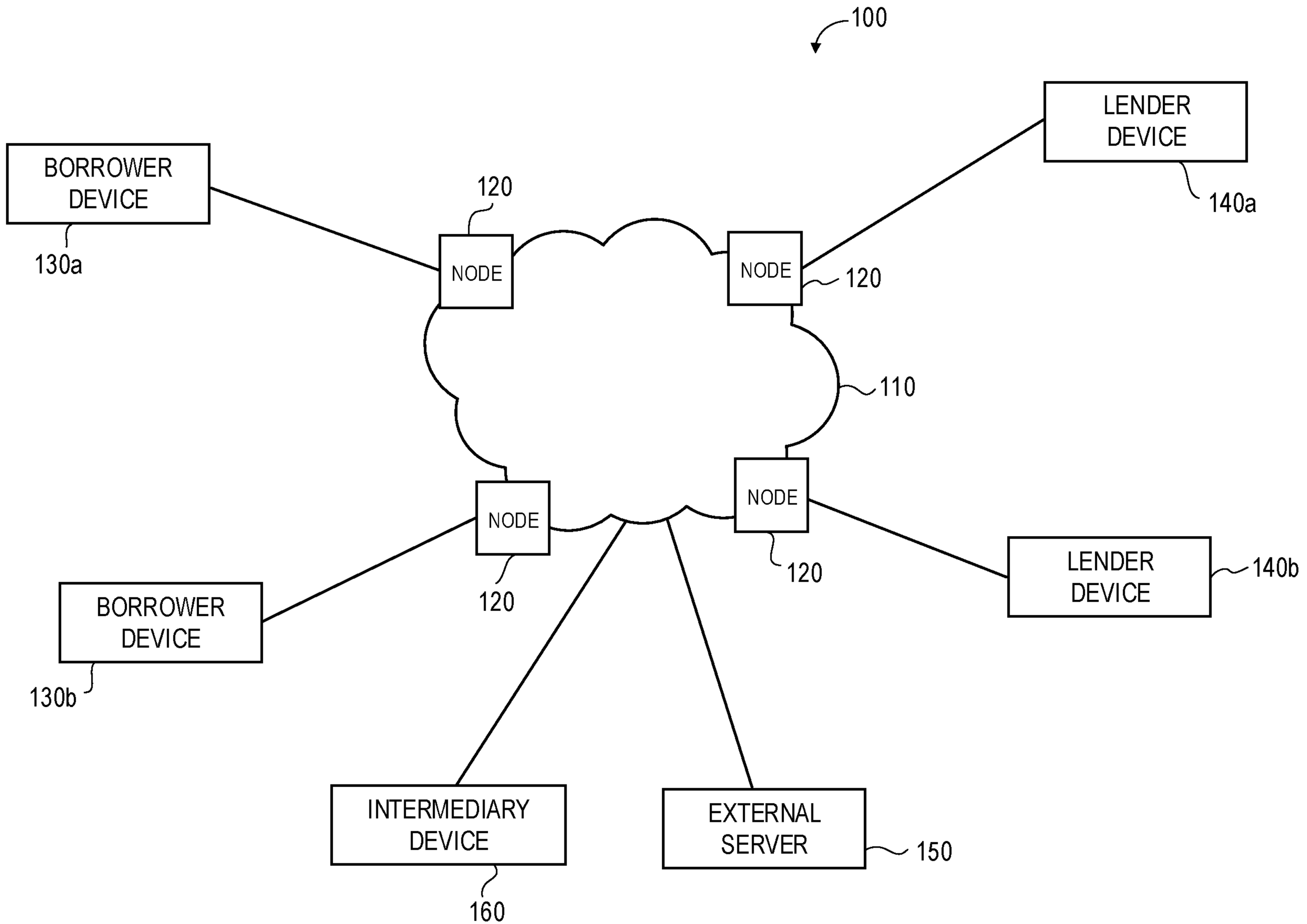
100
BORROWER DEVICE
130a
120
NODE
NODE
120
LENDER DEVICE
140a
110
NODE
120
NODE
BORROWER DEVICE
130b
INTERMEDIARY DEVICE
160
EXTERNAL SERVER
150
LENDER DEVICE
140b

FIG. 1

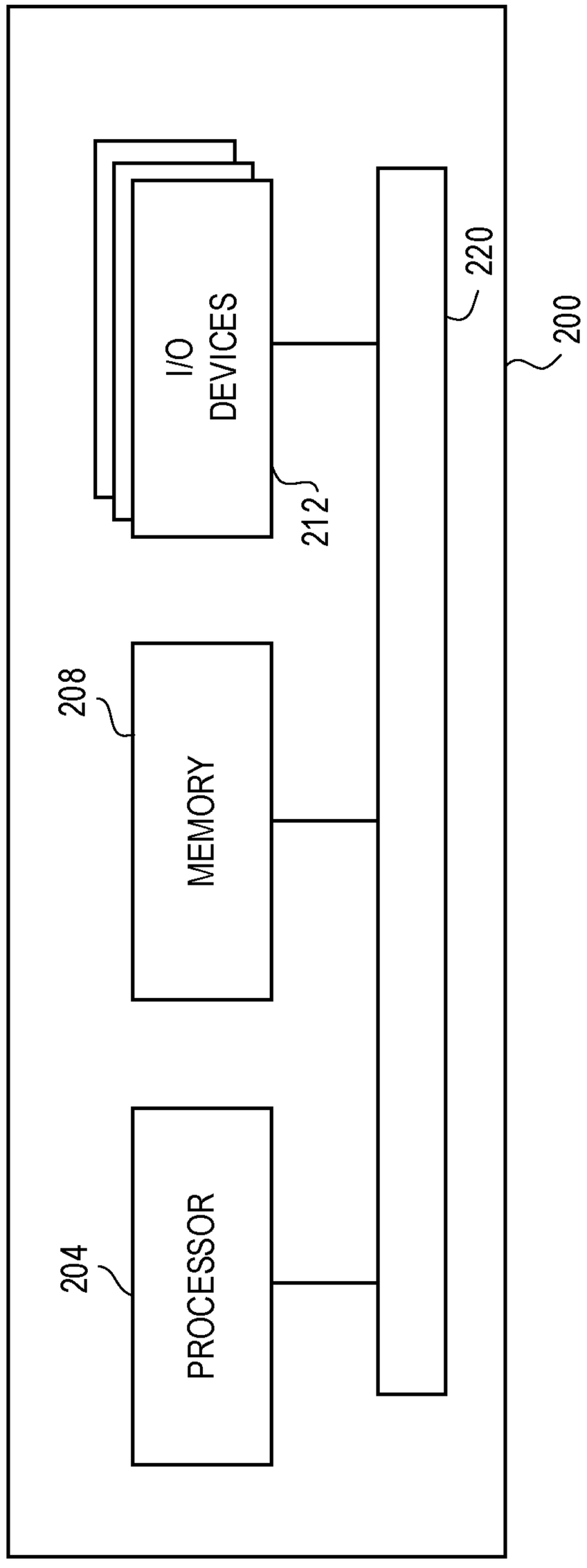

FIG. 2

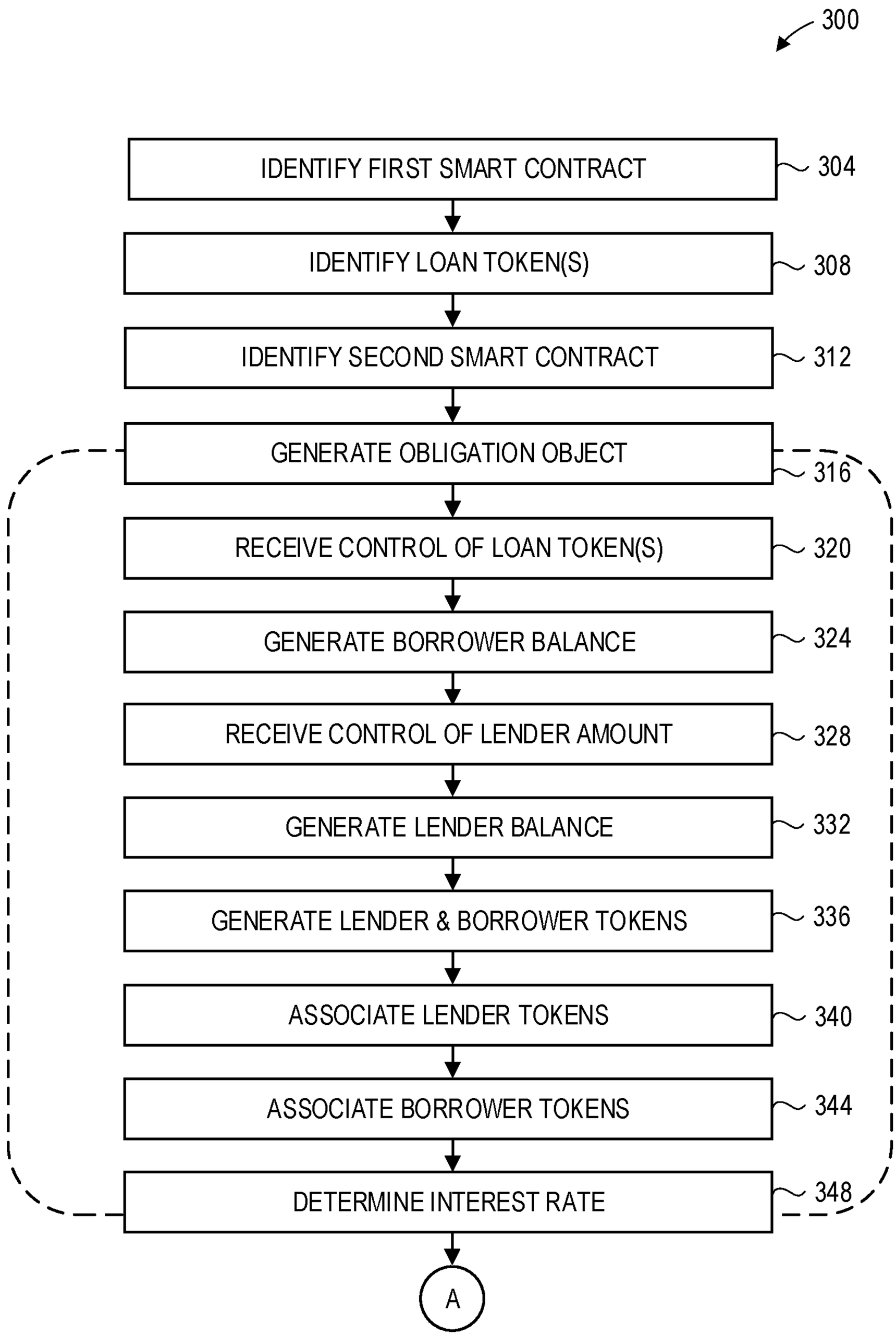
300
IDENTIFY FIRST SMART CONTRACT
304
IDENTIFY LOAN TOKEN(S)
308
IDENTIFY SECOND SMART CONTRACT
312
GENERATE OBLIGATION OBJECT
316
RECEIVE CONTROL OF LOAN TOKEN(S)
320
GENERATE BORROWER BALANCE
324
RECEIVE CONTROL OF LENDER AMOUNT
328
GENERATE LENDER BALANCE
332
GENERATE LENDER & BORROWER TOKENS
336
ASSOCIATE LENDER TOKENS
340
ASSOCIATE BORROWER TOKENS
344
DETERMINE INTEREST RATE
348
A

FIG. 3A

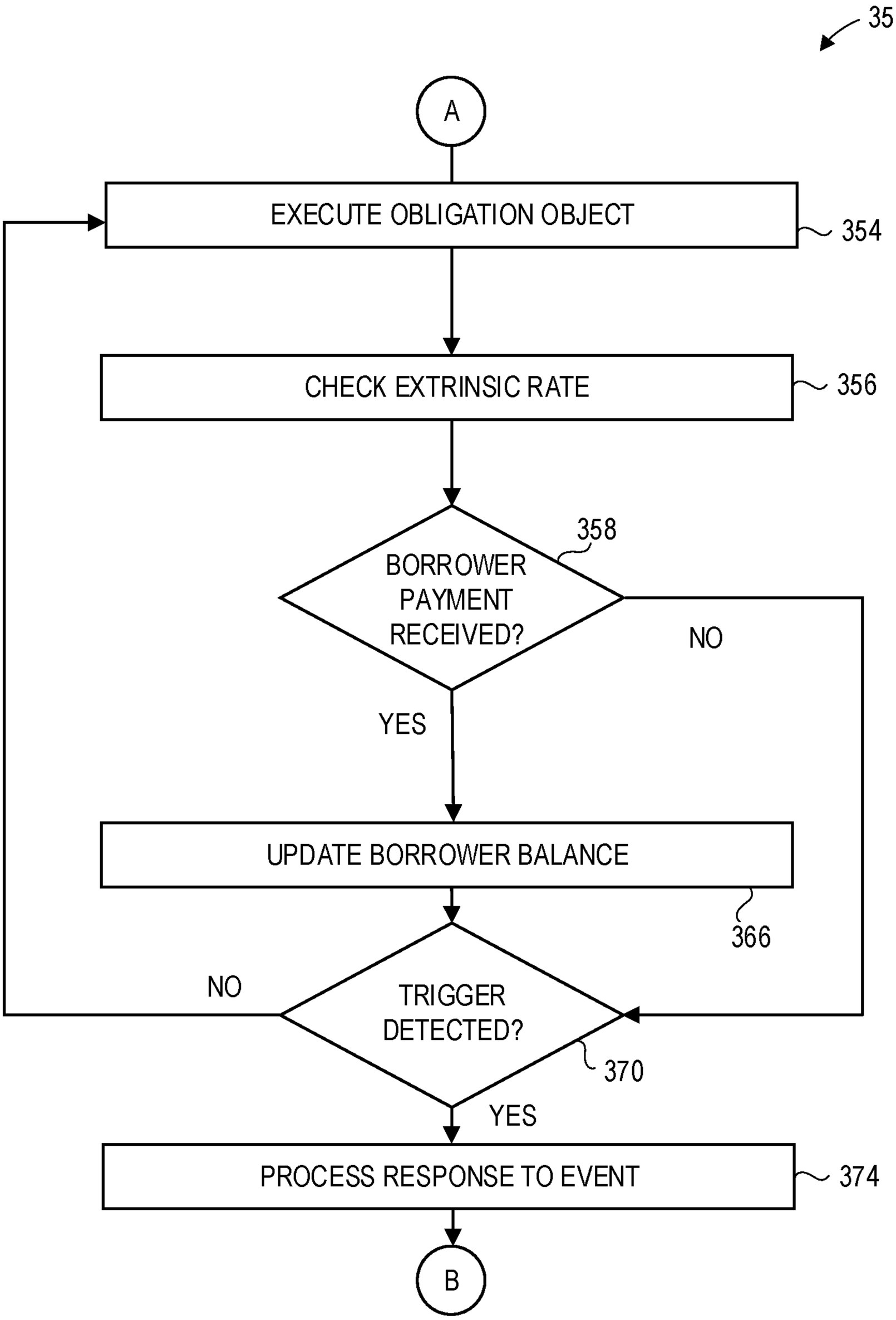
350
A
EXECUTE OBLIGATION OBJECT
354
CHECK EXTRINSIC RATE
356
BORROWER PAYMENT RECEIVED?
358
NO
YES
UPDATE BORROWER BALANCE
366
TRIGGER DETECTED?
370
NO
YES
PROCESS RESPONSE TO EVENT
374
B

FIG. 3B

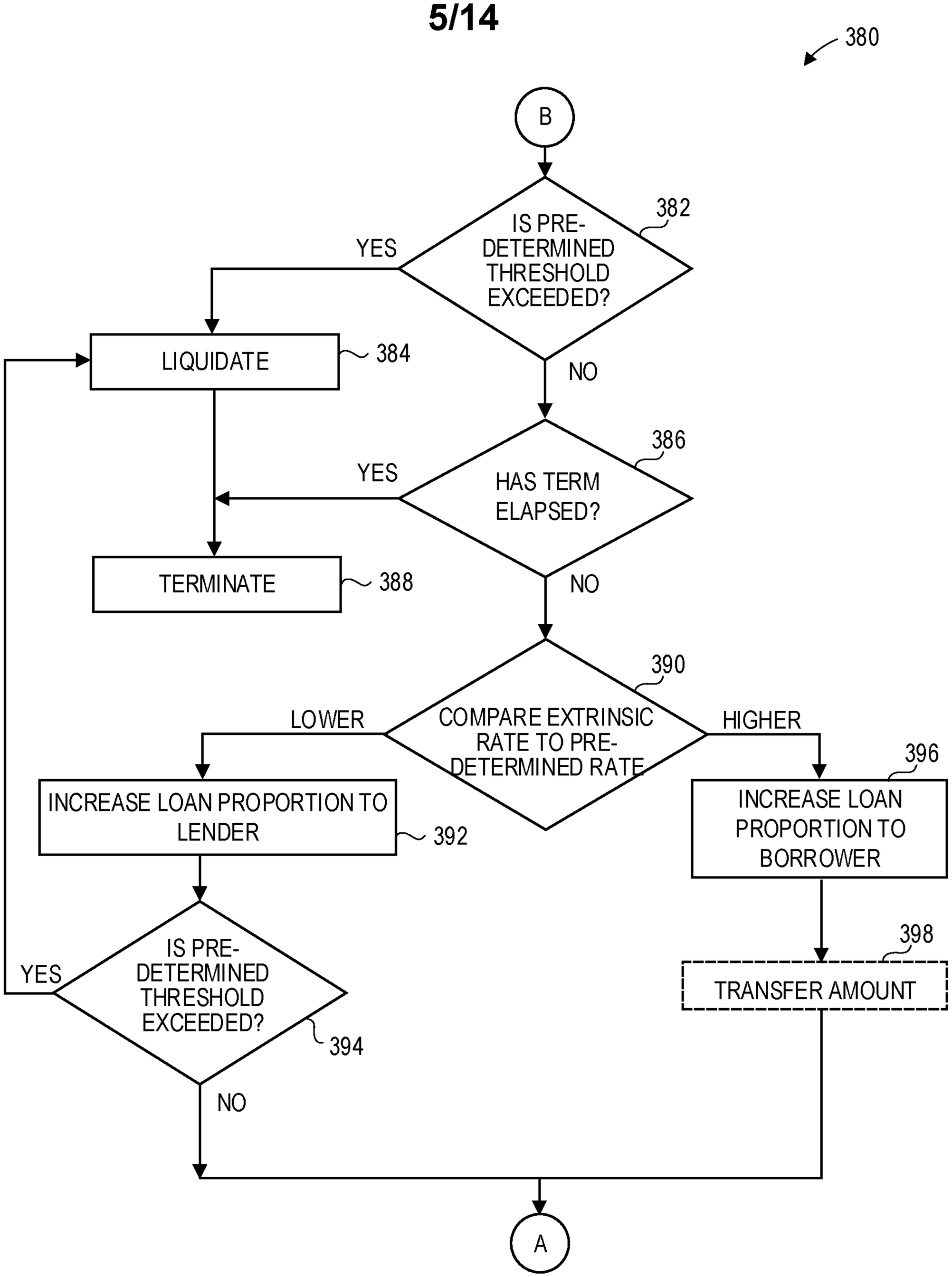
380
B
382
IS PRE-DETERMINED THRESHOLD EXCEEDED?
YES
NO
LIQUIDATE
384
386
HAS TERM ELAPSED?
YES
NO
TERMINATE
388
390
COMPARE EXTRINSIC RATE TO PRE-DETERMINED RATE
LOWER
HIGHER
INCREASE LOAN PROPORTION TO LENDER
392
INCREASE LOAN PROPORTION TO BORROWER
396
IS PRE-DETERMINED THRESHOLD EXCEEDED?
394
YES
NO
TRANSFER AMOUNT
398
A

FIG. 3C

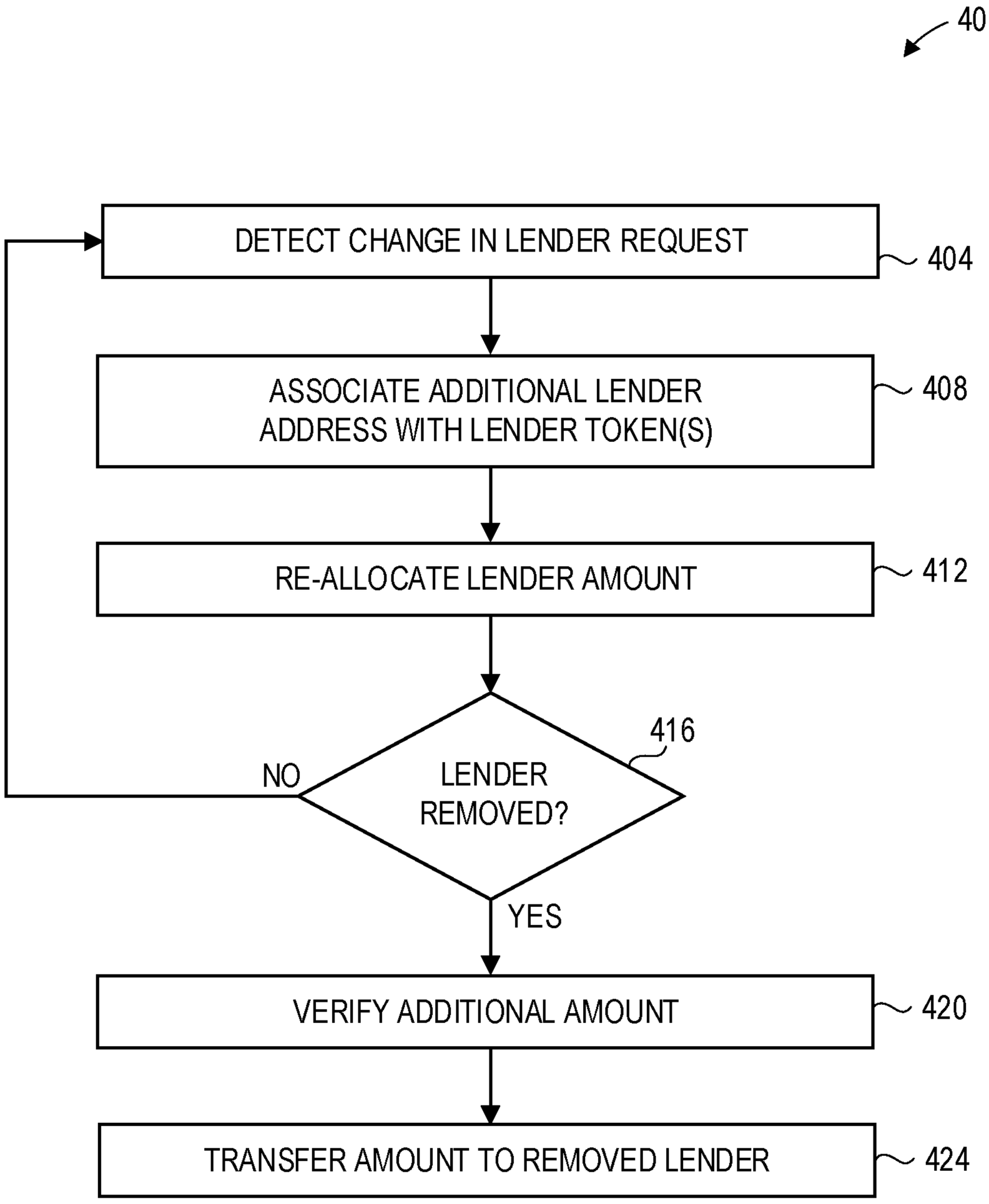
400
DETECT CHANGE IN LENDER REQUEST
404
ASSOCIATE ADDITIONAL LENDER ADDRESS WITH LENDER TOKEN(S)
408
RE-ALLOCATE LENDER AMOUNT
412
416
LENDER REMOVED?
NO
YES
VERIFY ADDITIONAL AMOUNT
420
TRANSFER AMOUNT TO REMOVED LENDER
424

FIG. 4

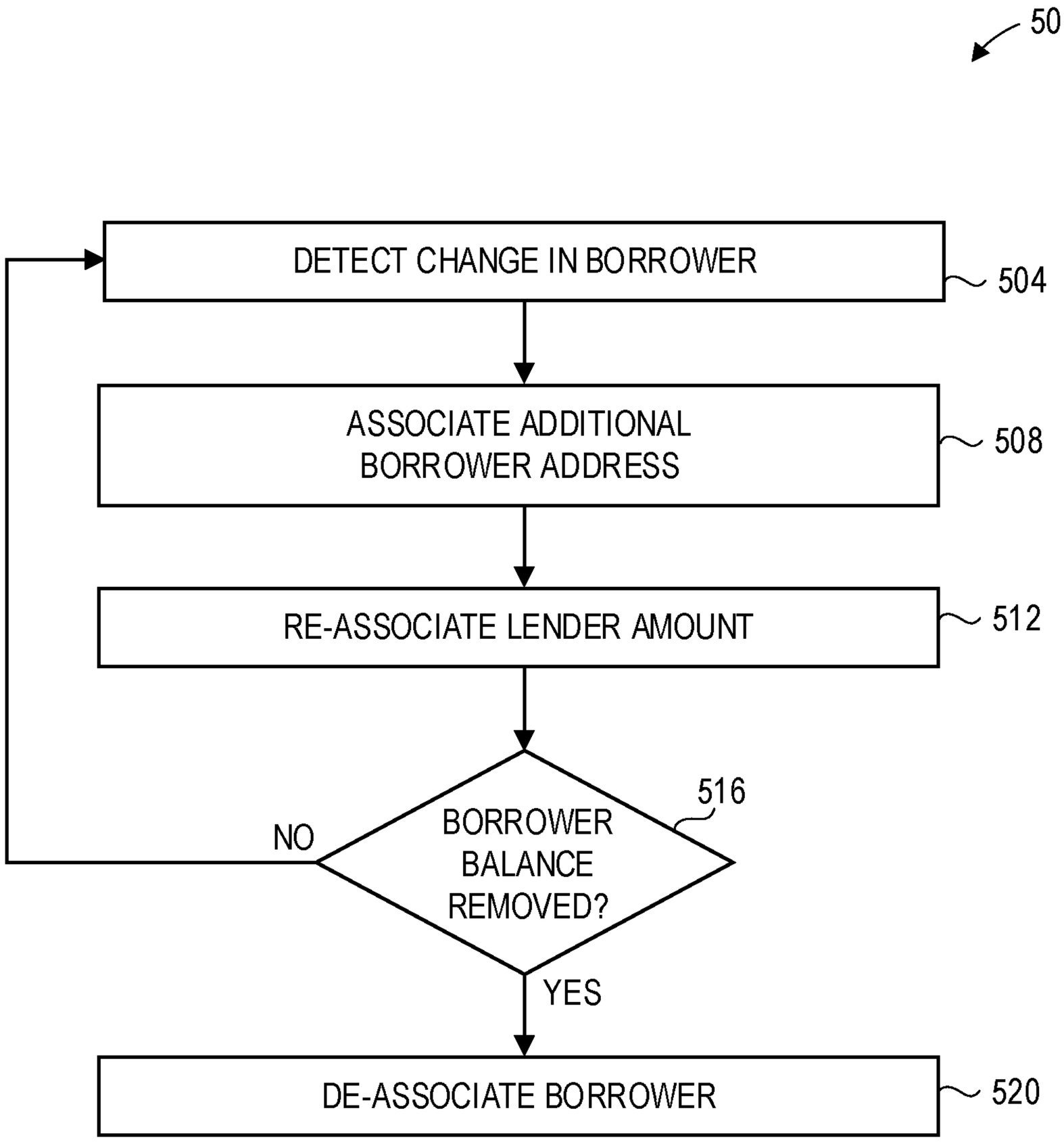
500
DETECT CHANGE IN BORROWER
504
ASSOCIATE ADDITIONAL BORROWER ADDRESS
508
RE-ASSOCIATE LENDER AMOUNT
512
BORROWER BALANCE REMOVED?
516
NO
YES
DE-ASSOCIATE BORROWER
520

FIG. 5

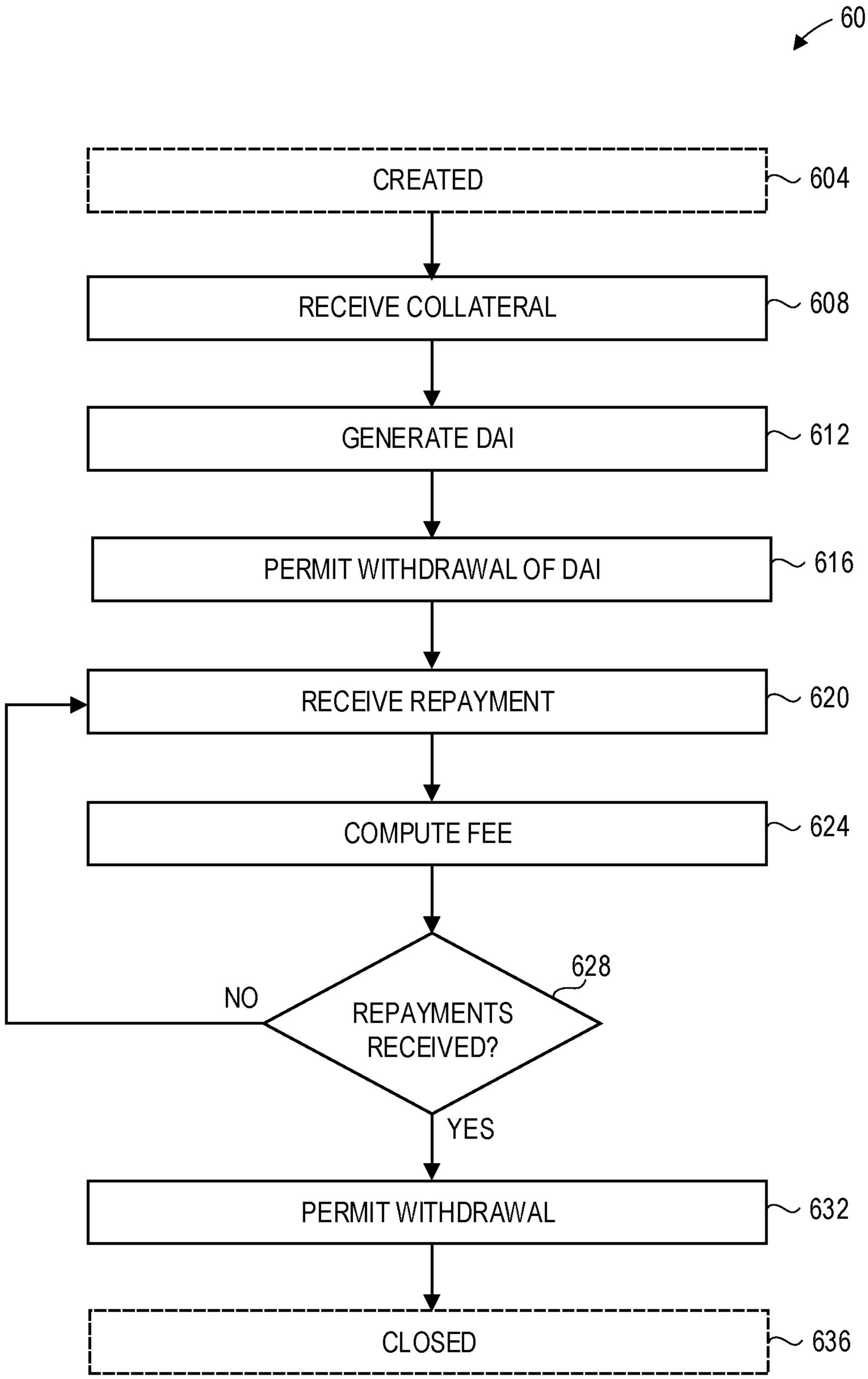
600
CREATED
604
RECEIVE COLLATERAL
608
GENERATE DAI
612
PERMIT WITHDRAWAL OF DAI
616
RECEIVE REPAYMENT
620
COMPUTE FEE
624
628
NO
REPAYMENTS RECEIVED?
YES
PERMIT WITHDRAWAL
632
CLOSED
636

FIG. 6

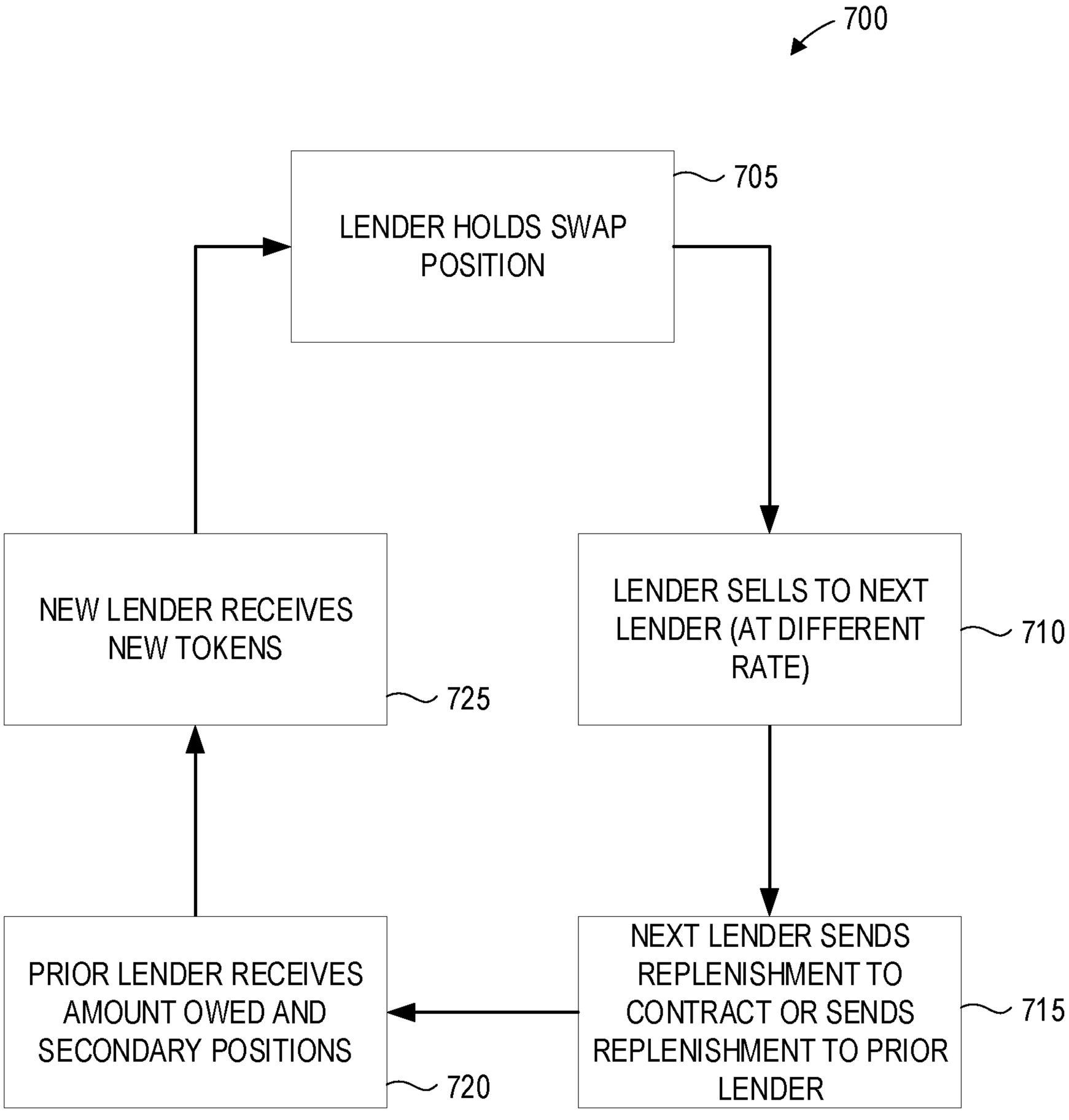
700
LENDER HOLDS SWAP POSITION
705
LENDER SELLS TO NEXT LENDER (AT DIFFERENT RATE)
710
NEXT LENDER SENDS REPLENISHMENT TO CONTRACT OR SENDS REPLENISHMENT TO PRIOR LENDER
715
PRIOR LENDER RECEIVES AMOUNT OWED AND SECONDARY POSITIONS
720
NEW LENDER RECEIVES NEW TOKENS
725

FIG. 7

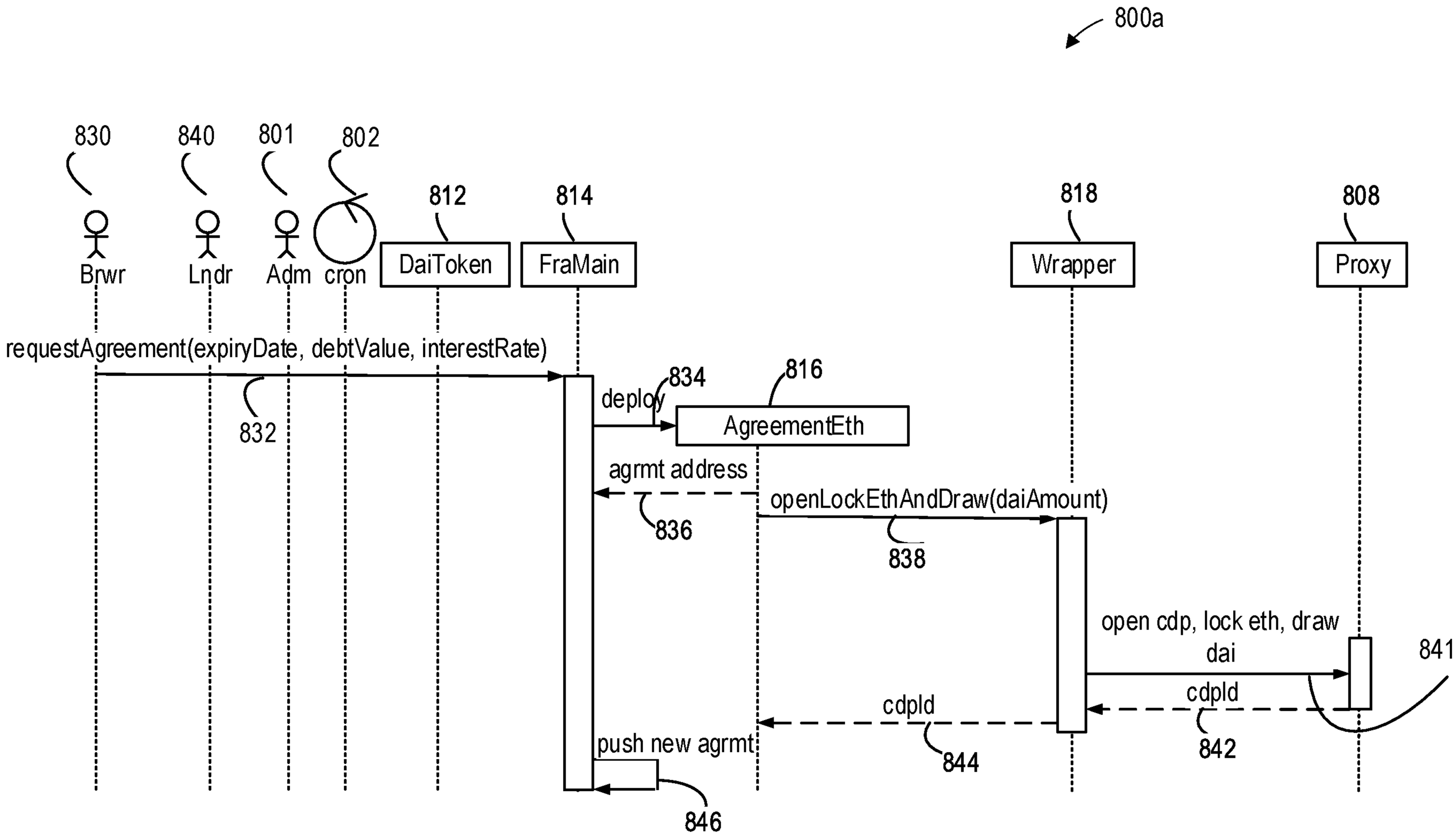
800a
830
840
801
802
812
814
818
808
Brwr
Lndr
Adm
cron
DaiToken
FraMain
Wrapper
Proxy
requestAgreement(expiryDate, debtValue, interestRate)
832
834
816
deploy
AgreementEth
agrmt address
836
openLockEthAndDraw(daiAmount)
838
open cdp, lock eth, draw dai
841
cdpId
842
cdpId
844
push new agrmt
846

FIG. 8A

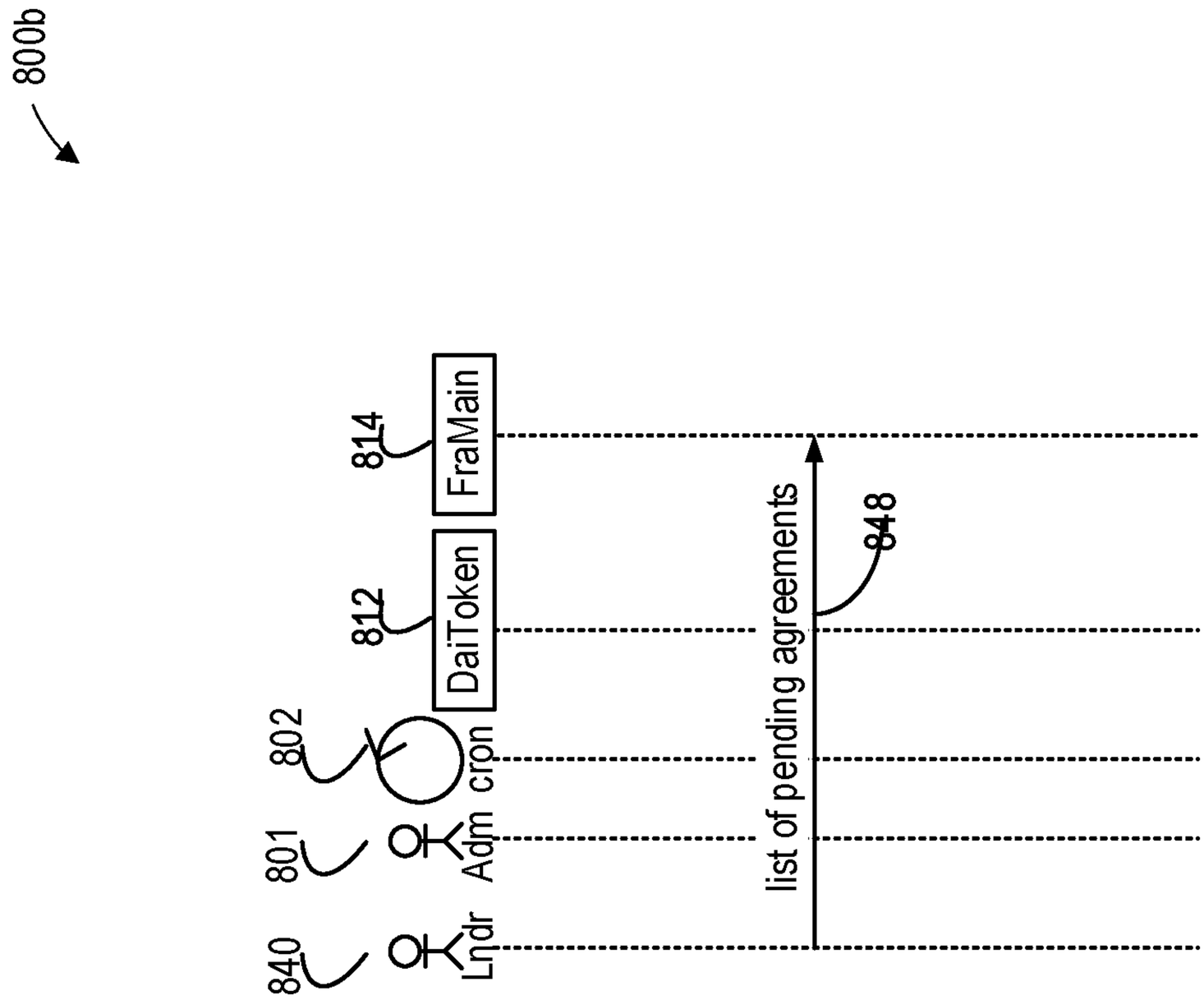
800b
840
Lndr
801
Adm
802
cron
812
DaiToken
814
FraMain
list of pending agreements
848

FIG. 8B

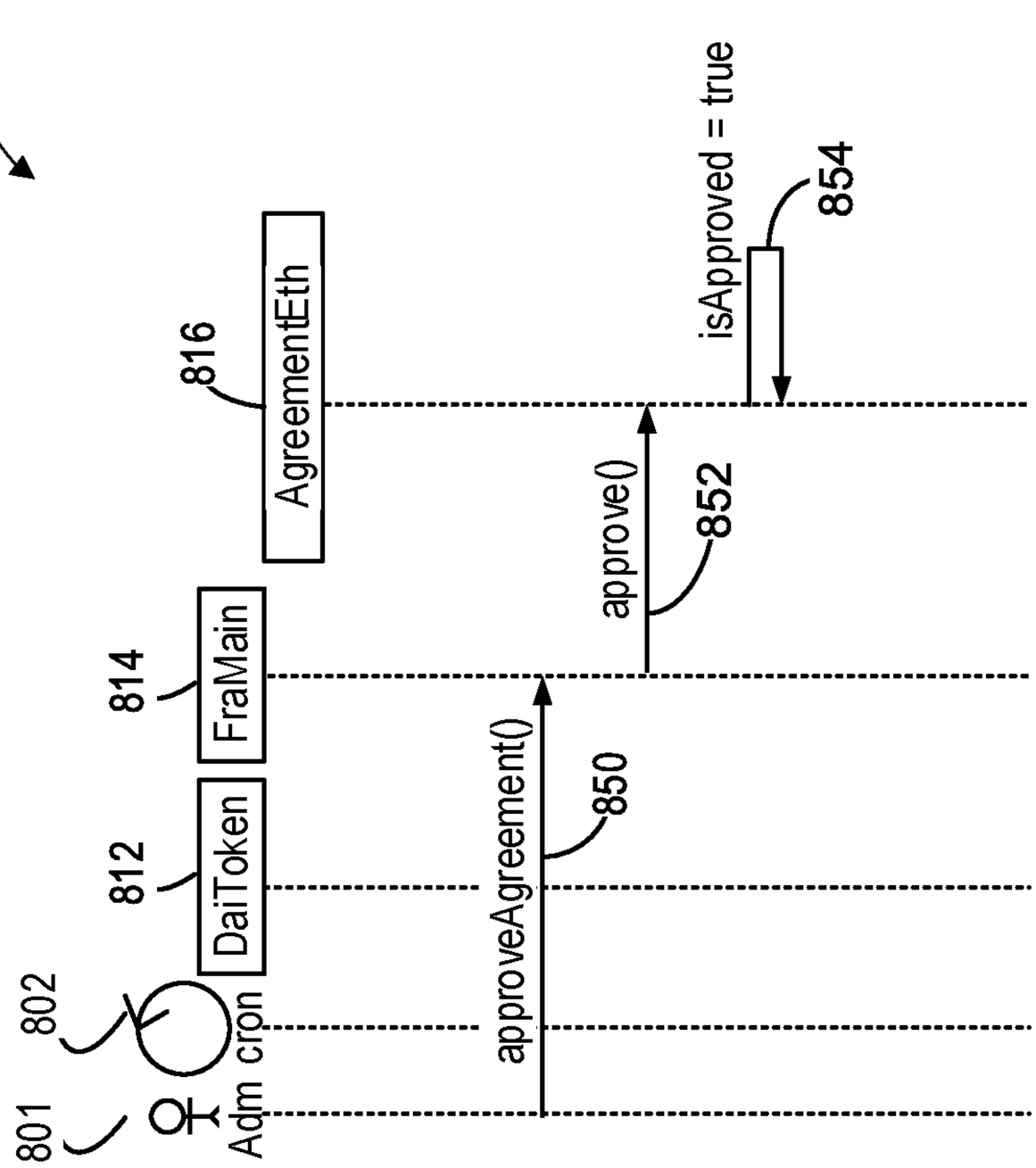
800c
801
802
Adm
cron
812
DaiToken
814
FraMain
816
AgreementEth
approveAgreement()
850
approve()
852
isApproved = true
854

FIG. 8C

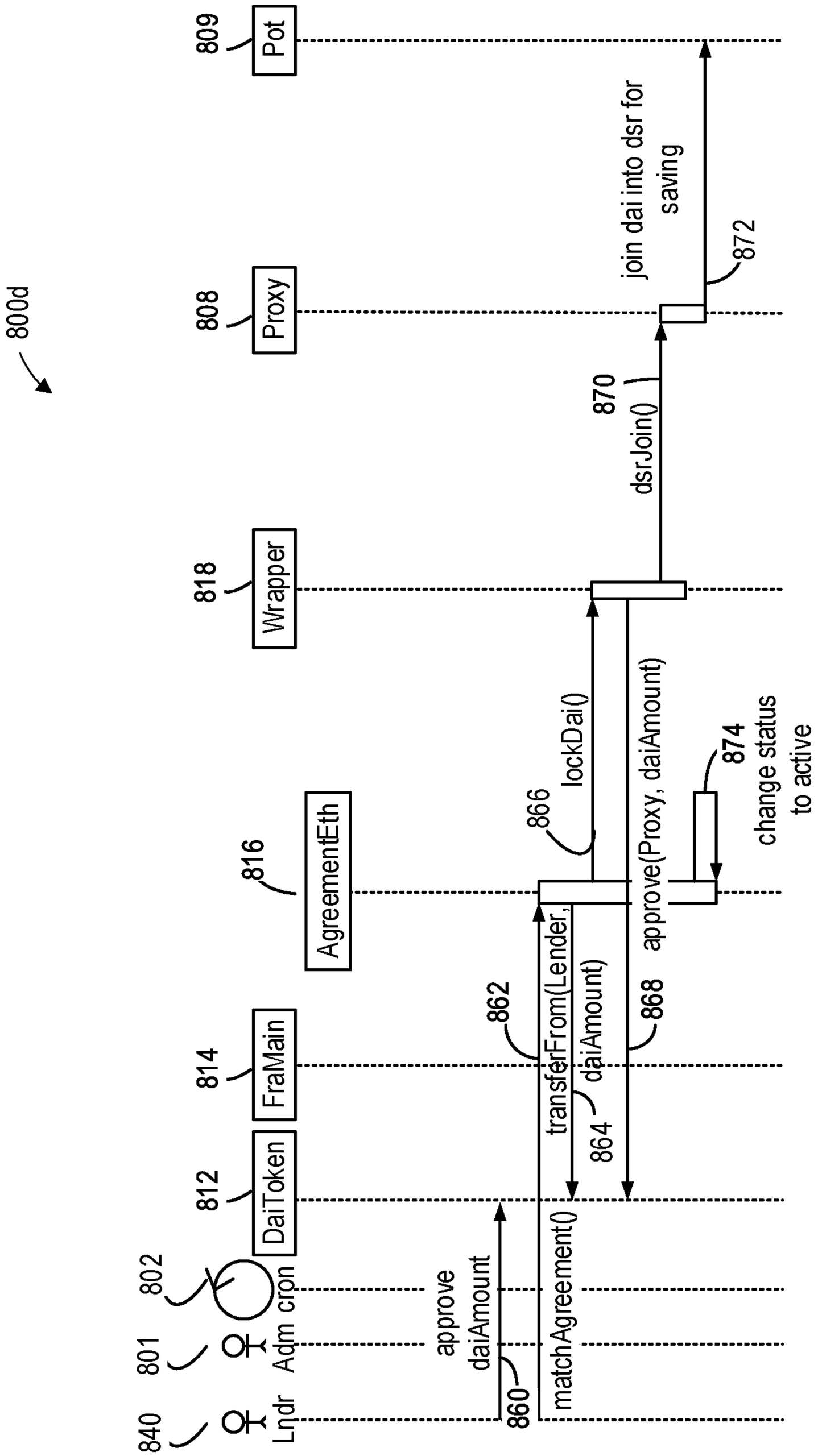
800d
840
Lndr
801
Adm cron
802
DAI
Pot
809
Proxy
808
Wrapper
818
DaiToken
812
FraMain
814
AgreementEth
816
Pot
Proxy
Wrapper
DaiToken
FraMain
AgreementEth
approve
daiAmount
860
matchAgreement()
transferFrom(Lender,
daiAmount)
862
864
lockDai()
866
approve(Proxy, daiAmount)
868
change status
to active
874
dsrJoin()
870
join dai into dsr for
saving
872

FIG. 8D

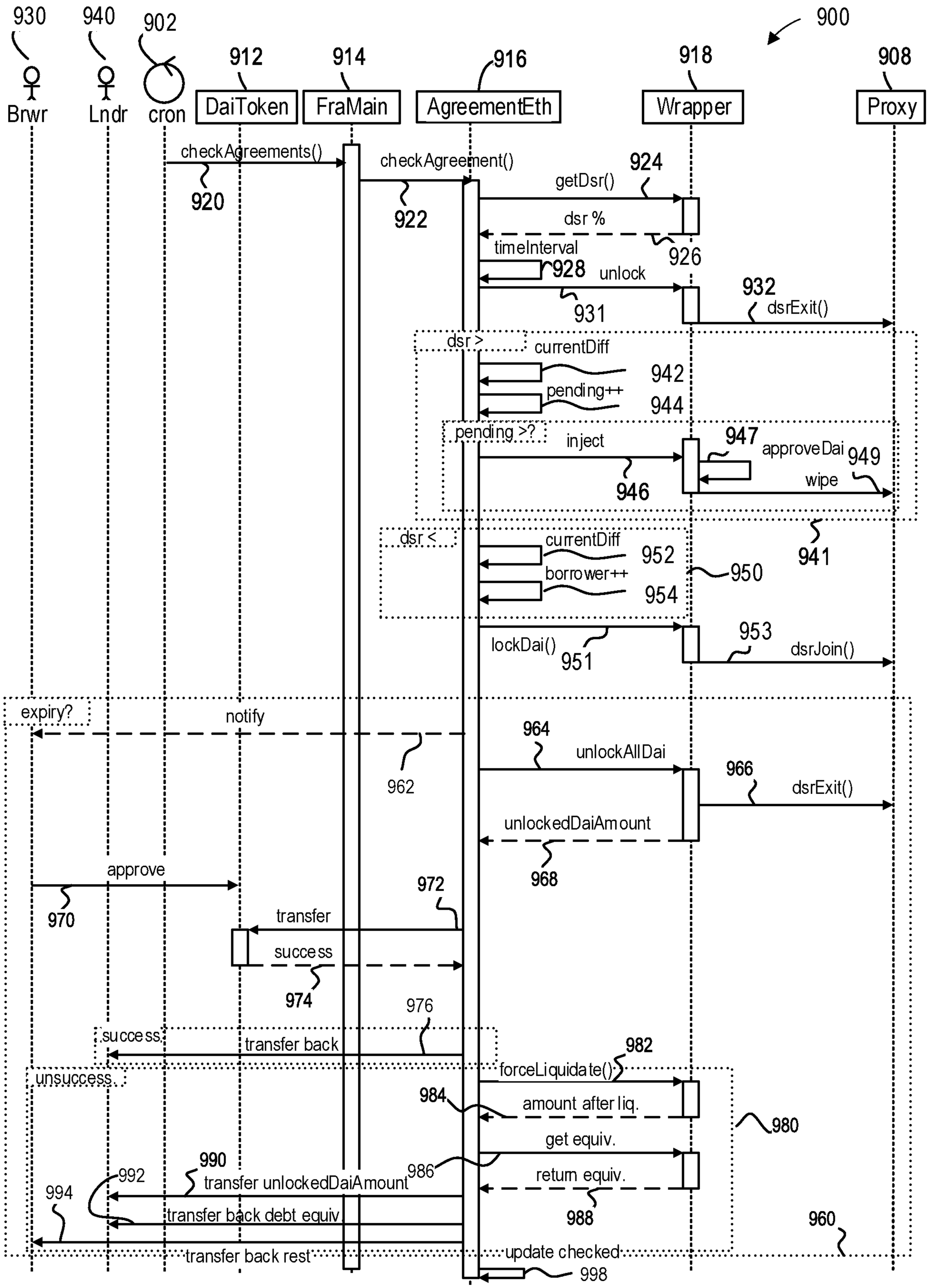
930
940
902
900
912
914
916
918
908
Brwr
Lndr
cron
DaiToken
FraMain
AgreementEth
Wrapper
Proxy
checkAgreements()
920
checkAgreement()
922
924
getDsr()
dsr %
926
timeInterval
928
unlock
931
932
dsrExit()
dsr >
currentDiff
942
pending++
944
pending >?
inject
947
approveDai
949
wipe
946
941
dsr <
currentDiff
952
borrower++
954
950
lockDai()
951
953
dsrJoin()
expiry?
notify
962
964
unlockAllDai
966
dsrExit()
unlockedDaiAmount
968
approve
970
972
transfer
success
974
976
success
transfer back
unsuccess
982
forceLiquidate()
984
amount after liq.
980
get equiv.
986
return equiv.
988
990
transfer unlockedDaiAmount
992
994
transfer back debt equiv
transfer back rest
960
update checked
998

FIG. 9