Fig. 1

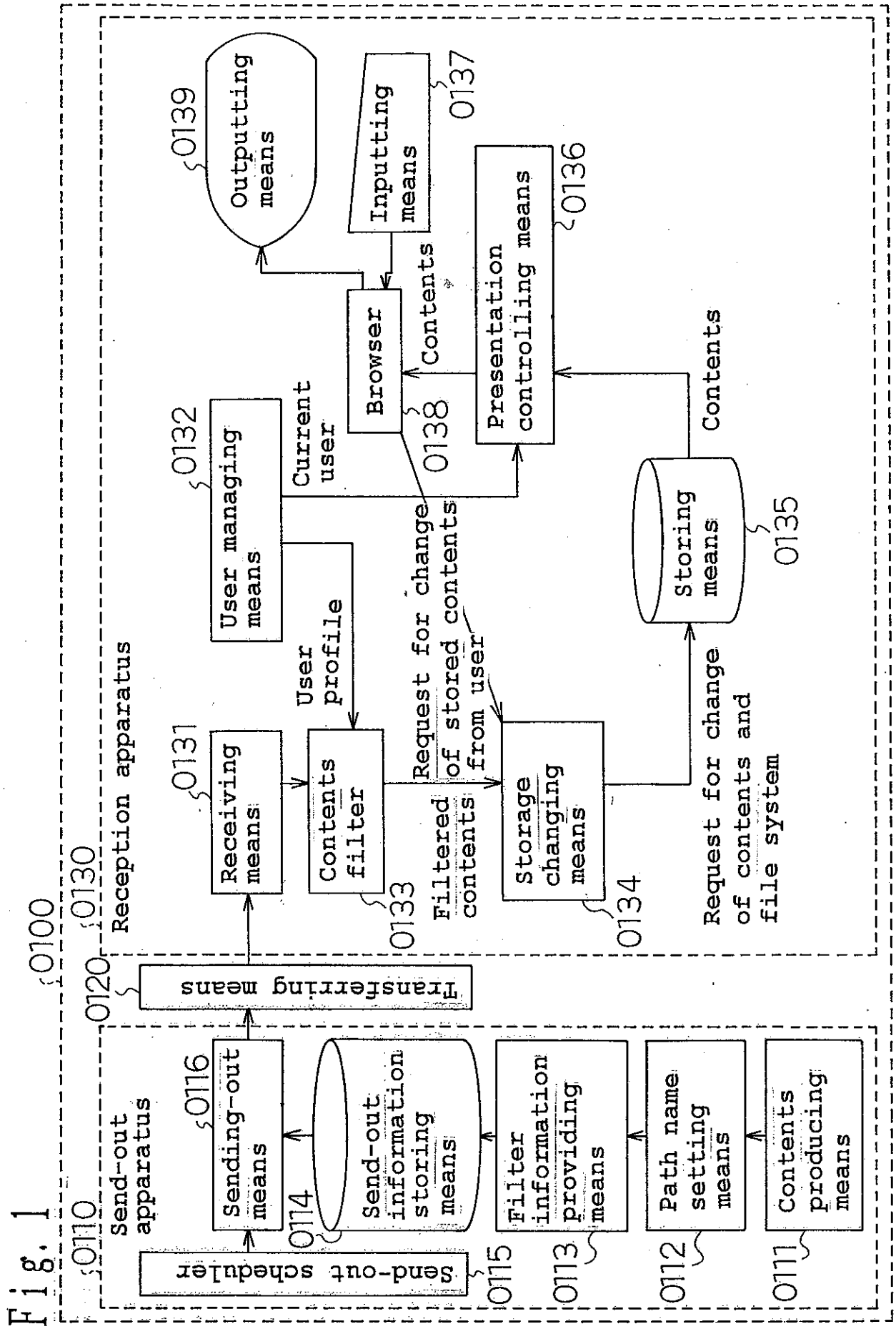

0100
Send-out apparatus
0110
Send-out scheduler
0115
Sending-out means
0116
Send-out information storing means
0114
Filter information providing means
0113
Path name setting means
0112
Contents producing means
0111
Transferring means
0120
Reception apparatus
0130
Receiving means
0131
Contents filter
0133
Storage changing means
0134
Storing means
0135
User managing means
0132
Presentation controlling means
0136
Browser
0138
Outputting means
0139
Inputting means
0137
Current user
User profile
Request for change of stored contents from user
Filtered contents
Contents
Contents
Request for change of contents and file system

Fig. 2

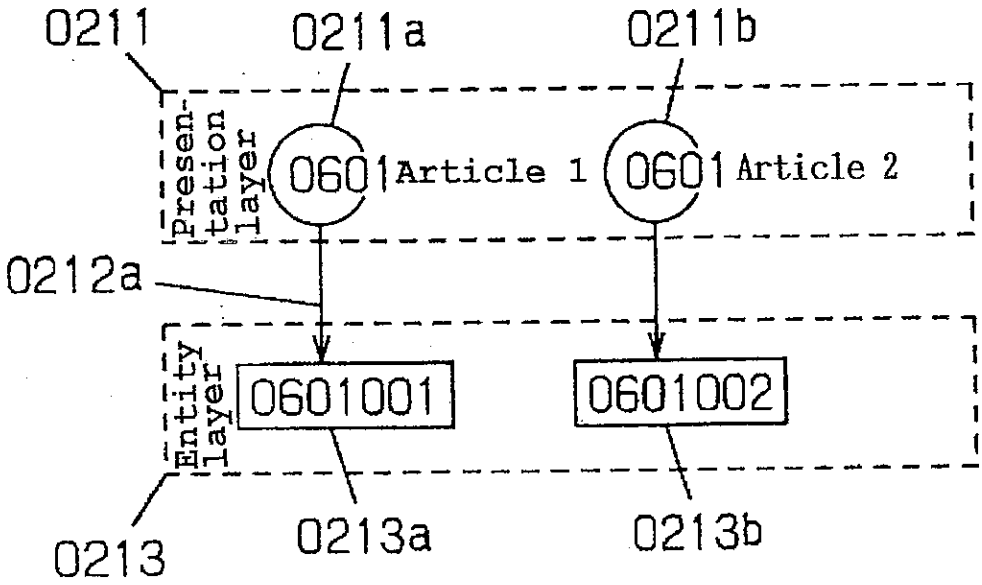

0211
0211a
0211b
Presen-tation layer
0601
Article 1
0601
Article 2
0212a
Entity layer
0601001
0601002
0213
0213a
0213b

Fig. 3

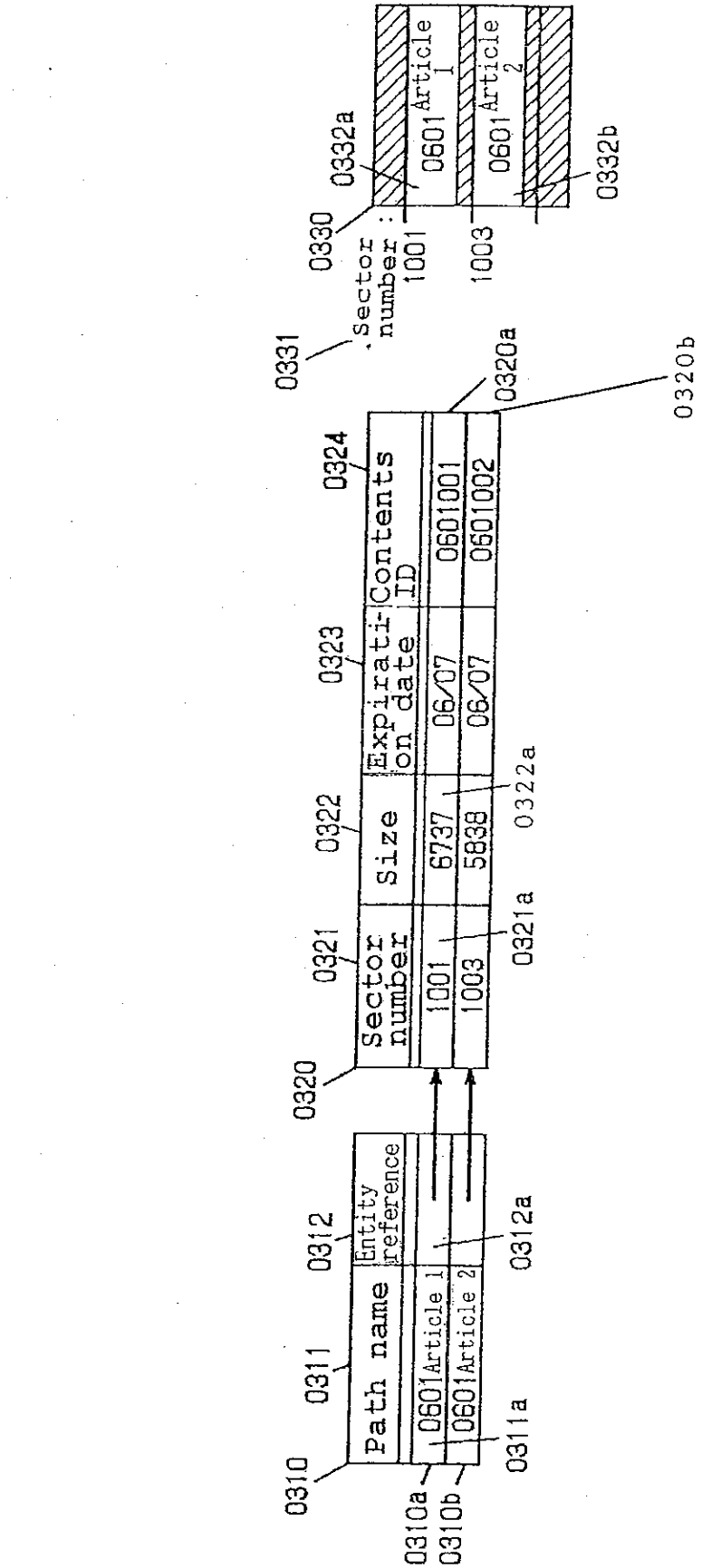

0310
0311
Path name
0312
Entity reference
0601Article 1
0601Article 2
0311a
0312a
0310a
0310b
0320
0321
Sector number
0322
Size
0323
Expiration date
0324
Contents ID
1001
1003
6737
5838
06/07
06/07
0601001
0601002
0321a
0322a
0320a
0320b
0330
0331
Sector number :
1001
1003
0601 Article 1
0601 Article 2
0332a
0332b

Fig. 4

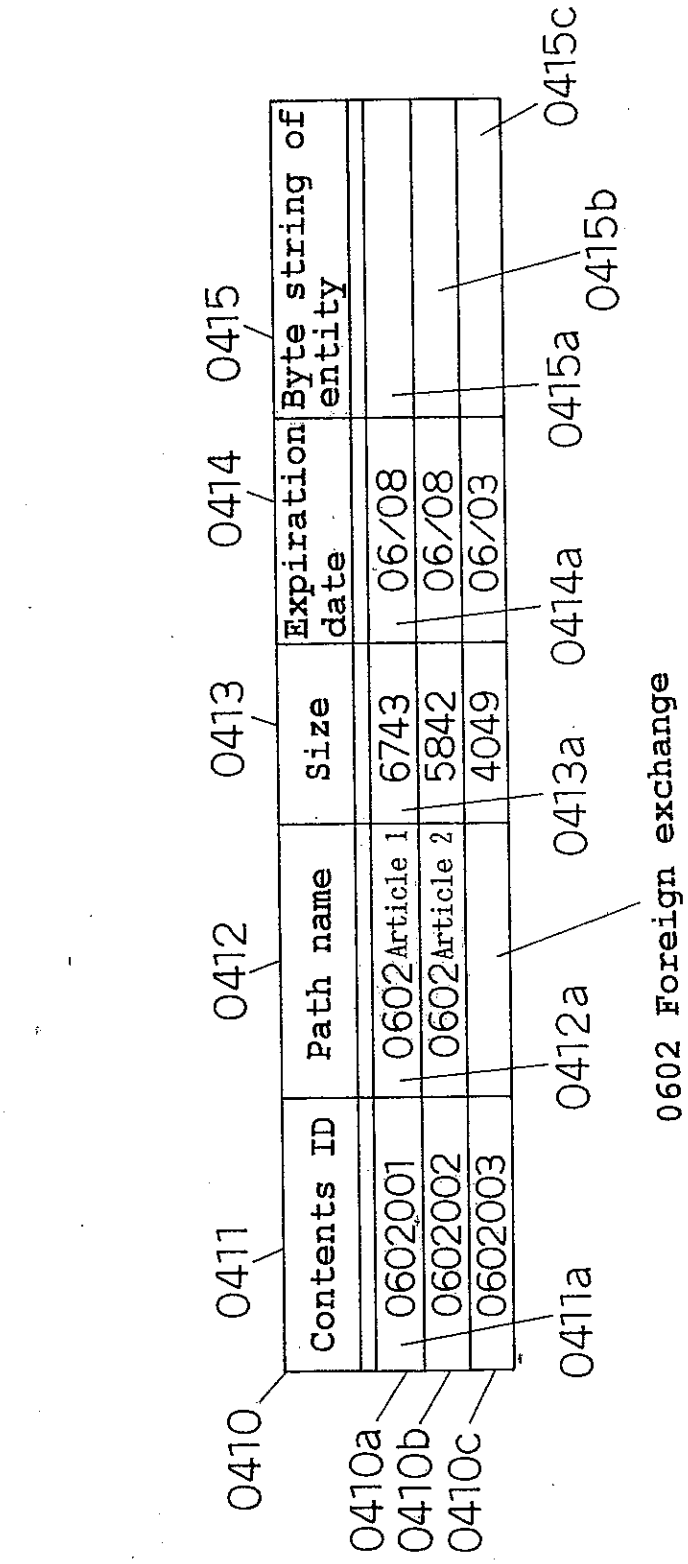

0410
0411
0412
0413
0414
0415
0410a
0410b
0410c
0411a
0412a
0413a
0414a
0415a
0415b
0415c
Contents ID
Path name
Size
Expiration date
Byte string of entity
0602001
0602Article 1
6743
06/08
0602002
0602Article 2
5842
06/08
0602003
4049
06/03
0602 Foreign exchange

Fig. 5

0510 Data structure of DownloadInfoIndication message

Data structure	Number of bits	Bit string representation
DownloadInfoIndication() {		
dsmccMessageHeader()		
downloadId	32	uimsbf
blockSize	16	uimsbf
windowSize	8	uimsbf
ackPeriod	8	uimsbf
tCDownloadWindow	32	uimsbf
tCDownloadScenario	32	uimsbf
compatibilityDescriptor()		
numberOfModules	16	uimsbf
for (i=0;i<numberOfModules;i++) {		
moduleId	16	uimsbf
0511 moduleSize	32	uimsbf
moduleVersion	8	uimsbf
0512 moduleInfoLength	8	uimsbf
for (i=0;i<moduleInfoLength;i++) {		
0513 moduleInfoByte	8	uimsbf
}		
}		
privateDataLength	16	uimsbf
for (i=0;i<privateDataLength;i++) {		
privateDataByte	8	uimsbf
}		
}		

0520 Name descriptor

Data structure	Number of bits	Bit string representation
Name_descriptor() {		
descriptor_tag	8	uimsbf
descriptor_length	8	uimsbf
for (i=0;i<N;i++) {		
0521 text_char	8	uimsbf
}		
}		

0530 Expire descriptor

Data structure	Number of bits	Bit string representation
Expire_descriptor() {		
descriptor_tag	8	uimsbf
descriptor_length	8	uimsbf
time_mode	8	uimsbf
if (time_mode==0x01) {		
MJD_JST_time	40	bslbf
0531 }		
else if (time_mode==0x04) {		
reserved_furture_use	8	bslbf
passed_seconds	32	uimsbf
}		
}		

Fig. 6

Data structure of DownloadDataBlock

Data structure	Number of bits	Bit string representation
DownloadDataBlock() {		
dsmccDownloadDataHeader()		
moduleId	16	uimsbf
moduleVersion	8	uimsbf
reserved	8	bslbf
blockNumber	16	uimsbf
for(i=0;i<N;i++) {		
blockDataByte	8	uimsbf
}		
}		

0611

Fig. 7

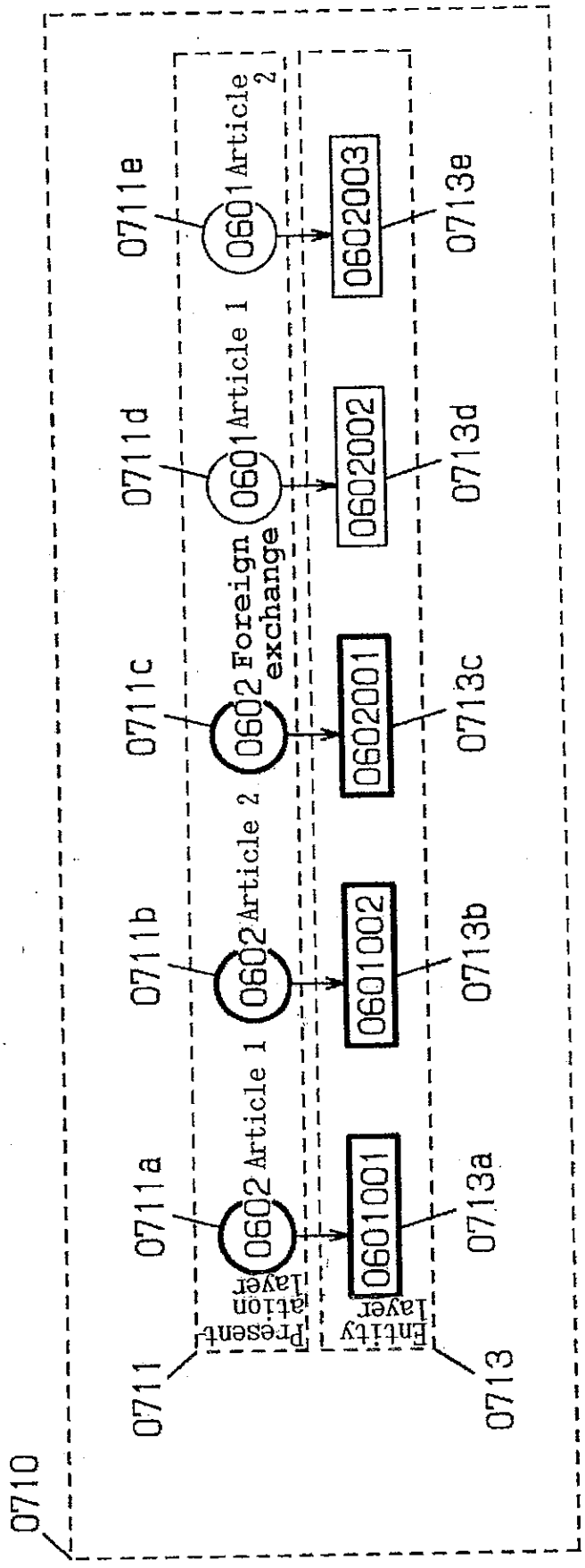

0710
0711
Presentation Layer
0713
Entity Layer
0711a
0602 Article 1
0601001
0713a
0711b
0602 Article 2
0601002
0713b
0711c
0602 Foreign exchange
0602001
0713c
0711d
0601 Article 1
0602002
0713d
0711e
0601 Article 2
0602003
0713e

Fig. 8

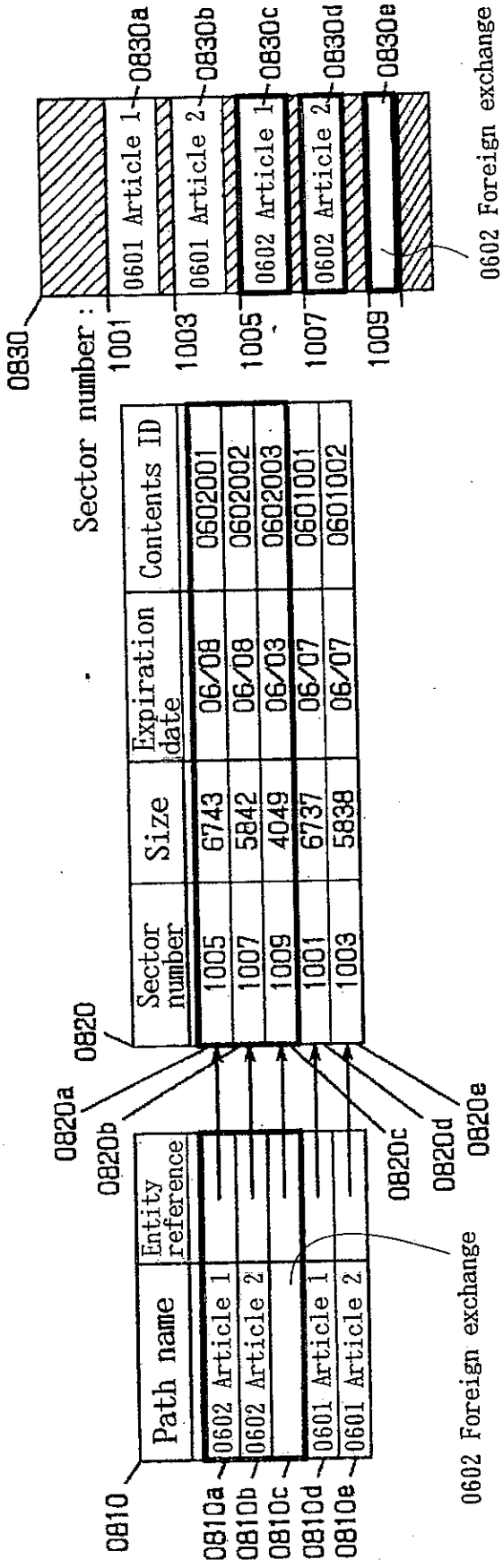

0830
Sector number :
1001
1003
1005
1007
1009
0601 Article 1
0601 Article 2
0602 Article 1
0602 Article 2
0602 Foreign exchange
0830a
0830b
0830c
0830d
0830e
0820
Sector number
Size
Expiration date
Contents ID
1005
6743
06/08
0602001
1007
5842
06/08
0602002
1009
4049
06/03
0602003
1001
6737
06/07
0601001
1003
5838
06/07
0601002
0820a
0820b
0820c
0820d
0820e
0810
Path name
Entity reference
0602 Article 1
0602 Article 2
0601 Article 1
0601 Article 2
0602 Foreign exchange
0810a
0810b
0810c
0810d
0810e

Fig. 9 (a)

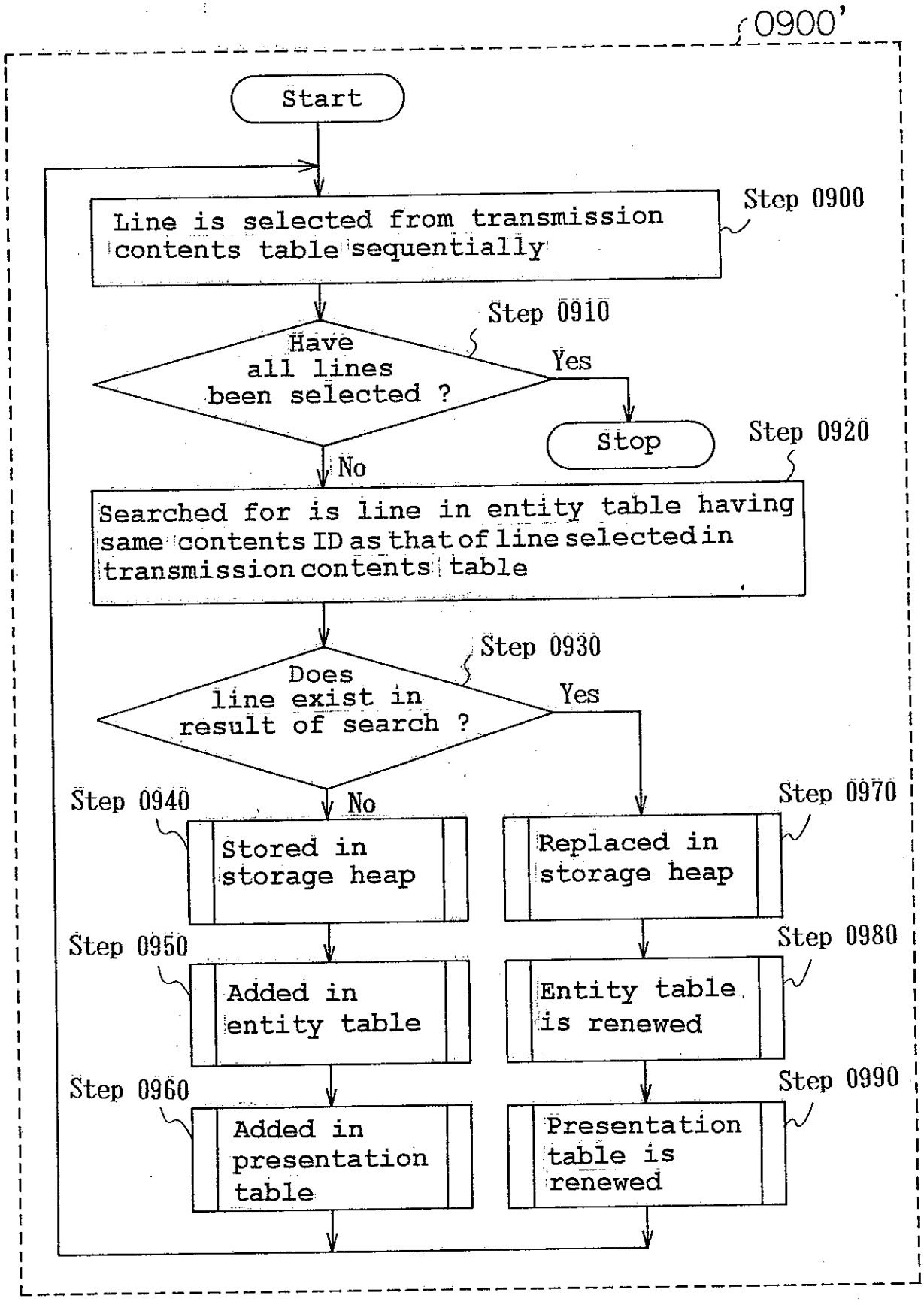
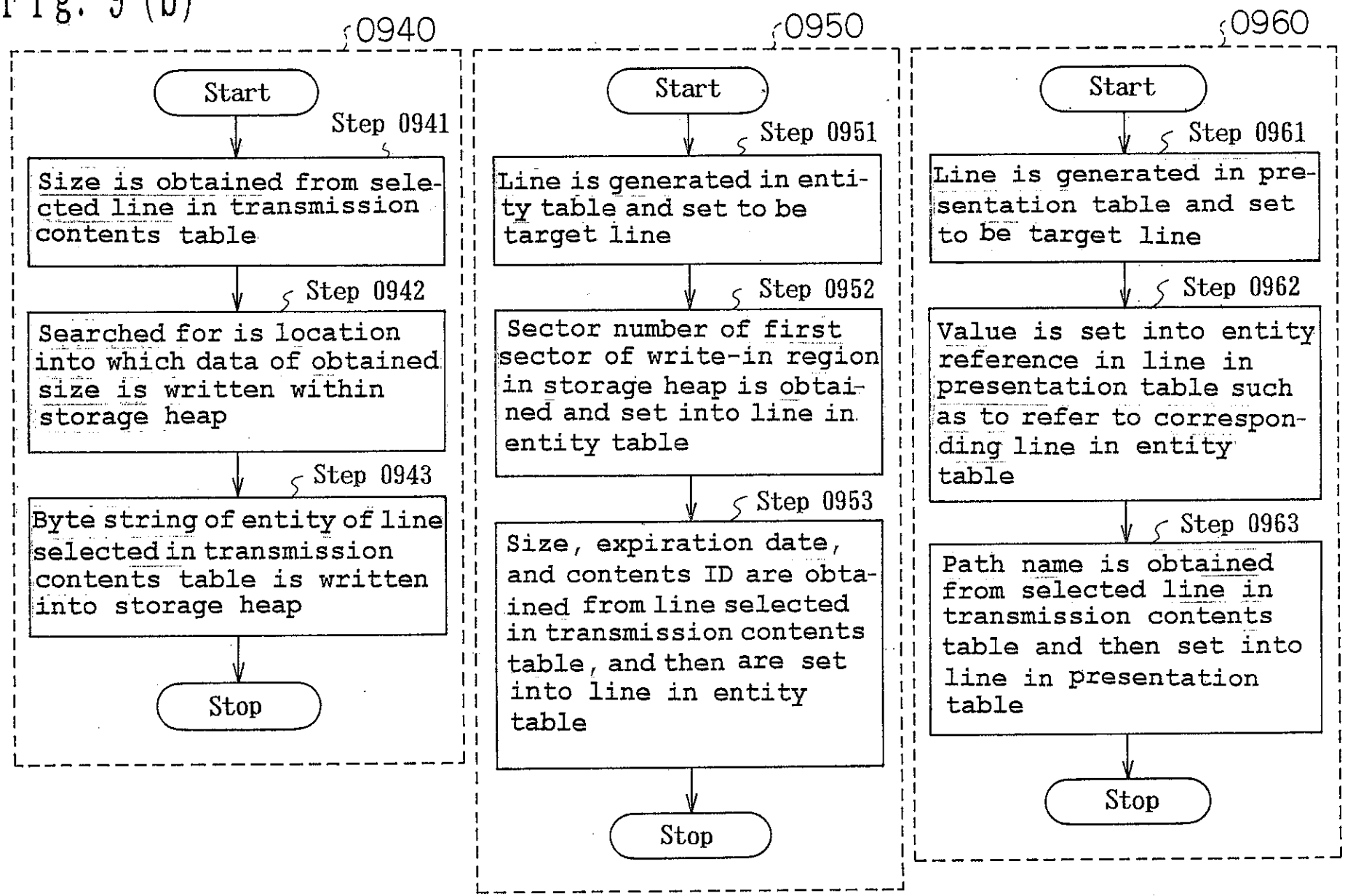
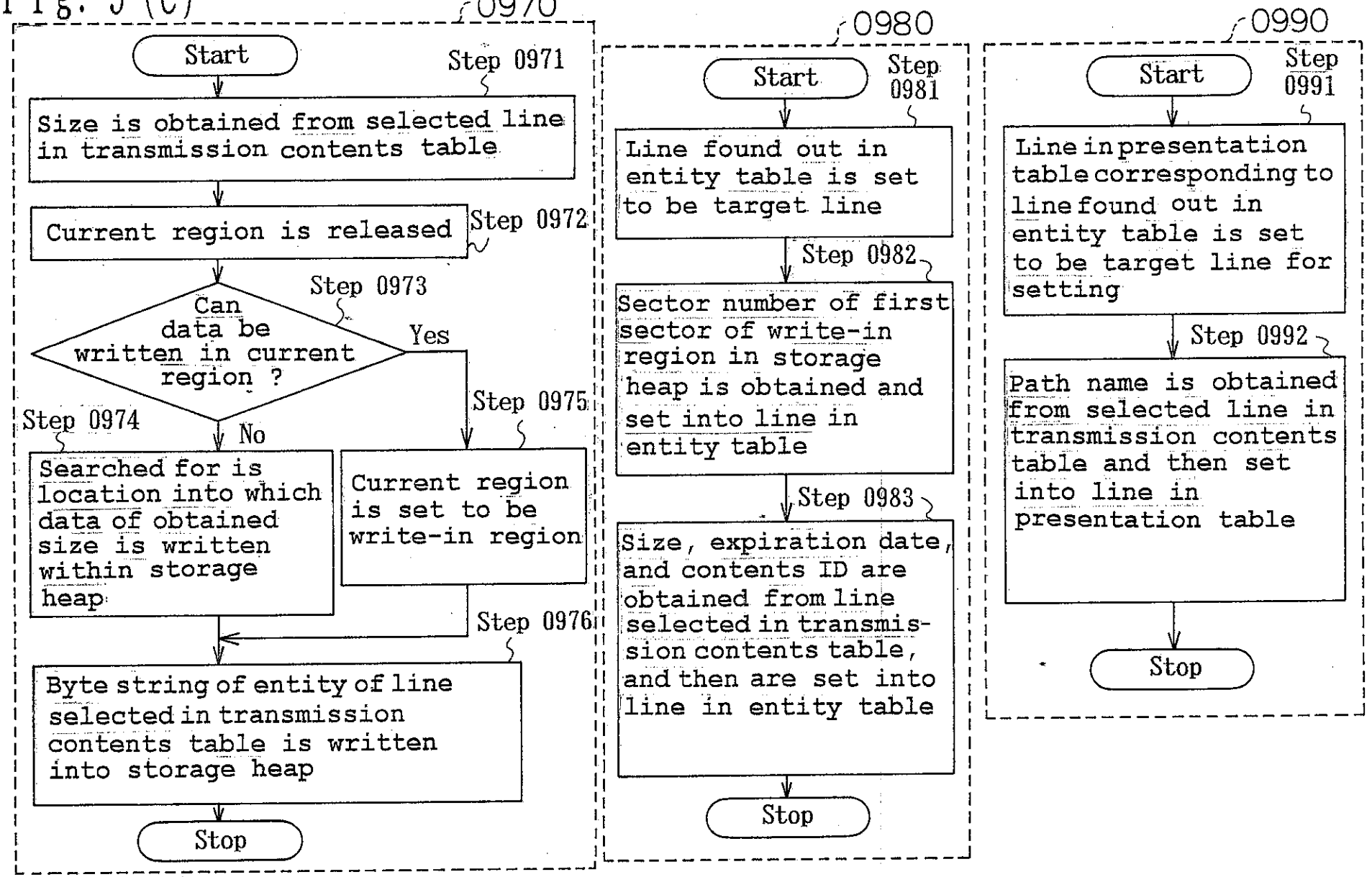

0900'
Start
Line is selected from transmission contents table sequentially
Step 0900
Step 0910
Have all lines been selected ?
Yes
Stop
Step 0920
No
Searched for is line in entity table having same contents ID as that of line selected in transmission contents table
Step 0930
Does line exist in result of search ?
Yes
No
Step 0940
Stored in storage heap
Step 0970
Replaced in storage heap
Step 0950
Added in entity table
Step 0980
Entity table is renewed
Step 0960
Added in presentation table
Step 0990
Presentation table is renewed

Fig. 9 (b)



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Fig. 9 (c)



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Fig. 10

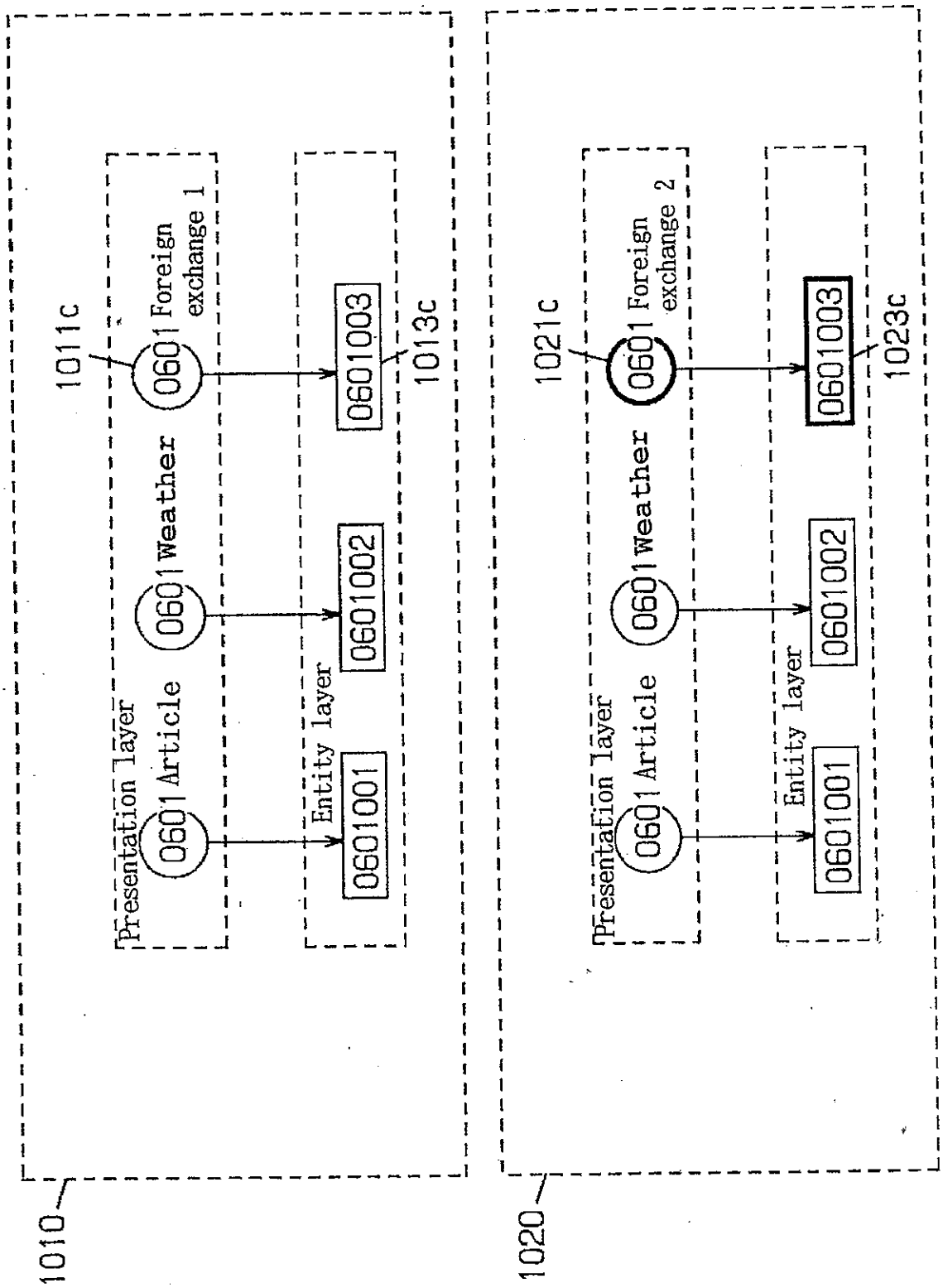

1010
1020
1011c
1013c
1021c
1023c
Presentation layer
Entity layer
0601 Article
0601 Weather
0601 Foreign exchange 1
0601 Foreign exchange 2
0601001
0601002
0601003

Fig. 11

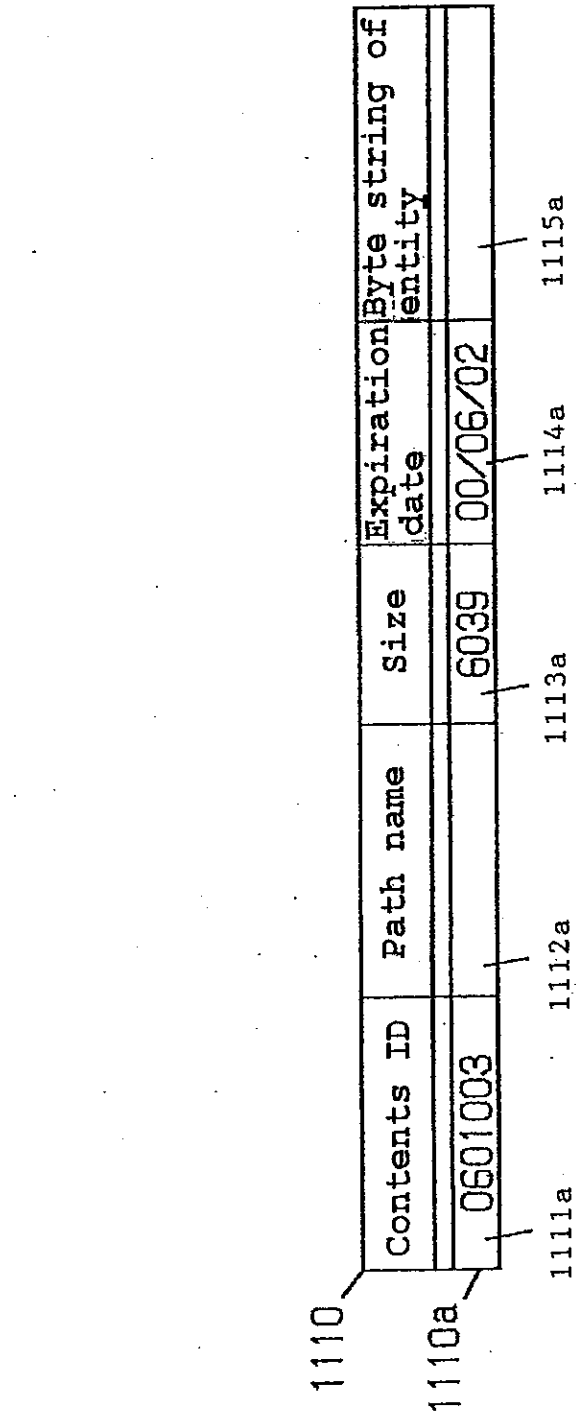
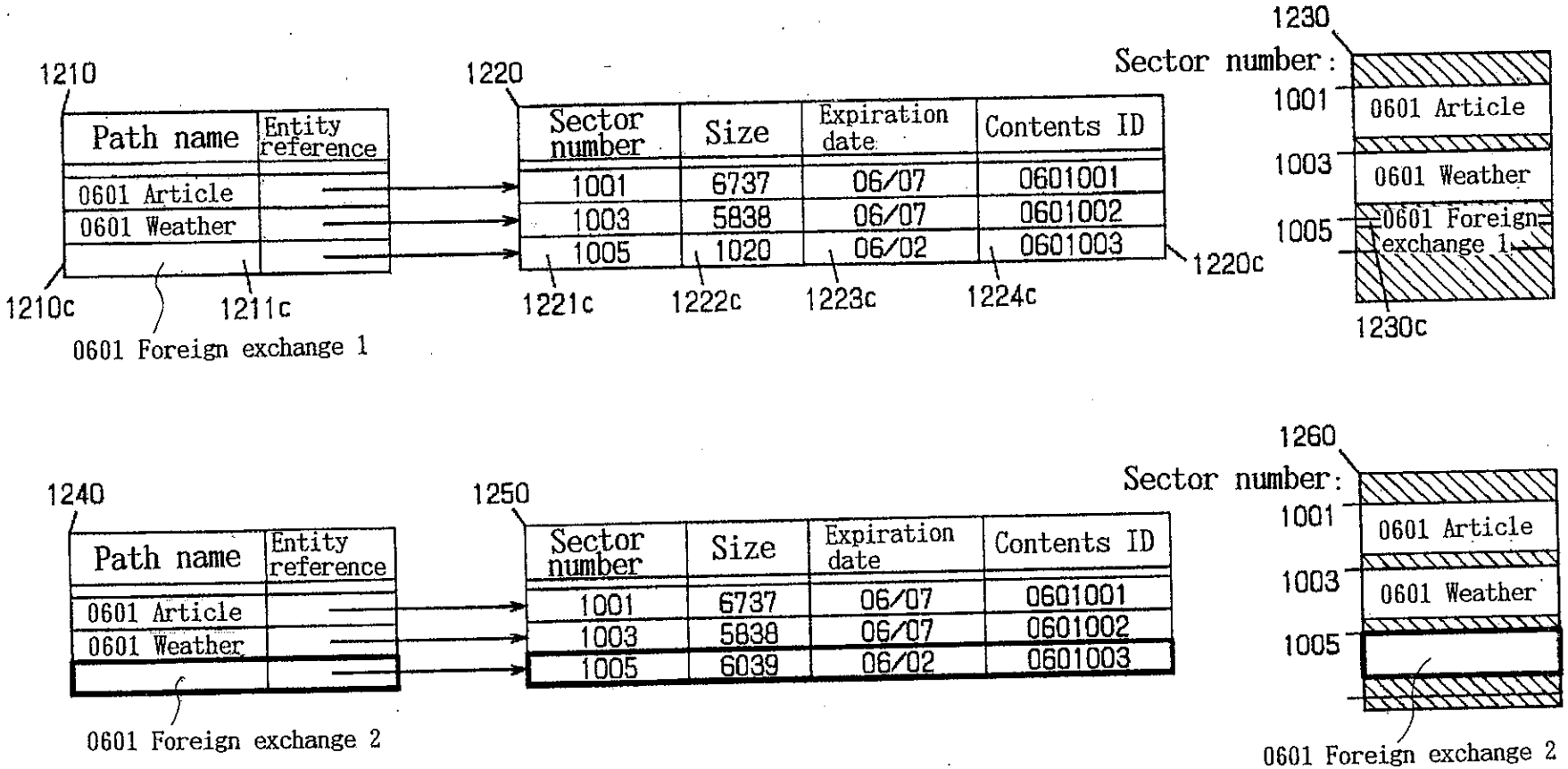

1110
1110a
Contents ID
Path name
Size
Expiration date
Byte string of entity
0601003
6039
00/06/02
1111a
1112a
1113a
1114a
1115a
0601 Foreign exchange 2

Fig. 12



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Fig. 13

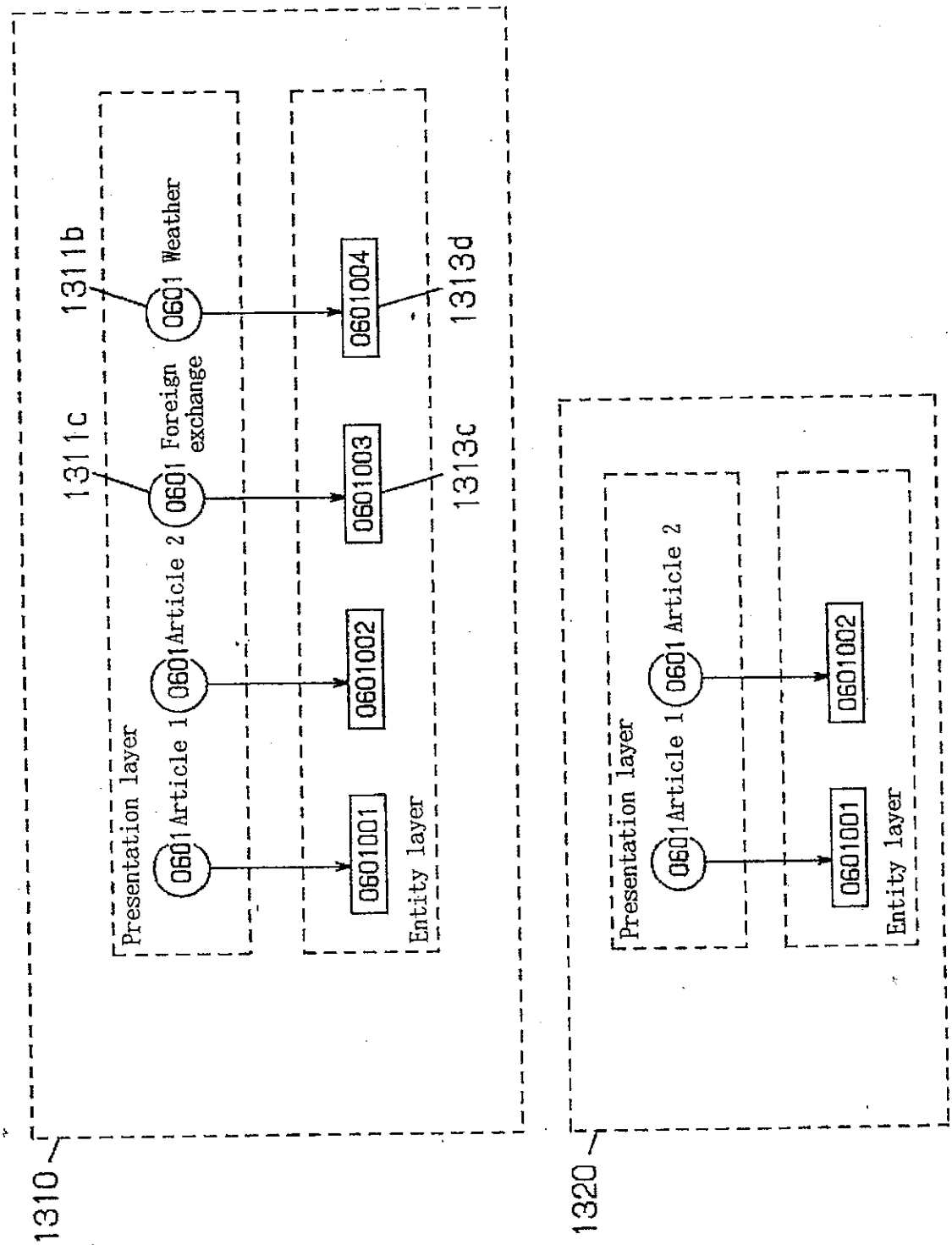

1310
Presentation layer
0601 Article 1
0601 Article 2
0601 Foreign exchange
0601 Weather
Entity layer
0601001
0601002
0601003
0601004
1311b
1311c
1313c
1313d
1320
Presentation layer
0601 Article 1
0601 Article 2
Entity layer
0601001
0601002

Fig. 14

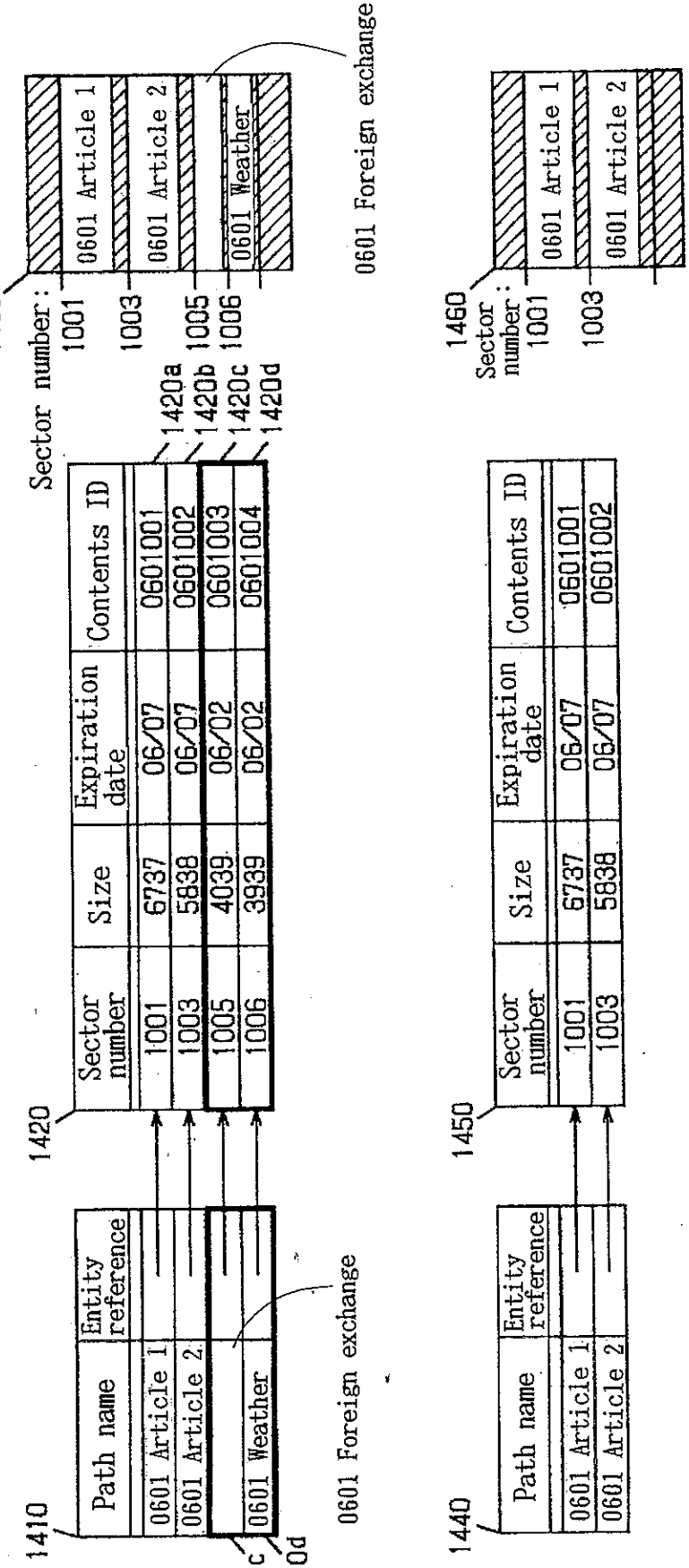

1410
Path name
Entity reference
0601 Article 1
0601 Article 2
0601 Weather
1410c
1410d
0601 Foreign exchange
1420
Sector number
Size
Expiration date
Contents ID
1001
6737
06/07
0601001
1003
5838
06/07
0601002
1005
4039
06/02
0601003
1006
3939
06/02
0601004
1420a
1420b
1420c
1420d
1430
Sector number:
1001
0601 Article 1
1003
0601 Article 2
1005
1006
0601 Weather
0601 Foreign exchange
1440
Path name
Entity reference
0601 Article 1
0601 Article 2
1450
Sector number
Size
Expiration date
Contents ID
1001
6737
06/07
0601001
1003
5838
06/07
0601002
1460
Sector number:
1001
0601 Article 1
1003
0601 Article 2

Fig. 15

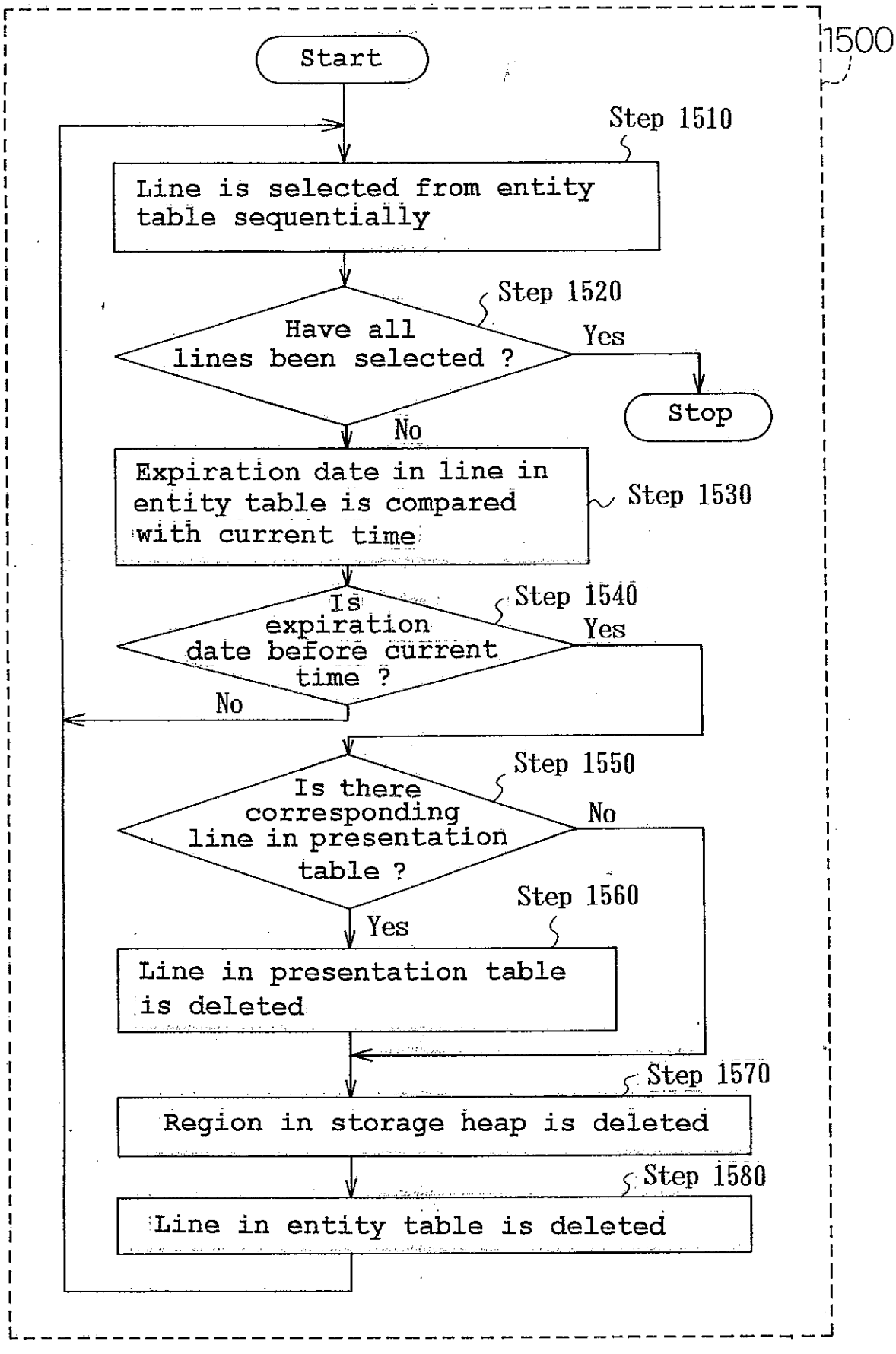
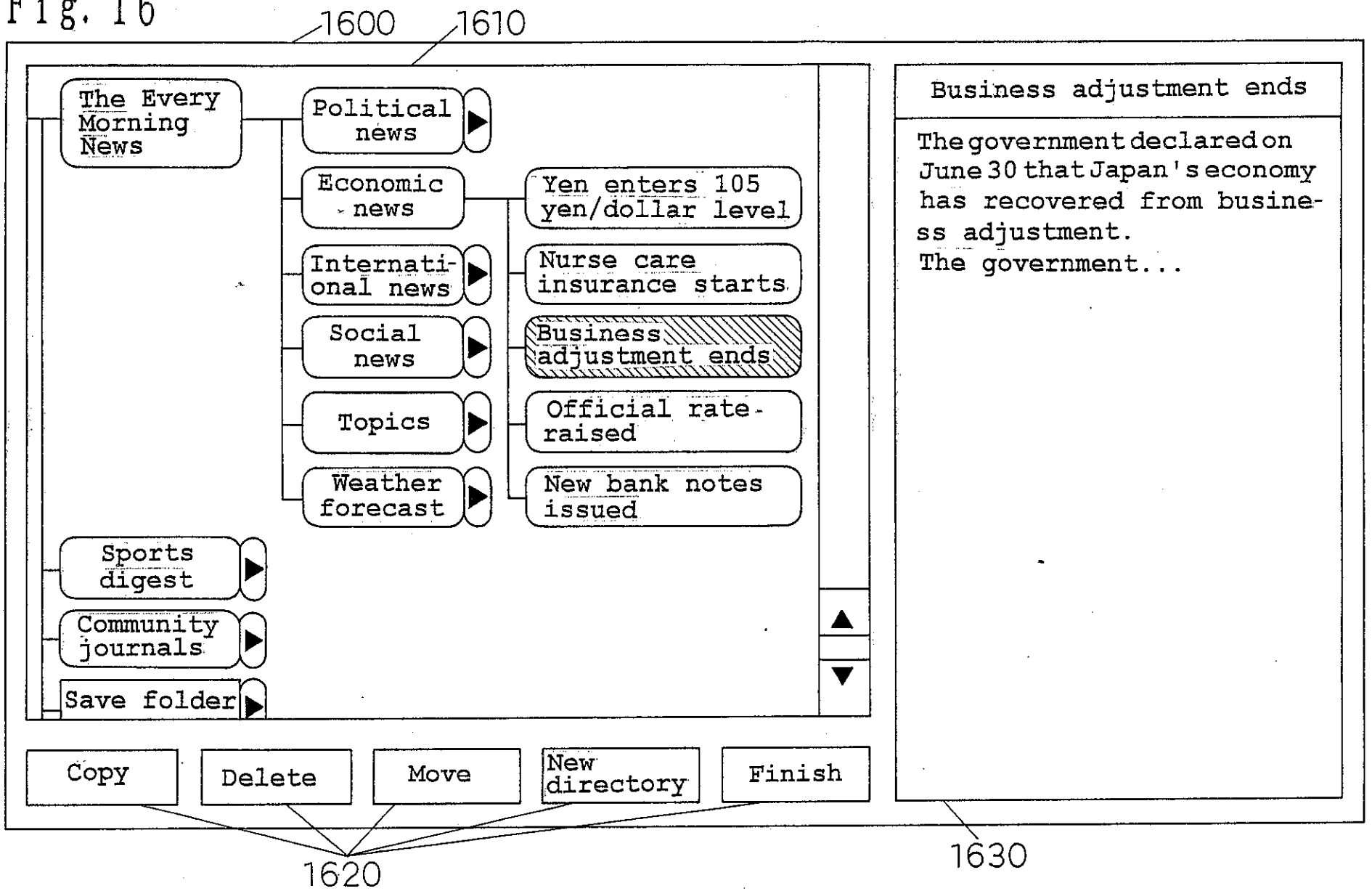

1500
Start
Step 1510
Line is selected from entity table sequentially
Step 1520
Have all lines been selected ?
Yes
Stop
No
Expiration date in line in entity table is compared with current time
Step 1530
Is expiration date before current time ?
Step 1540
Yes
No
Is there corresponding line in presentation table ?
Step 1550
No
Yes
Step 1560
Line in presentation table is deleted
Step 1570
Region in storage heap is deleted
Step 1580
Line in entity table is deleted

Fig. 16



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Fig. 17

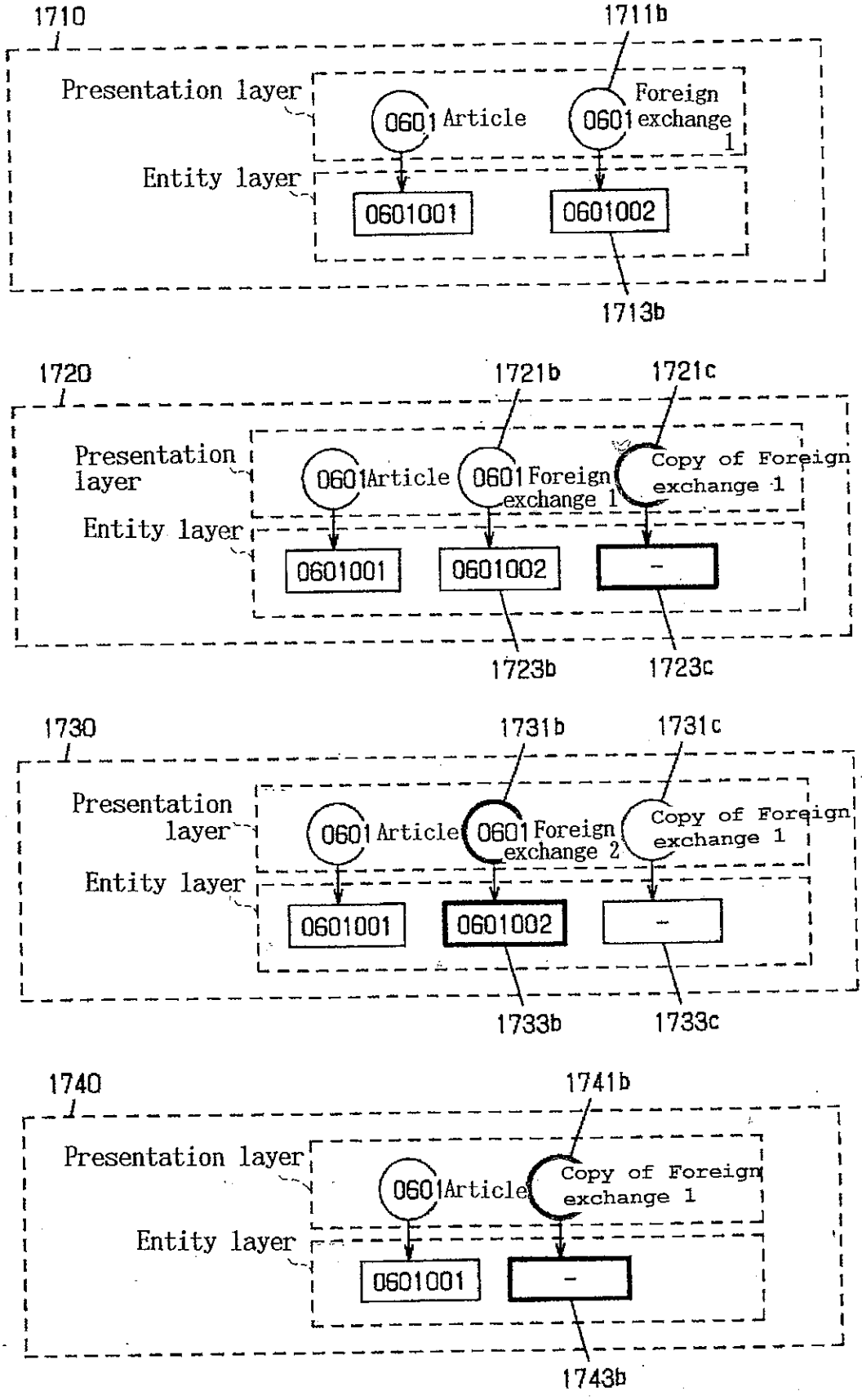
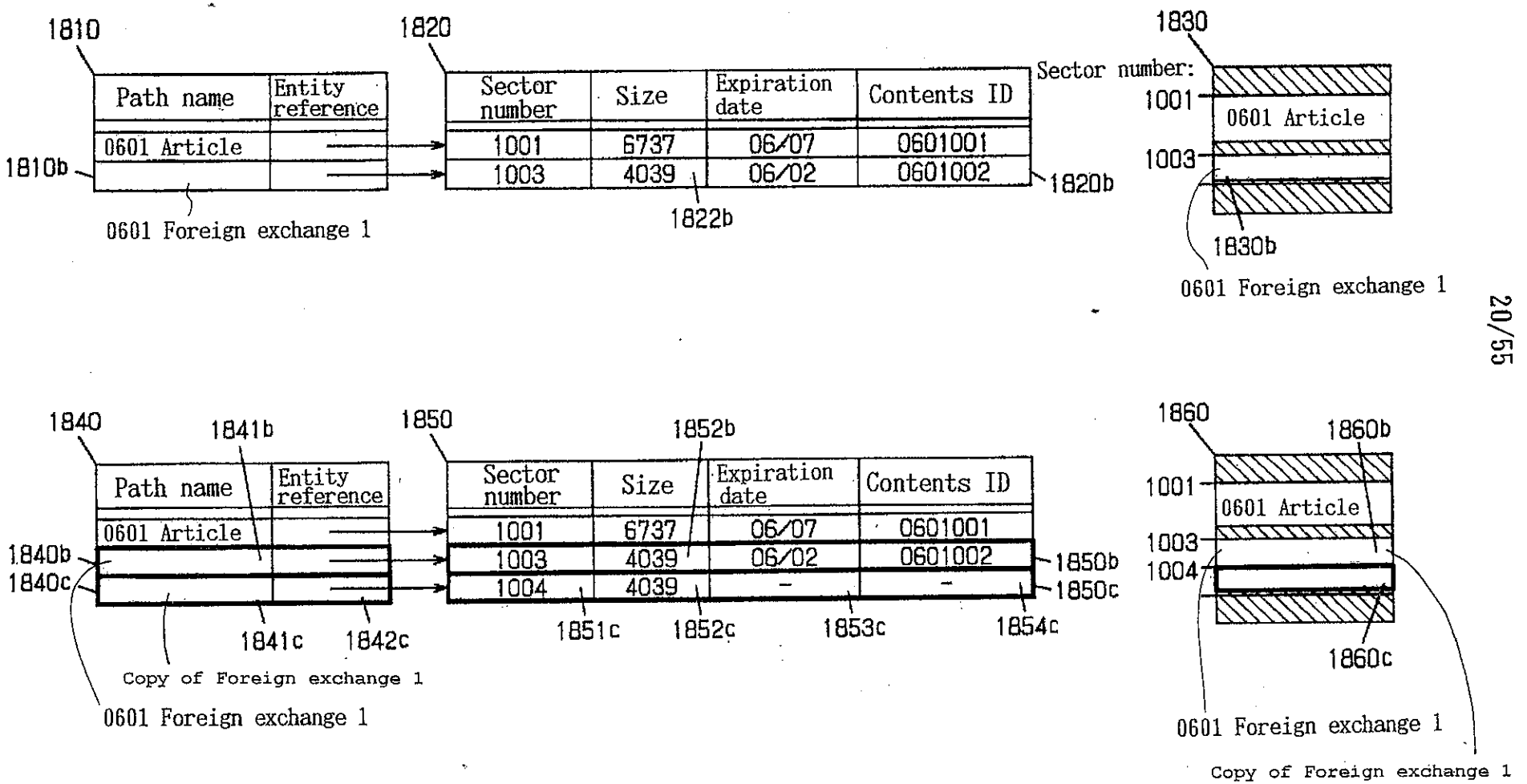

1710
1711b
Presentation layer
0601 Article
0601 Foreign exchange 1
Entity layer
0601001
0601002
1713b
1720
1721b
1721c
Presentation layer
0601 Article
0601 Foreign exchange 1
Copy of Foreign exchange 1
Entity layer
0601001
0601002
-
1723b
1723c
1730
1731b
1731c
Presentation layer
0601 Article
0601 Foreign exchange 2
Copy of Foreign exchange 1
Entity layer
0601001
0601002
-
1733b
1733c
1740
1741b
Presentation layer
0601 Article
Copy of Foreign exchange 1
Entity layer
0601001
-
1743b

Fig. 18



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Fig. 19 (a)

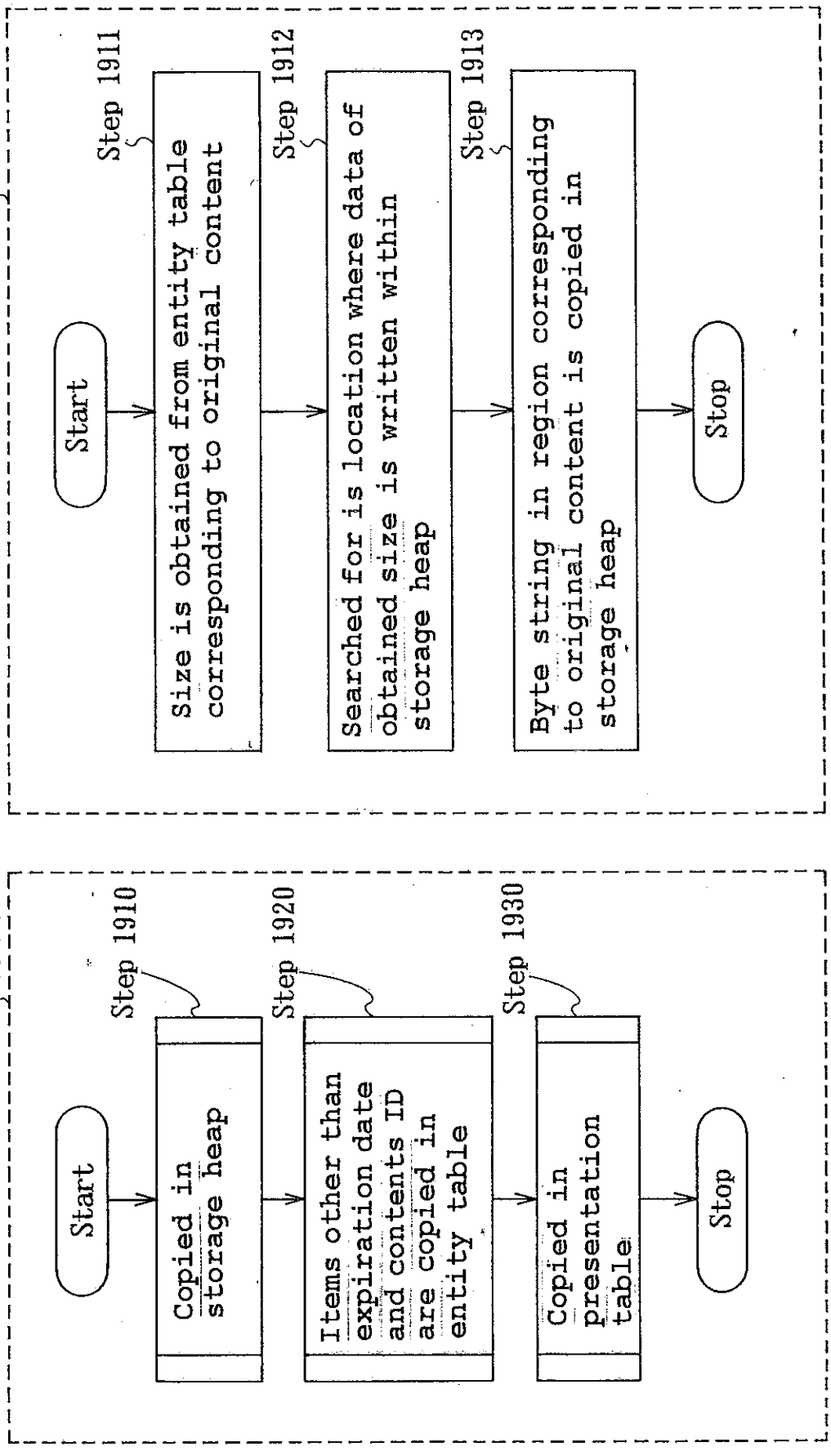
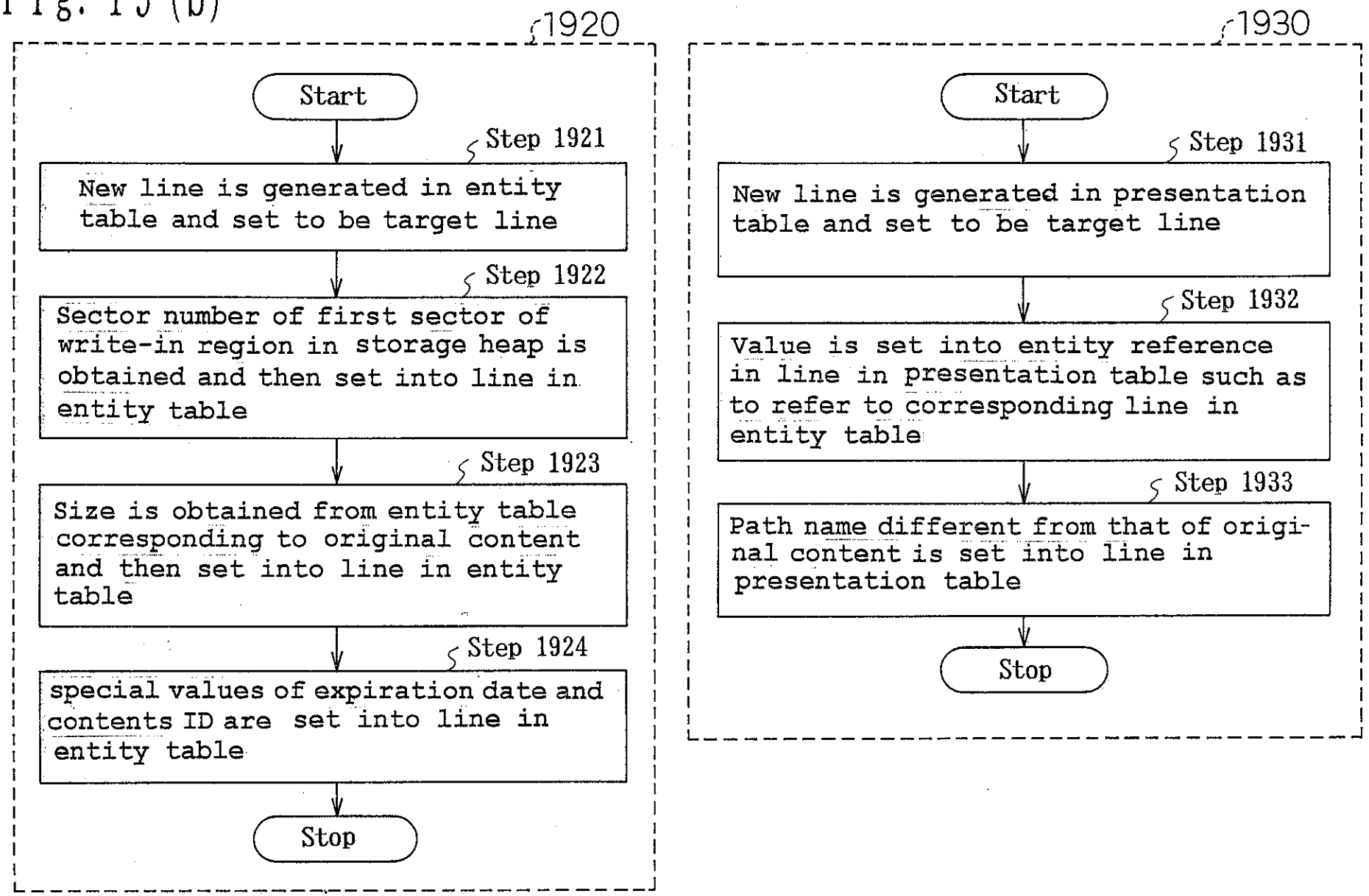
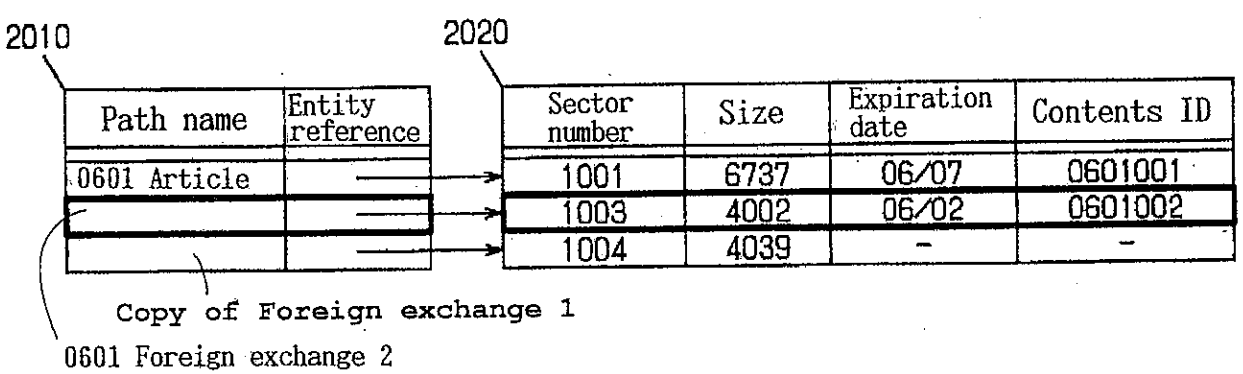

1900
Start
Step 1910
Copied in storage heap
Step 1920
Items other than expiration date and contents ID are copied in entity table
Step 1930
Copied in presentation table
Stop
1910
Start
Step 1911
Size is obtained from entity table corresponding to original content
Step 1912
Searched for is location where data of obtained size is written within storage heap
Step 1913
Byte string in region corresponding to original content is copied in storage heap
Stop

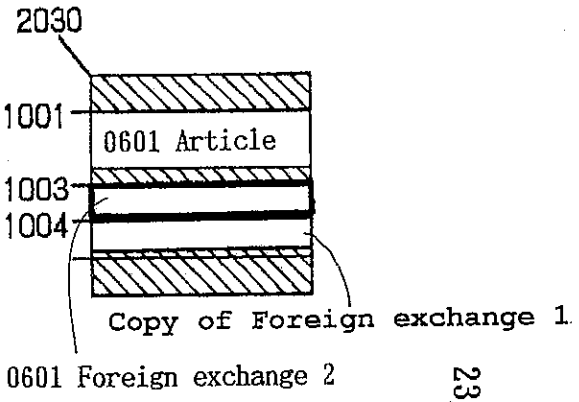
Fig. 19 (b)

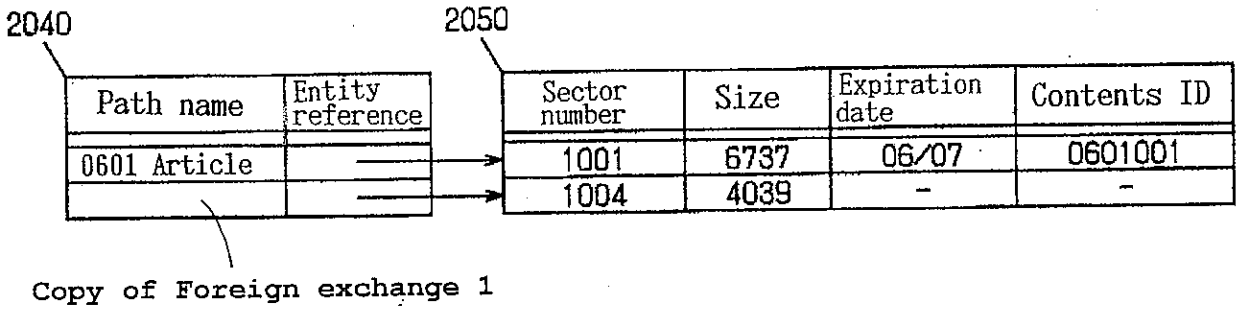


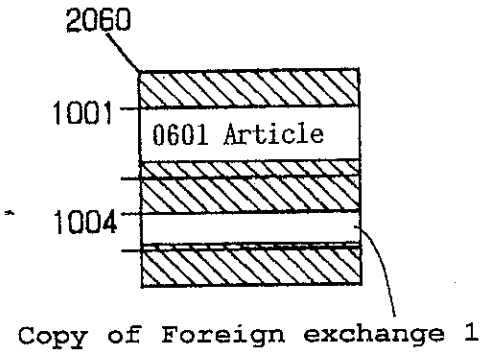
09 JUN 2004

Fig. 20



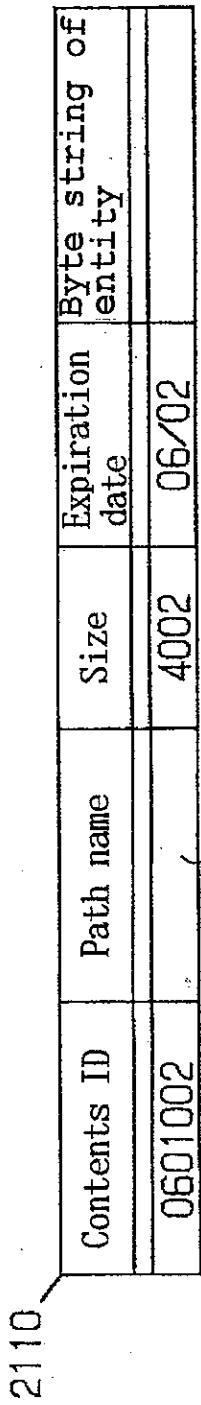






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Fig. 21


2110
Contents ID
Path name
Size
Expiration date
Byte string of entity
0601002
4002
06/02
0601 Foreign exchange 2

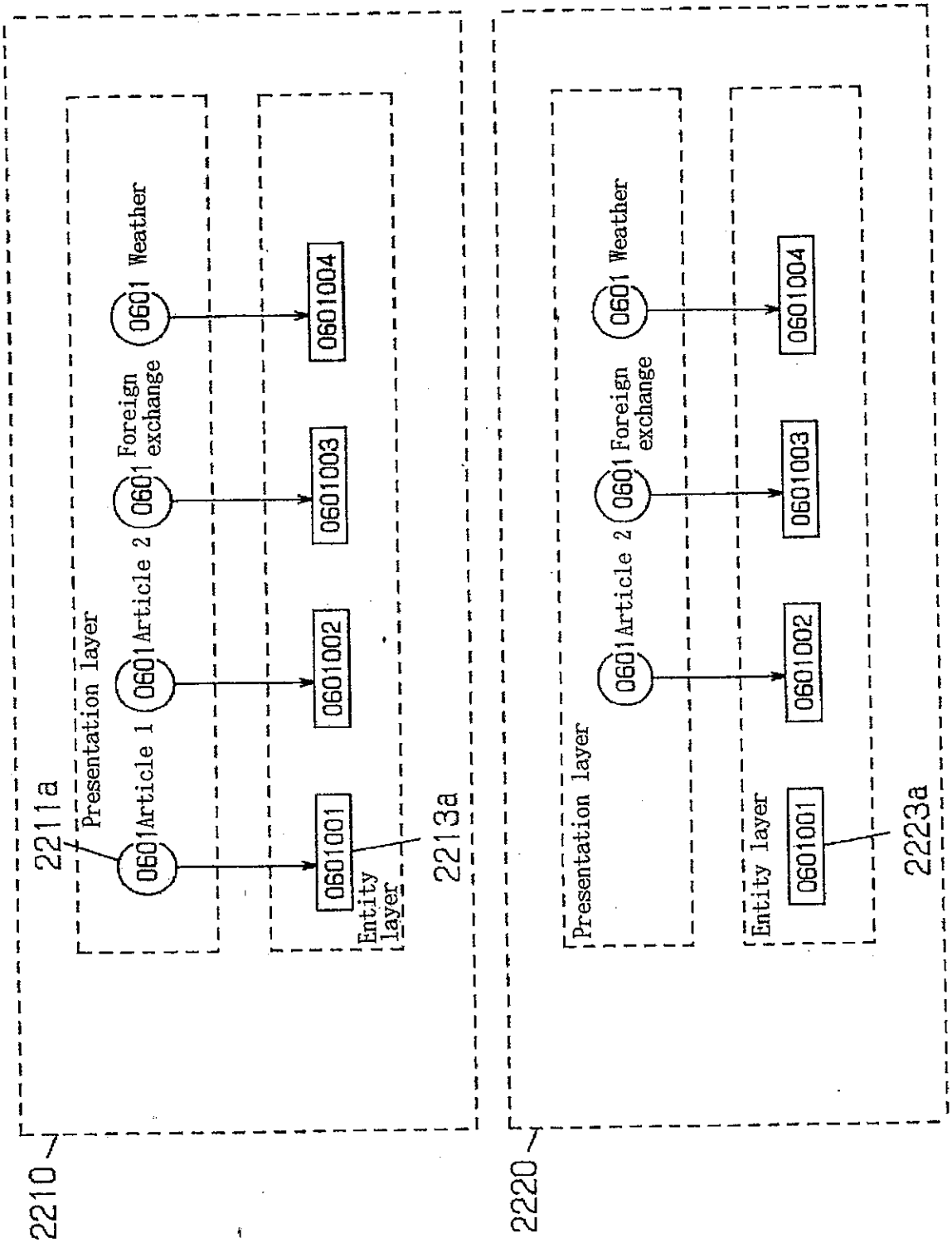

2210
2211a
Presentation layer
0601 Article 1
0601 Article 2
0601 Foreign exchange
0601 Weather
0601001
0601002
0601003
0601004
Entity layer
2213a
2220
2223a
Presentation layer
Entity layer

Fig. 22

Fig. 23

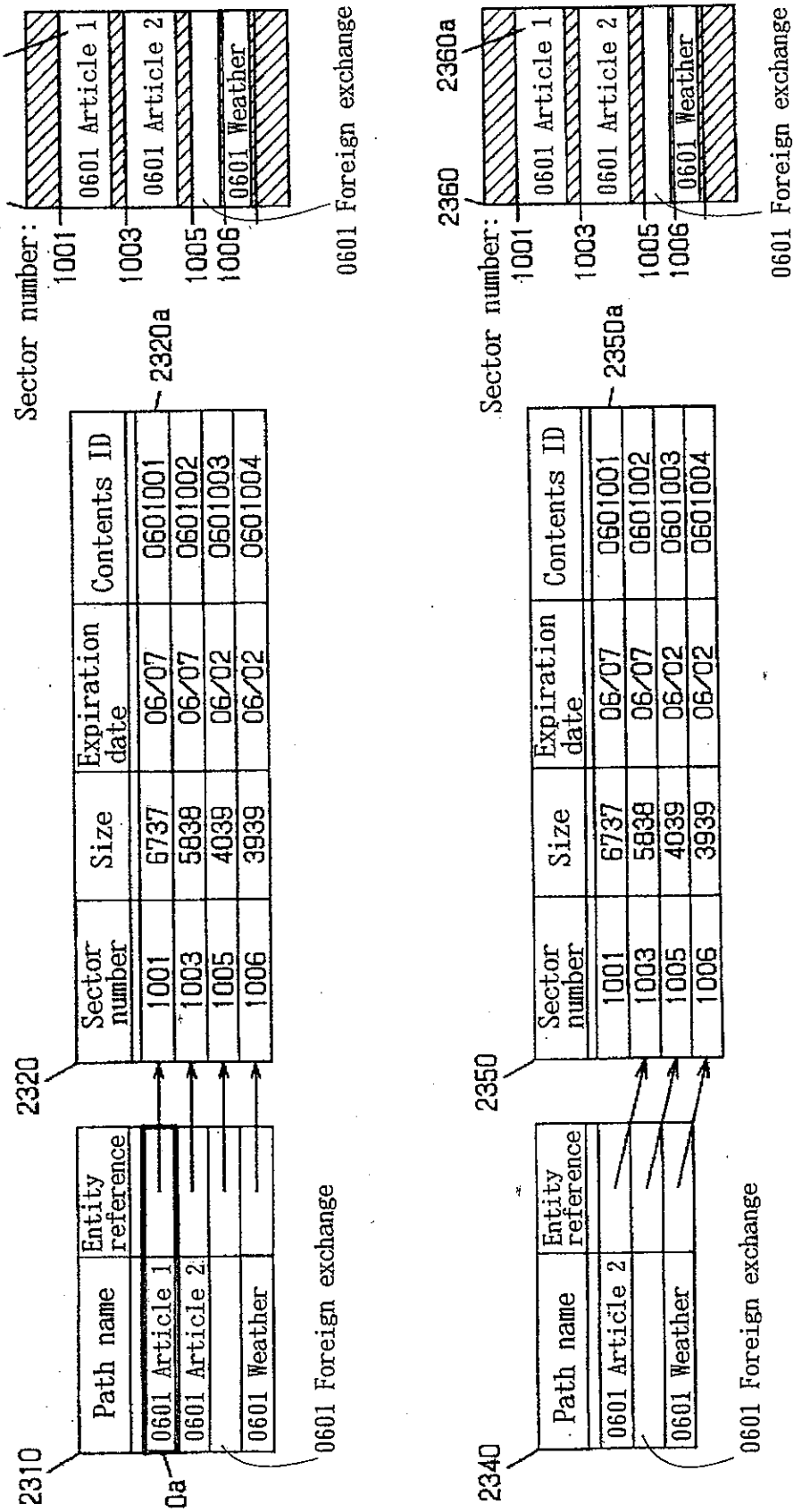

2310
2310a
Path name
Entity reference
0601 Article 1
0601 Article 2
0601 Weather
0601 Foreign exchange
2320
2320a
Sector number
Size
Expiration date
Contents ID
1001
6737
06/07
0601001
1003
5838
06/07
0601002
1005
4039
06/02
0601003
1006
3939
06/02
0601004
2330
2330a
Sector number:
1001
1003
1005
1006
0601 Article 1
0601 Article 2
0601 Weather
0601 Foreign exchange
2340
2350
2350a
2360
2360a

Fig. 24

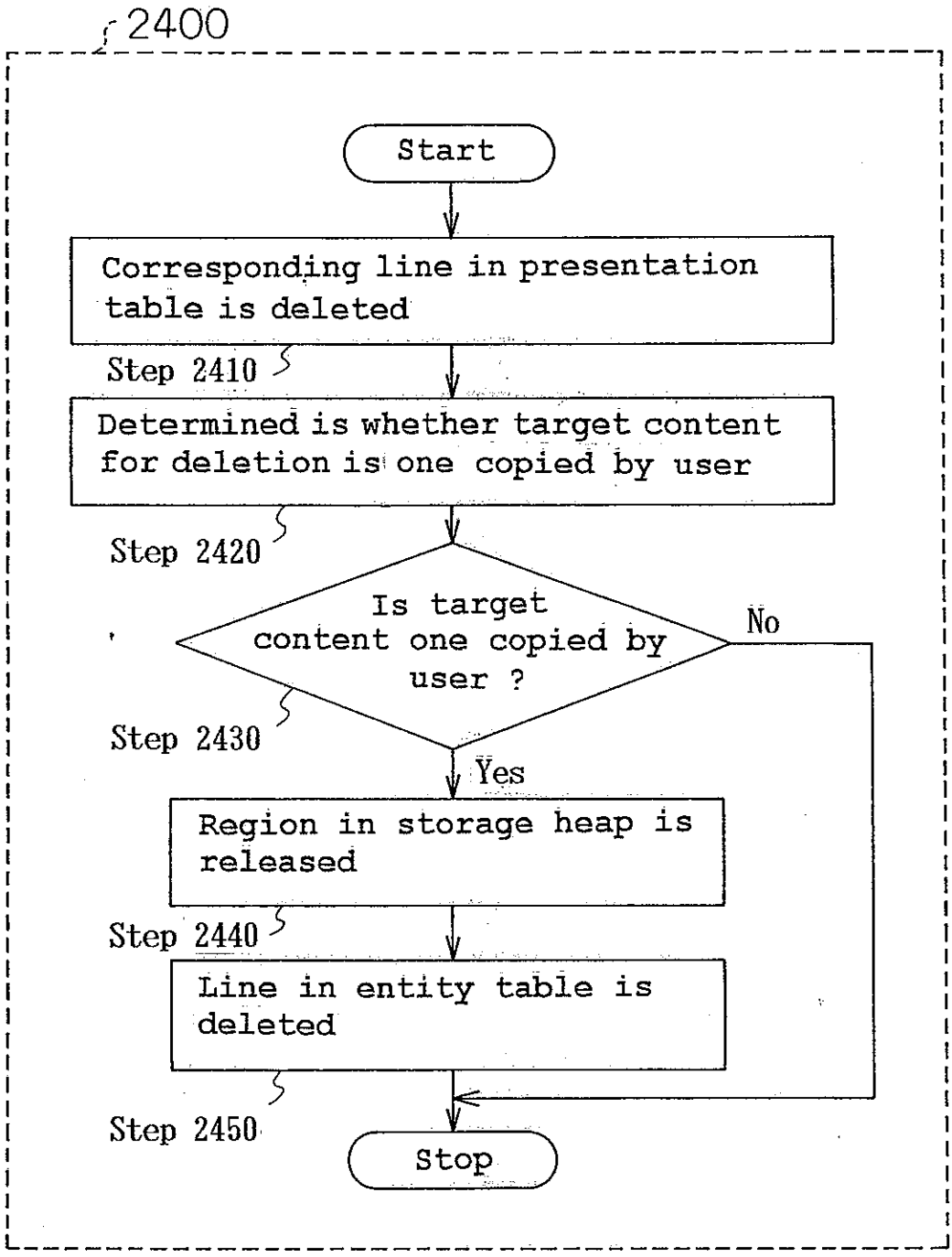

2400
Start
Corresponding line in presentation table is deleted
Step 2410
Determined is whether target content for deletion is one copied by user
Step 2420
Is target content one copied by user ?
No
Step 2430
Yes
Region in storage heap is released
Step 2440
Line in entity table is deleted
Step 2450
Stop

Fig. 25

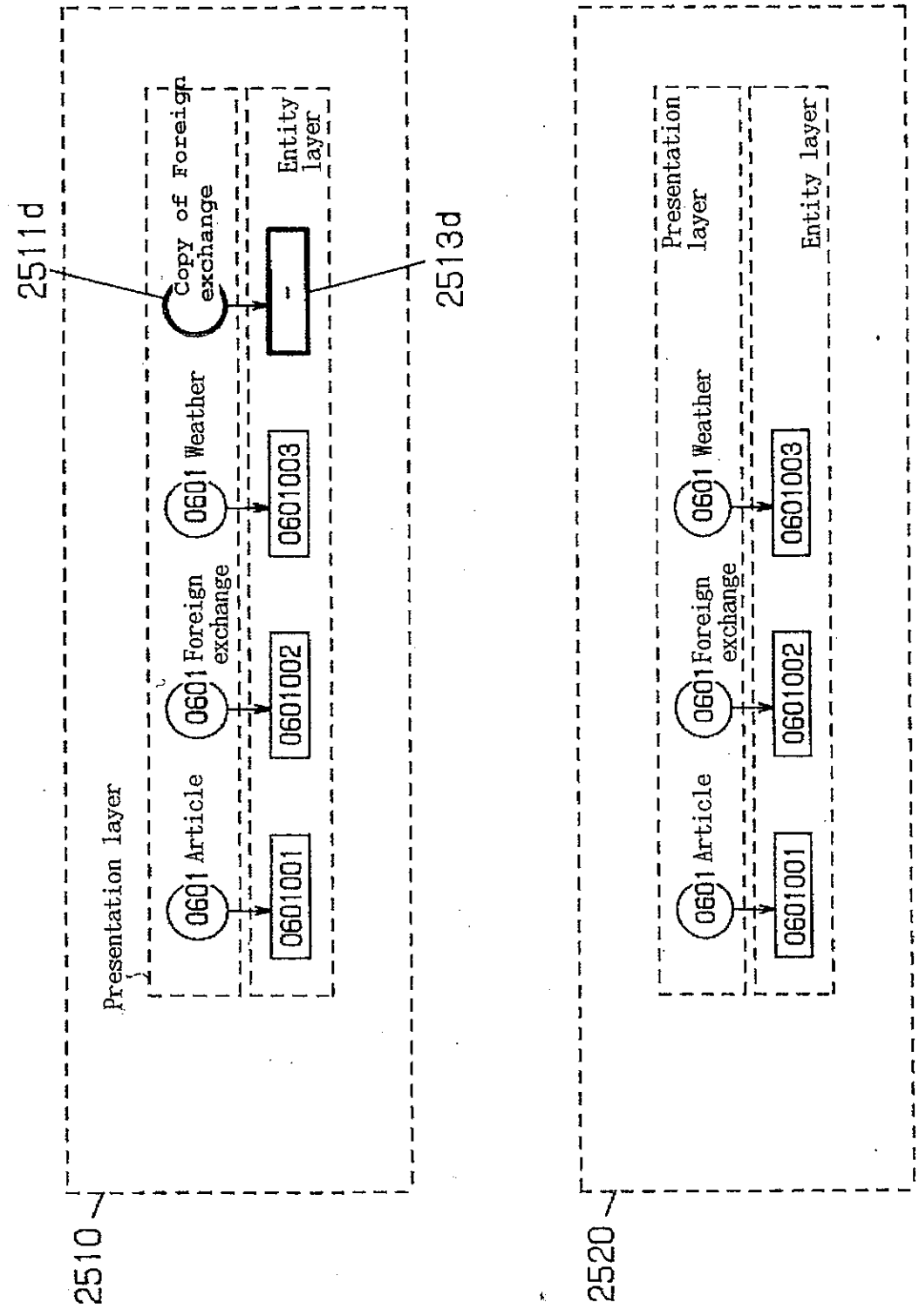
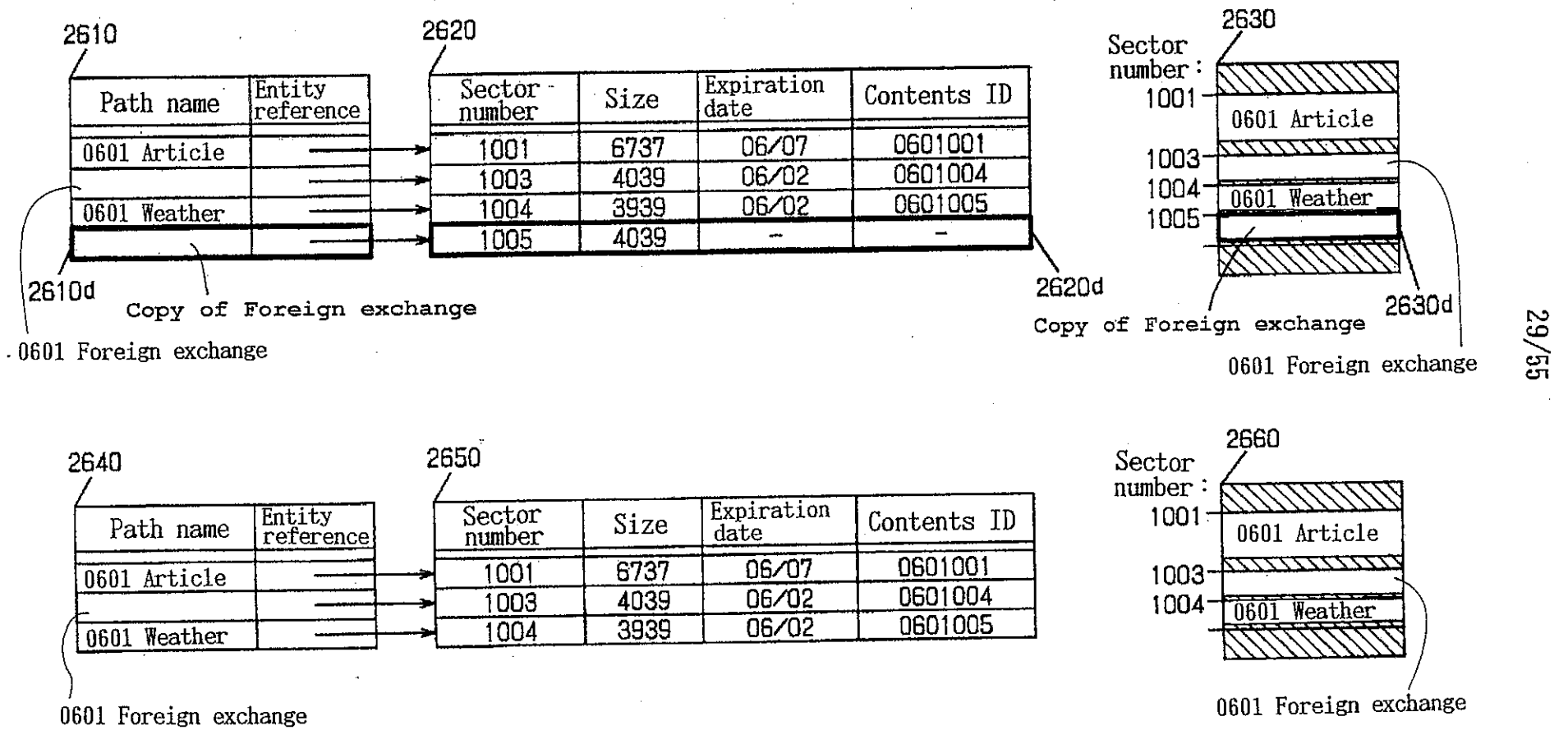

2510
2511d
2513d
Presentation layer
0601 Article
0601 Foreign exchange
0601 Weather
Copy of Foreign exchange
Entity layer
0601001
0601002
0601003
2520
Presentation layer
Entity layer

Fig. 26



09 JUN 2004

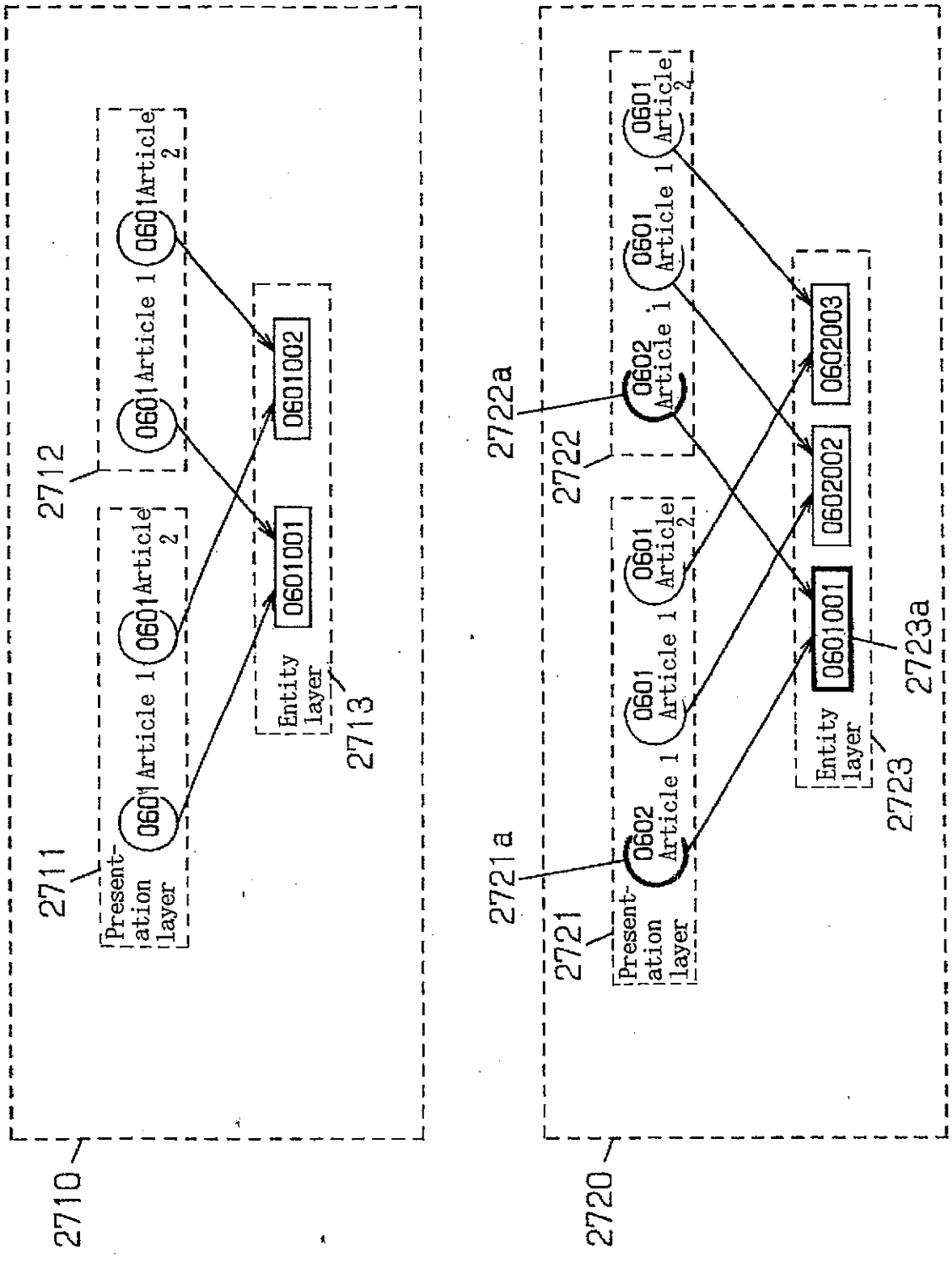

2710
2711
Present-
ation
layer
0601
Article 1
0601
Article
2
2712
0601
Article 1
0601
Article
2
Entity
layer
0601001
0601002
2713
2720
2721a
2721
Present-
ation
layer
0602
Article 1
0601
Article 1
0601
Article
2
2722a
2722
0602
Article 1
0601
Article 1
0601
Article
2
Entity
layer
0601001
0602002
0602003
2723
2723a

Fig. 27

Fig. 28

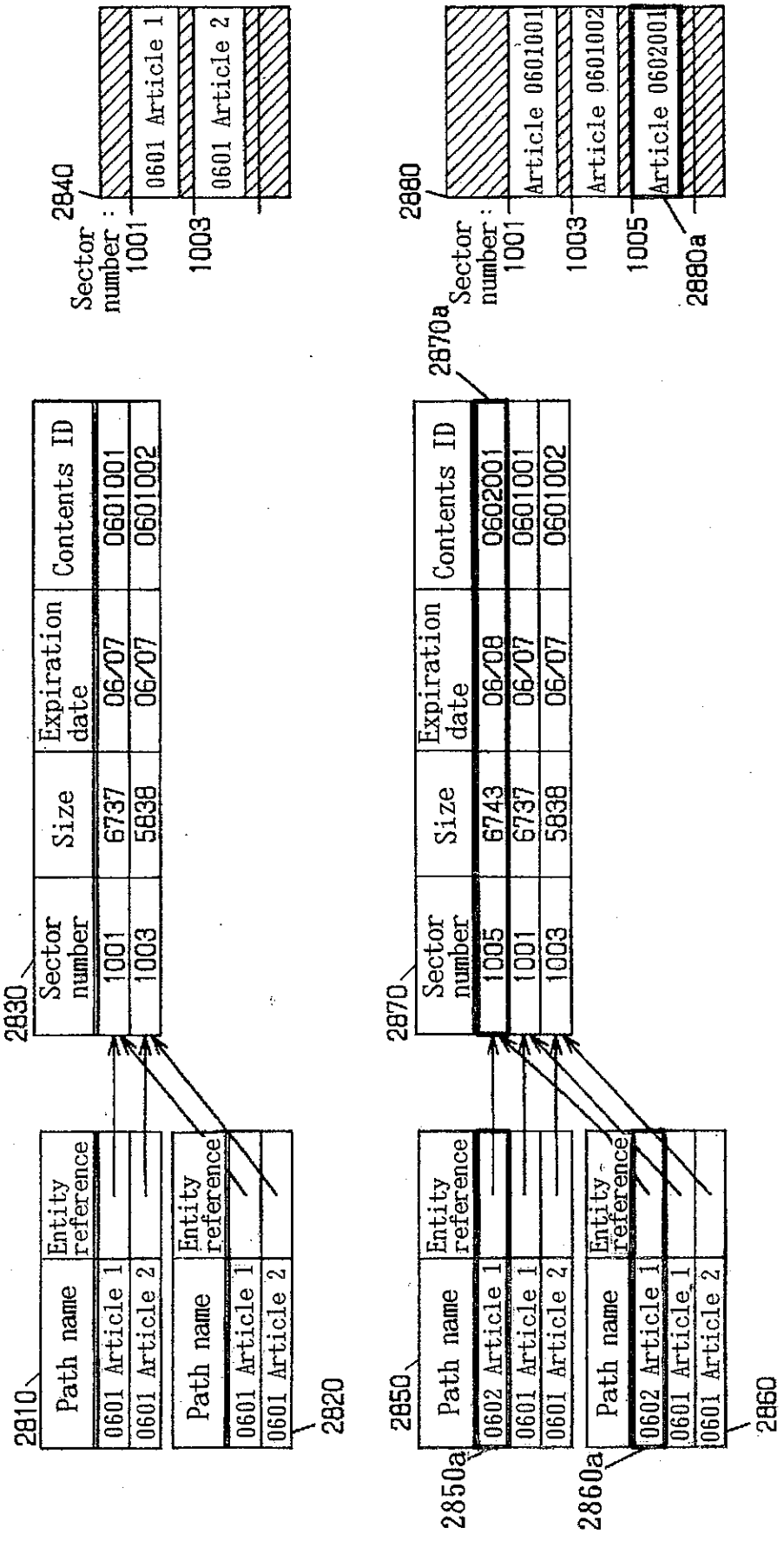

2810
Path name
Entity reference
0601 Article 1
0601 Article 2
2820
Path name
Entity reference
0601 Article 1
0601 Article 2
2830
Sector number
Size
Expiration date
Contents ID
1001
6737
06/07
0601001
1003
5838
06/07
0601002
2840
Sector number :
1001
0601 Article 1
1003
0601 Article 2
2850
Path name
Entity reference
0602 Article 1
0601 Article 1
0601 Article 2
2850a
2860
Path name
Entity reference
0602 Article 1
0601 Article 1
0601 Article 2
2860a
2870
Sector number
Size
Expiration date
Contents ID
1005
6743
06/08
0602001
1001
6737
06/07
0601001
1003
5838
06/07
0601002
2870a
2880
Sector number :
1001
Article 0601001
1003
Article 0601002
1005
Article 0602001
2880a

Fig. 29

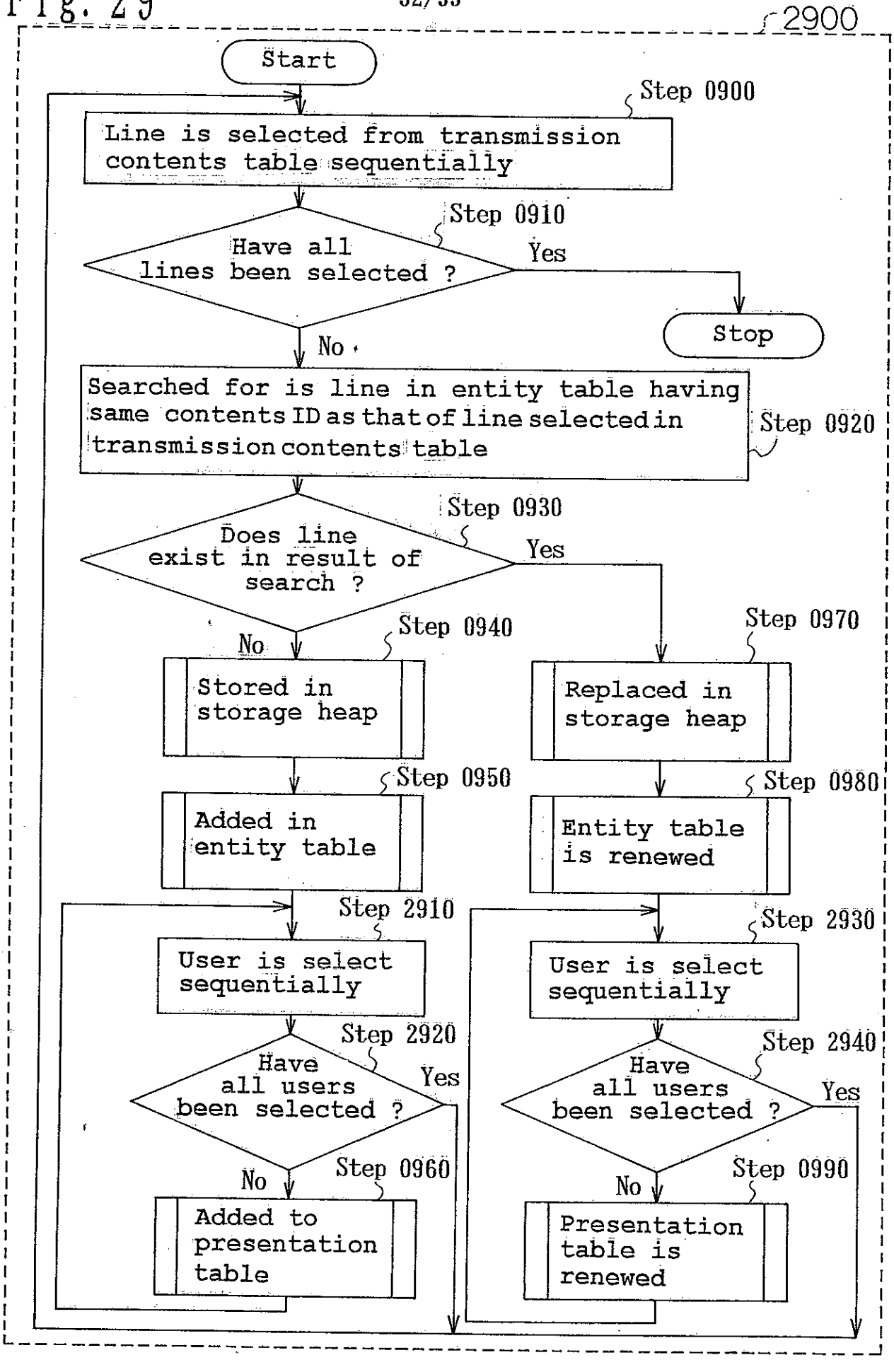

2900
Start
Step 0900
Line is selected from transmission contents table sequentially
Step 0910
Have all lines been selected ?
Yes
Stop
No
Searched for is line in entity table having same contents ID as that of line selected in transmission contents table
Step 0920
Step 0930
Does line exist in result of search ?
Yes
No
Step 0940
Stored in storage heap
Step 0970
Replaced in storage heap
Step 0950
Added in entity table
Step 0980
Entity table is renewed
Step 2910
User is select sequentially
Step 2930
User is select sequentially
Step 2920
Have all users been selected ?
Yes
Step 2940
Have all users been selected ?
Yes
No
Step 0960
Added to presentation table
No
Step 0990
Presentation table is renewed

Fig. 30

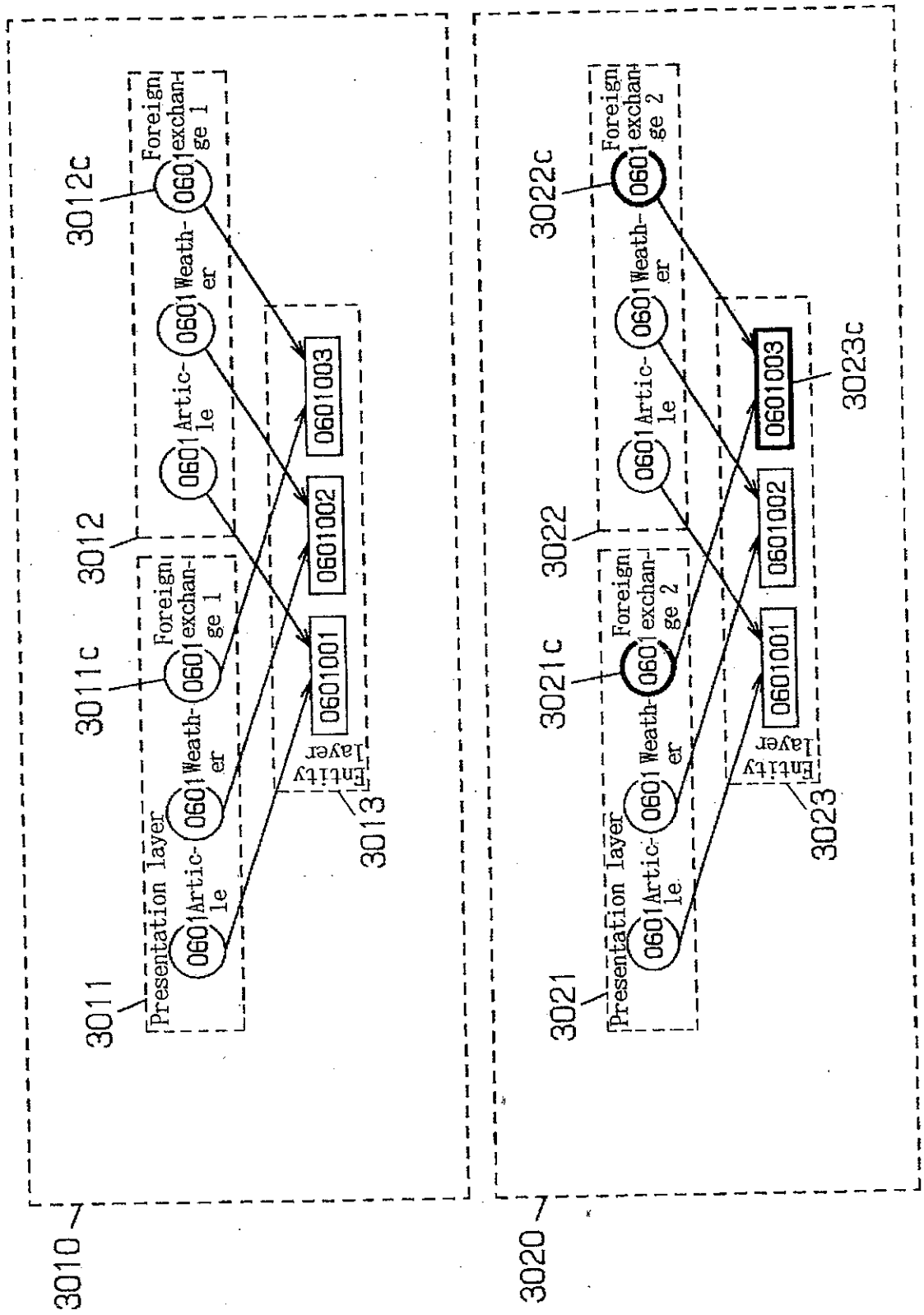

3010
3020
3011
3012
3013
3021
3022
3023
3011c
3012c
3021c
3022c
3023c
Presentation layer
Entity layer
Foreign exchange 1
Weather
Article
Foreign exchange 2
0601001
0601002
0601003

Fig. 31

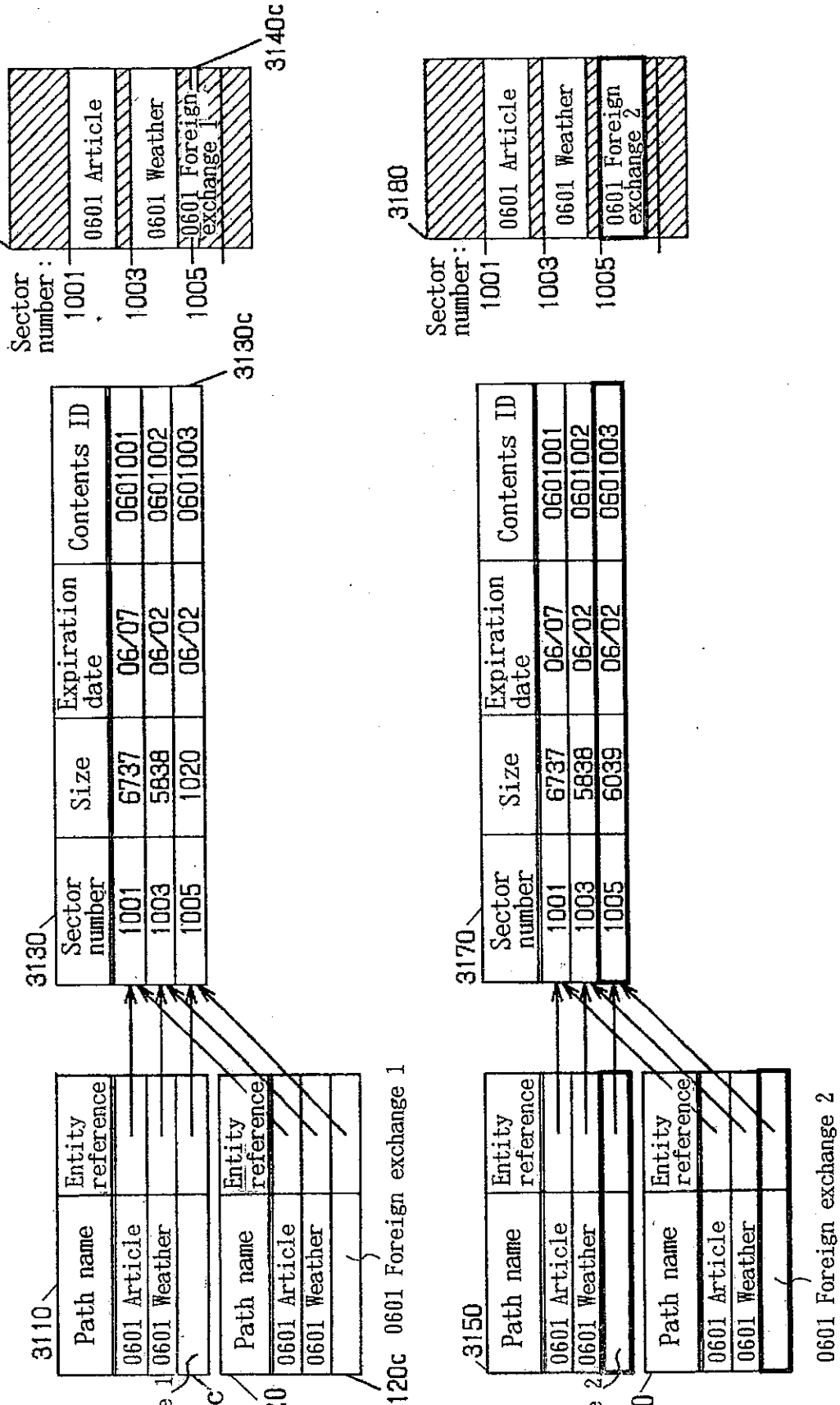

3110
Path name
Entity reference
0601 Article
0601 Weather
0601 Foreign exchange 1
3110c
3120
Path name
Entity reference
0601 Article
0601 Weather
3120c 0601 Foreign exchange 1
3130
Sector number
Size
Expiration date
Contents ID
1001
6737
06/07
0601001
1003
5838
06/02
0601002
1005
1020
06/02
0601003
3130c
3140
Sector number :
1001
0601 Article
1003
0601 Weather
1005
0601 Foreign exchange 1
3140c
3150
Path name
Entity reference
0601 Article
0601 Weather
0601 Foreign exchange 2
3160
Path name
Entity reference
0601 Article
0601 Weather
0601 Foreign exchange 2
3170
Sector number
Size
Expiration date
Contents ID
1001
6737
06/07
0601001
1003
5838
06/02
0601002
1005
6039
06/02
0601003
3180
Sector number :
1001
0601 Article
1003
0601 Weather
1005
0601 Foreign exchange 2

Fig. 32

Contents ID	Path name	Size	Expiration date	Byte string of entity
0601003		6039	00/06/02	

0601 Foreign exchange 2

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Fig. 33

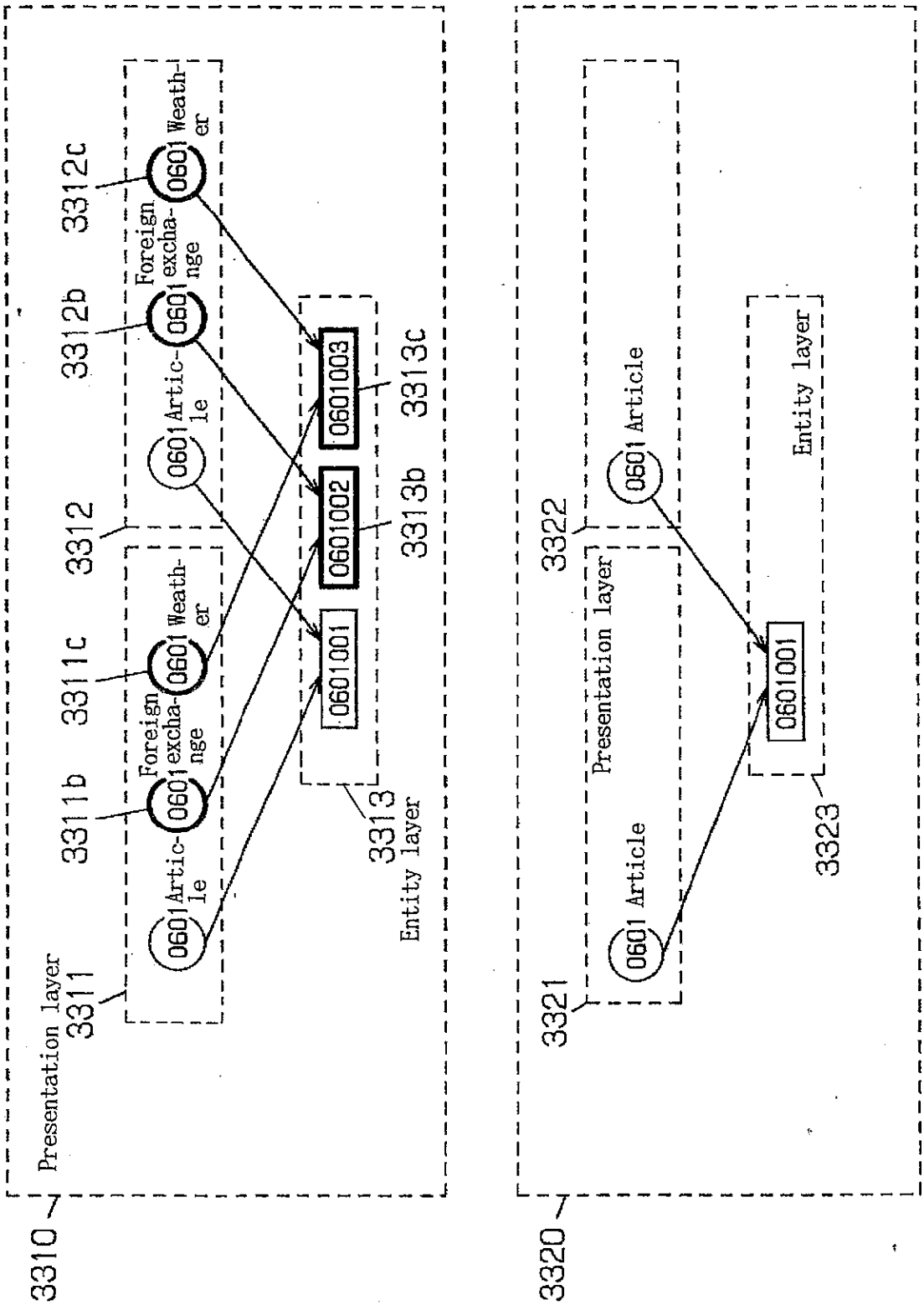

3310
Presentation layer
3311
3311b
0601 Artic-le
3311c
0601 Foreign excha-nge
3312
0601 Weath-er
3312b
0601 Artic-le
3312c
0601 Foreign excha-nge
0601 Weath-er
3313
Entity layer
0601001
0601002
0601003
3313b
3313c
3320
3321
Presentation layer
0601 Article
3322
0601 Article
3323
Entity layer
0601001

Fig. 34

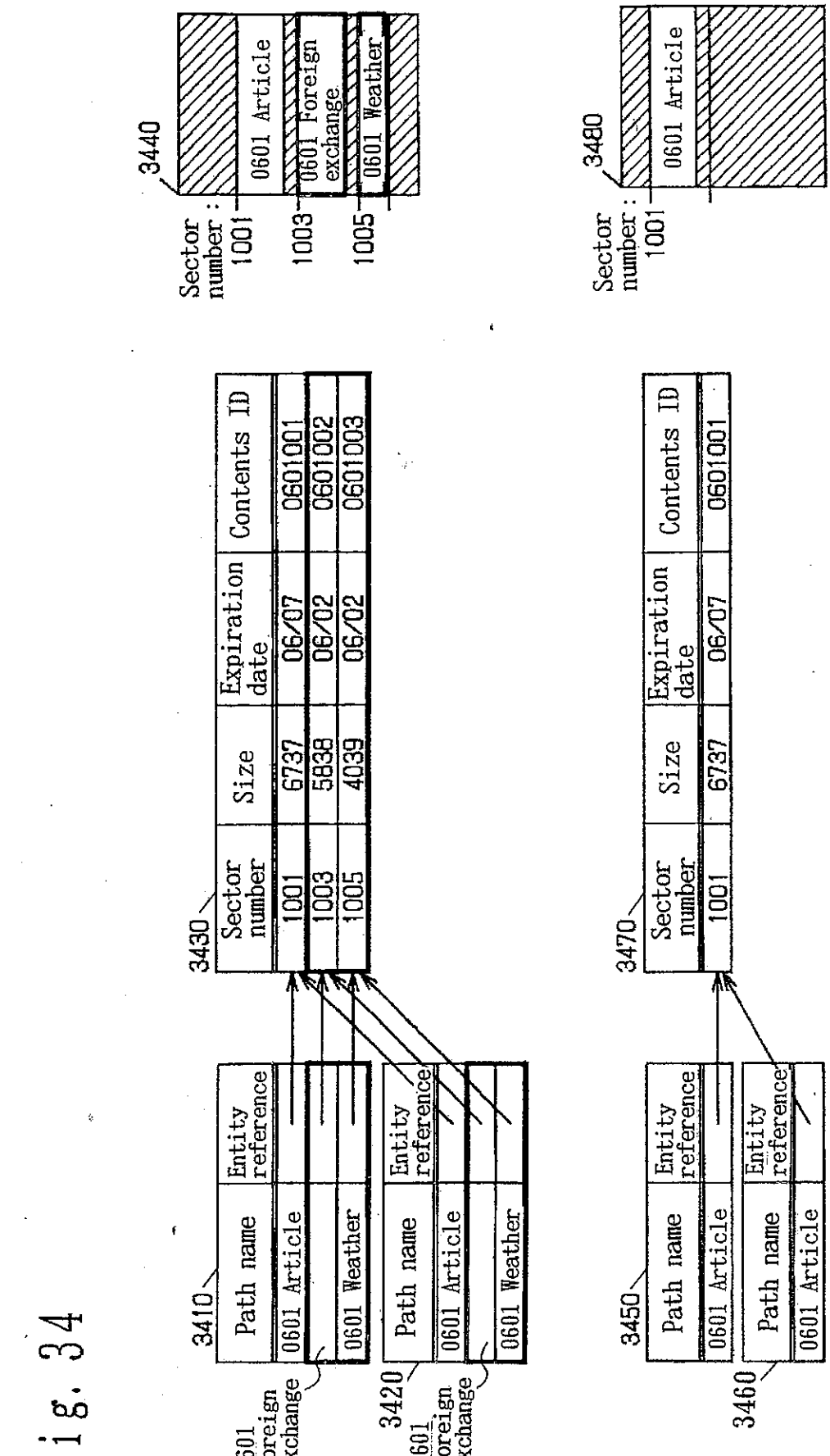

3440
Sector number : 1001
0601 Article
1003
0601 Foreign exchange
1005
0601 Weather
3480
Sector number : 1001
0601 Article
3430
Sector number
Size
Expiration date
Contents ID
1001
6737
06/07
0601001
1003
5838
06/02
0601002
1005
4039
06/02
0601003
3410
Path name
Entity reference
0601 Article
0601 Weather
0601 Foreign exchange
3420
Path name
Entity reference
0601 Article
0601 Weather
0601 Foreign exchange
3470
Sector number
Size
Expiration date
Contents ID
1001
6737
06/07
0601001
3450
Path name
Entity reference
0601 Article
3460
Path name
Entity reference
0601 Article

Fig. 35

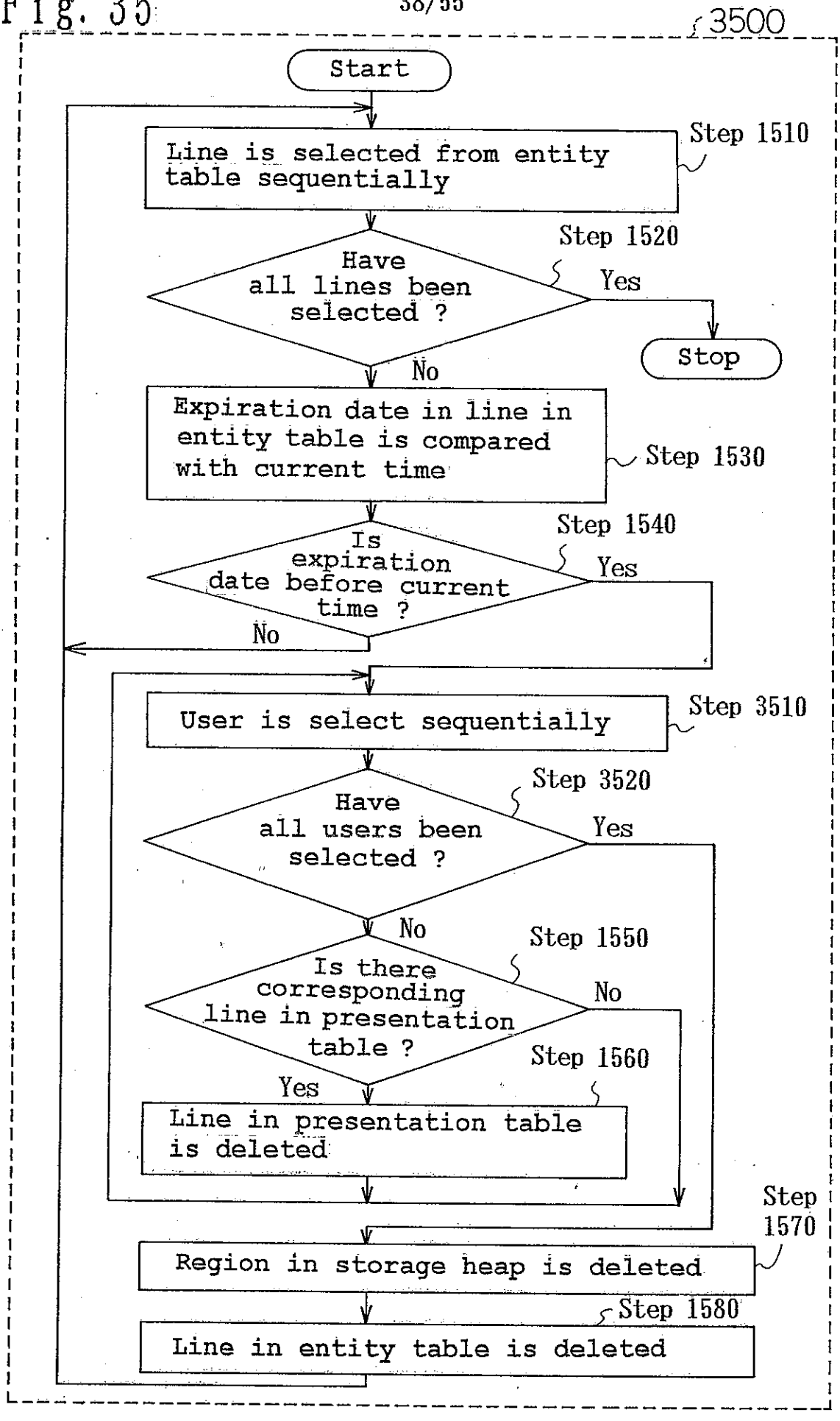

3500
Start
Line is selected from entity table sequentially
Step 1510
Have all lines been selected ?
Step 1520
Yes
Stop
No
Expiration date in line in entity table is compared with current time
Step 1530
Is expiration date before current time ?
Step 1540
Yes
No
User is select sequentially
Step 3510
Have all users been selected ?
Step 3520
Yes
No
Is there corresponding line in presentation table ?
Step 1550
No
Step 1560
Yes
Line in presentation table is deleted
Region in storage heap is deleted
Step 1570
Line in entity table is deleted
Step 1580

Fig. 36

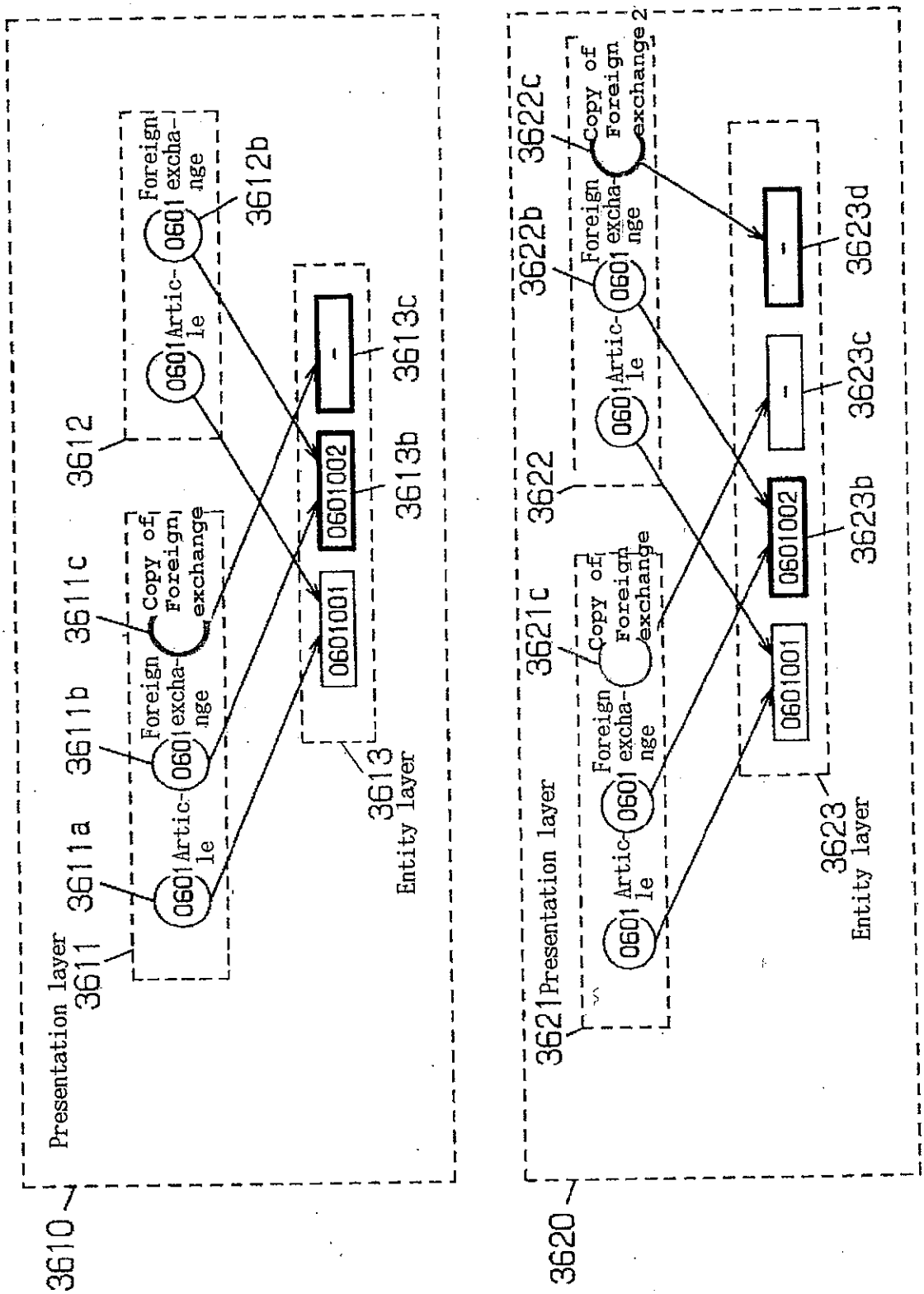
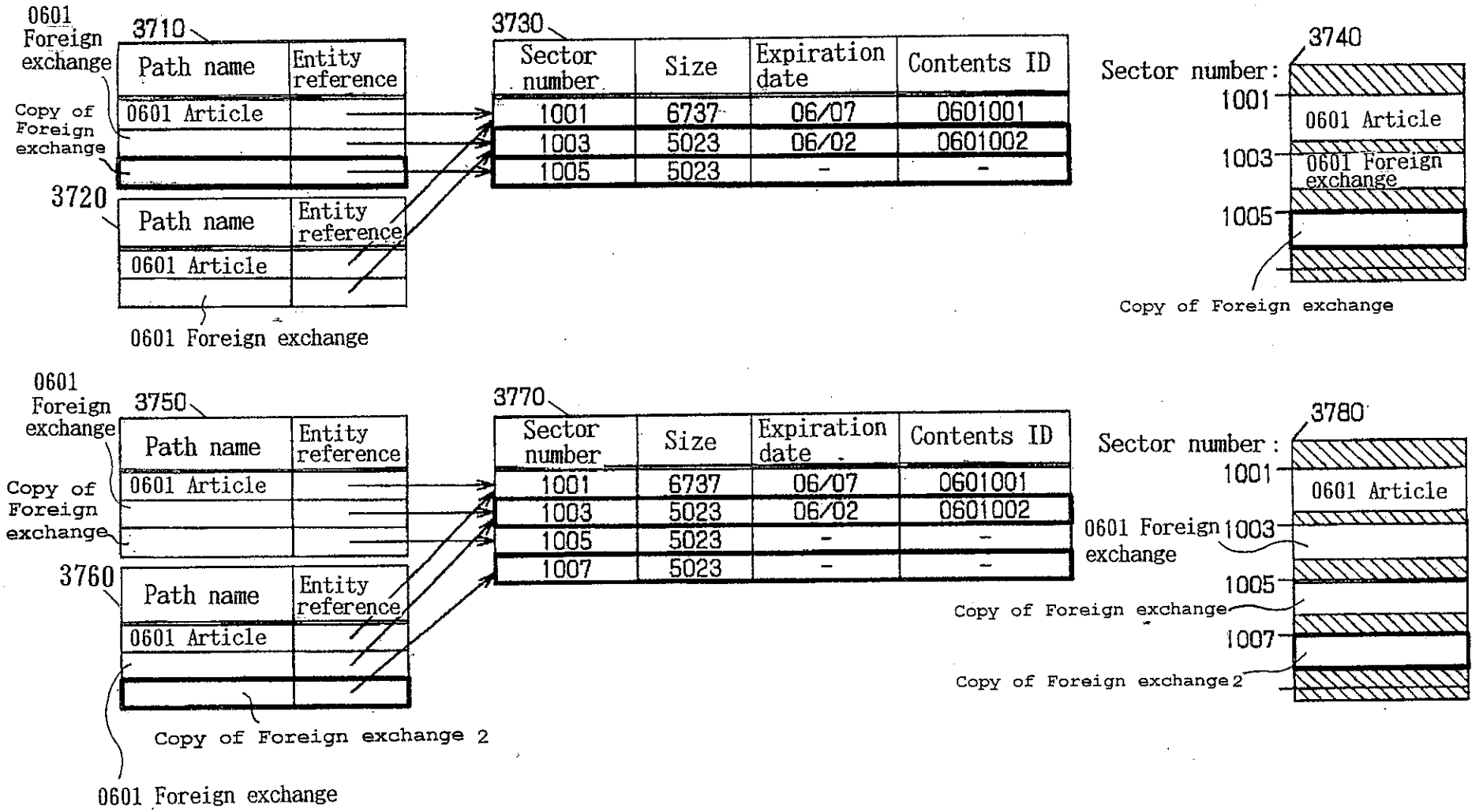

3610
Presentation layer
3611
3611a
3611b
3611c
3612
3612b
3613
3613b
3613c
Entity layer
0601 Artic-le
0601 Foreign exchange
Copy of Foreign exchange
0601001
0601002
3620
3621
3621c
3622
3622b
3622c
3623
3623b
3623c
3623d
Copy of Foreign exchange 2

Fig. 37



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Fig. 38

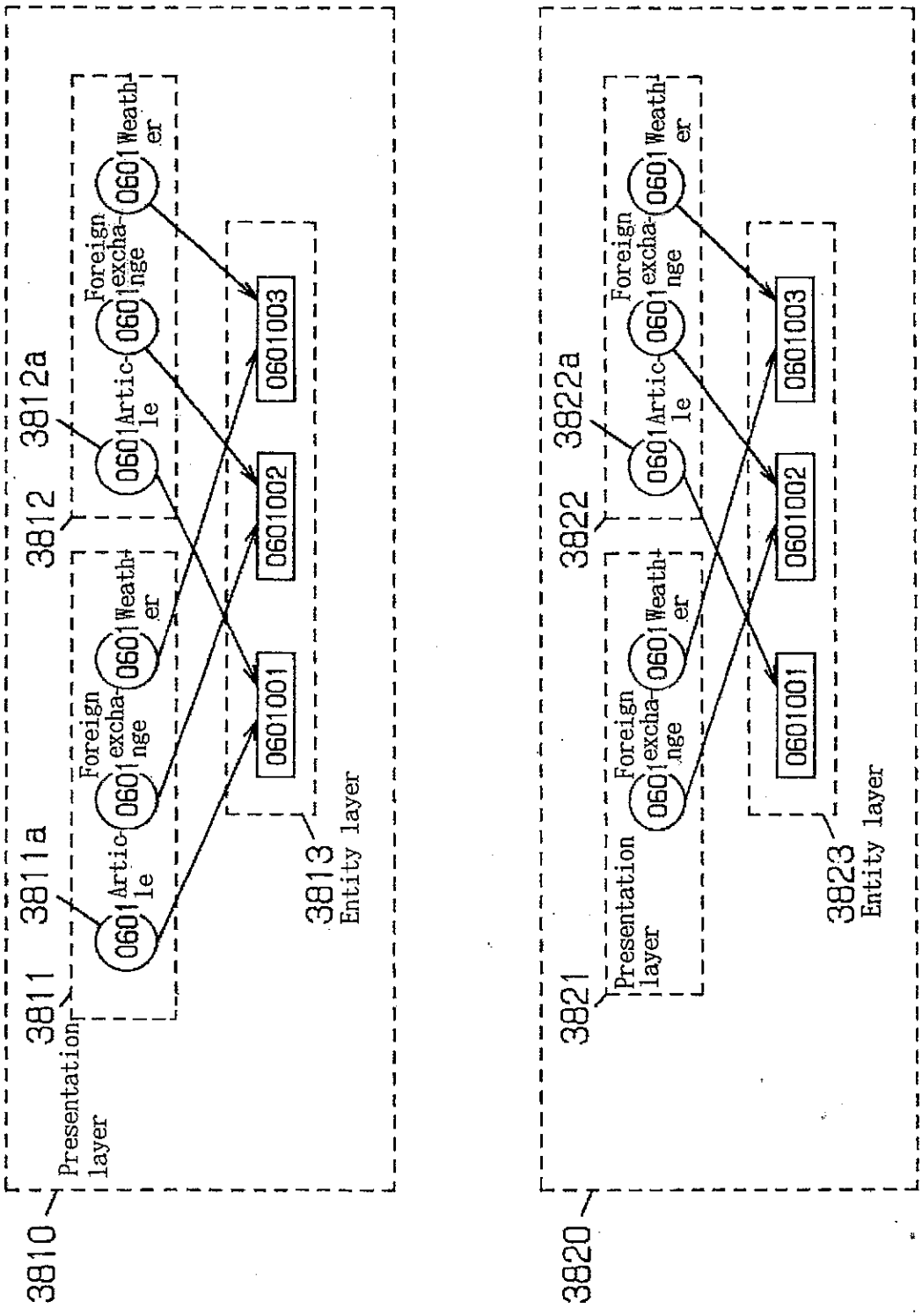

3810
3811
Presentation layer
3811a
0601 Artic le
0601 Foreign excha nge
0601 Weath er
3812
3812a
0601 Artic le
0601 Foreign excha nge
0601 Weath er
3813
Entity layer
0601001
0601002
0601003
3820
3821
Presentation layer
0601 Foreign excha nge
0601 Weath er
3822
3822a
0601 Artic le
0601 Foreign excha nge
0601 Weath er
3823
Entity layer
0601001
0601002
0601003

Fig. 39

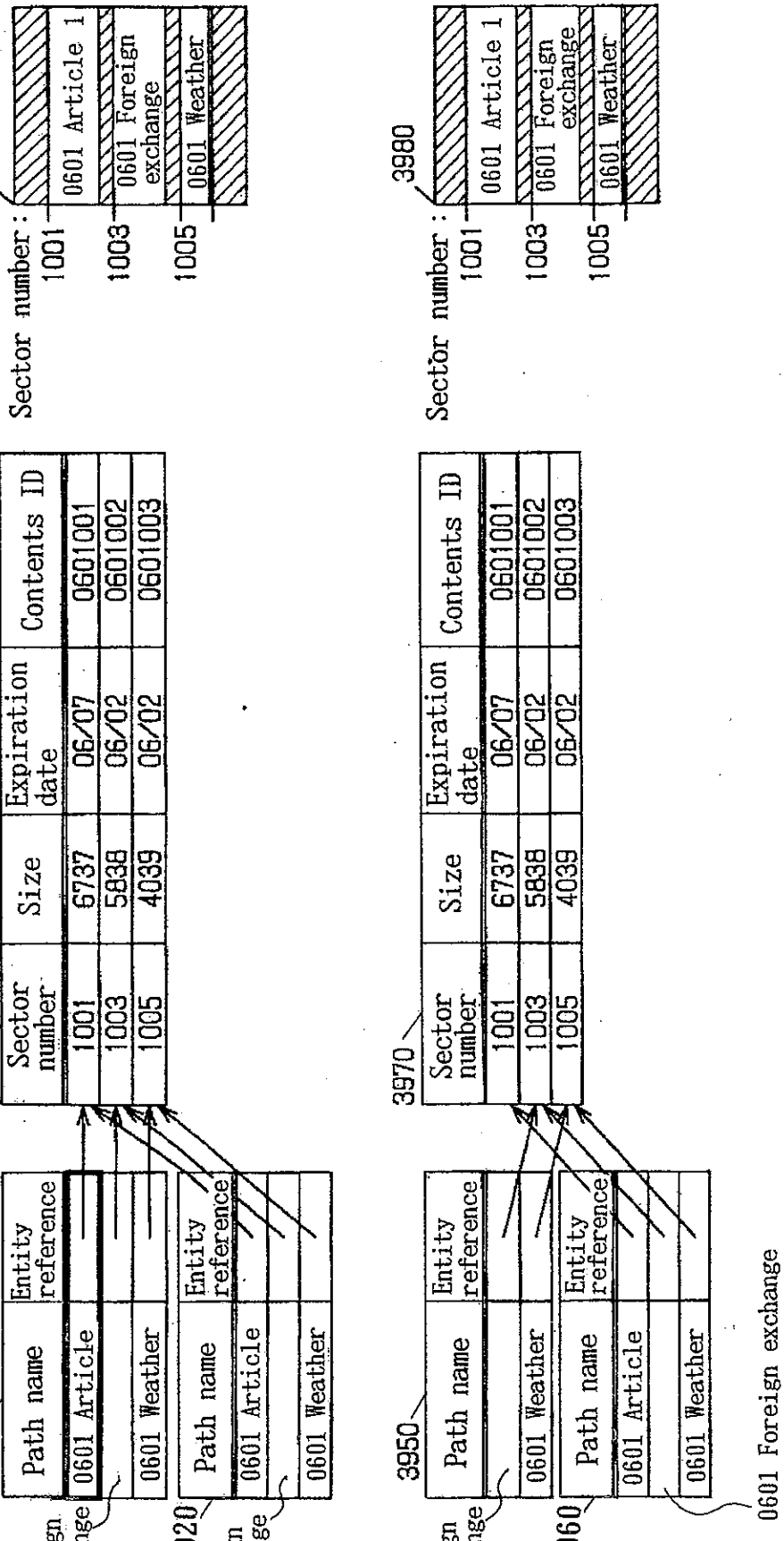

3940
Sector number :
1001
0601 Article 1
1003
0601 Foreign exchange
1005
0601 Weather
3930
Sector number
Size
Expiration date
Contents ID
1001
6737
06/07
0601001
1003
5838
06/02
0601002
1005
4039
06/02
0601003
3910
Path name
Entity reference
0601 Article
0601 Weather
0601 Foreign exchange
3920
Path name
Entity reference
0601 Article
0601 Weather
0601 Foreign exchange
3980
Sector number :
1001
0601 Article 1
1003
0601 Foreign exchange
1005
0601 Weather
3970
Sector number
Size
Expiration date
Contents ID
1001
6737
06/07
0601001
1003
5838
06/02
0601002
1005
4039
06/02
0601003
3950
Path name
Entity reference
0601 Weather
0601 Foreign exchange
3960
Path name
Entity reference
0601 Article
0601 Weather
0601 Foreign exchange

Fig. 40

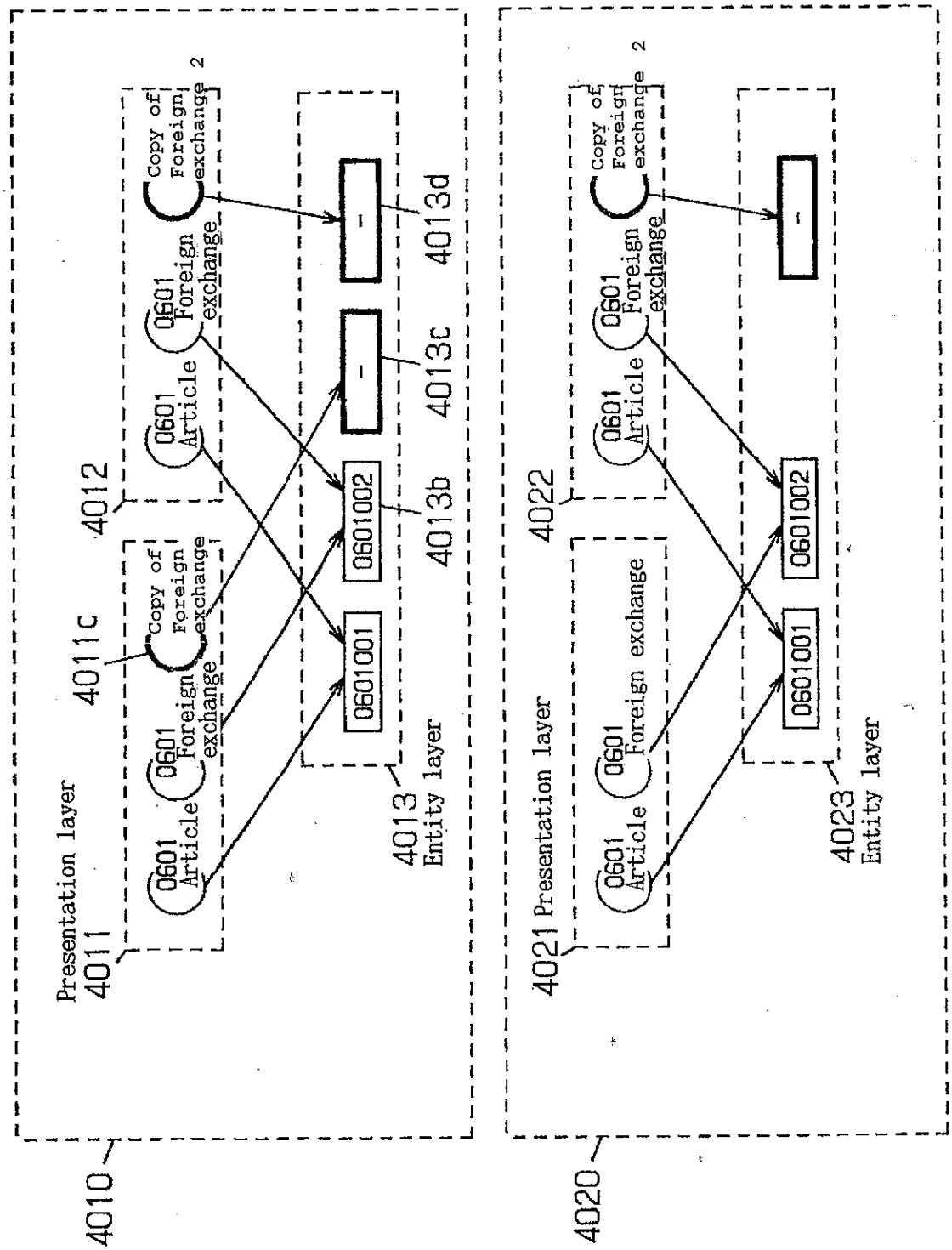
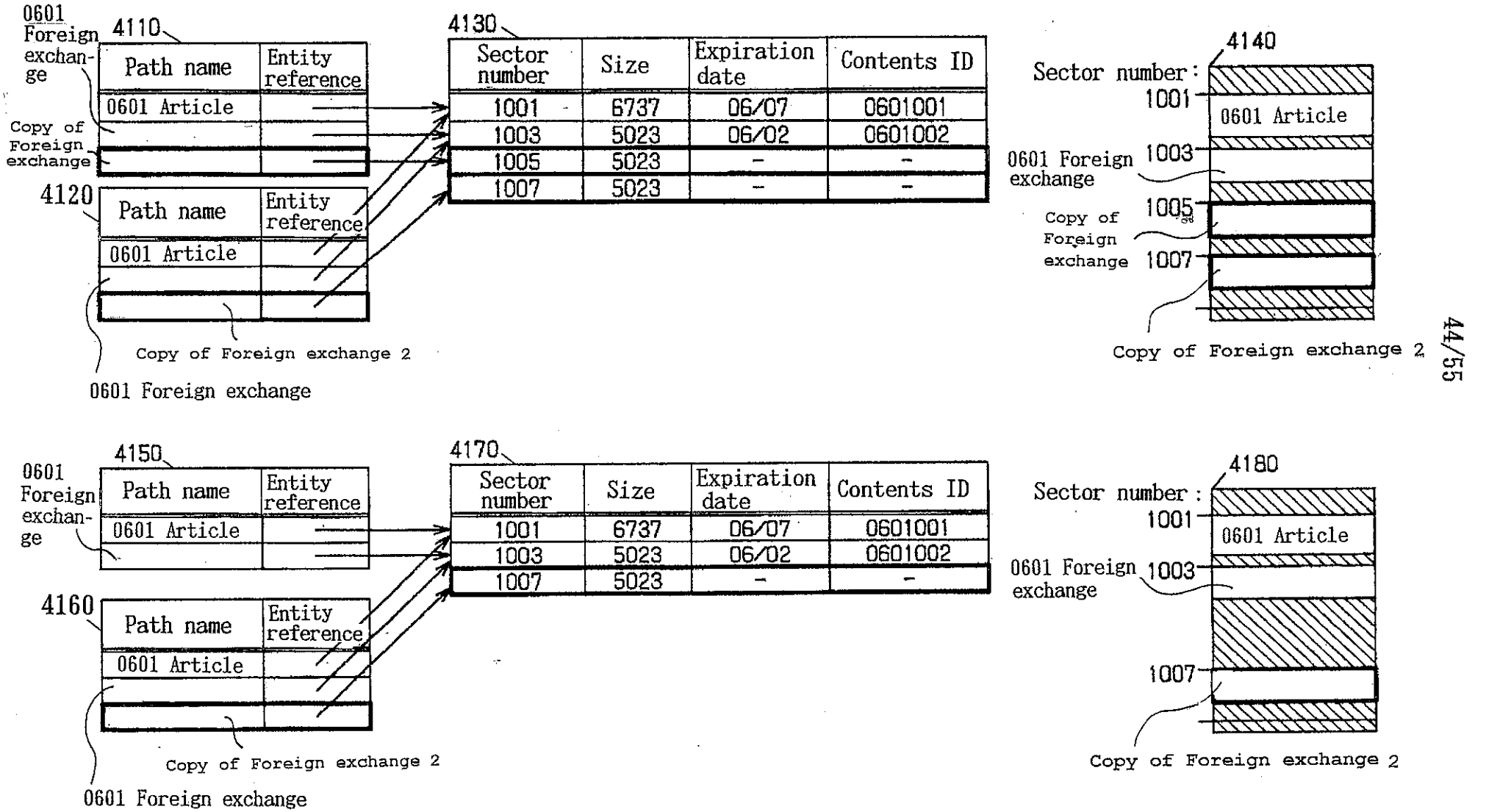

4010
Presentation layer
4011
0601 Article
0601 Foreign exchange
4011c
Copy of Foreign exchange 1
4012
0601 Article
0601 Foreign exchange
Copy of Foreign exchange 2
4013
Entity layer
0601001
0601002
4013b
4013c
4013d
4020
4021 Presentation layer
0601 Article
0601 Foreign exchange
4022
0601 Article
0601 Foreign exchange
Copy of Foreign exchange 2
4023
Entity layer
0601001
0601002

Fig. 41



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Fig. 42

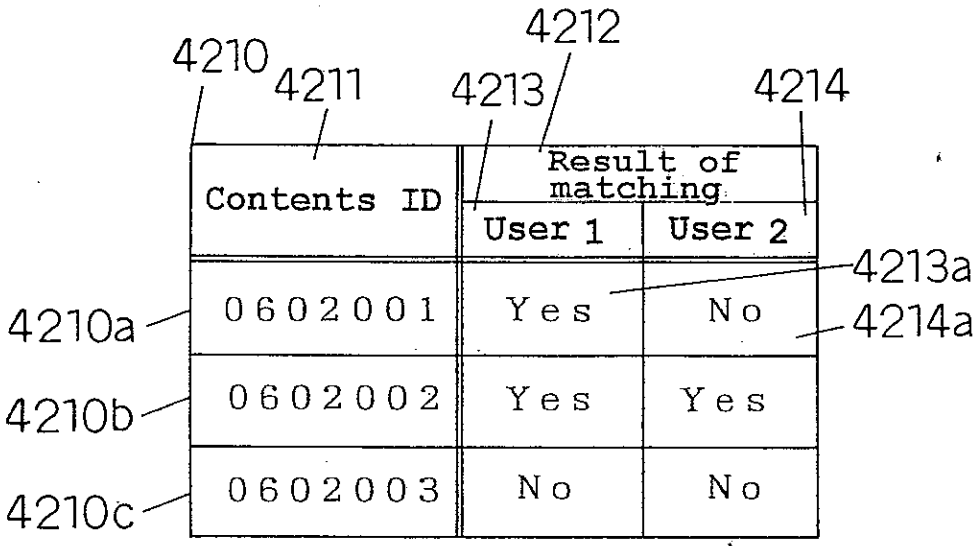

4210
4211
4212
4213
4214
Contents ID
Result of matching
User 1
User 2
4213a
4210a
0602001
Yes
No
4214a
4210b
0602002
Yes
Yes
4210c
0602003
No
No

Fig. 43

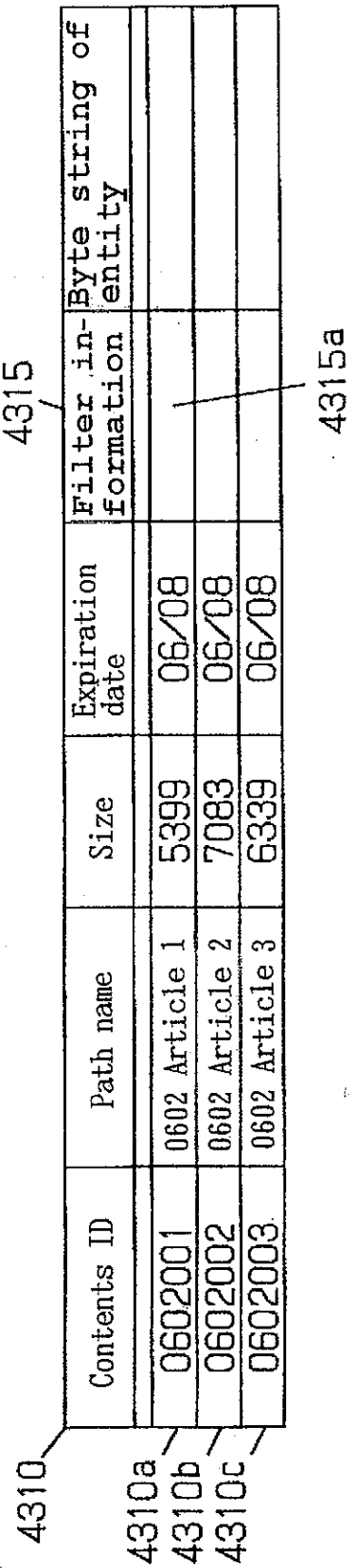

4315
4315a
4310
4310a
4310b
4310c
Contents ID
Path name
Size
Expiration date
Filter information
Byte string of entity
0602001
0602 Article 1
5399
06/08
0602002
0602 Article 2
7083
06/08
0602003
0602 Article 3
6339
06/08

Fig. 44

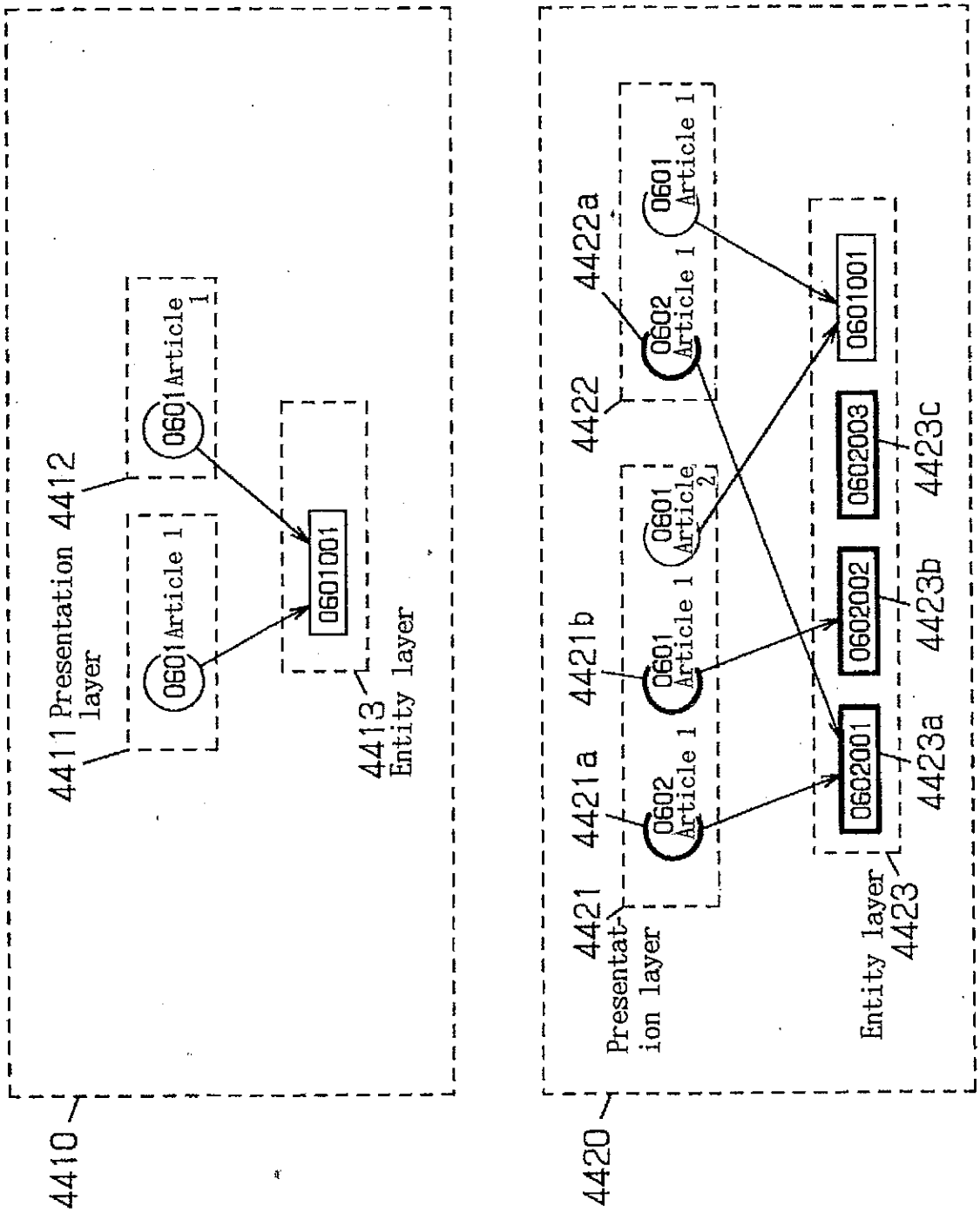

4410
4411 Presentation layer
4412
0601 Article 1
0601 Article 1
0601001
4413 Entity layer
4420
4421 Presentation layer
4421a
0602 Article 1
4421b
0601 Article 1
4422
4422a
0602 Article 1
0601 Article 2
0601 Article 1
4423 Entity layer
4423a
0602001
4423b
0602002
4423c
0602003
0601001

Fig. 45

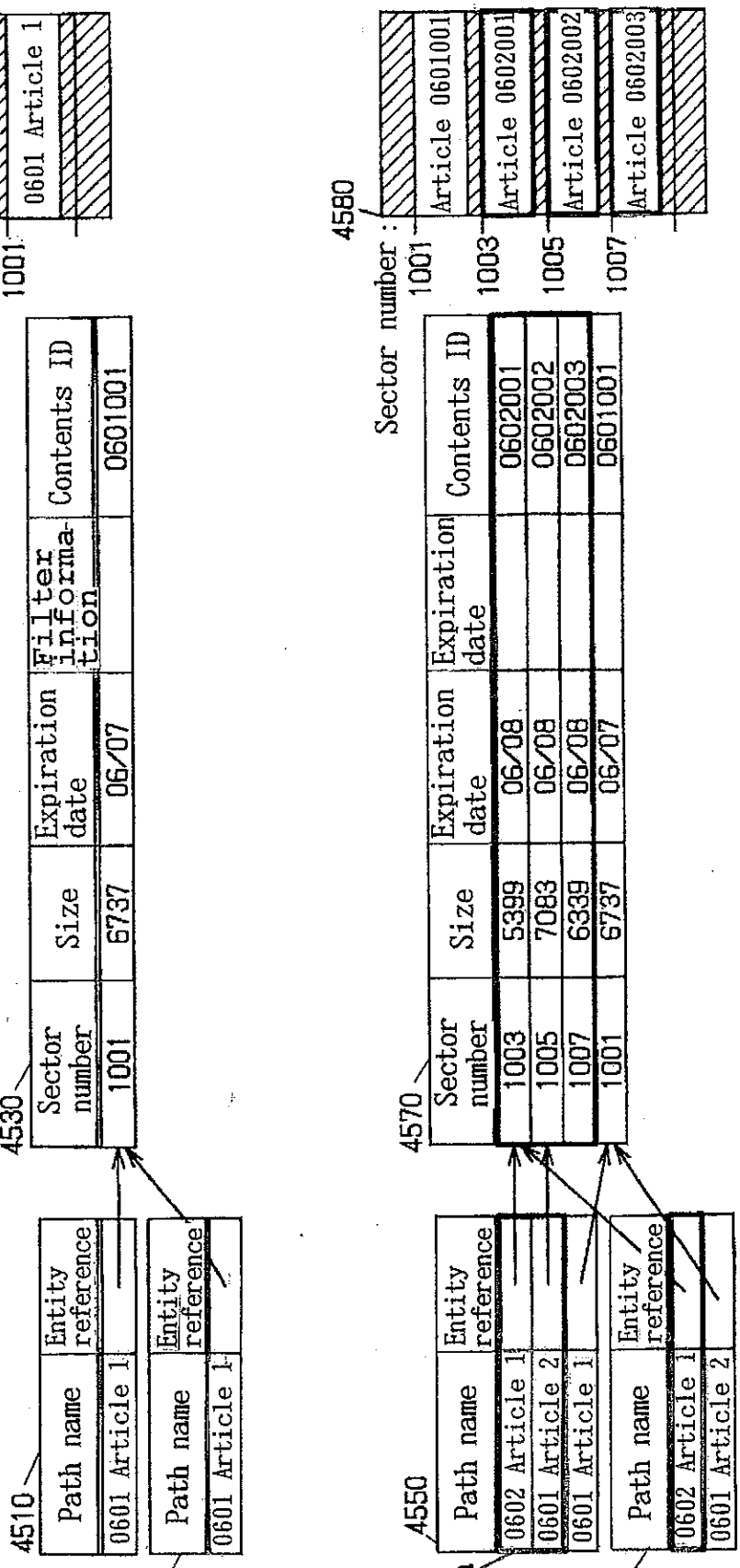

4510
Path name
Entity reference
0601 Article 1
4520
Path name
Entity reference
0601 Article 1
4530
Sector number
Size
Expiration date
Filter information
Contents ID
1001
6737
06/07
0601001
4540
Sector number :
1001
0601 Article 1
4550
Path name
Entity reference
0602 Article 1
0601 Article 2
0601 Article 1
4550a
4560
Path name
Entity reference
0602 Article 1
0601 Article 2
4570
Sector number
Size
Expiration date
Contents ID
1003
5399
06/08
0602001
1005
7083
06/08
0602002
1007
6339
06/08
0602003
1001
6737
06/07
0601001
4580
Sector number :
1001
Article 0601001
1003
Article 0602001
1005
Article 0602002
1007
Article 0602003

Fig. 46

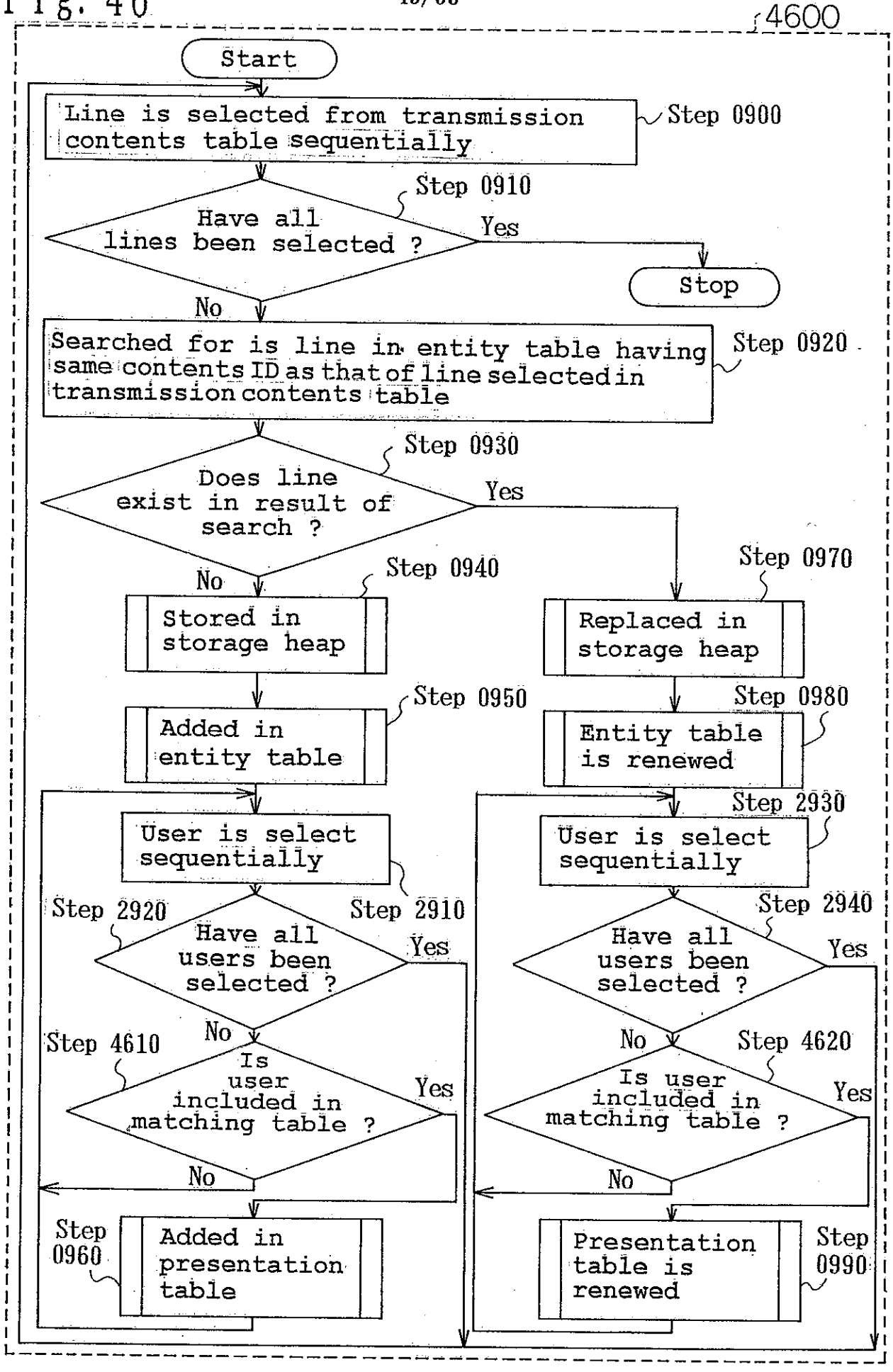

4600
Start
Line is selected from transmission contents table sequentially
Step 0900
Step 0910
Have all lines been selected ?
Yes
Stop
No
Searched for is line in entity table having same contents ID as that of line selected in transmission contents table
Step 0920
Step 0930
Does line exist in result of search ?
Yes
No
Step 0940
Stored in storage heap
Step 0970
Replaced in storage heap
Step 0950
Added in entity table
Step 0980
Entity table is renewed
User is select sequentially
Step 2910
Step 2930
User is select sequentially
Step 2920
Have all users been selected ?
Yes
Step 2940
Have all users been selected ?
Yes
No
Step 4610
Is user included in matching table ?
Yes
No
Step 4620
Is user included in matching table ?
Yes
No
Step 0960
Added in presentation table
Presentation table is renewed
Step 0990

Fig. 47

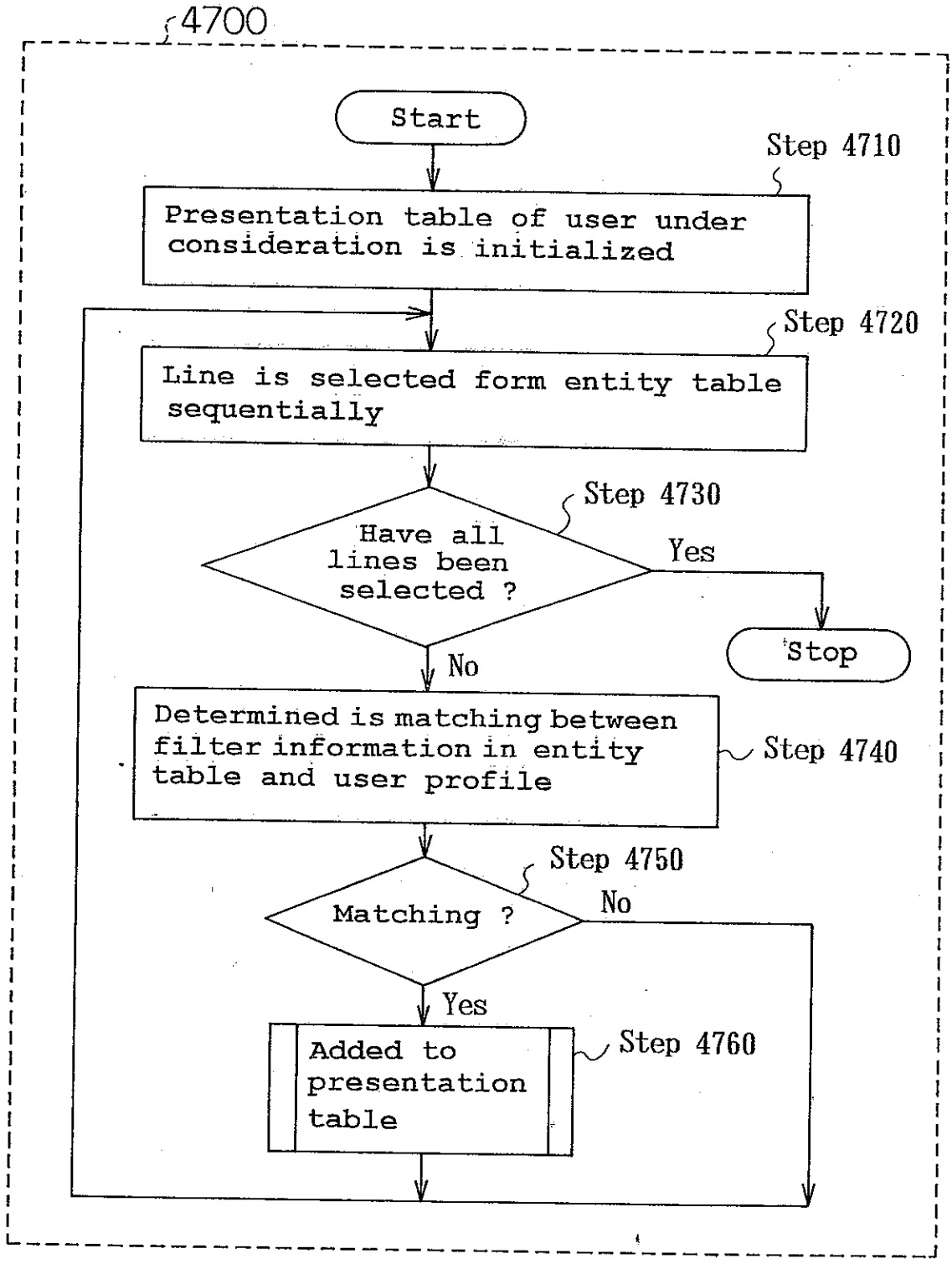
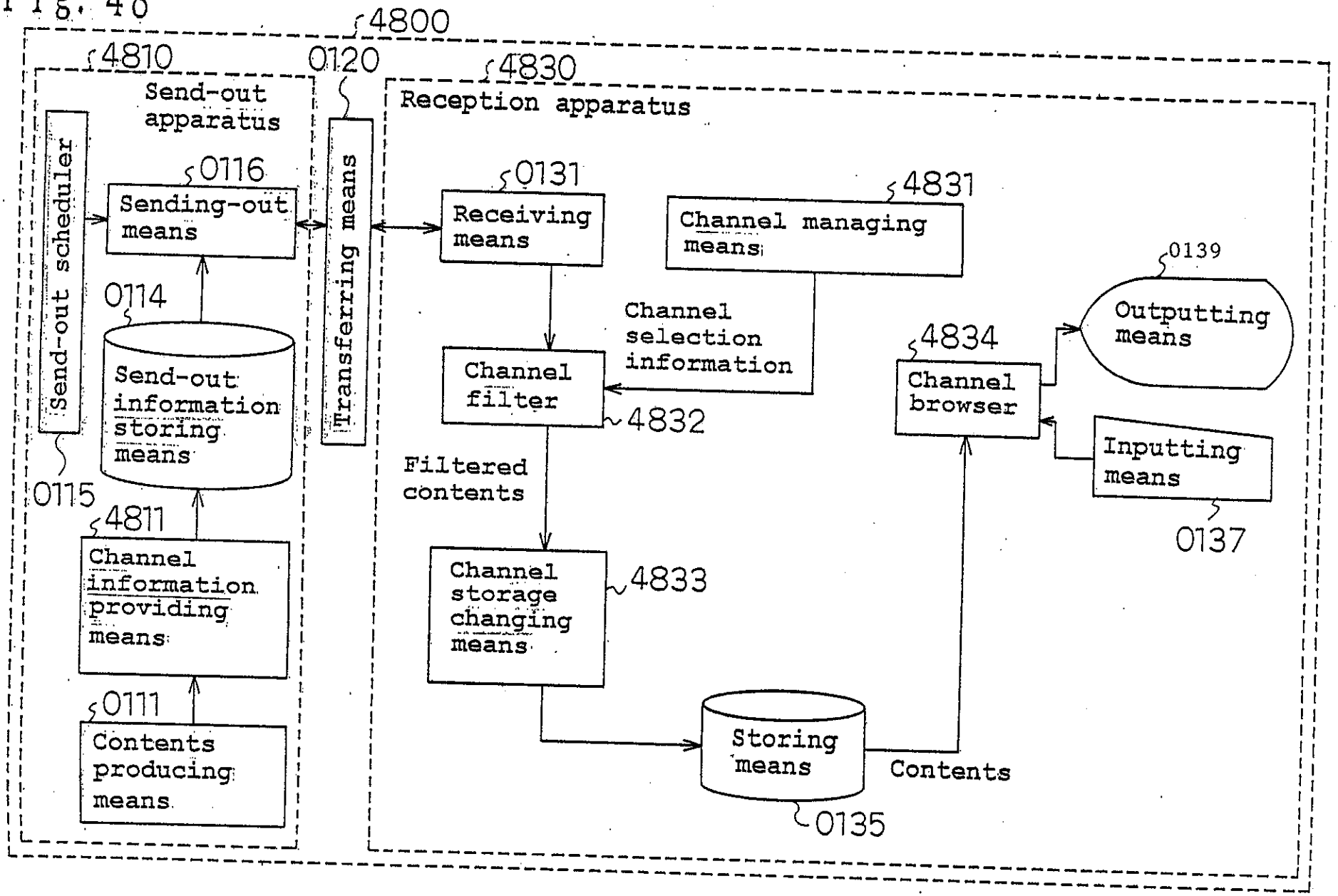
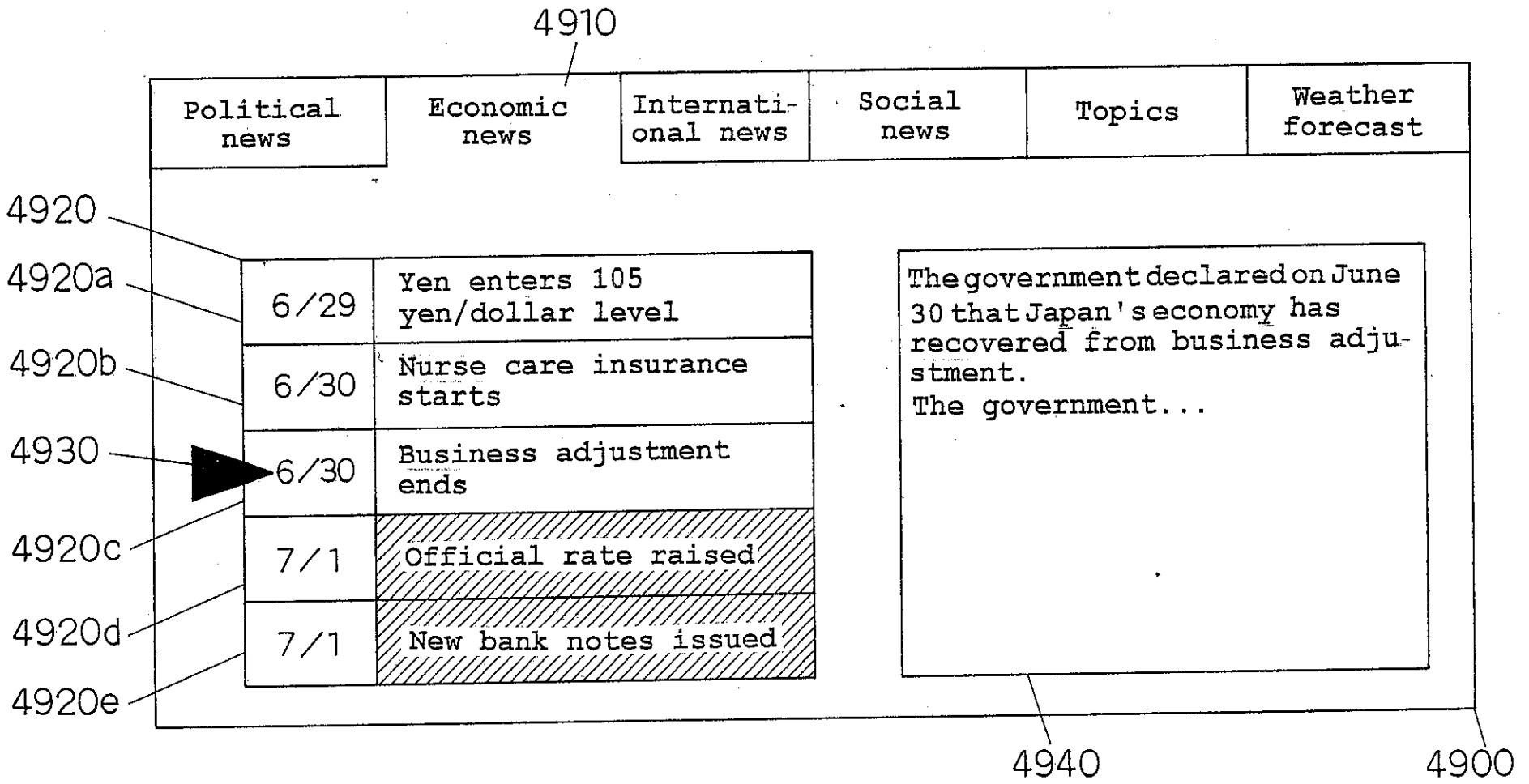

4700
Start
Step 4710
Presentation table of user under consideration is initialized
Step 4720
Line is selected form entity table sequentially
Step 4730
Have all lines been selected ?
Yes
Stop
No
Determined is matching between filter information in entity table and user profile
Step 4740
Step 4750
Matching ?
No
Yes
Added to presentation table
Step 4760

Fig. 48



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Fig. 49



52/55
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Fig. 50

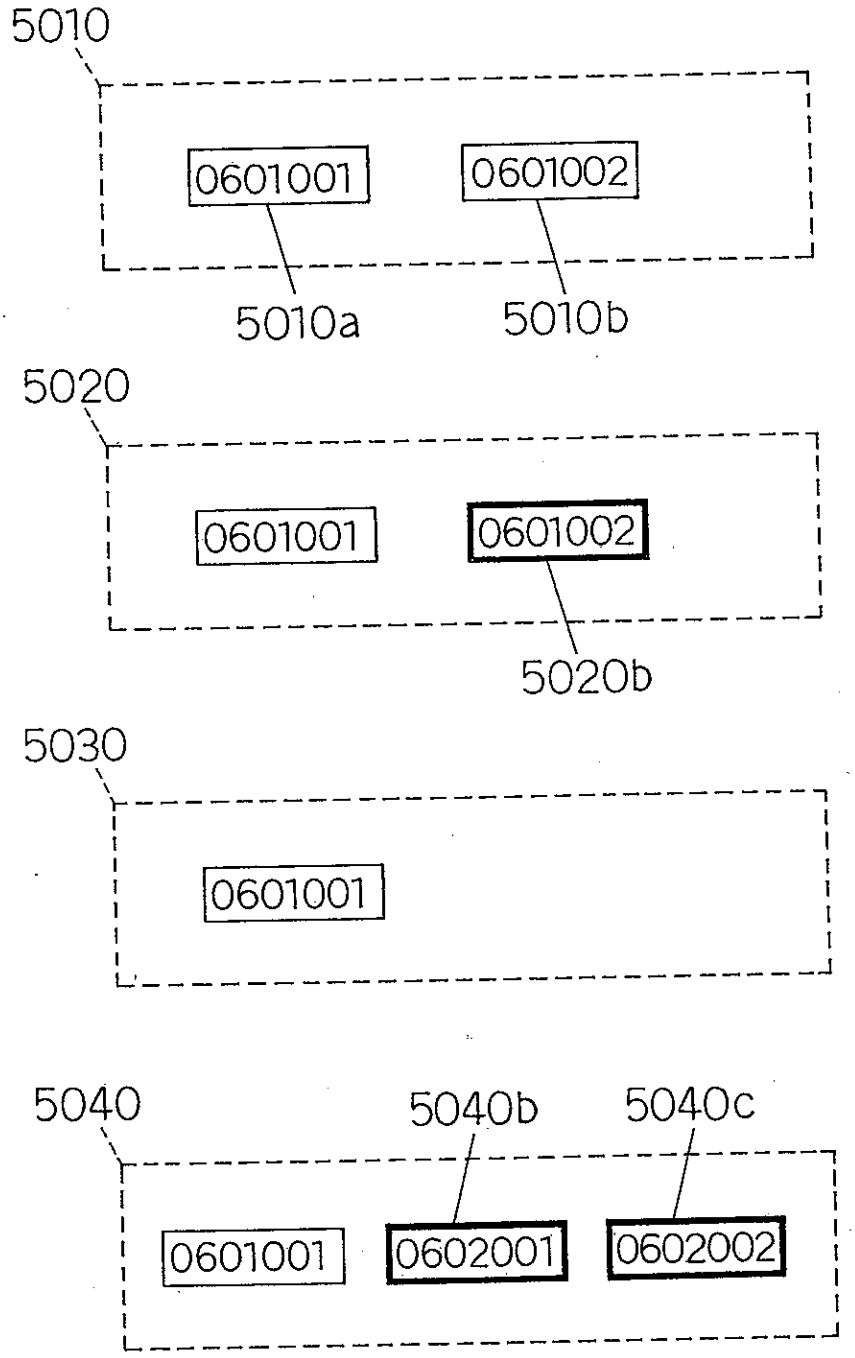
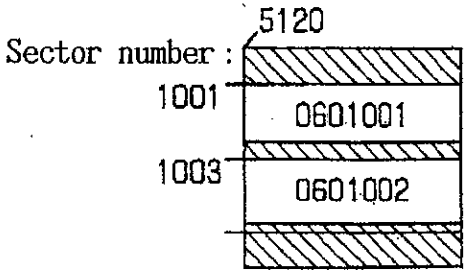

5010
0601001
0601002
5010a
5010b
5020
0601001
0601002
5020b
5030
0601001
5040
5040b
5040c
0601001
0602001
0602002

Fig. 51

5110

Sector number	Size	Expiration date	Contents ID
1001	6737	06/07	0601001
1003	7838	06/02	0601002

5120

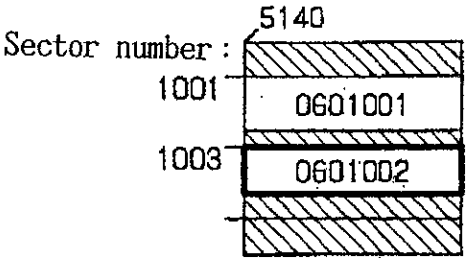


5130

5130b

Sector number	Size	Expiration date	Contents ID
1001	6737	06/07	0601001
1003	5023	06/02	0601002

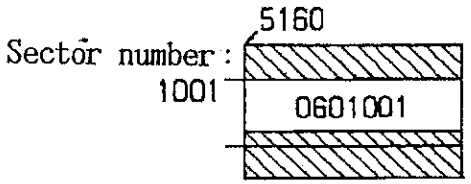
5140



5150

Sector number	Size	Expiration date	Contents ID
1001	6737	06/07	0601001

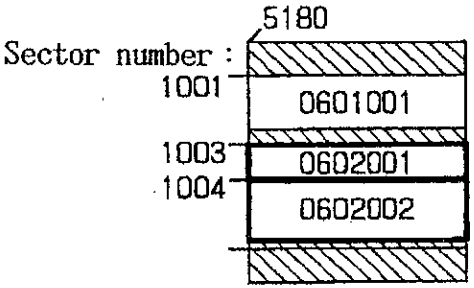
5160



5170

Sector number	Size	Expiration date	Contents ID
1001	6737	06/07	0601001
1003	4022	06/08	0602001
1004	6053	06/03	0602002

5180



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Fig. 52

5210

Contents ID	Size	Expiration date	Byte string of content
0601002	5023	06/02	

5220

Contents ID	Size	Expiration date	Byte string of content
0602001	4022	06/08	
0602002	6053	06/03	

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