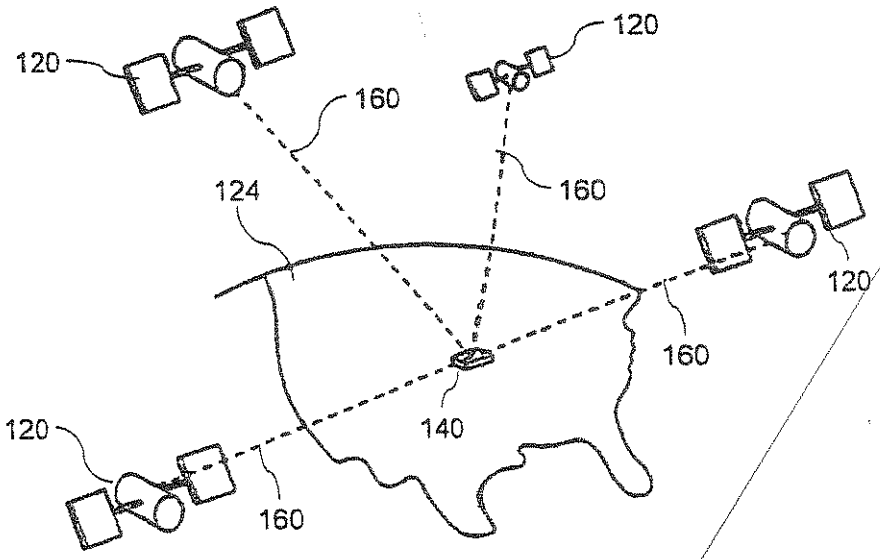


100

FIG. 1

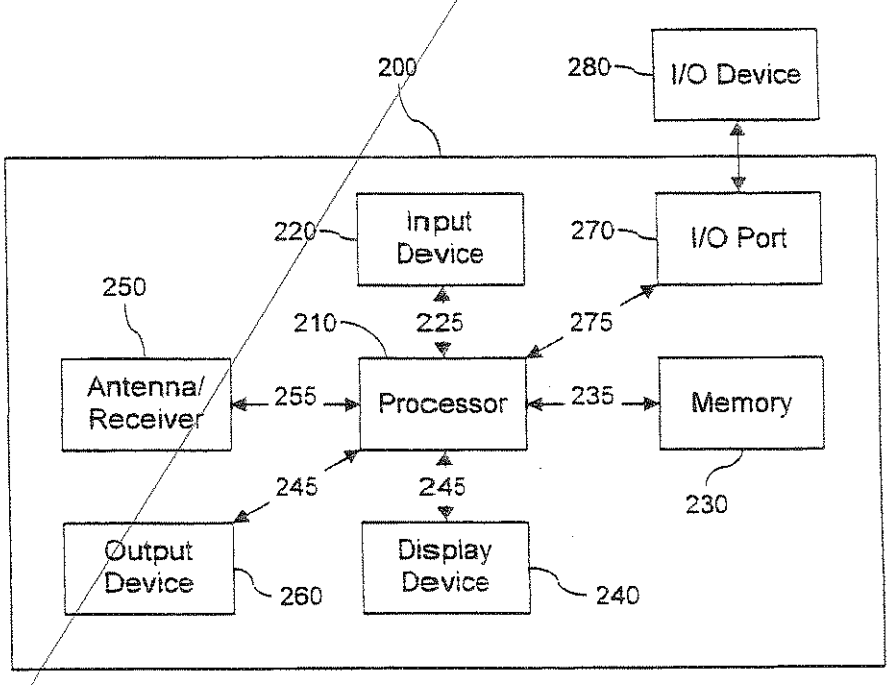


FIG. 2

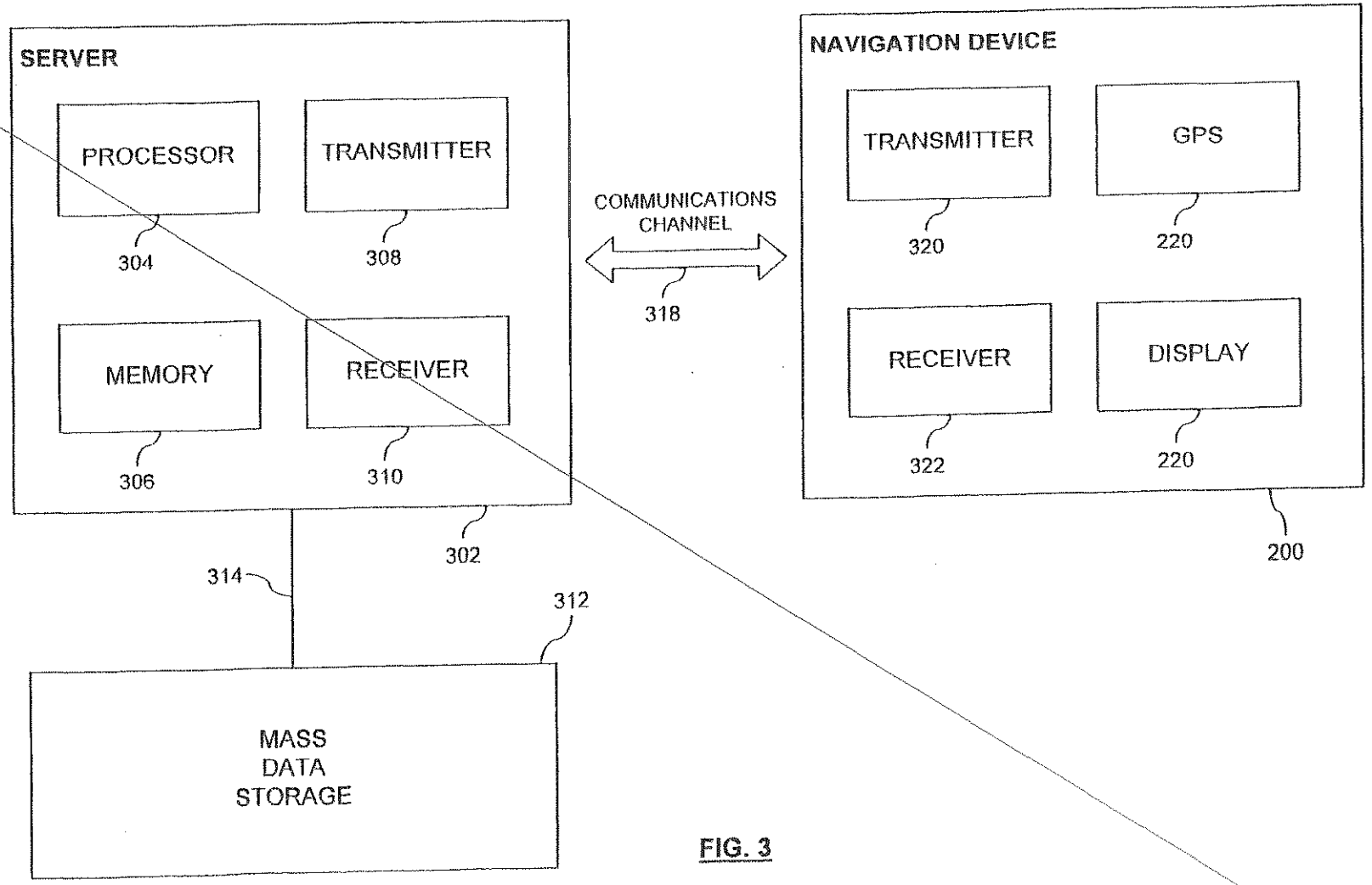

SERVER
PROCESSOR
TRANSMITTER
304
308
MEMORY
RECEIVER
306
310
302
314
312
MASS
DATA
STORAGE
COMMUNICATIONS
CHANNEL
318
NAVIGATION DEVICE
TRANSMITTER
GPS
320
220
RECEIVER
DISPLAY
322
220
200

FIG. 3

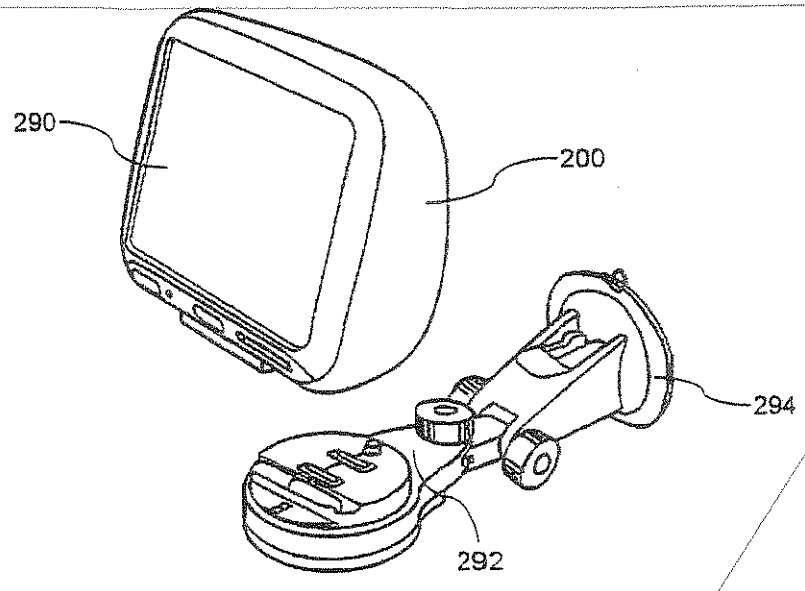


FIG. 4a

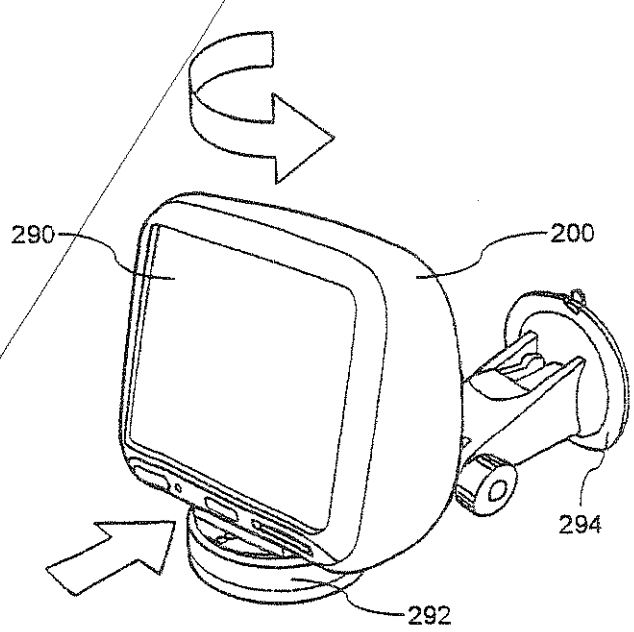


FIG. 4b

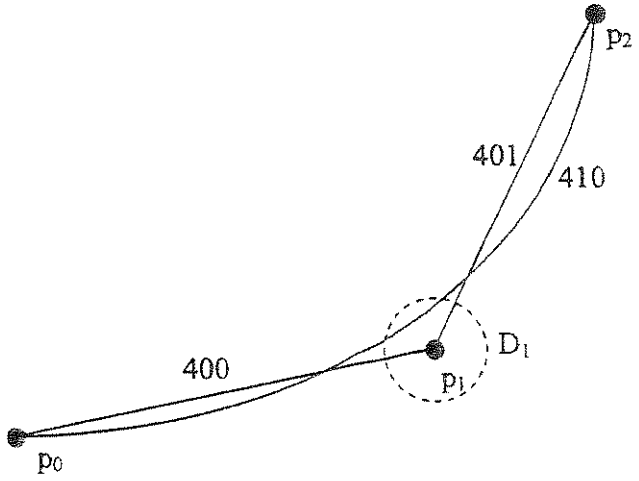


FIG. 5

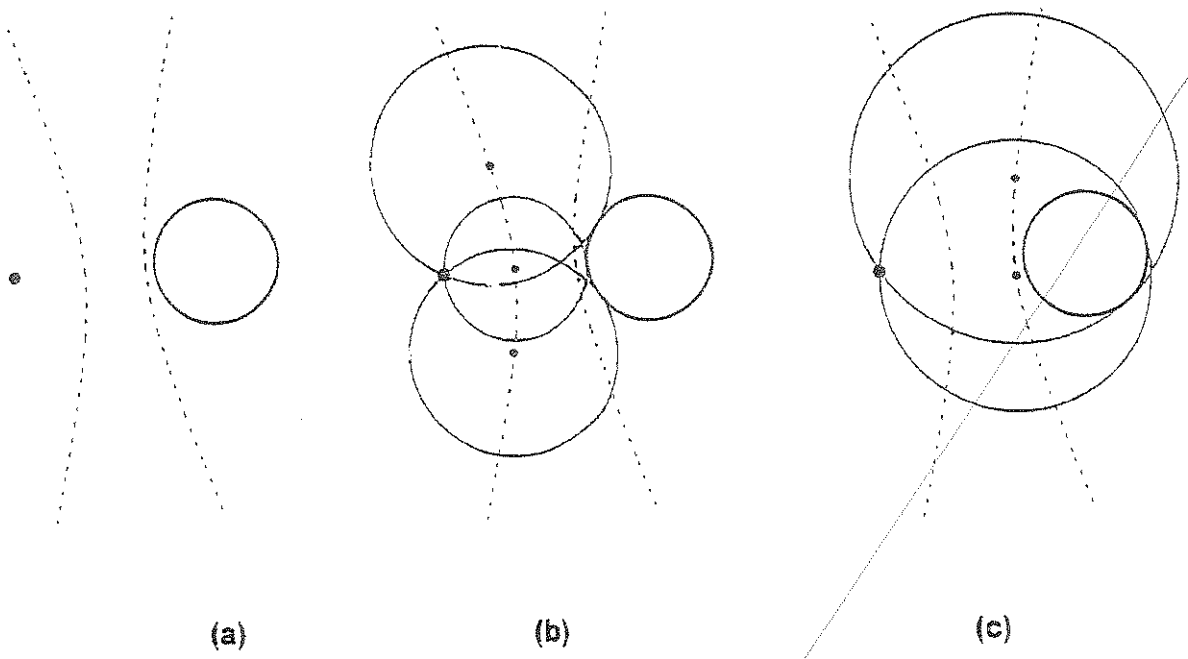


FIG. 6

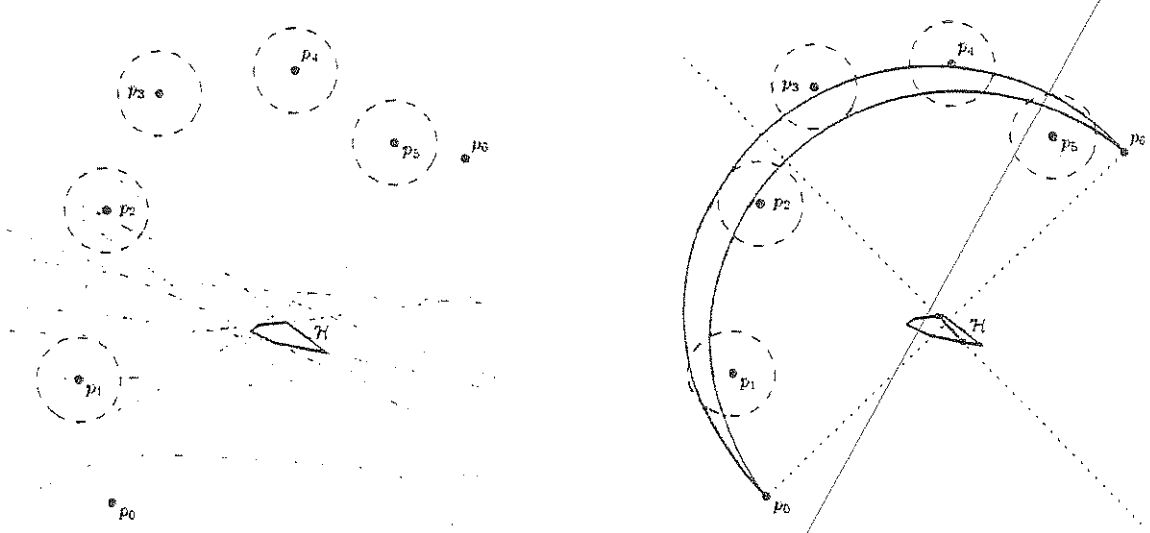


FIG. 7

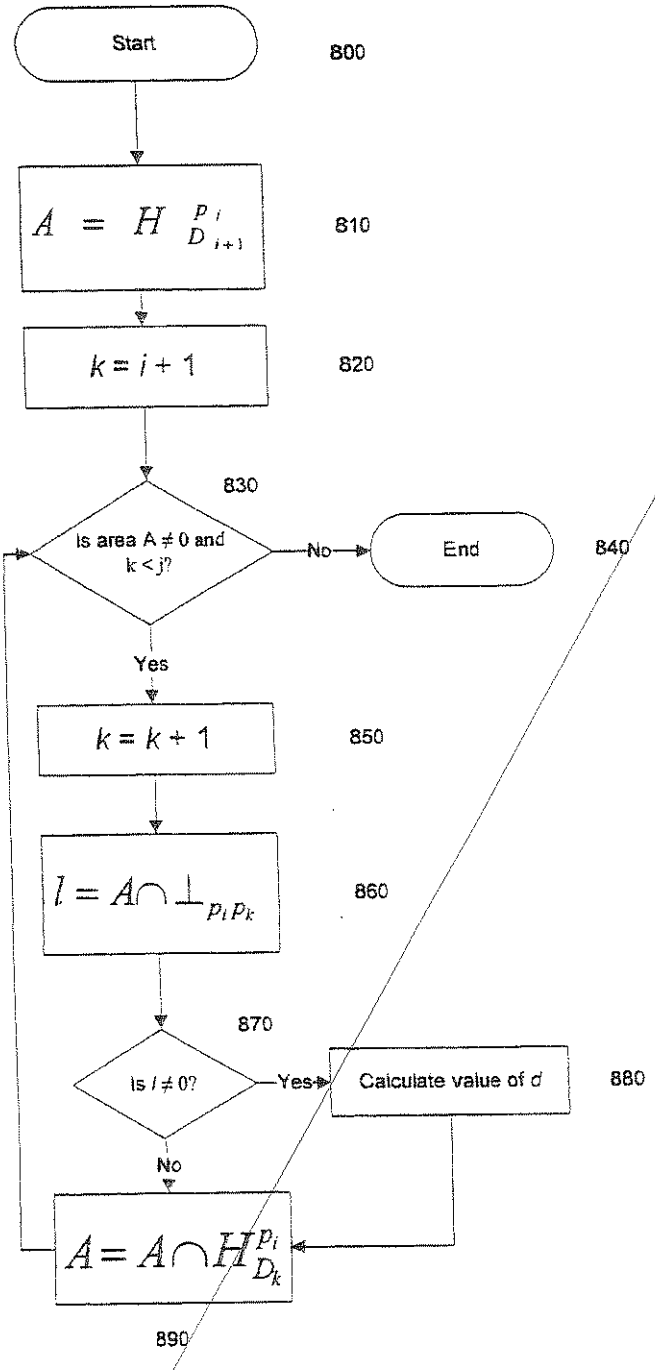

Start
800
$A = H^{P_i}_{D_{i+1}}$
810
$k = i + 1$
820
830
Is area A ≠ 0 and k < j?
No
End
840
Yes
$k = k + 1$
850
$l = A \cap \perp_{p_i p_k}$
860
870
Is $l \neq 0$?
Yes
Calculate value of d
880
No
$A = A \cap H^{p_i}_{D_k}$
890

FIG. 8

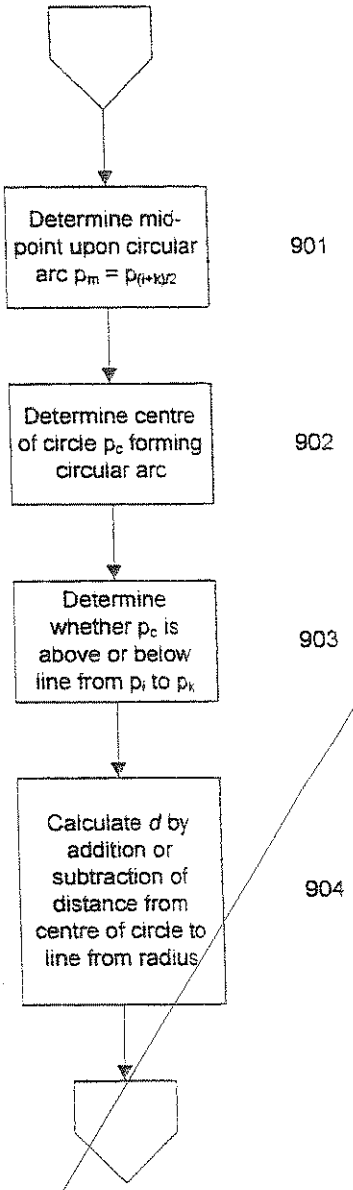

Determine mid-point upon circular arc $p_m = p_{(i+k)/2}$
901
Determine centre of circle p_c forming circular arc
902
Determine whether p_c is above or below line from p_i to p_k
903
Calculate d by addition or subtraction of distance from centre of circle to line from radius
904

FIG. 9

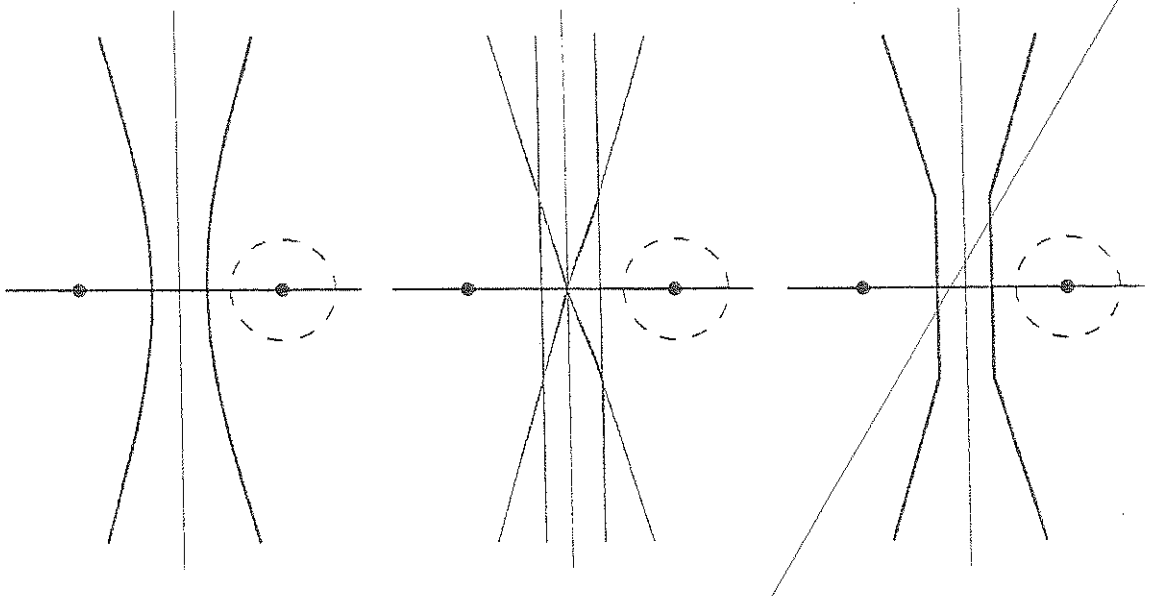


FIG. 10

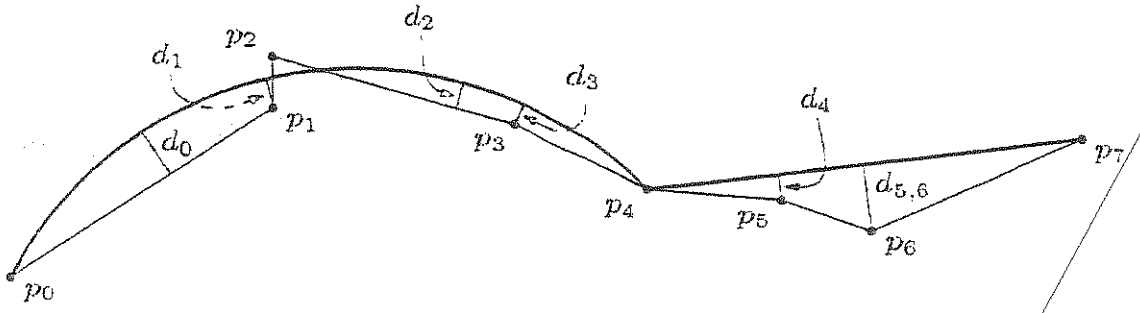

d_1
p_2
d_2
d_3
d_4
d_0
p_1
p_3
p_7
$d_{5,6}$
p_4
p_5
p_6
p_0

FIG. 11

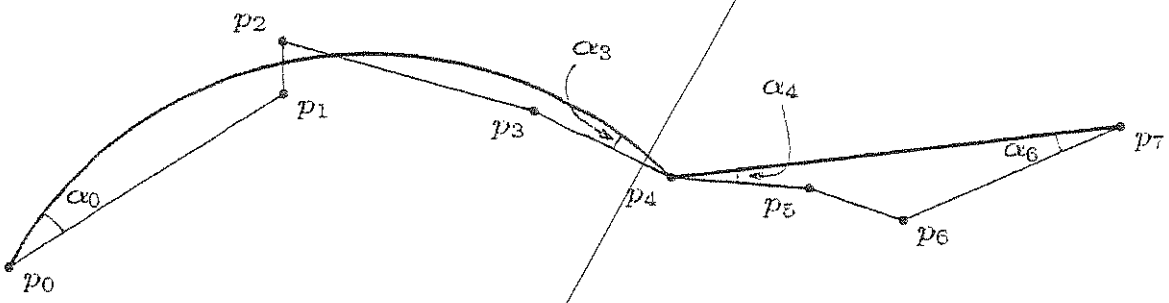

p_2
α_3
α_4
p_1
p_3
p_7
α_6
α_0
p_4
p_5
p_6
p_0

FIG. 12

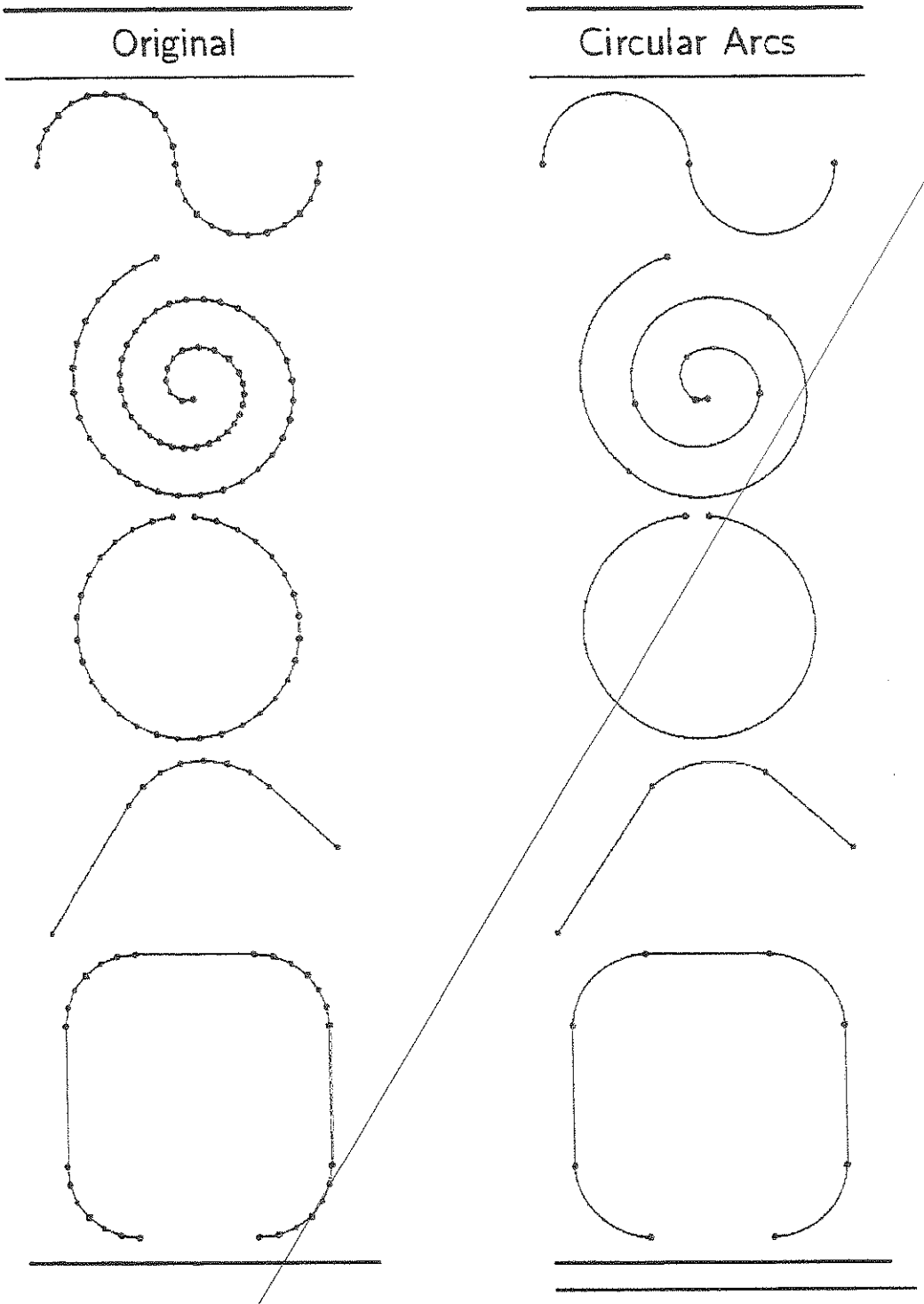
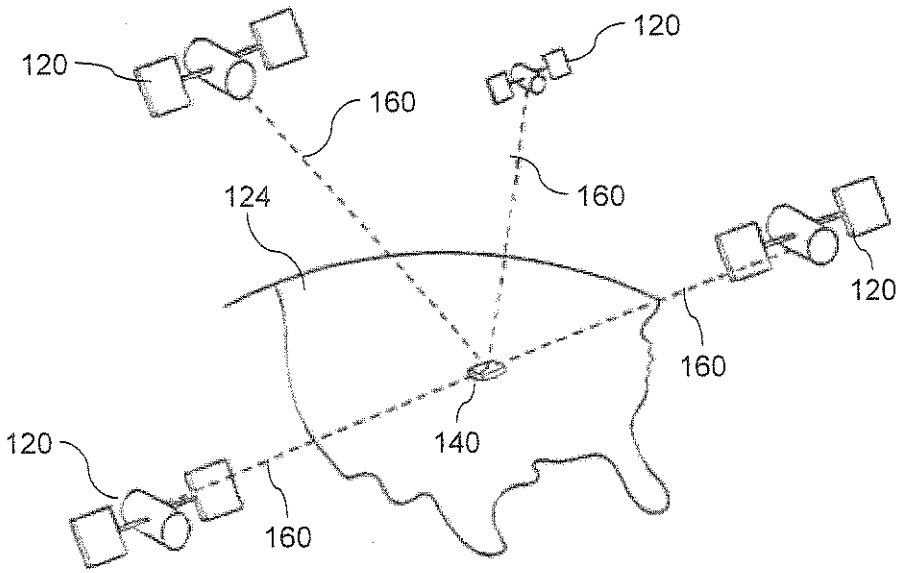


FIG. 13



100

FIG. 1

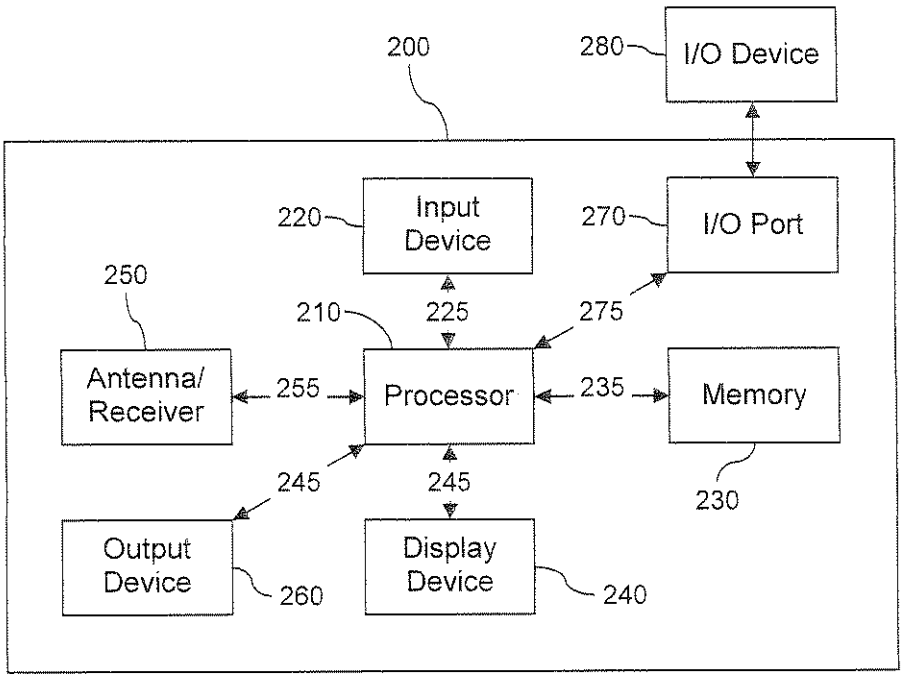


FIG. 2

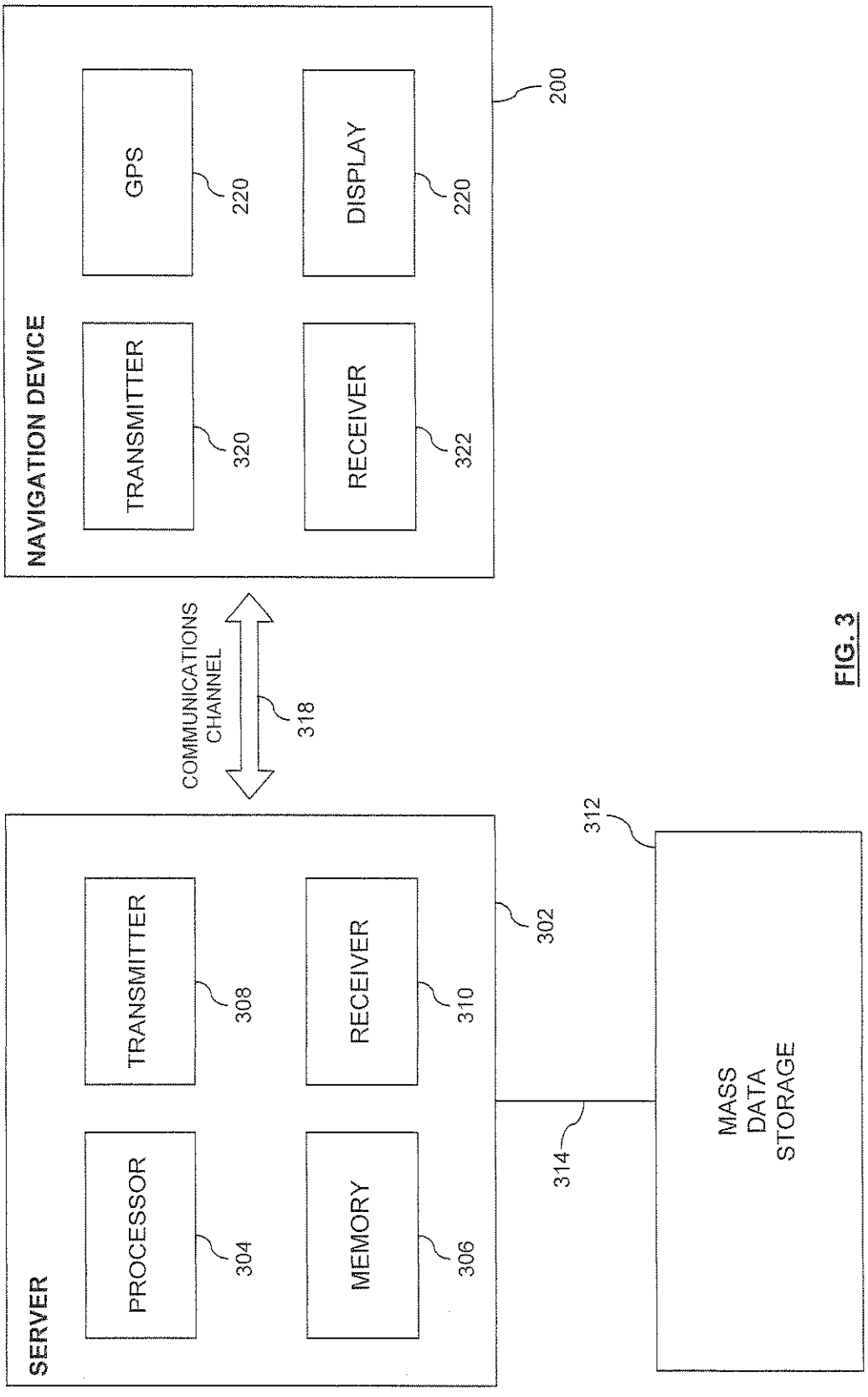

NAVIGATION DEVICE
GPS
220
DISPLAY
220
TRANSMITTER
320
RECEIVER
322
200
COMMUNICATIONS CHANNEL
318
SERVER
PROCESSOR
304
TRANSMITTER
308
MEMORY
306
RECEIVER
310
302
312
314
MASS DATA STORAGE

FIG. 3

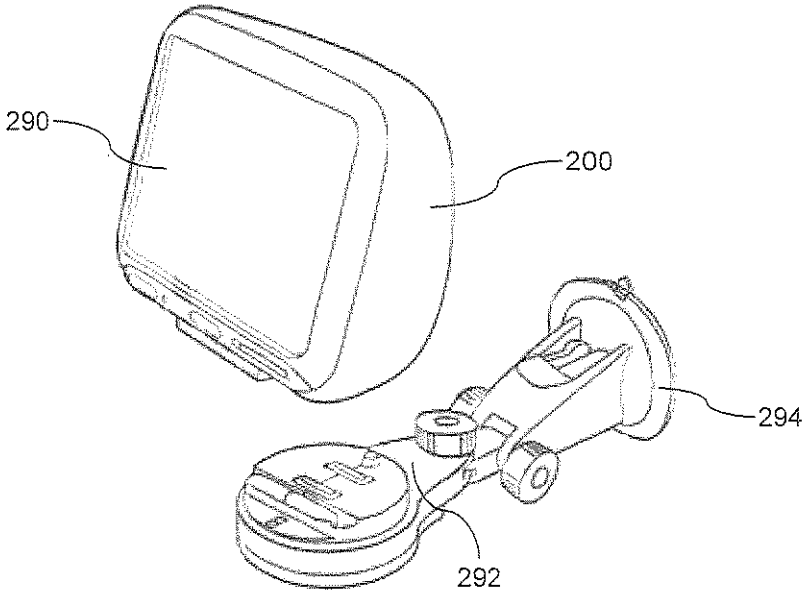


FIG. 4a

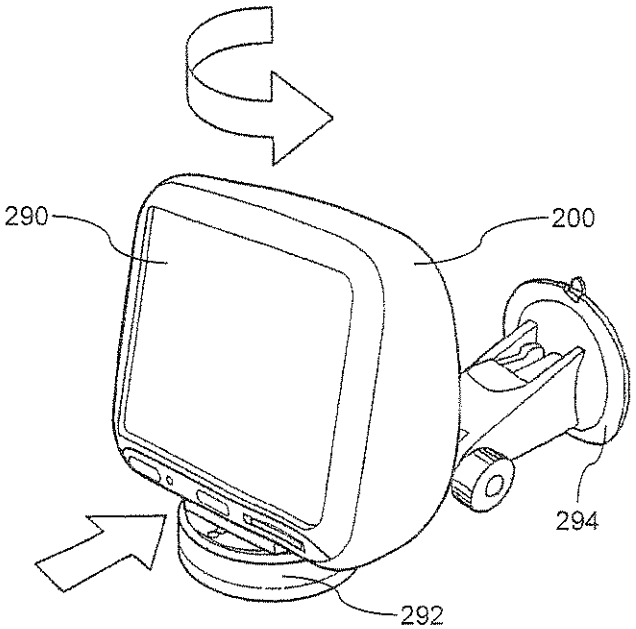


FIG. 4b

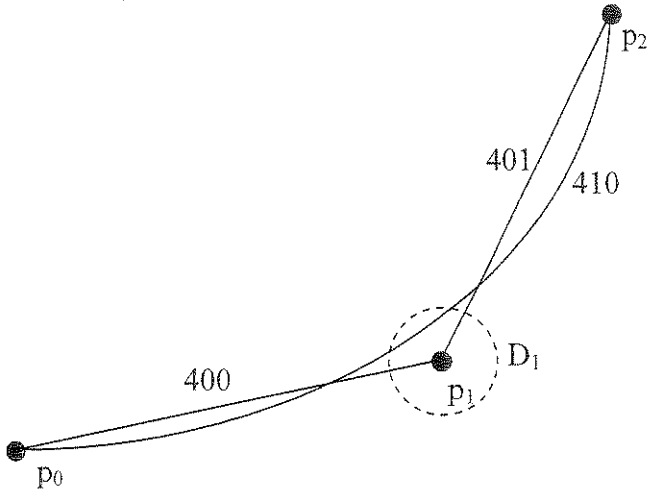


FIG. 5

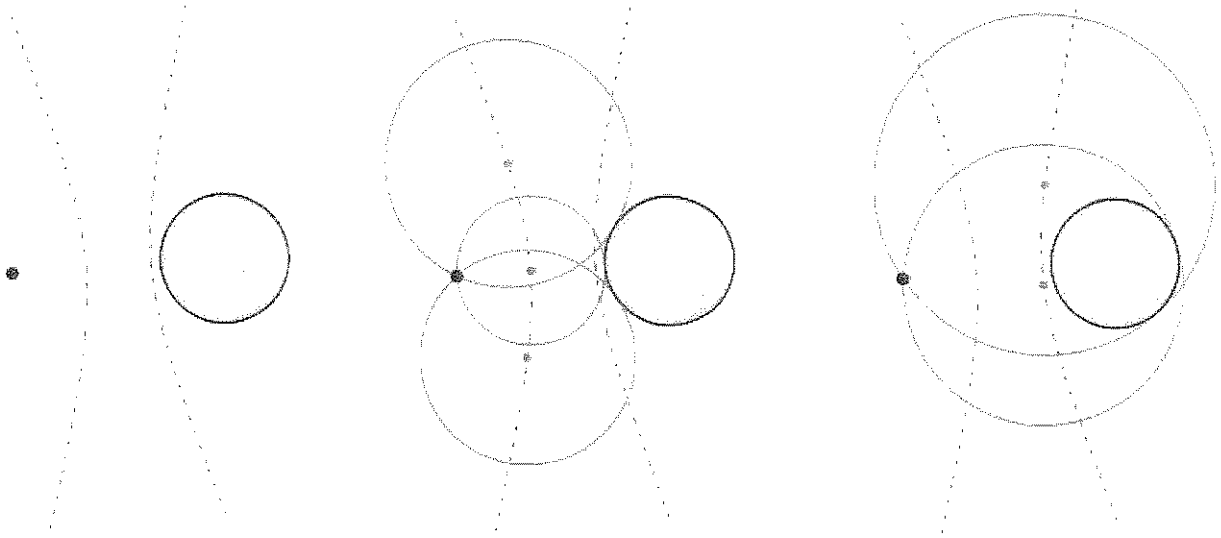


FIG. 6

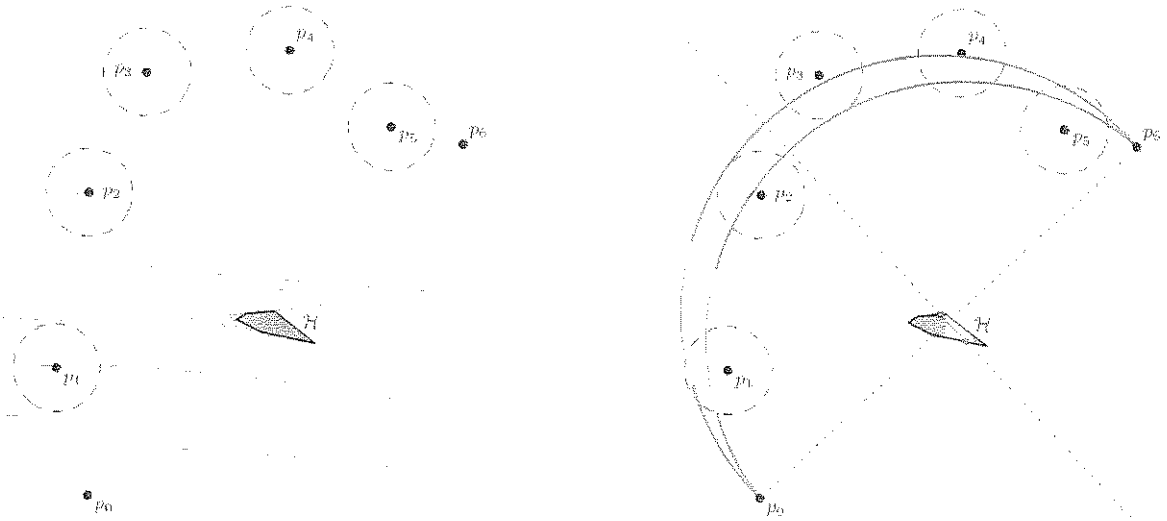


FIG. 7

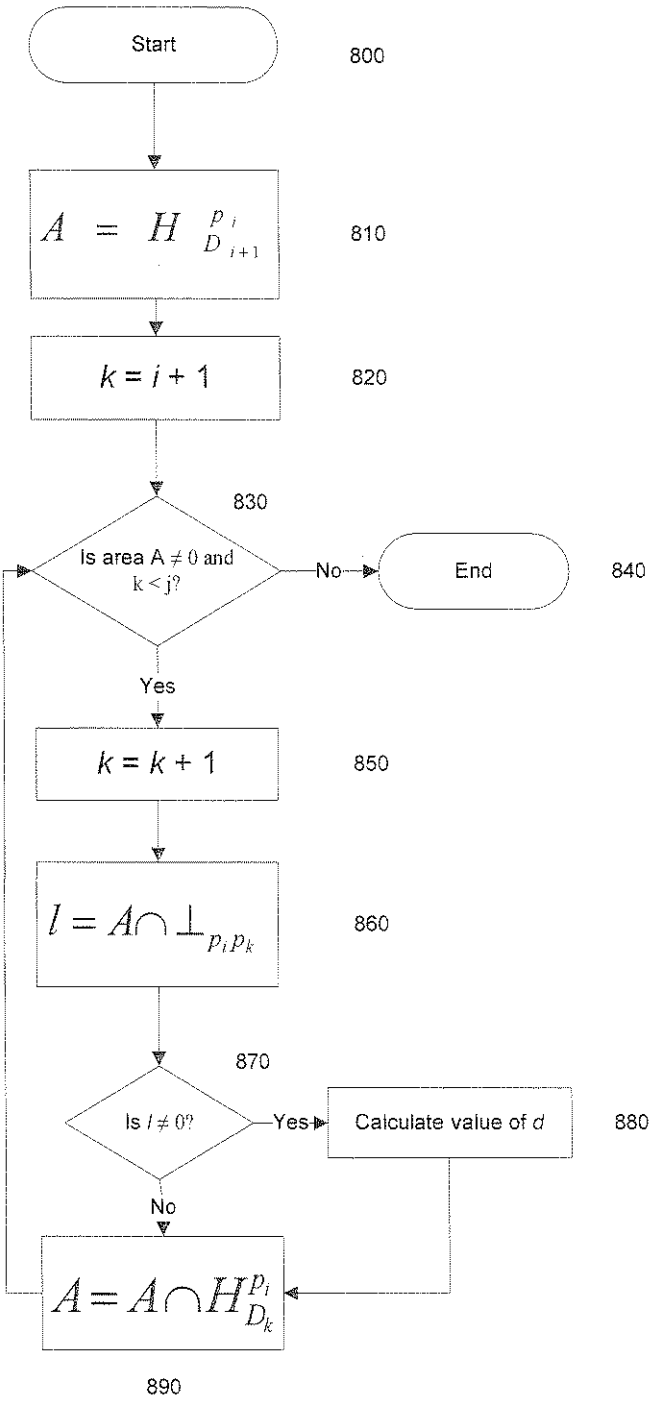

Start
800
$A = H^{p_i}_{D_{i+1}}$
810
$k = i + 1$
820
830
Is area A ≠ 0 and k < j?
No
End
840
Yes
$k = k + 1$
850
$l = A \cap \perp_{p_i p_k}$
860
870
Is $l \neq 0$?
Yes
Calculate value of d
880
No
$A = A \cap H^{p_i}_{D_k}$
890

FIG. 8

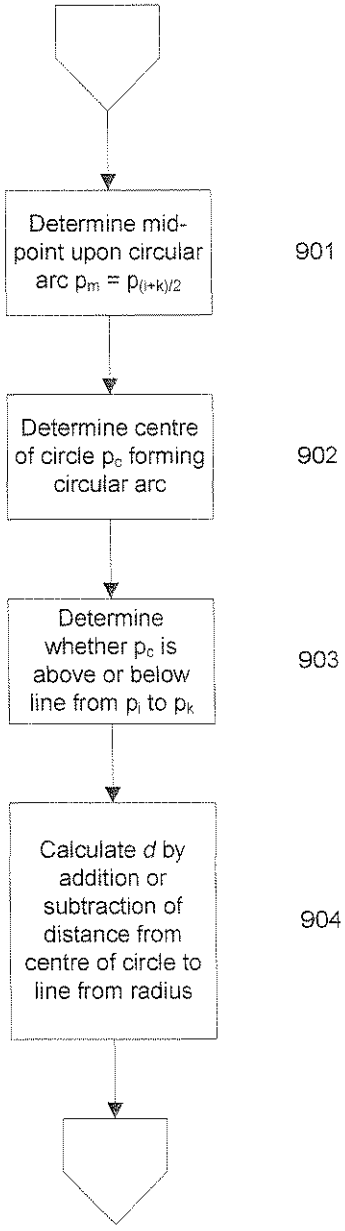

Determine mid-point upon circular arc $p_m = p_{(i+k)/2}$
901
Determine centre of circle p_c forming circular arc
902
Determine whether p_c is above or below line from p_i to p_k
903
Calculate *d* by addition or subtraction of distance from centre of circle to line from radius
904

FIG. 9

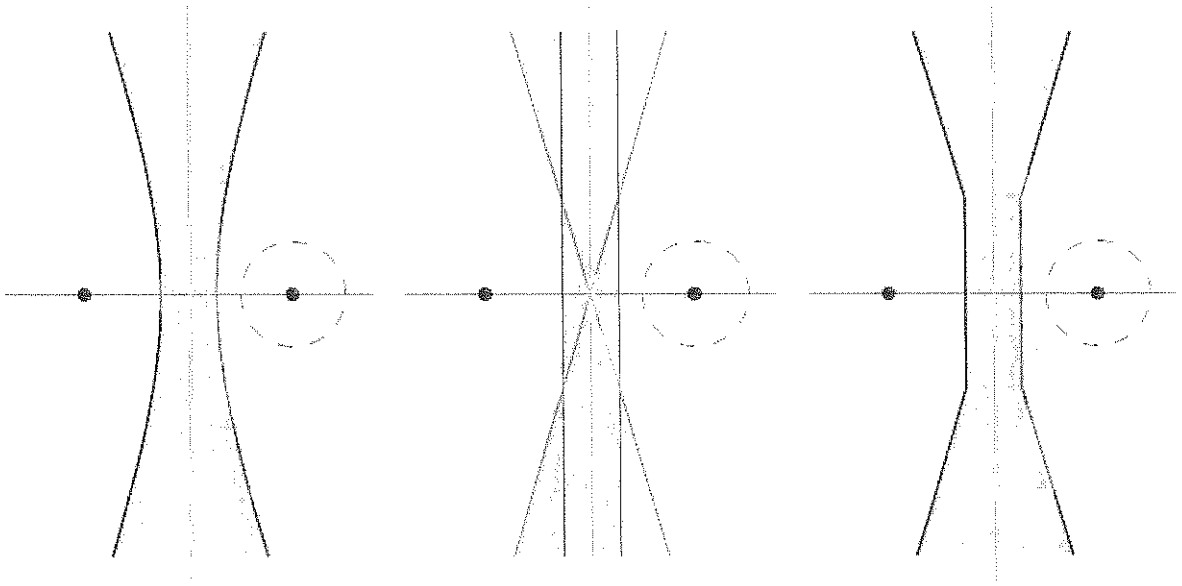


FIG. 10

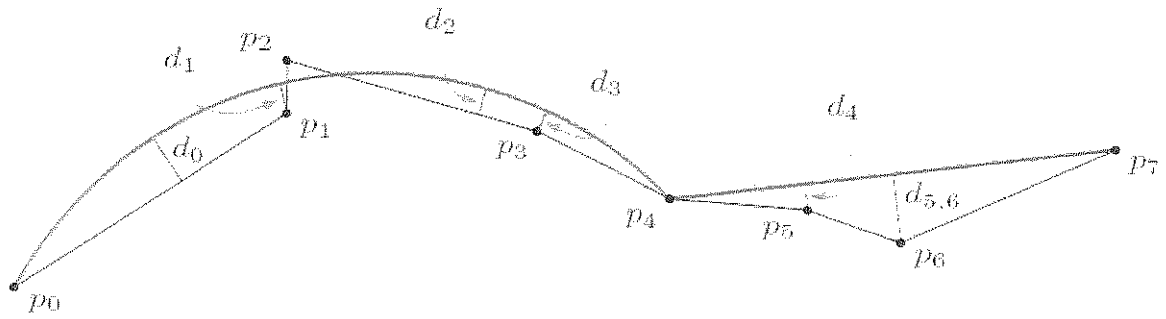

d_1
p_2
d_2
d_3
d_4
p_1
d_0
p_3
p_7
$d_{5,6}$
p_4
p_5
p_6
p_0

FIG. 11

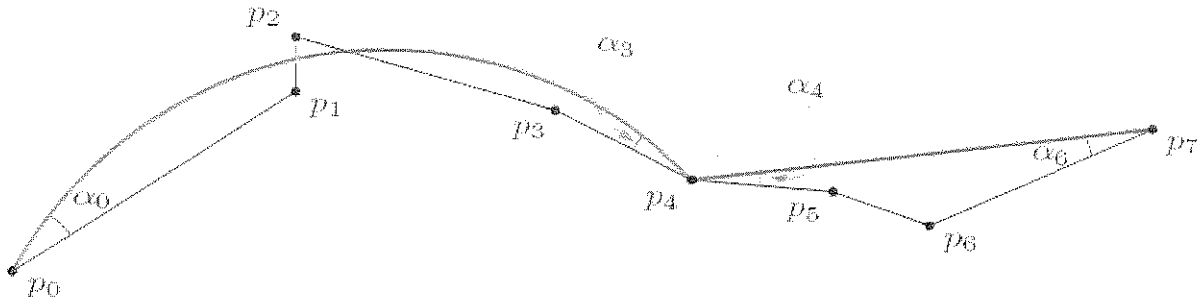

p_2
α_3
α_4
p_1
p_3
α_6
p_7
α_0
p_4
p_5
p_6
p_0

FIG. 12

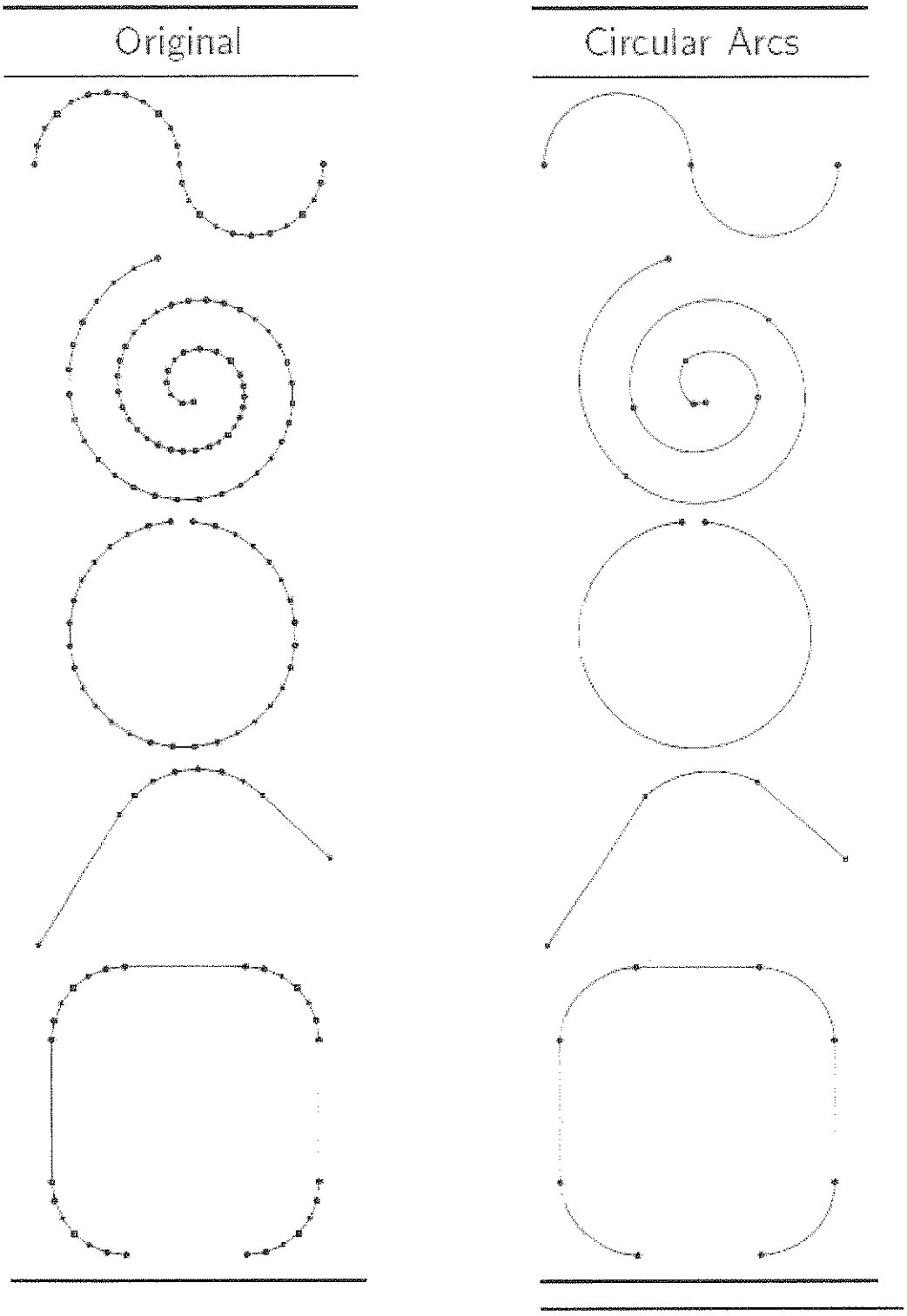


FIG. 13