

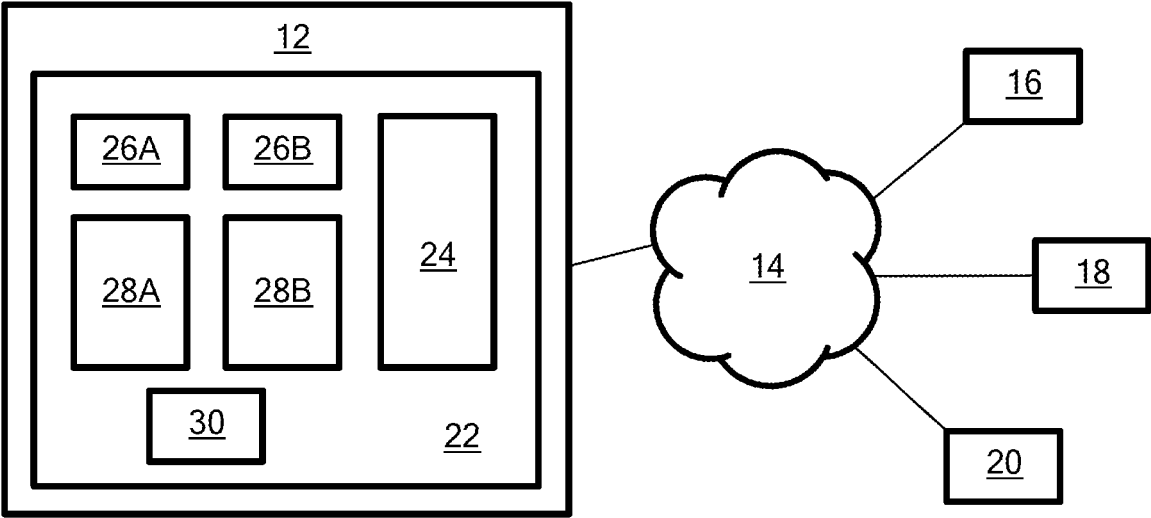


FIG. 1

t	Event	state	access
1	initialize	valid	
2	z,x,\$10.00	valid	z,x
3	x,z,\$1.00	pending	
3	x,y,\$15.00	invalid	x,y,OD

64 66 68 70

FIG. 2

50		52			
t	x	t	Type	Valid?	Value
0	\$0.00	0	overwrite	TRUE	\$0.00
10	\$2.00	10	overwrite	TRUE	\$2.00
20	*	20	read	TRUE	
30	\$2.50	30	update	TRUE	\$2.50
40	*	40	read	FALSE	
50	~~\$2.75~~	50	update	FALSE	\$2.75

56 58, 60, 62 56 58 60 62 54

FIG. 3

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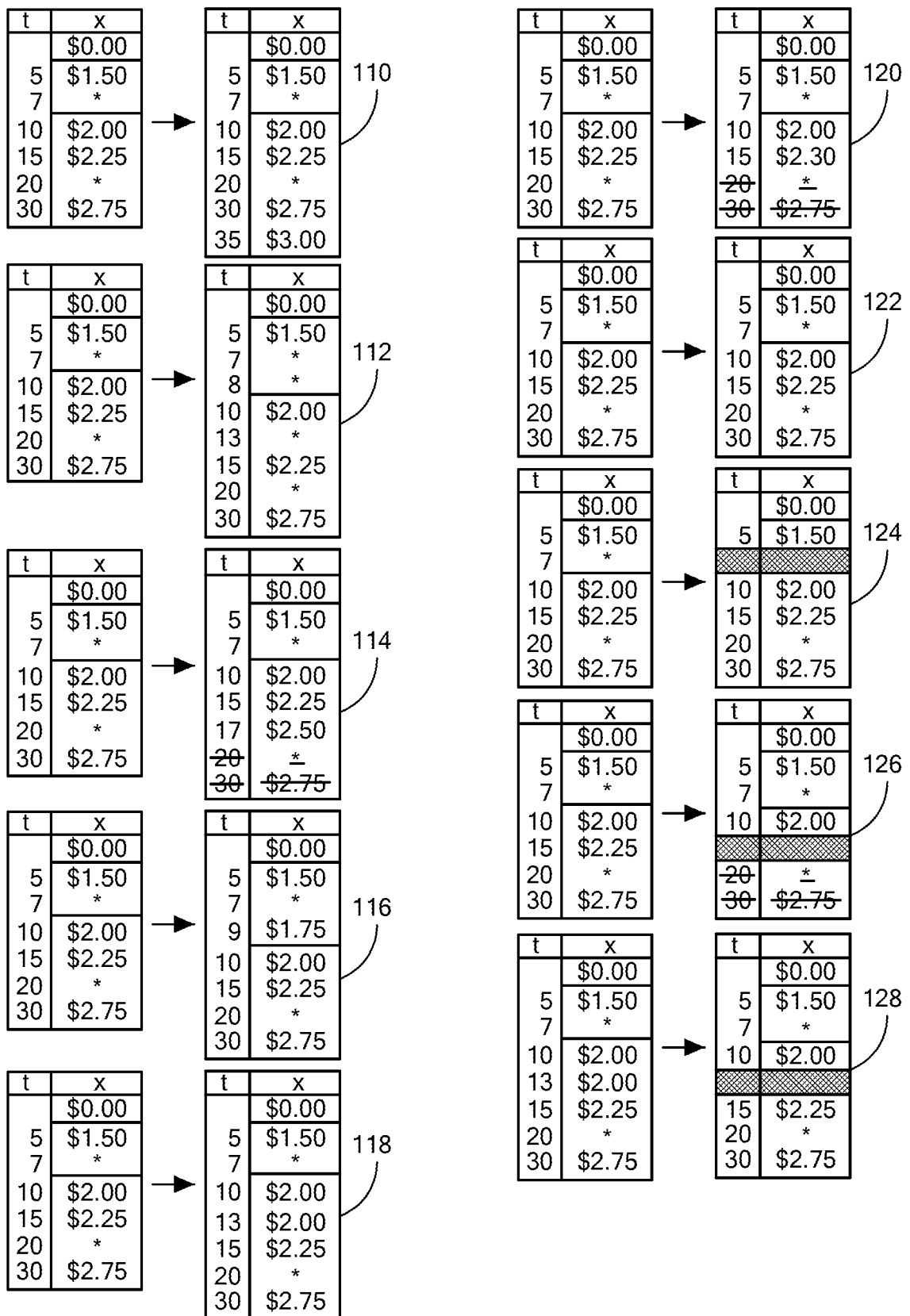


FIG. 4A

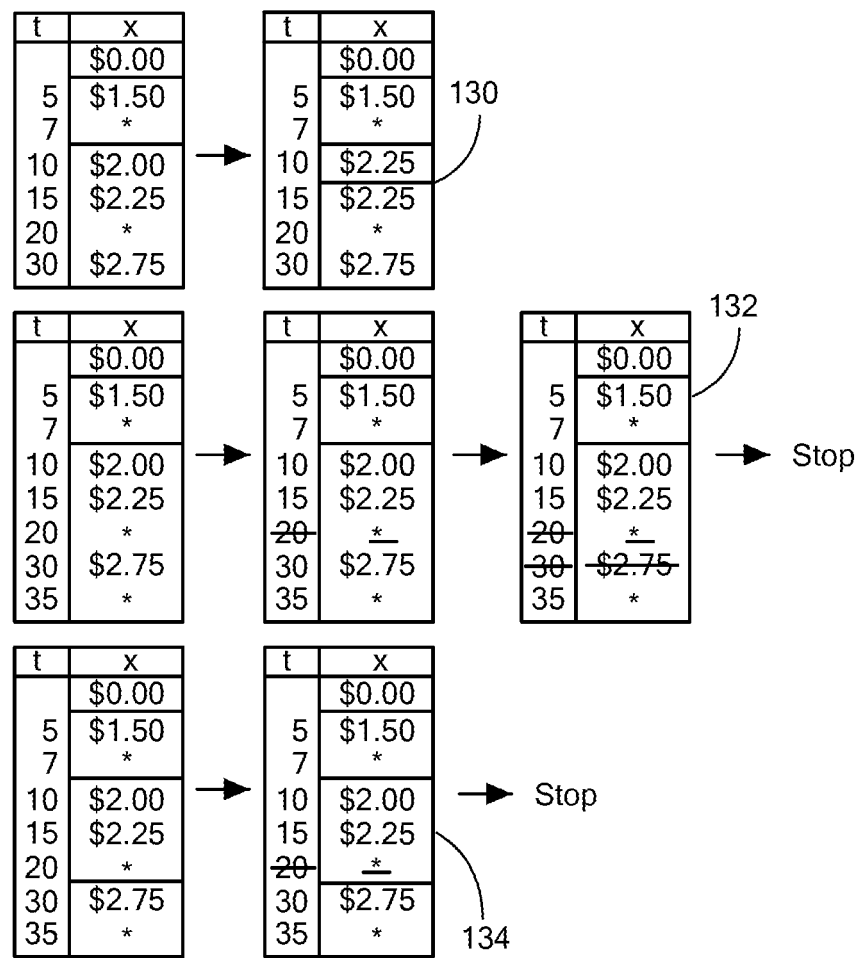


FIG. 4B

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FIG. 5

32F	t	Symbol	Price
	1	AAA	1.01
	2	BBB	0.37
	3	BBB	0.35
	4	BBB	0.39
	5	AAA	1.10
	6	AAA	1.05

32A	t	Symbol	Price
	1	AAA	1.01

34A	Symbol	Price
	AAA	0.00 1.01

32B	t	Symbol	Price
	1	AAA	1.01
	2	BBB	0.37

34B	Symbol	Price
	AAA	0.00 1.01

36B	Symbol	Price
	BBB	0.00 0.37

32C	t	Symbol	Price
	1	AAA	1.01
	2	BBB	0.37
	3	BBB	0.35

34C	Symbol	Price
	AAA	0.00 1.01

36C	Symbol	Price
	BBB	0.00 0.37 *

32D	t	Symbol	Price
	1	AAA	1.01
	2	BBB	0.37
	3	BBB	0.35
	4	BBB	0.39

34D	Symbol	Price
	AAA	0.00 1.01

36D	Symbol	Price
	BBB	0.00
		0.37 *
		0.39

32E	t	Symbol	Price
	1	AAA	1.01
	2	BBB	0.37
	3	BBB	0.35
	4	BBB	0.39
	5	AAA	1.10

34E	Symbol	Price
	AAA	0.00 1.01 1.10

36E	Symbol	Price
	BBB	0.00
		0.37 *
		0.39

32F	t	Symbol	Price
	1	AAA	1.01
	2	BBB	0.37
	3	BBB	0.35
	4	BBB	0.39
	5	AAA	1.10
	6	AAA	1.05

34F	Symbol	Price
	AAA	0.00 1.01 1.10 *

36F	Symbol	Price
	BBB	0.00
		0.37 *
		0.39

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FIG. 6

38A	t	Symbol	Price
	1	AAA	1.01

40A	Symbol	Price
	AAA	0.00
		1.01

38B	t	Symbol	Price
	1	AAA	1.01
	2	BBB	0.37
40B	Symbol	Price	
	AAA	0.00	
		1.01	
42B	Symbol	Price	
	BBB	0.00	
		0.37	
38C	t	Symbol	Price
	1	AAA	1.01
	2	BBB	0.37
	4	BBB	0.39
40C	Symbol	Price	
	AAA	0.00	
		1.01	
42C	Symbol	Price	
	BBB	0.00	
		0.37	
		0.39	
38D	t	Symbol	Price
	1	AAA	1.01
	2	BBB	0.37
	3	BBB	0.35
	4	BBB	0.39
40D	Symbol	Price	
	AAA	0.00	
		1.01	
42D	Symbol	Price	
	BBB	0.00	
		0.37	
		*	
		0.39	
38E	t	Symbol	Price
	1	AAA	1.01
	2	BBB	0.37
	3	BBB	0.35
	4	BBB	0.39
	6	AAA	1.05
40E	Symbol	Price	
	AAA	0.00	
		1.01	
		1.05	
42E	Symbol	Price	
	BBB	0.00	
		0.37	
		*	
		0.39	
38F	t	Symbol	Price
	1	AAA	1.01
	2	BBB	0.37
	3	BBB	0.35
	4	BBB	0.39
	5	AAA	1.10
	6	~~AAA~~	~~1.05~~
40F	Symbol	Price	
	AAA	0.00	
		1.01	
		1.10	
		~~1.05~~	
42F	Symbol	Price	
	BBB	0.00	
		0.37	
		*	
		0.39	
38G	t	Symbol	Price
	1	AAA	1.01
	2	BBB	0.37
	3	BBB	0.35
	4	BBB	0.39
	5	AAA	1.10
	6	AAA	1.05
40G	Symbol	Price	
	AAA	0.00	
		1.01	
		1.10	
		*	
42G	Symbol	Price	
	BBB	0.00	
		0.37	
		*	
		0.39	

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42A	t	from	to	amount	x	y	z	OD
	1	z	x	\$10.00	\$10.00	\$20.00	\$30.00	\$0.00
	2	x	y	\$15.00	\$20.00		\$20.00	
42B					\$5.00	\$35.00		

FIG. 7

44A	t	from	to	amount	x	y	z	OD
					\$10.00	\$20.00	\$30.00	\$0.00

44B	t	from	to	amount	x	y	z	OD
	2	x	y	\$15.00	\$10.00	\$20.00	\$30.00	\$0.00

44C

44D	t	from	to	amount	x	y	z	OD
	1	z	x	\$10.00	\$10.00	\$20.00	\$30.00	\$0.00
	~~2~~	~~x~~	~~y~~	~~\$15.00~~	~~(\$15.00)~~	\$35.00	\$20.00	\$10.00

44F

44E

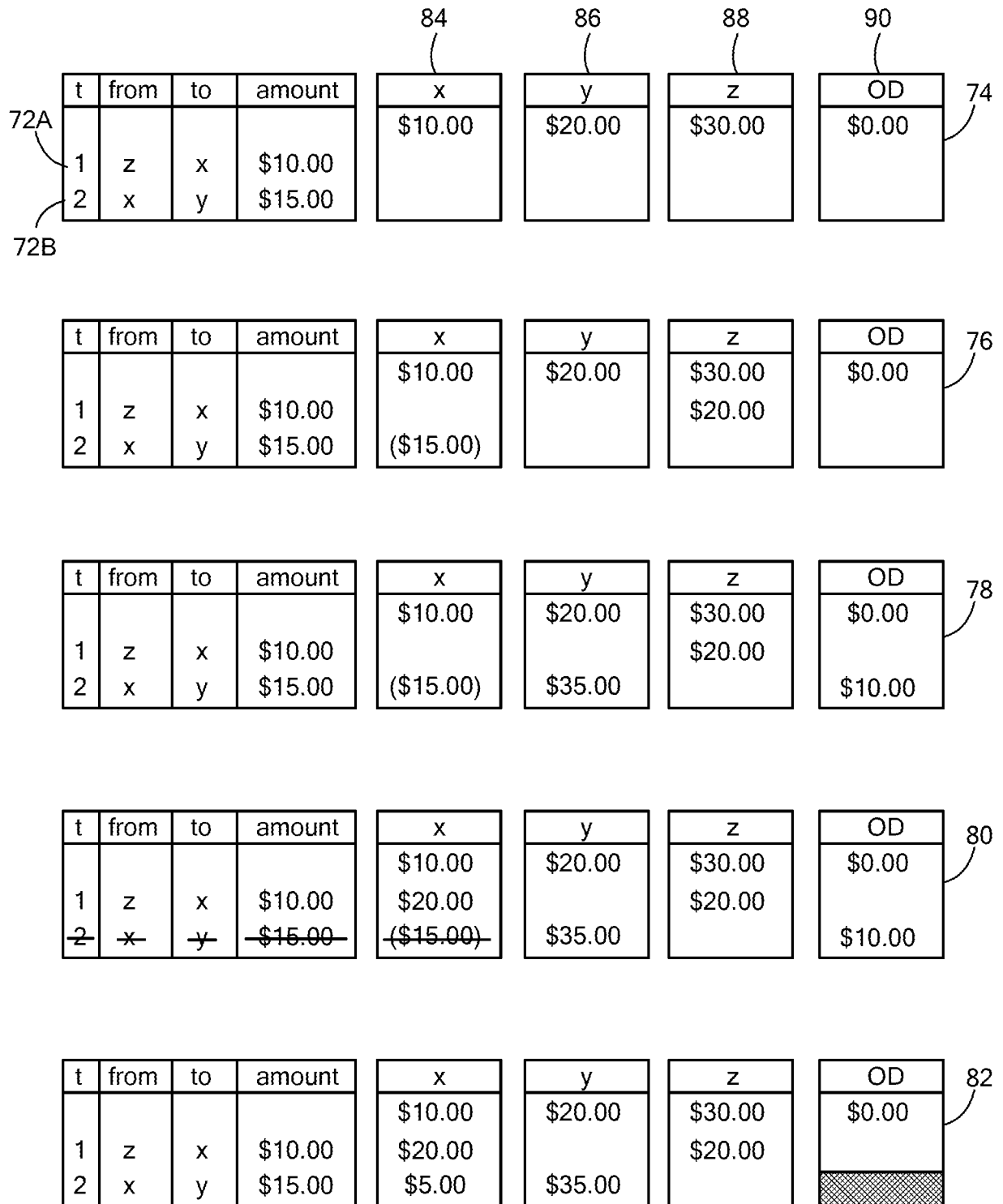
t	from	to	amount	x	y	z	OD
1	z	x	\$10.00	\$10.00	\$20.00	\$30.00	\$0.00
2	x	y	\$15.00	\$5.00	\$35.00	\$20.00	

44G

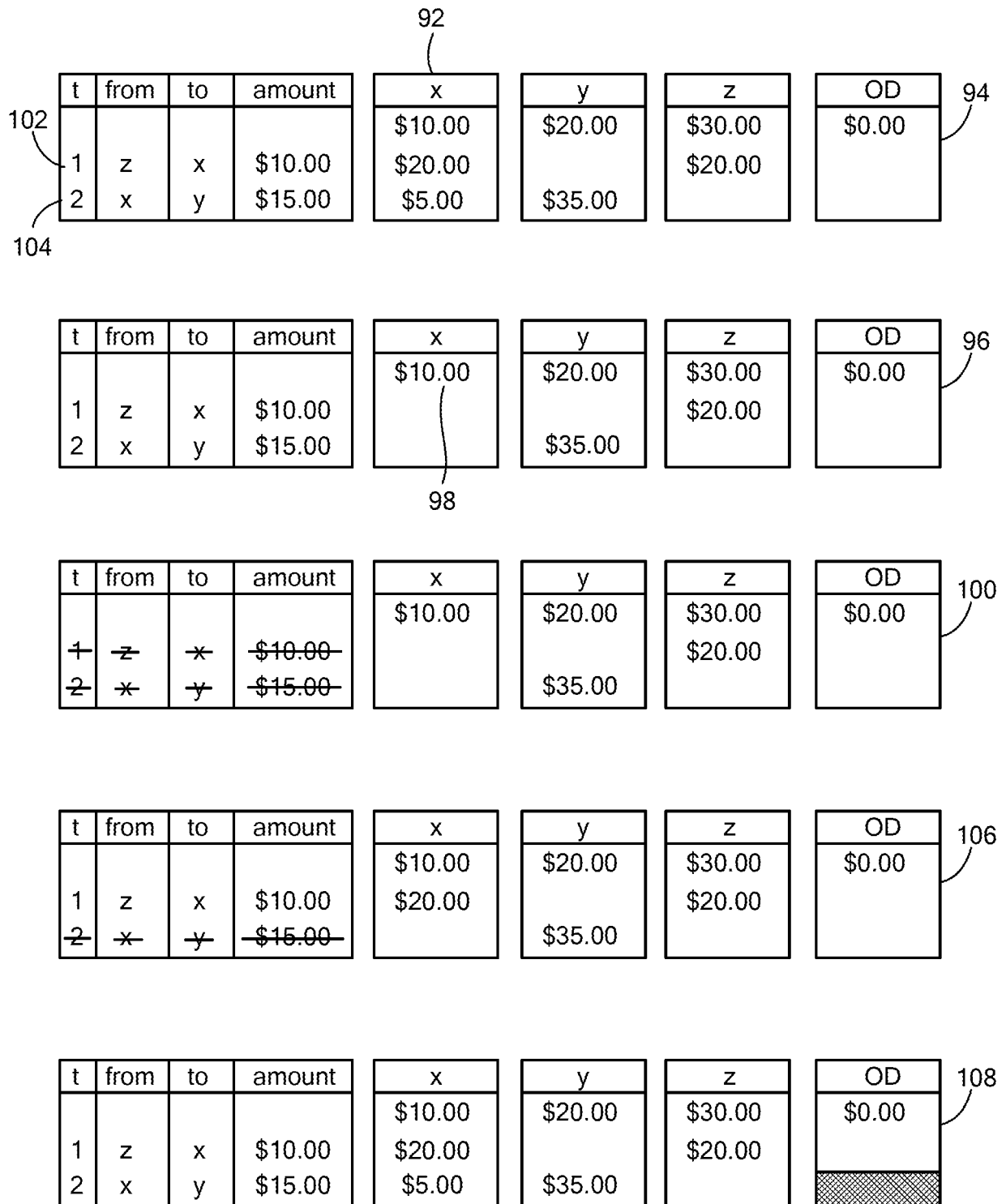
44H

FIG. 8

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**FIG. 9**

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**FIG. 10**

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t	s	e	Event	state	access	g	x	g	y	g	z	g	OD
	1	4	initialize	valid		1	10.00	2	\$20.00	3	\$30.00	4	\$0.00
136													
t	s	e	Event	state	access	g	x	g	y	g	z	g	OD
	1	4	initialize	valid		1	10.00	2	\$20.00	3	\$30.00	4	\$0.00
2	1		x,y,\$15.00	pending									
138													
t	s	e	Event	state	access	g	x	g	y	g	z	g	OD
	1	4	initialize	valid		1	10.00	2	\$20.00	3	\$30.00	4	\$0.00
2	1		x,y,\$15.00	pending		1	(15.00)						
139													
t	s	e	Event	state	access	g	x	g	y	g	z	g	OD
	1	4	initialize	valid		1	10.00	2	\$20.00	3	\$30.00	4	\$0.00
2	1		x,y,\$15.00	pending		1	(15.00)	2	\$35.00				
140													
t	s	e	Event	state	access	g	x	g	y	g	z	g	OD
	1	4	initialize	valid		1	10.00	2	\$20.00	3	\$30.00	4	\$0.00
2	1		x,y,\$15.00	pending		1	(15.00)	2	\$35.00				
142													
t	s	e	Event	state	access	g	x	g	y	g	z	g	OD
	1	4	initialize	valid		1	10.00	2	\$20.00	3	\$30.00	4	\$0.00
2	1		x,y,\$15.00	pending		1	(15.00)	2	\$35.00	3	\$10.00		
144													
t	s	e	Event	state	access	g	x	g	y	g	z	g	OD
	1	4	initialize	valid		1	10.00	2	\$20.00	3	\$30.00	4	\$0.00
2	1	3	x,y,\$15.00	valid	x,y,OD	1	(15.00)	2	\$35.00			3	\$10.00
146													
t	s	e	Event	state	access	g	x	g	y	g	z	g	OD
	1	4	initialize	valid		1	10.00	2	\$20.00	3	\$30.00	4	\$0.00
1	1	2	z,x,\$10.00	valid	z,x	2	20.00	2	\$35.00	1	\$20.00		
2	4		x,y,\$15.00	pending	x,y,OD	1	~~(15.00)~~					3	\$10.00
148													
t	s	e	Event	state	access	g	x	g	y	g	z	g	OD
	1	4	initialize	valid		1	10.00	2	\$20.00	3	\$30.00	4	\$0.00
1		1	z,x,\$10.00	valid	z,x	2	20.00			1	\$20.00		
2	4	5	x,y,\$15.00	valid	x,y	4	5.00	5	\$35.00				

FIG. 11

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t	g	x	t	g	y	t	g	z	t	g	OD
	1	10.00		2	\$20.00		3	\$30.00		4	\$0.00
t	g	x	t	g	y				t	g	OD
	1	10.00		2	\$20.00					4	\$0.00
2	1	(15.00)	2	2	\$35.00				2	3	\$10.00
t	g	x	t	g	y	t	g	z			
	1	10.00		2	\$20.00		3	\$30.00			
1	2	20.00	1	1		1	1	\$20.00			
2	1	~~(15.00)~~	2	2	\$35.00						
t	g	x	t	g	y				t	g	OD
		10.00		2	\$20.00					4	\$0.00
1	2	20.00	1	1							
2	4	5.00	2	5	\$35.00						

FIG. 12

t	s	e	Event	state	access	t	s	e	Event	state	access
2	1		x,y,\$15.00	pending		1	1		x,y,\$10.00	pending	
t	s	e	Event	state	access	t	s	e	Event	state	access
2	1	3	x,y,\$15.00	valid	x,y,OD	1	1	2	x,y,\$15.00	valid	y,z
t	s	e	Event	state	access						
2	4		x,y,\$15.00	pending	x,y,OD						
t	s	e	Event	state	access						
2	4	5	x,y,\$15.00	valid	x,y						

FIG. 13

t	s	e	Event	state	access	g	x	y	g	z	g	OD
	1	4	initialize	valid								
	1	2	z,x,\$10.00	valid	z,x							
2	4	5	x,y,\$15.00	valid	x,y	1	10.00	\$20.00	3	\$30.00	4	\$0.00
						2	20.00	\$35.00	1	\$20.00		
						1	~~(15.00)~~					

t	s	e	Event	state	access	g	x	y	g	z	g	OD
	1	4	initialize	valid								
	1	2	z,x,\$10.00	valid	z,x							
2	4	5	x,y,\$15.00	valid	x,y	1	10.00	\$20.00	3	\$30.00	4	\$0.00
						1	(15.00)	\$35.00	1	\$20.00		

t	s	e	Event	state	access	g	x	y	g	z	g	OD
	1	4	initialize	valid								
	1	2	z,x,\$10.00	valid	z,x							
2	4	5	x,y,\$15.00	valid	x,y	1	10.00	\$20.00	3	\$30.00	4	\$0.00
								\$35.00	1	\$20.00		

t	s	e	Event	state	access	g	x	y	g	z	g	OD
	1	4	initialize	valid								
	1	2	z,x,\$10.00	valid	z,x							
2	4	5	x,y,\$15.00	valid	x,y	1	10.00	\$20.00	3	\$30.00	4	\$0.00
						1	20.00	\$35.00	1	\$20.00	1	\$10.00
						2	5.00		2			

FIG. 14