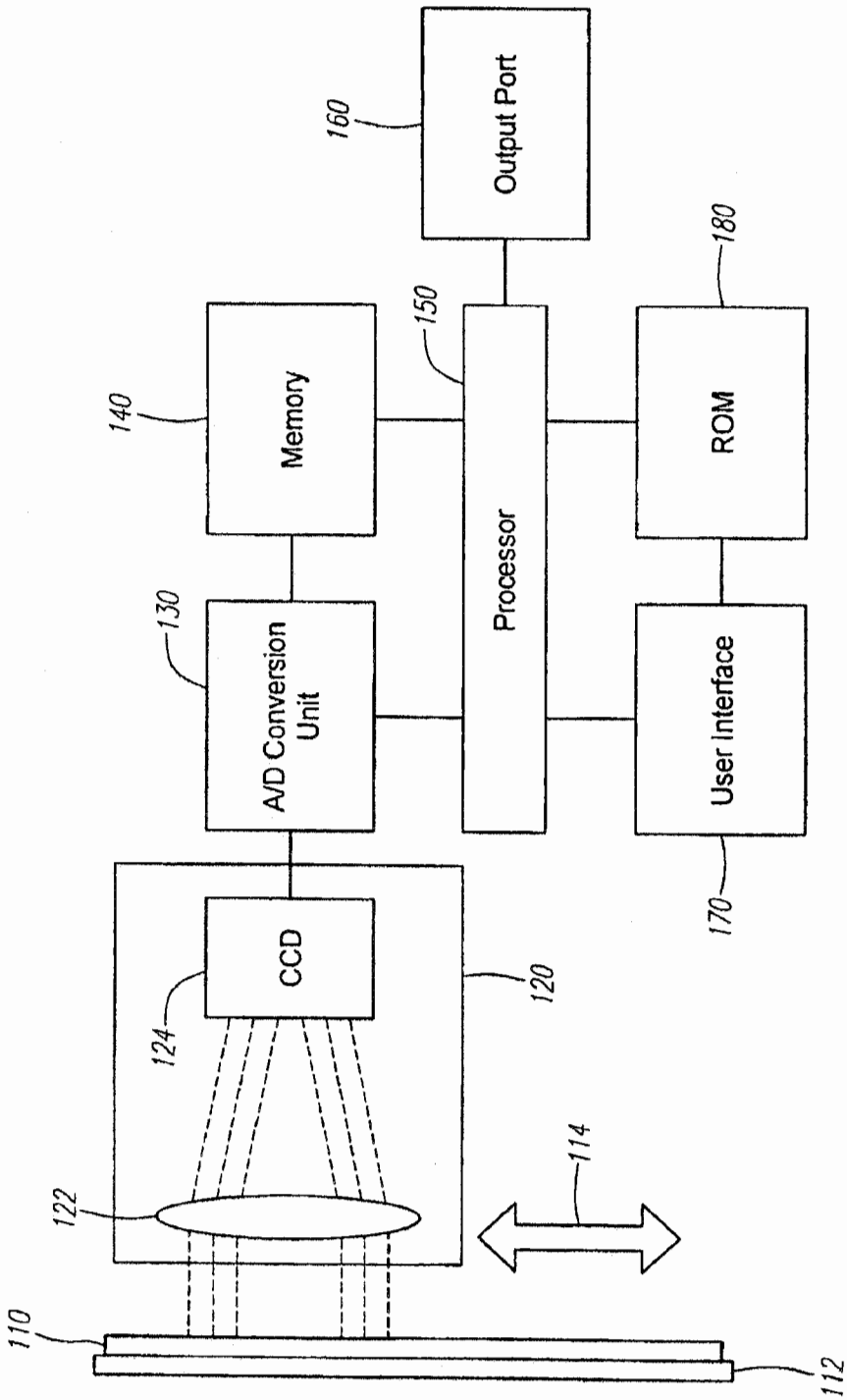


FIG. 1A
(PRIOR ART)

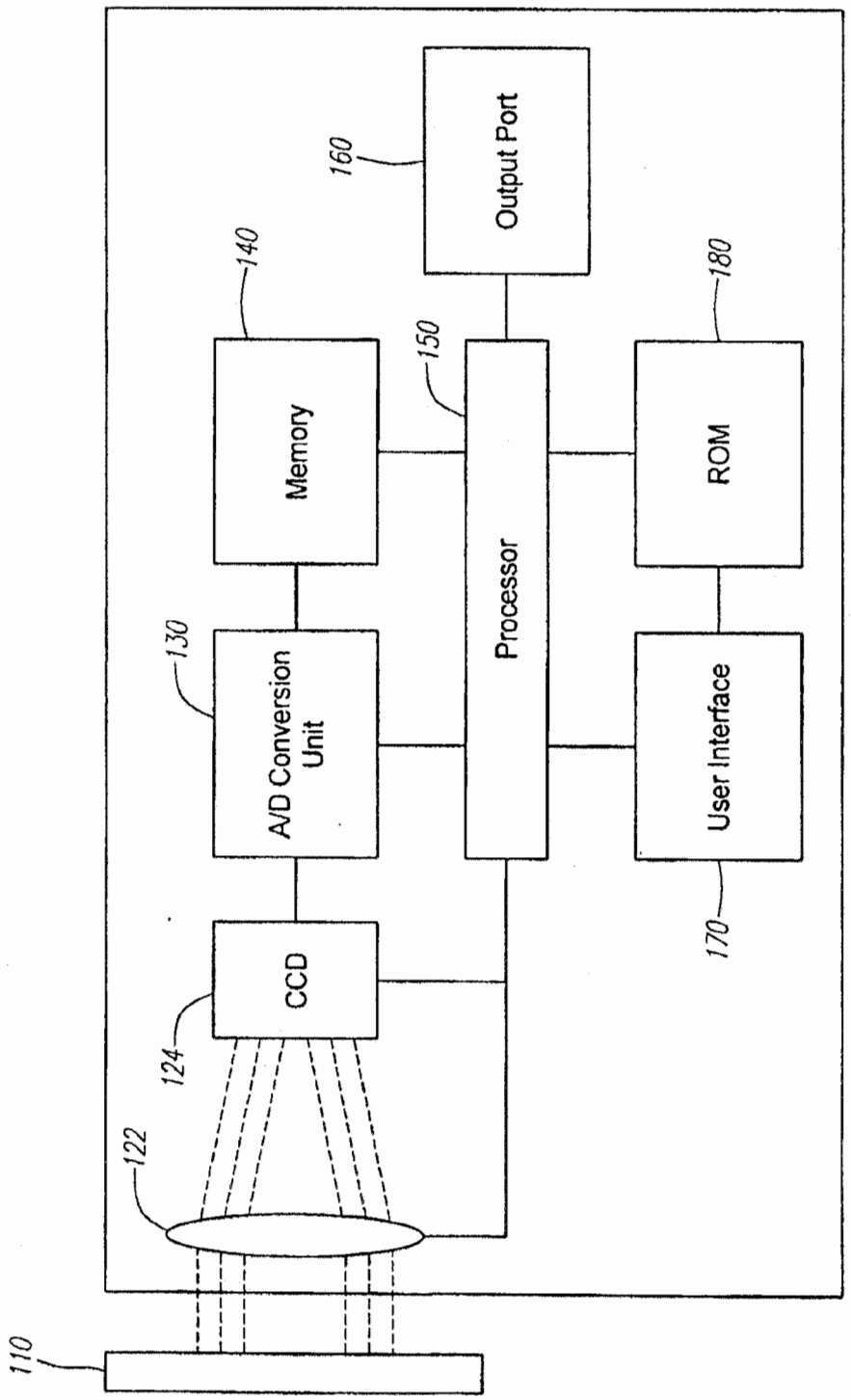


FIG. 1B
(PRIOR ART)

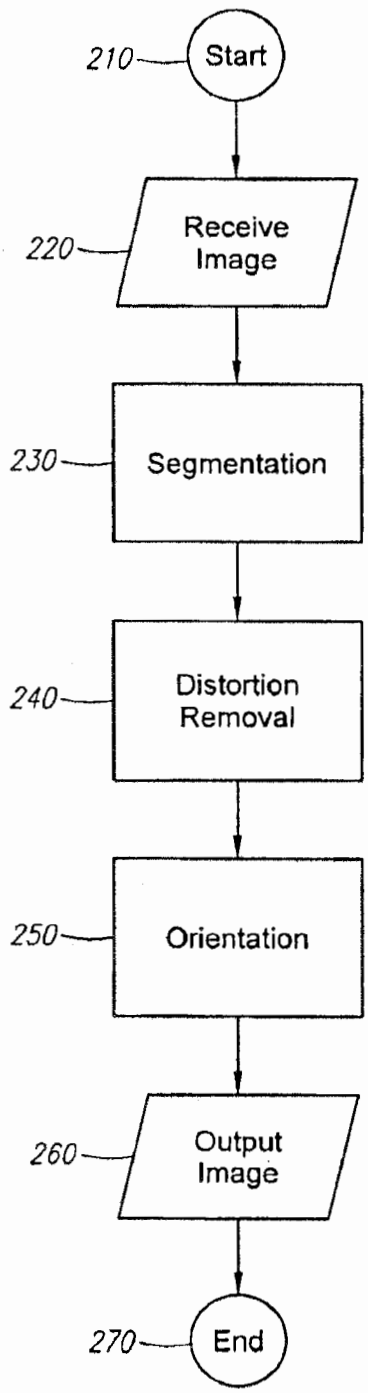

210
Start
220
Receive Image
230
Segmentation
240
Distortion Removal
250
Orientation
260
Output Image
270
End

FIG. 2

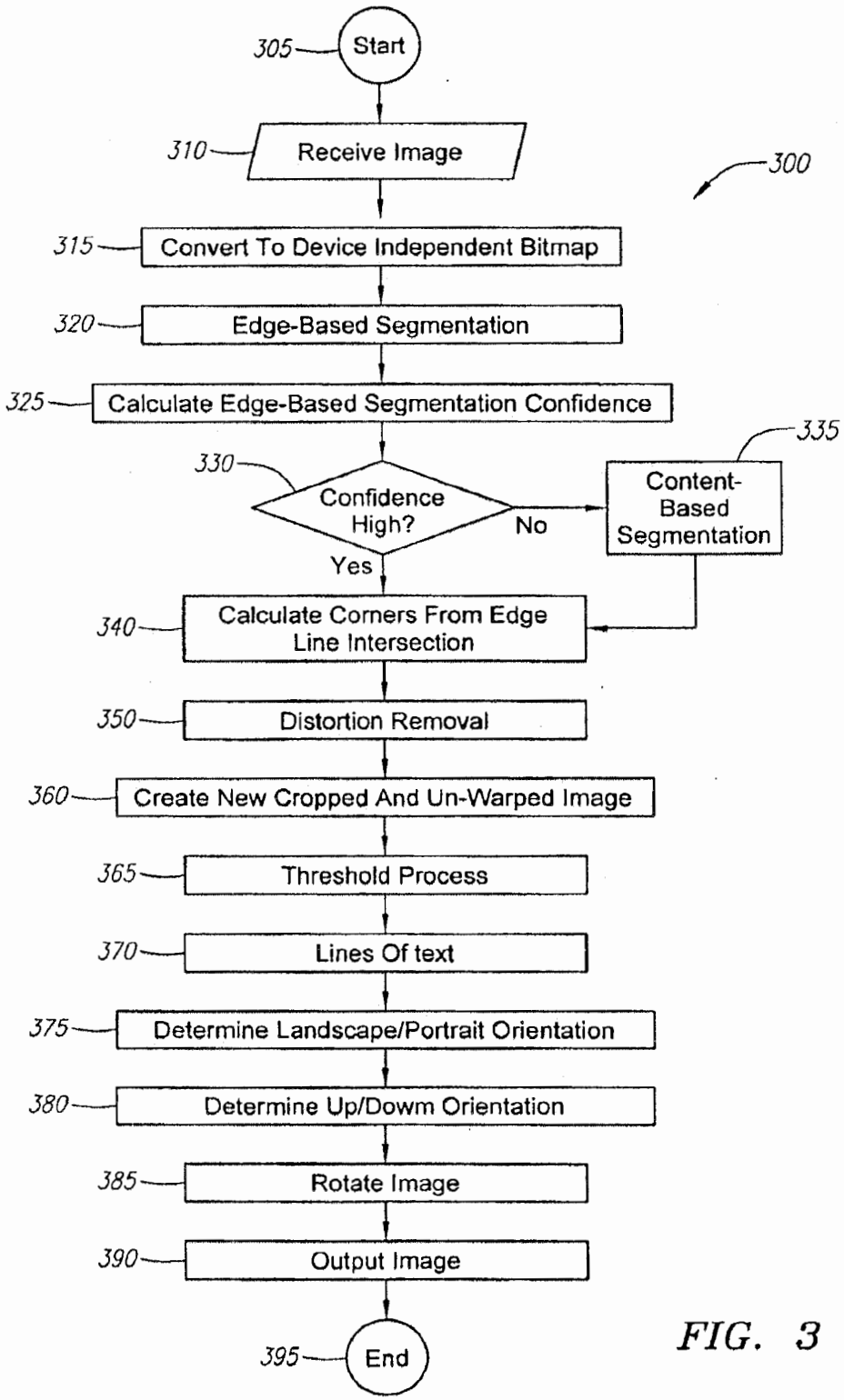

305
Start
310
Receive Image
300
315
Convert To Device Independent Bitmap
320
Edge-Based Segmentation
325
Calculate Edge-Based Segmentation Confidence
330
Confidence High?
No
Yes
335
Content-Based Segmentation
340
Calculate Corners From Edge Line Intersection
350
Distortion Removal
360
Create New Cropped And Un-Warped Image
365
Threshold Process
370
Lines Of text
375
Determine Landscape/Portrait Orientation
380
Determine Up/Dowm Orientation
385
Rotate Image
390
Output Image
395
End

FIG. 3

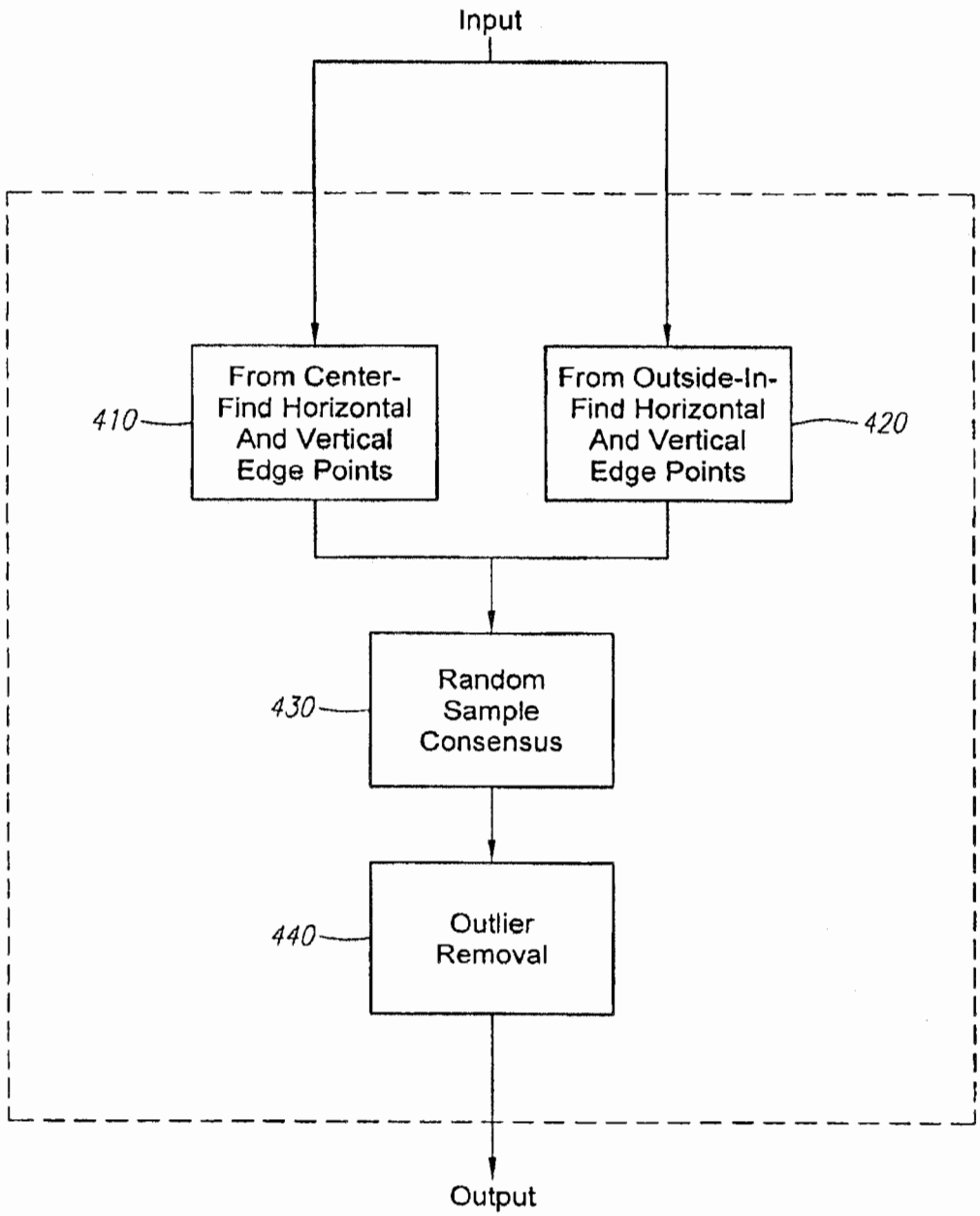

Input
From Center-Find Horizontal And Vertical Edge Points
410
From Outside-In-Find Horizontal And Vertical Edge Points
420
Random Sample Consensus
430
Outlier Removal
440
Output

FIG. 4

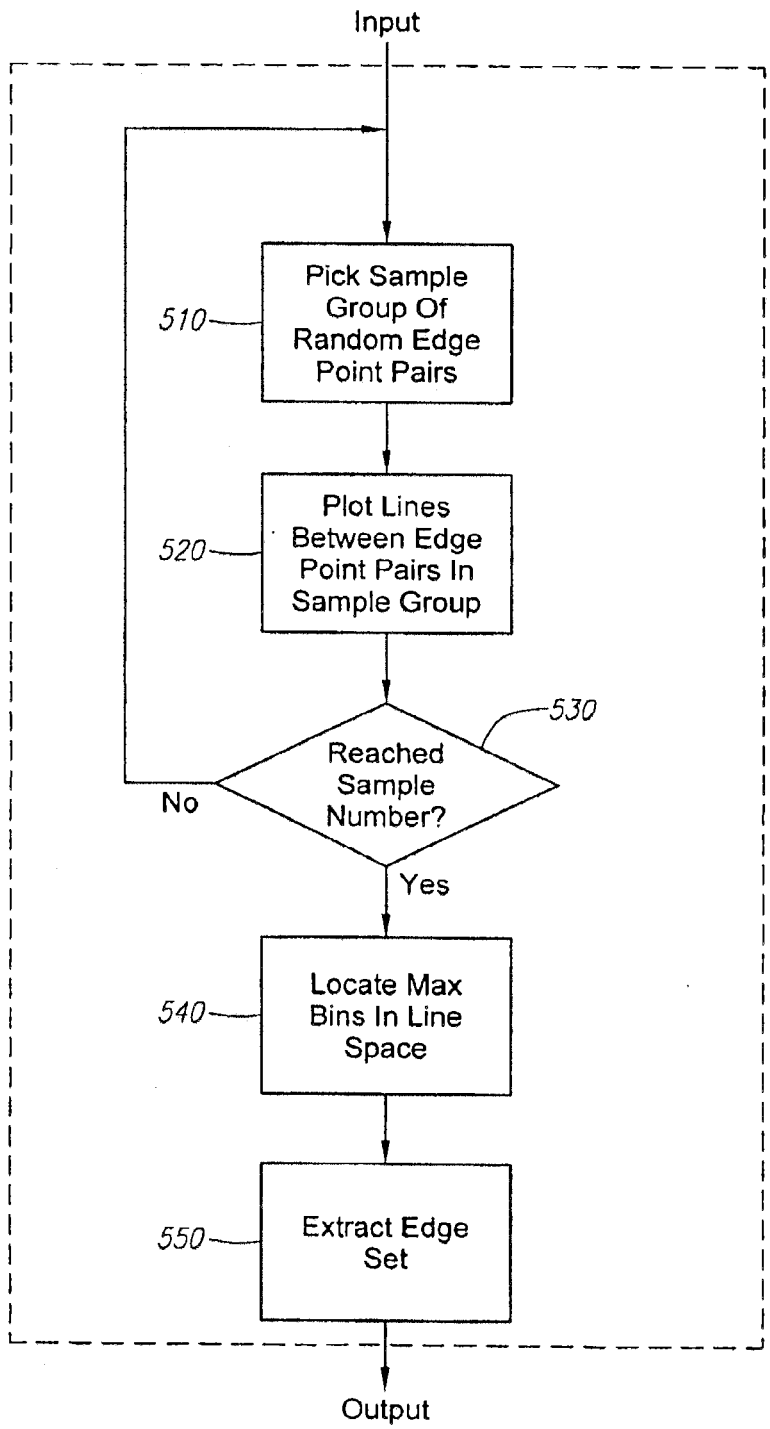

Input
Pick Sample Group Of Random Edge Point Pairs
510
Plot Lines Between Edge Point Pairs In Sample Group
520
Reached Sample Number?
530
No
Yes
Locate Max Bins In Line Space
540
Extract Edge Set
550
Output

FIG. 5

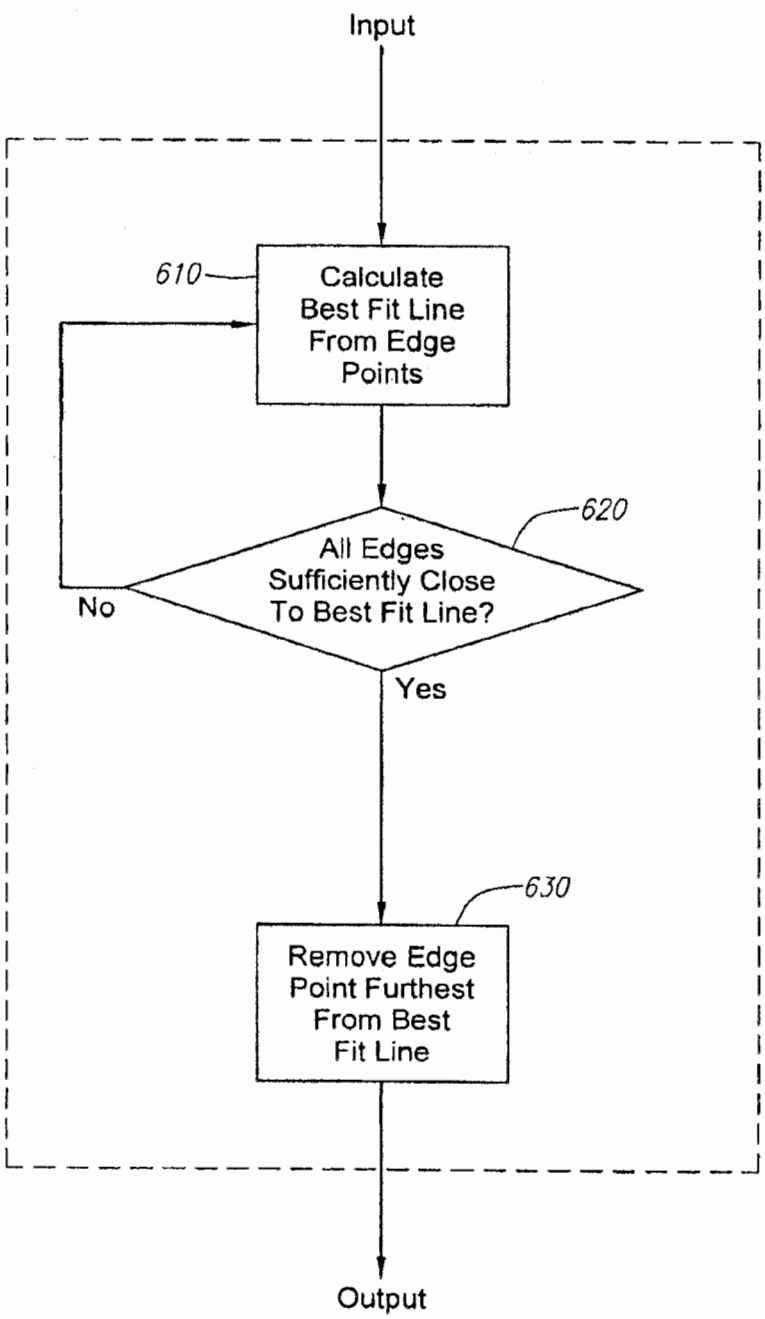

Input
610
Calculate Best Fit Line From Edge Points
620
All Edges Sufficiently Close To Best Fit Line?
No
Yes
630
Remove Edge Point Furthest From Best Fit Line
Output

FIG. 6

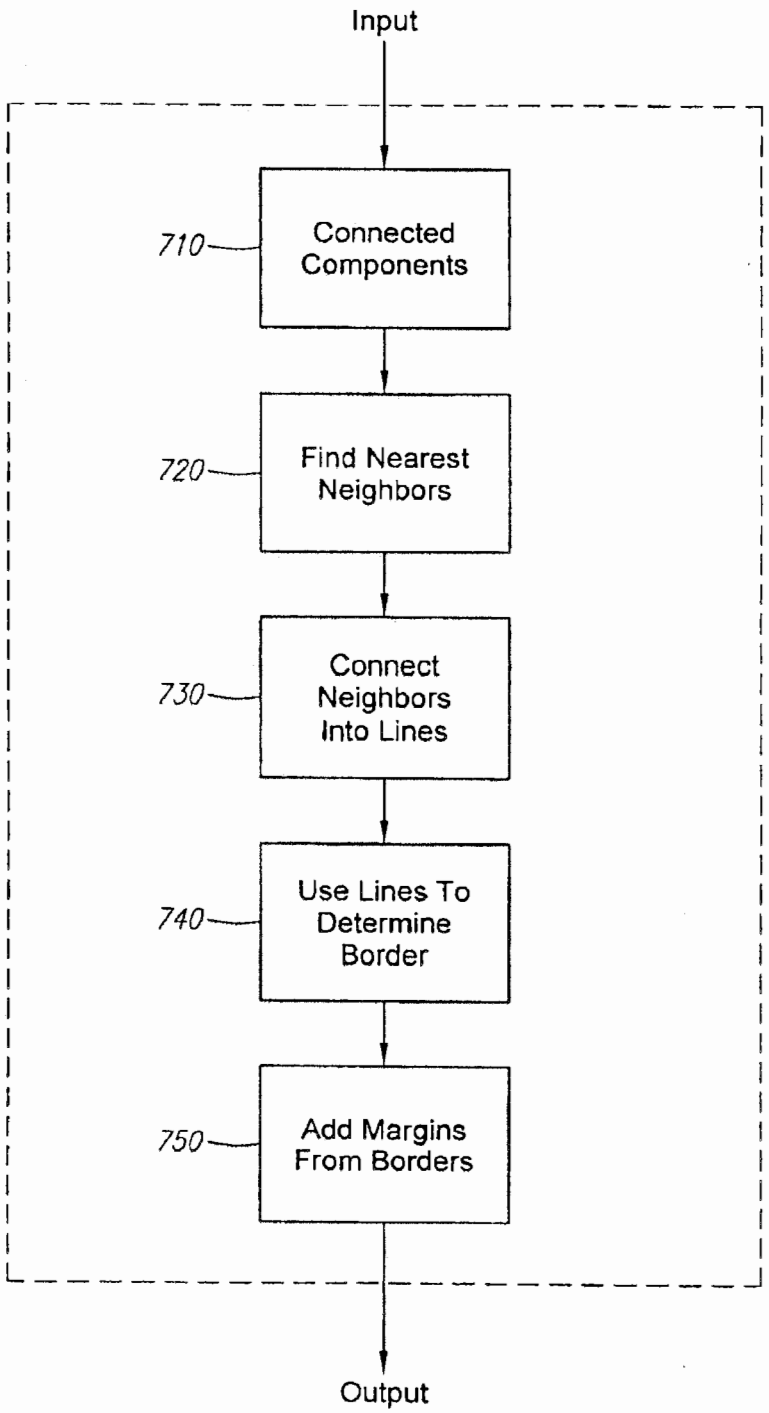

Input
710
Connected Components
720
Find Nearest Neighbors
730
Connect Neighbors Into Lines
740
Use Lines To Determine Border
750
Add Margins From Borders
Output

FIG. 7

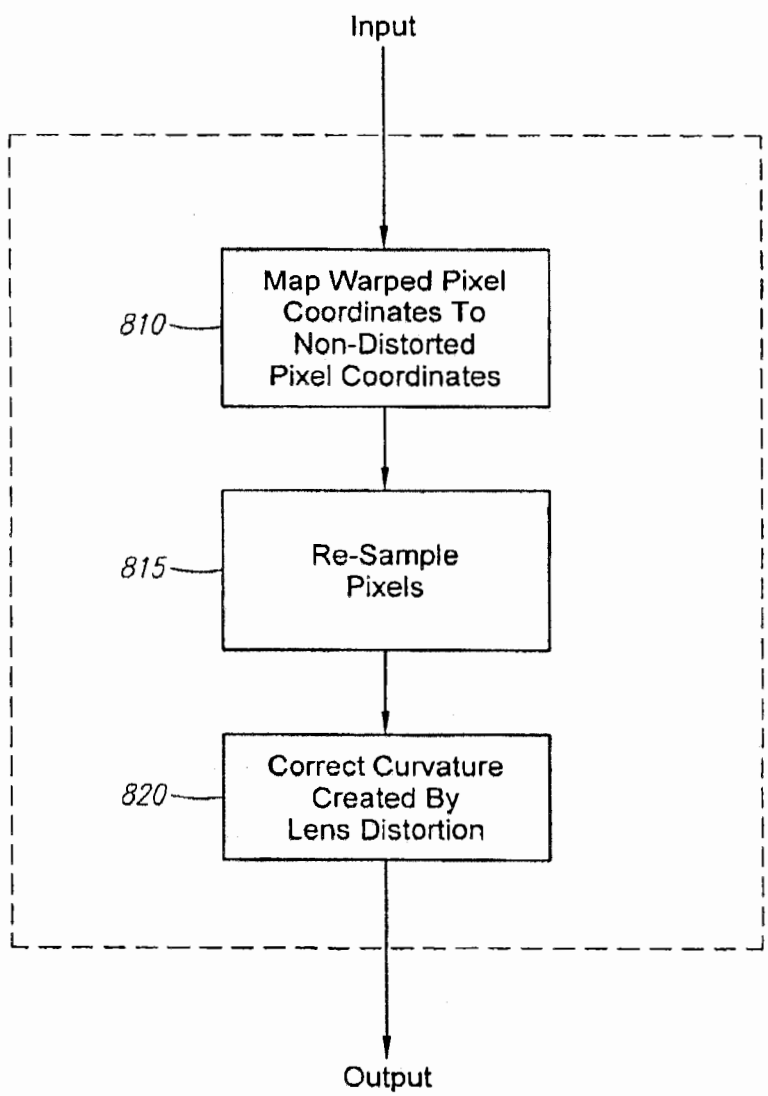

Input
Map Warped Pixel Coordinates To Non-Distorted Pixel Coordinates
810
Re-Sample Pixels
815
Correct Curvature Created By Lens Distortion
820
Output

FIG. 8

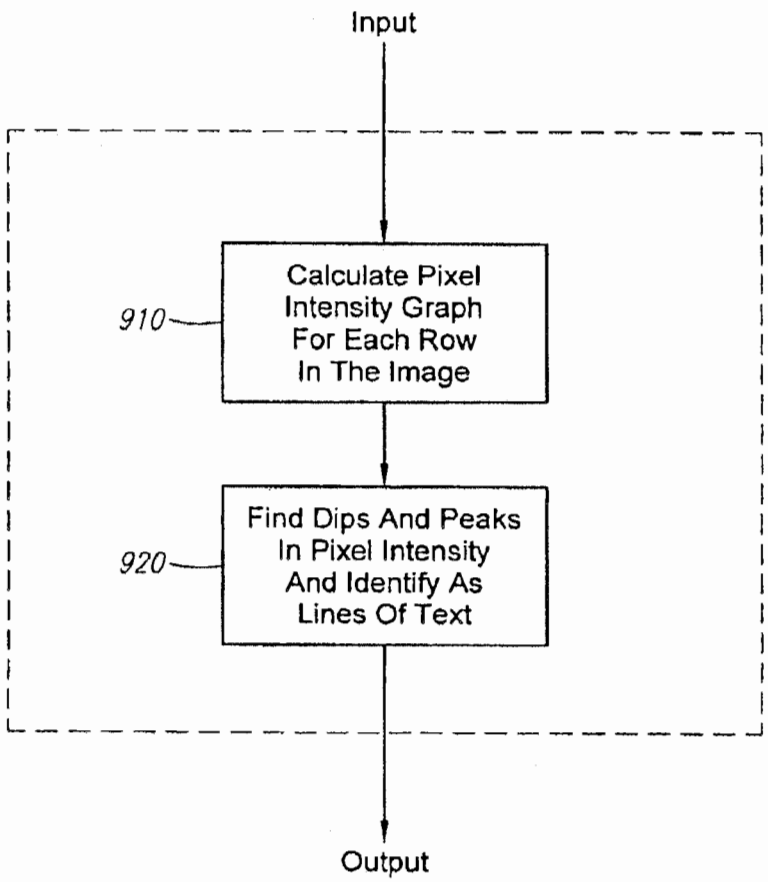

Input
910
Calculate Pixel Intensity Graph For Each Row In The Image
920
Find Dips And Peaks In Pixel Intensity And Identify As Lines Of Text
Output

FIG. 9

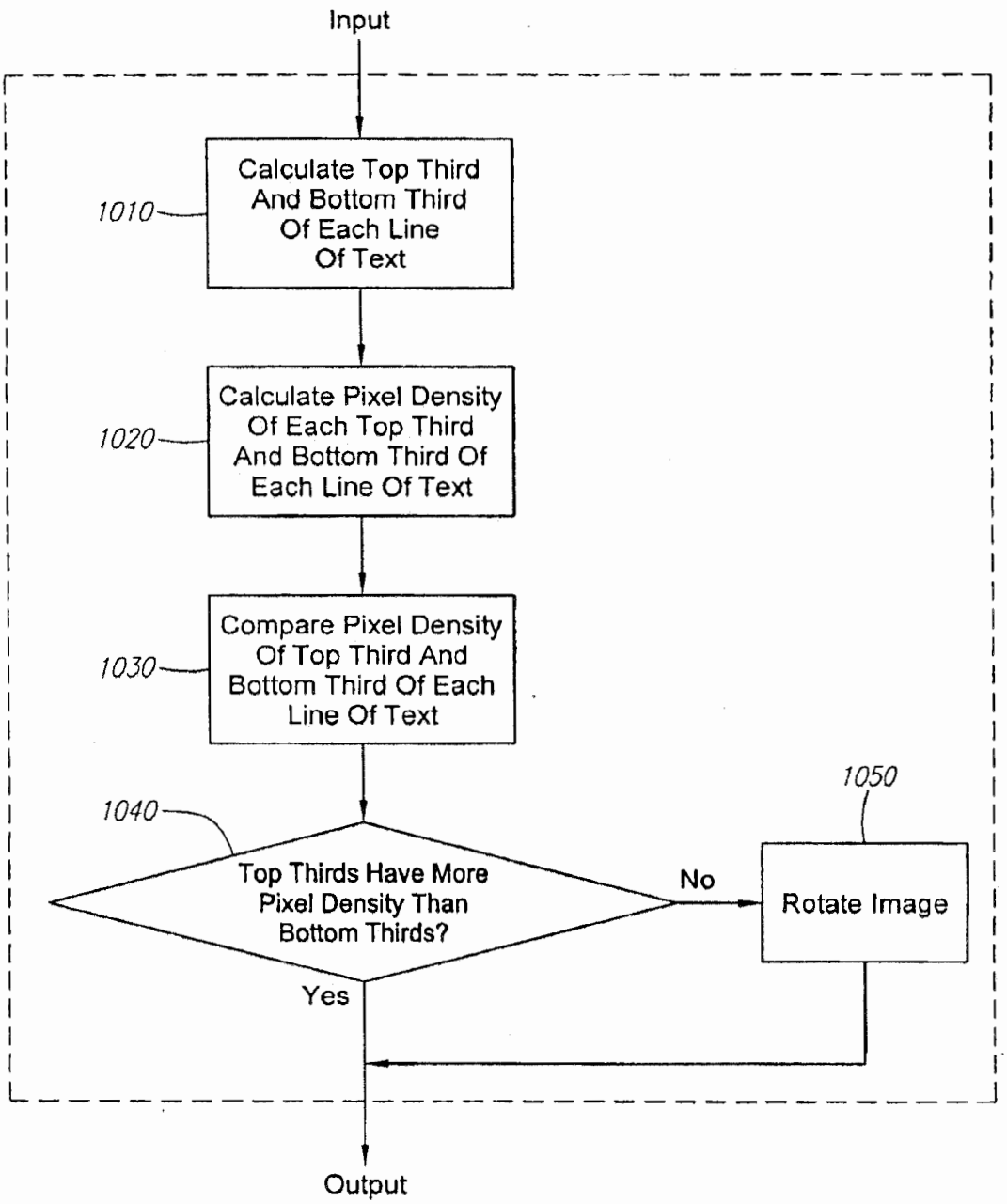

Input
Calculate Top Third And Bottom Third Of Each Line Of Text
1010
Calculate Pixel Density Of Each Top Third And Bottom Third Of Each Line Of Text
1020
Compare Pixel Density Of Top Third And Bottom Third Of Each Line Of Text
1030
1040
Top Thirds Have More Pixel Density Than Bottom Thirds?
No
1050
Rotate Image
Yes
Output

FIG. 10

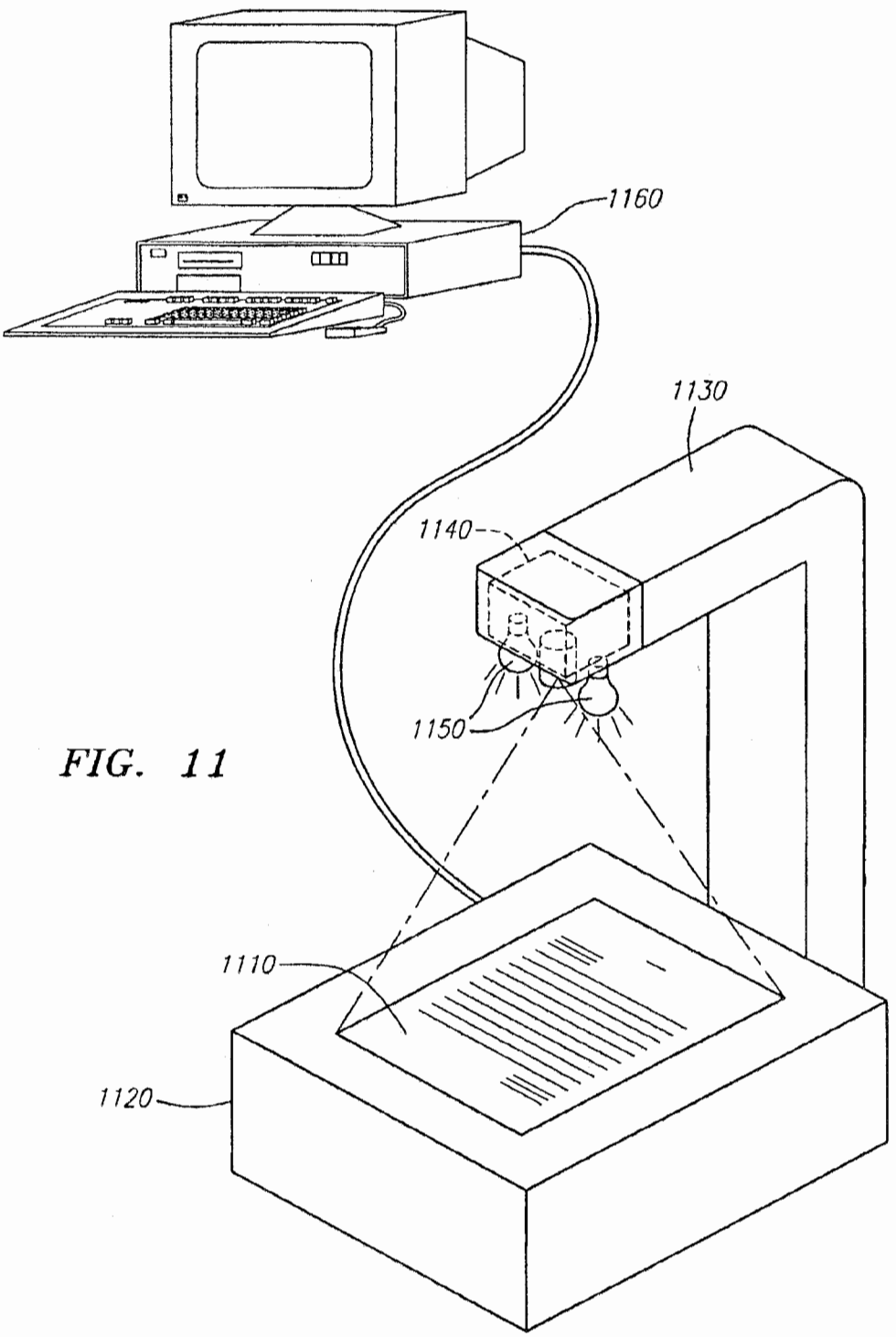


FIG. 11

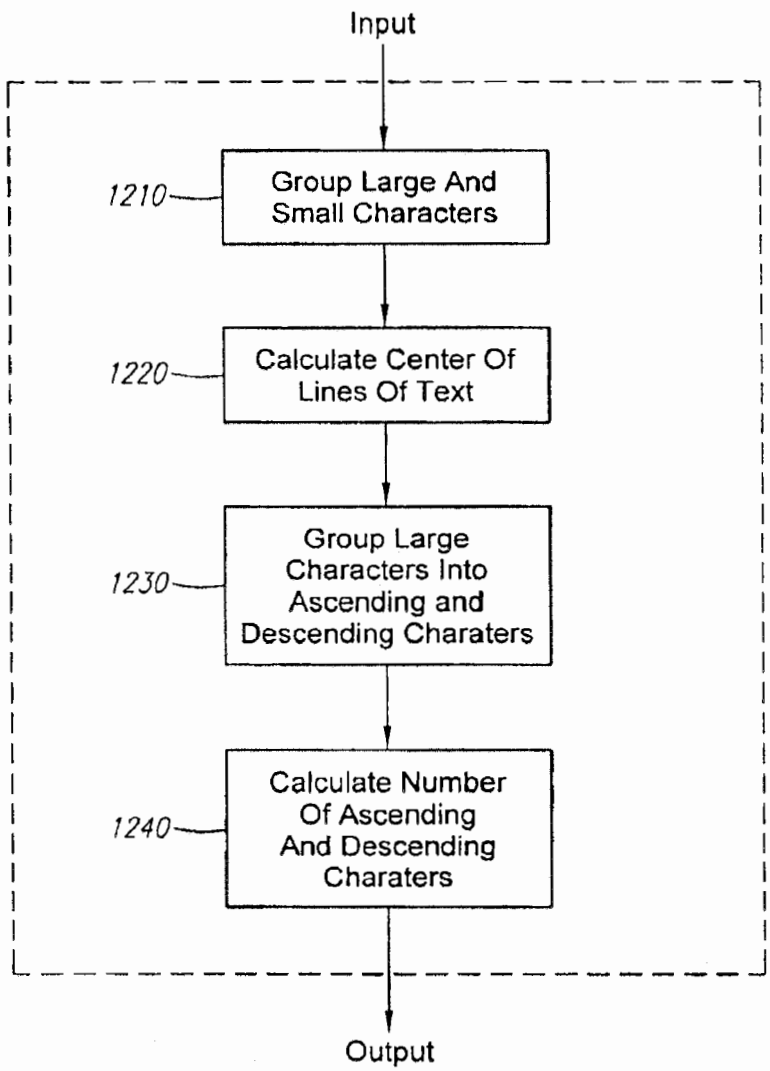

Input
1210
Group Large And Small Characters
1220
Calculate Center Of Lines Of Text
1230
Group Large Characters Into Ascending and Descending Charaters
1240
Calculate Number Of Ascending And Descending Charaters
Output

FIG. 12

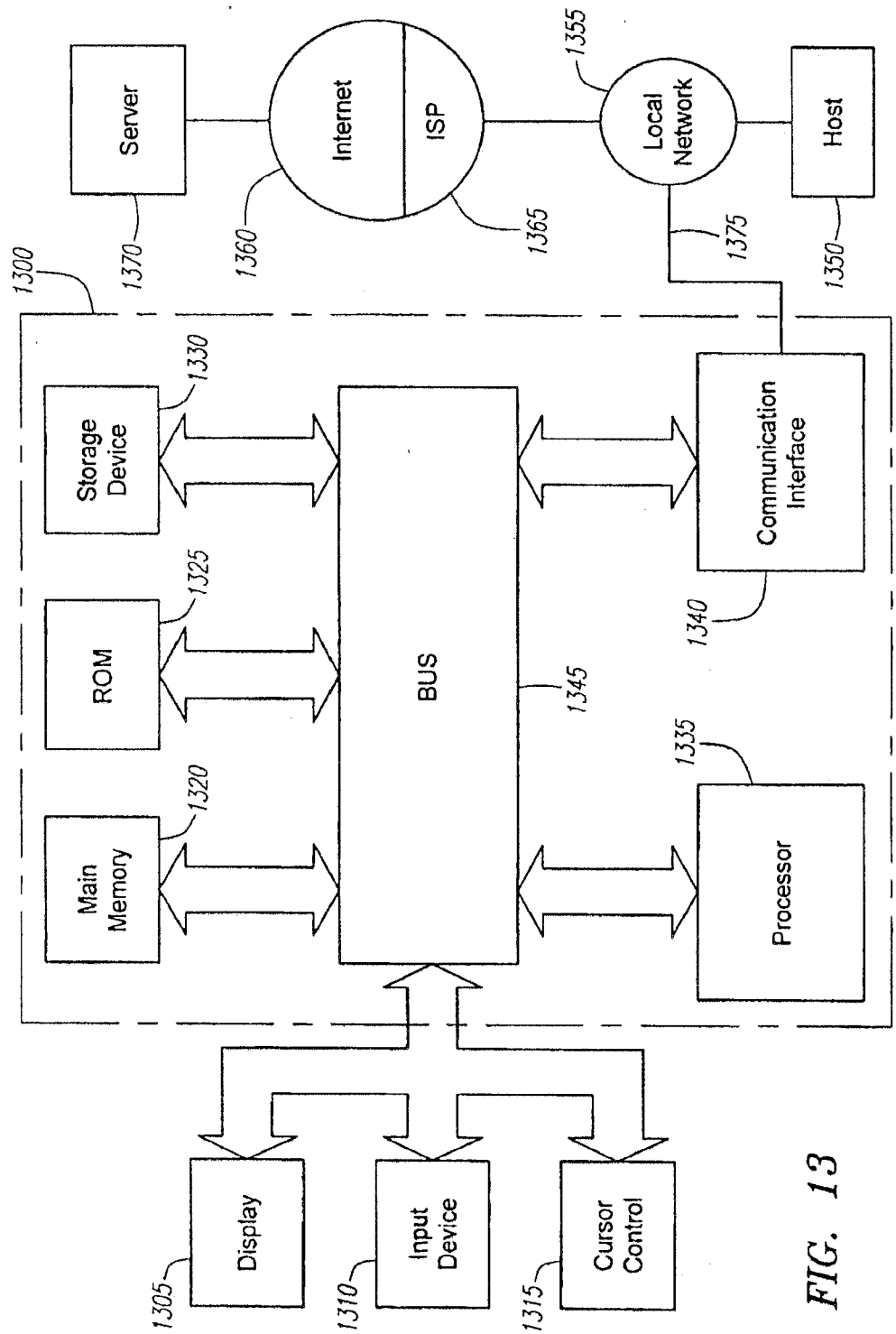

Server
Internet
ISP
Local Network
Host
1370
1360
1365
1355
1375
1350
1300
Storage Device
1330
ROM
1325
Main Memory
1320
BUS
1345
Communication Interface
1340
Processor
1335
Display
Input Device
Cursor Control
1305
1310
1315

FIG. 13

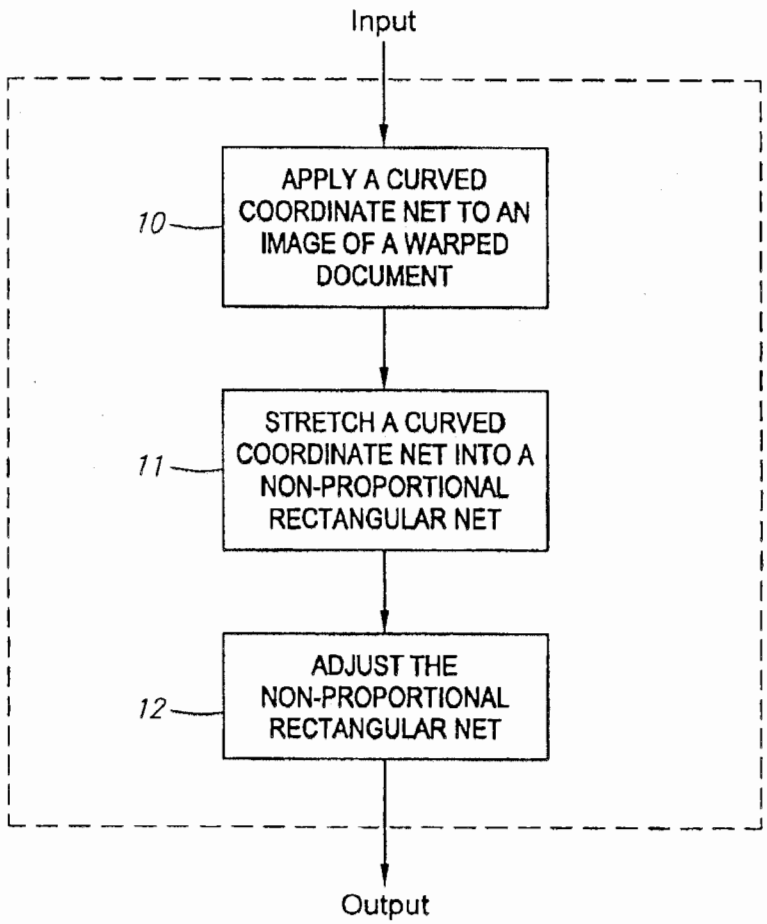

Input
APPLY A CURVED COORDINATE NET TO AN IMAGE OF A WARPED DOCUMENT
10
STRETCH A CURVED COORDINATE NET INTO A NON-PROPORTIONAL RECTANGULAR NET
11
ADJUST THE NON-PROPORTIONAL RECTANGULAR NET
12
Output

FIG. 14

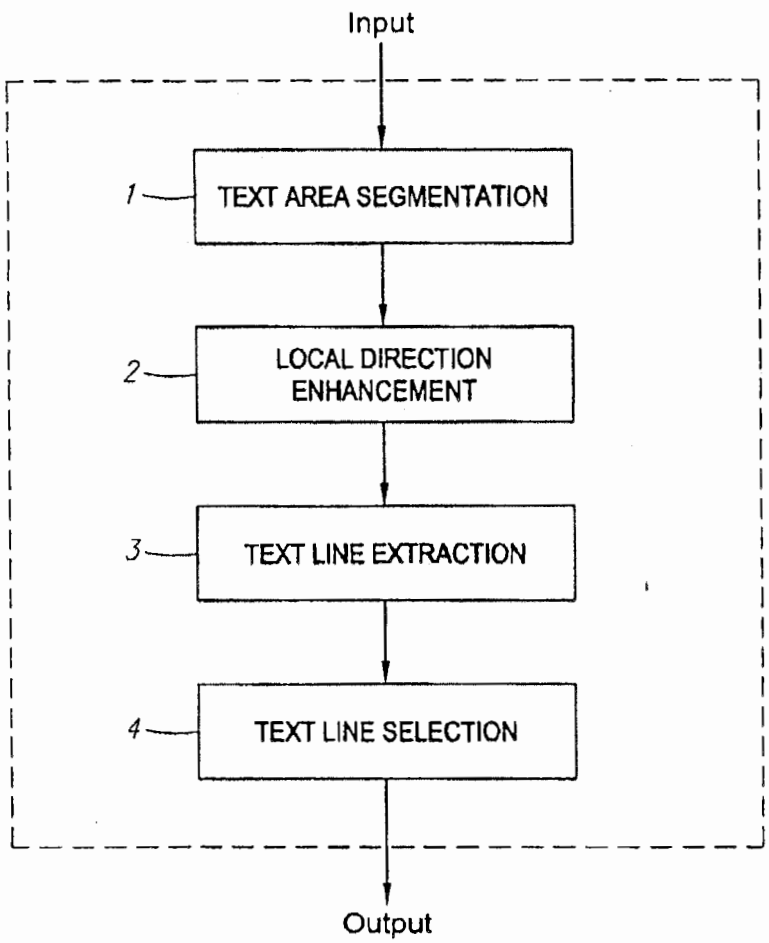

Input
1
TEXT AREA SEGMENTATION
2
LOCAL DIRECTION ENHANCEMENT
3
TEXT LINE EXTRACTION
4
TEXT LINE SELECTION
Output

FIG. 15

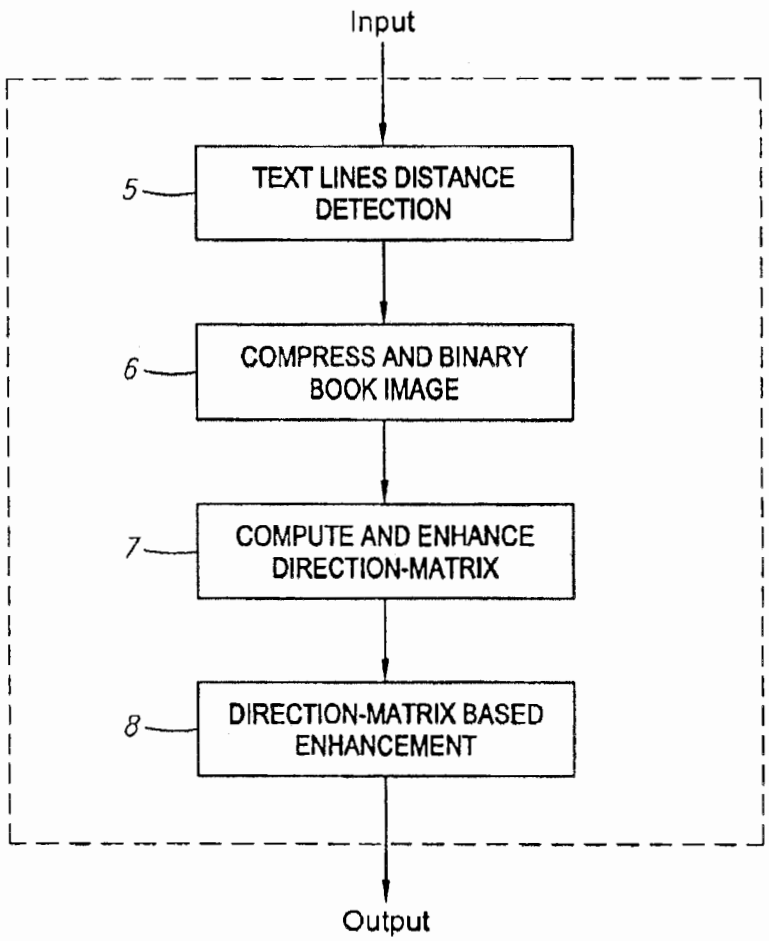

Input
5
TEXT LINES DISTANCE DETECTION
6
COMPRESS AND BINARY BOOK IMAGE
7
COMPUTE AND ENHANCE DIRECTION-MATRIX
8
DIRECTION-MATRIX BASED ENHANCEMENT
Output

FIG. 16

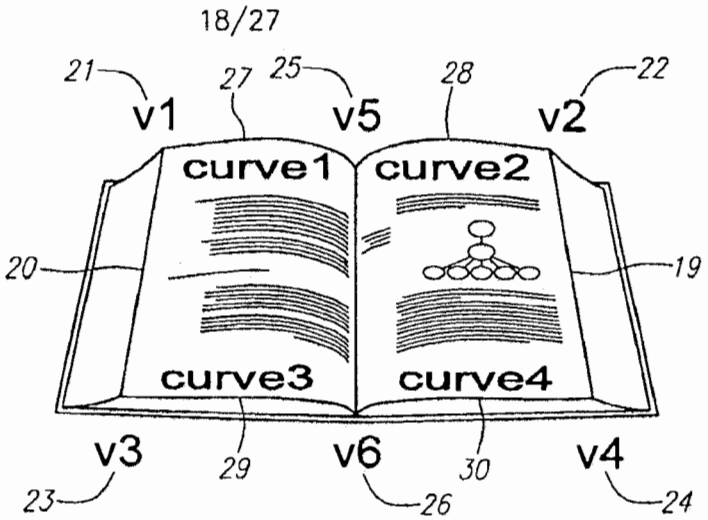


FIG. 17

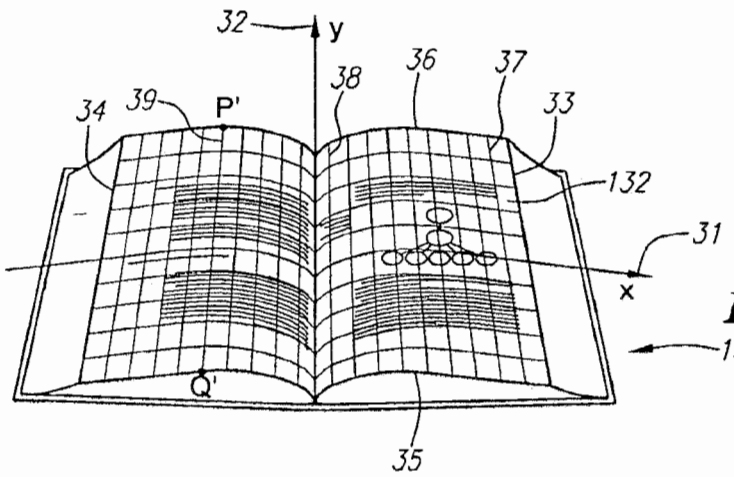


FIG. 18

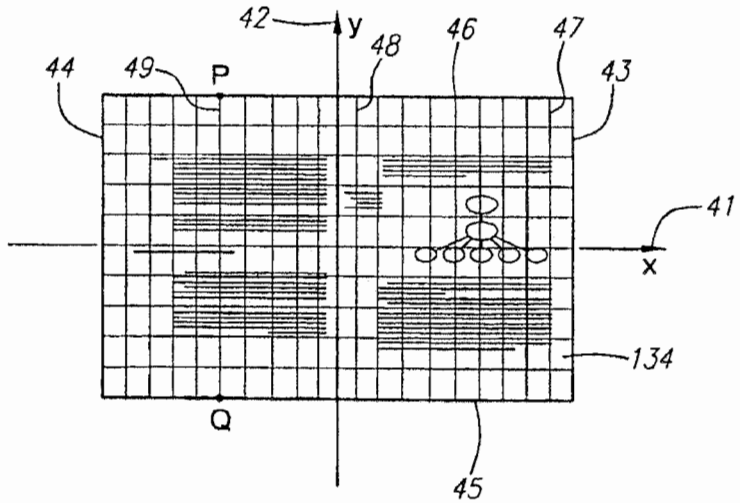


FIG. 19

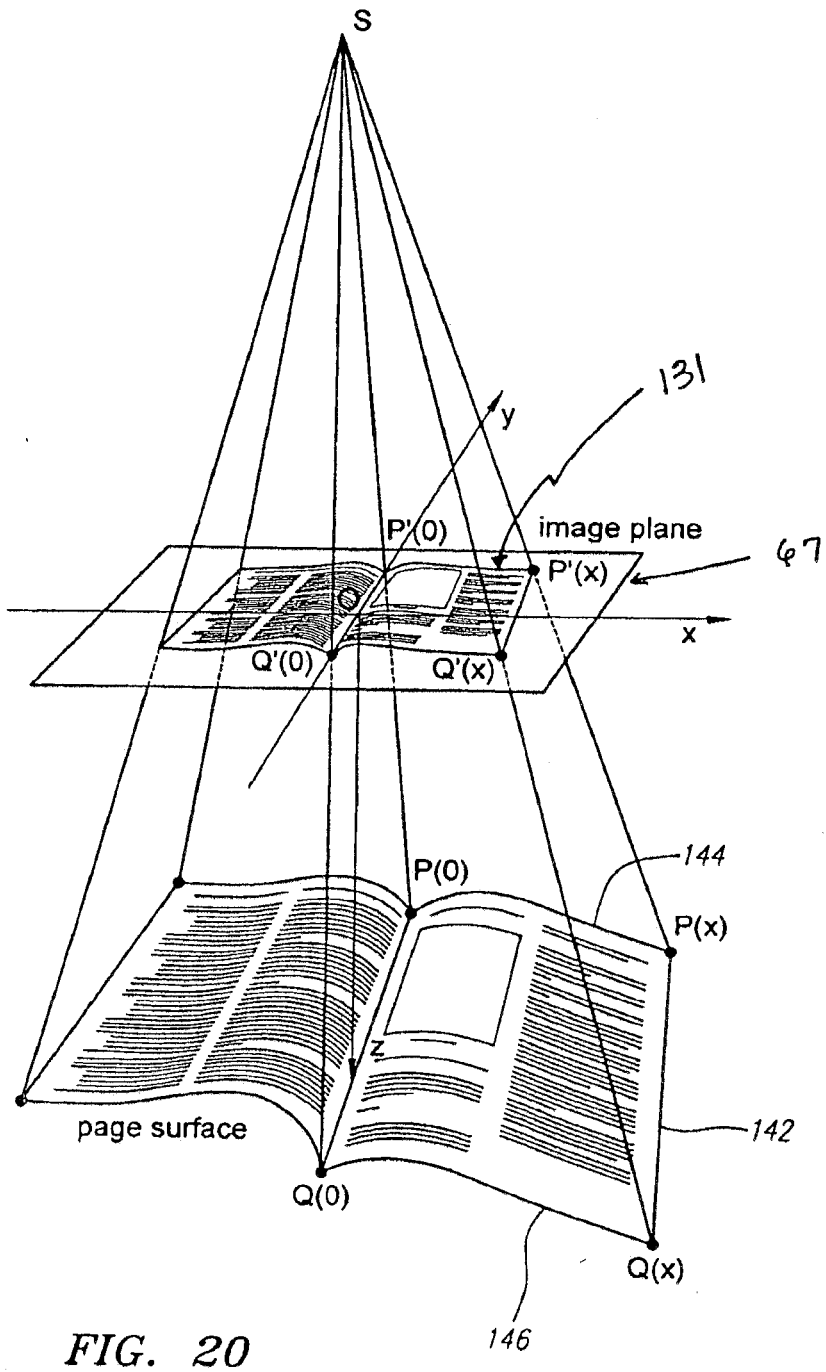

S
131
y
P'(0)
image plane
P'(x)
67
x
Q'(0)
Q'(x)
144
P(0)
P(x)
z
page surface
142
Q(0)
Q(x)
146

FIG. 20

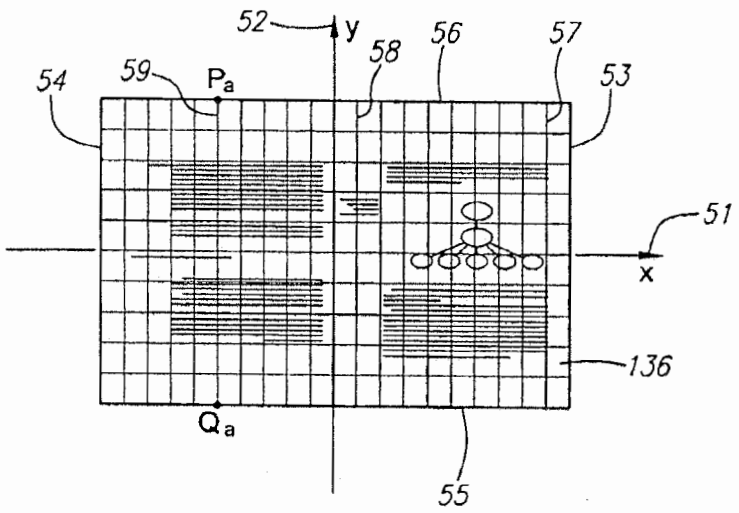

52
y
58
56
57
54
59
Pa
53
51
x
136
Qa
55

FIG. 21

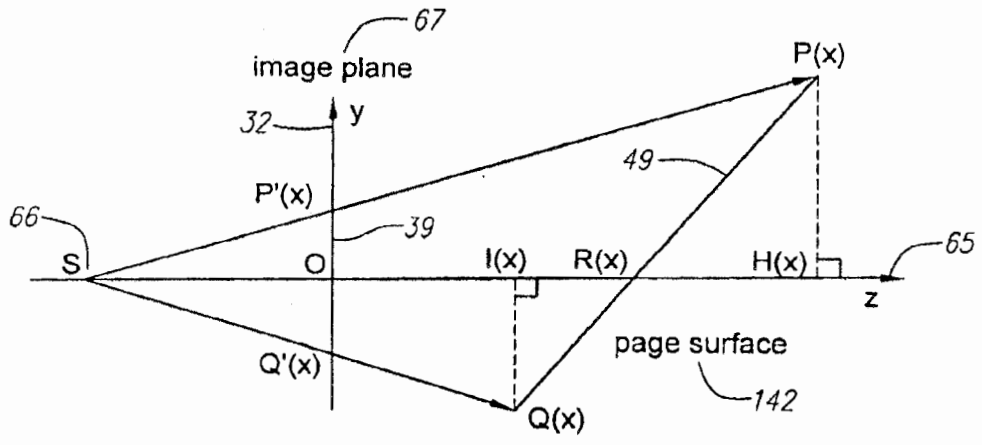

67
image plane
P(x)
32
y
49
P'(x)
66
39
S
O
I(x)
R(x)
H(x)
65
z
page surface
Q'(x)
142
Q(x)

FIG. 22

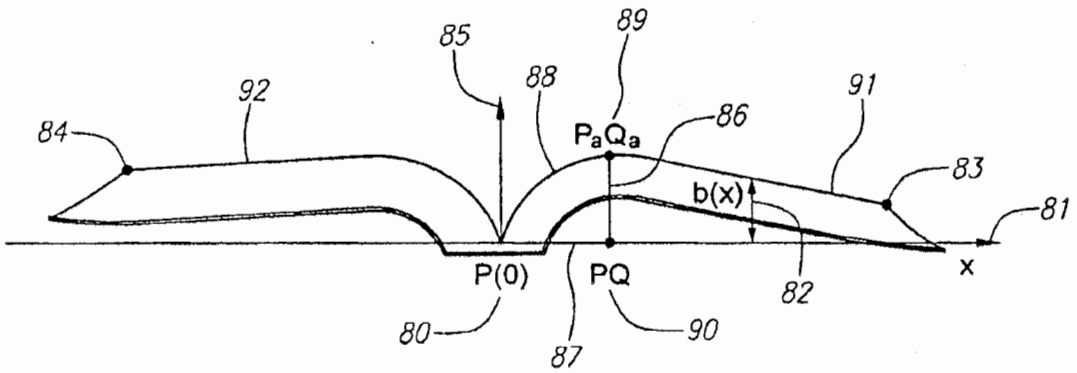

85
89
92
88
91
84
P_aQ_a
86
83
b(x)
81
x
P(0)
PQ
82
80
90
87

FIG. 23

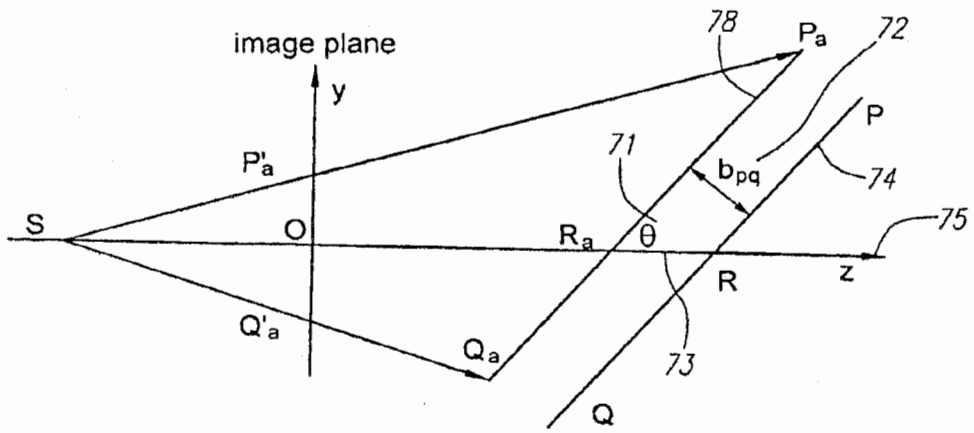

image plane
y
78
P_a
72
P
P'_a
71
b_{pq}
74
S
O
R_a
θ
75
z
R
Q'_a
Q_a
73
Q

FIG. 24

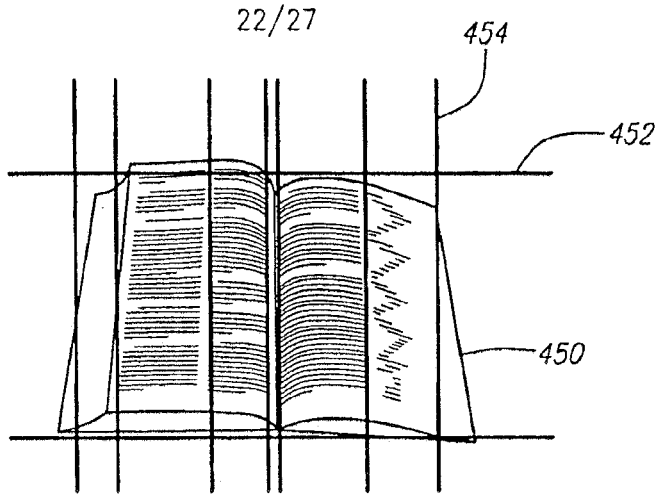


FIG. 25

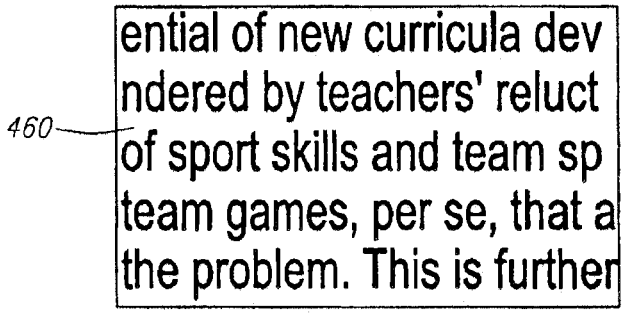


FIG. 26A

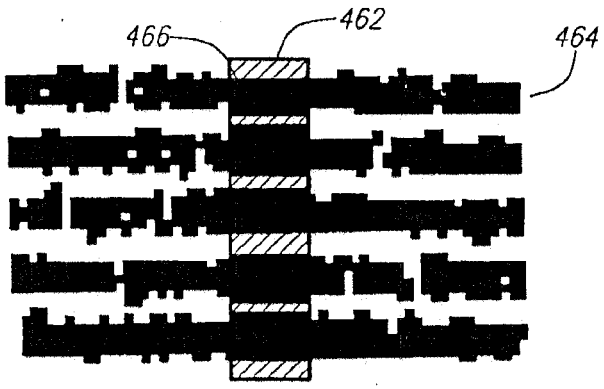


FIG. 26B

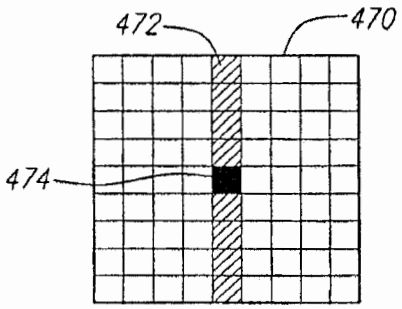


FIG. 27A

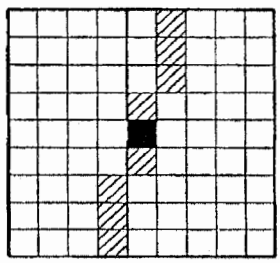


FIG. 27B

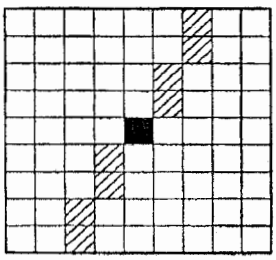


FIG. 27C

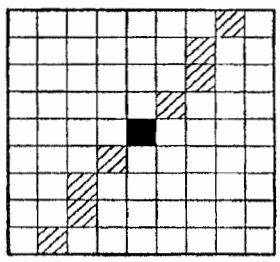


FIG. 27D

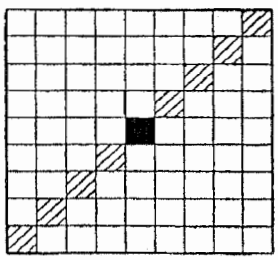


FIG. 27E

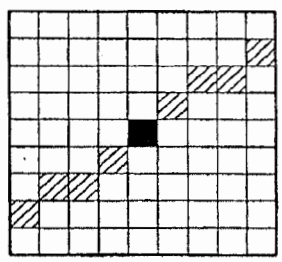


FIG. 27F

480

word "Bosnia" will be mentioned at least once during the
the report about NASA. Even if it appears there for some
be much lower than in the report about Bosnia. The presence
detected using wordspotting algorithms (10). Although con
recess years, the problems relating to speaker dependence, fr
still remains but completely solved. We, therefore, choose to
test domain, that is, after transcribing the speech stream of a

3.1 The topic database

prior to the news analysis process, a topic database is created
users current interest, which means that the database can
which can also be general enough so the no

FIG. 28A

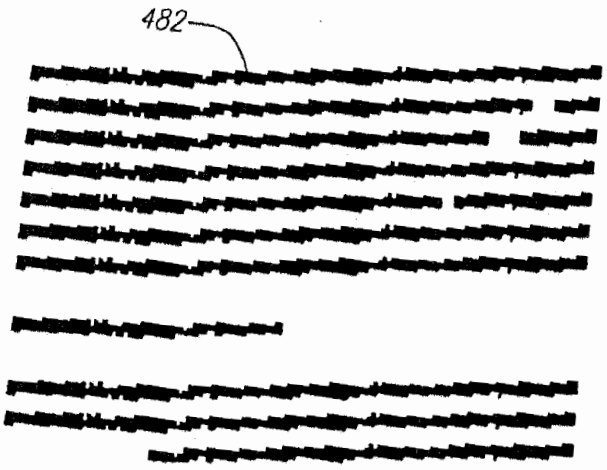


FIG. 28B

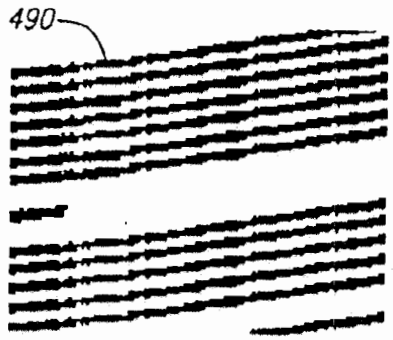


FIG. 29A

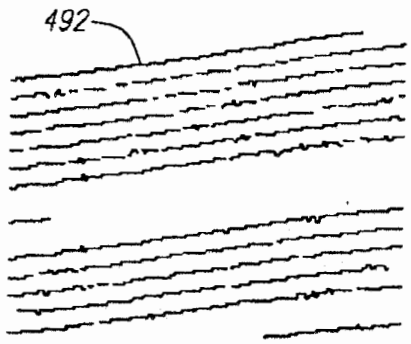


FIG. 29B

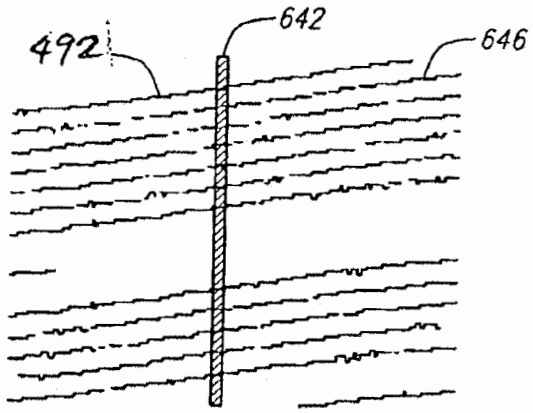


FIG. 30

Most of our understanding of human movement control is based on movements of single limb joints. However, the trunk
array segments and many different muscles can produce and control motion. Unlike muscles of the limbs, trunk muscles
for instructions to other functions such as respiration and trunk muscles may move and stabilize the trunk via indirect
problems such as increased intra-abdominal pressure (IAP). Thus, the strategies used by the central nervous system
to concentrate trunk muscle activity are likely to be complex. In sports these factors are paramount as they will influence
the efficiency of spinal control and protection, but they will also influence the overall performance. For instance, the CNS
correct demands for respiratory function ans spinal control. If respiratory demand is increased, there is evidence that
stability may be compromised. While strategies may be available for the CNS to deal with this dilemma, evidence
upsets the factors such as pain may further interfere with the normal coordination of trunk muscle activity. Although the
reaction for these changes is poorly understood these changes may theoretically predispose the spine to further injury in
and rehabilitation strategies for the sports person it is critical to consider all aspects for optimization of trunk control and
performance.

FIG. 31A

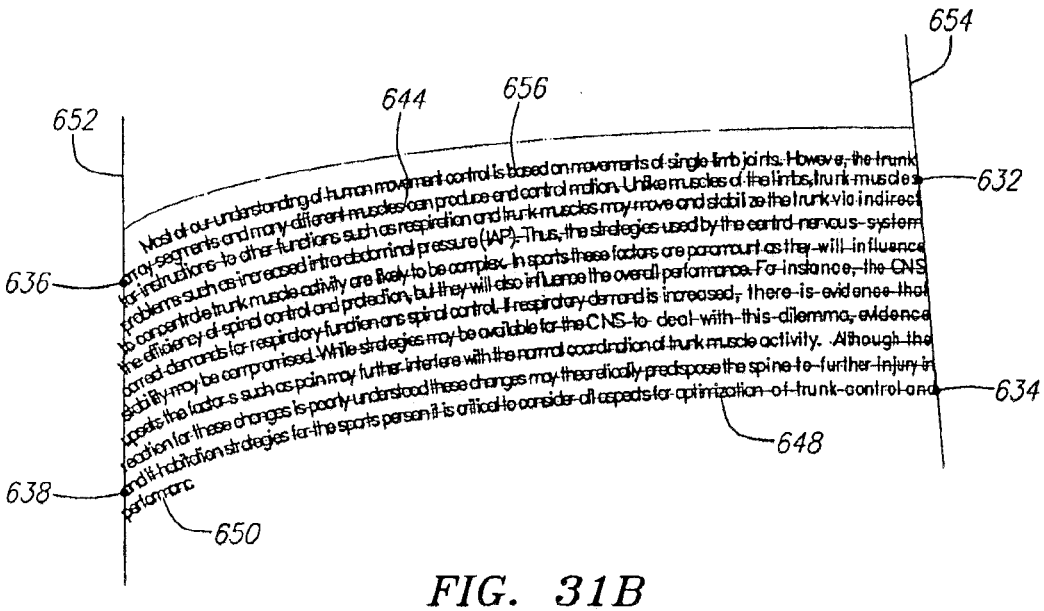


FIG. 31B

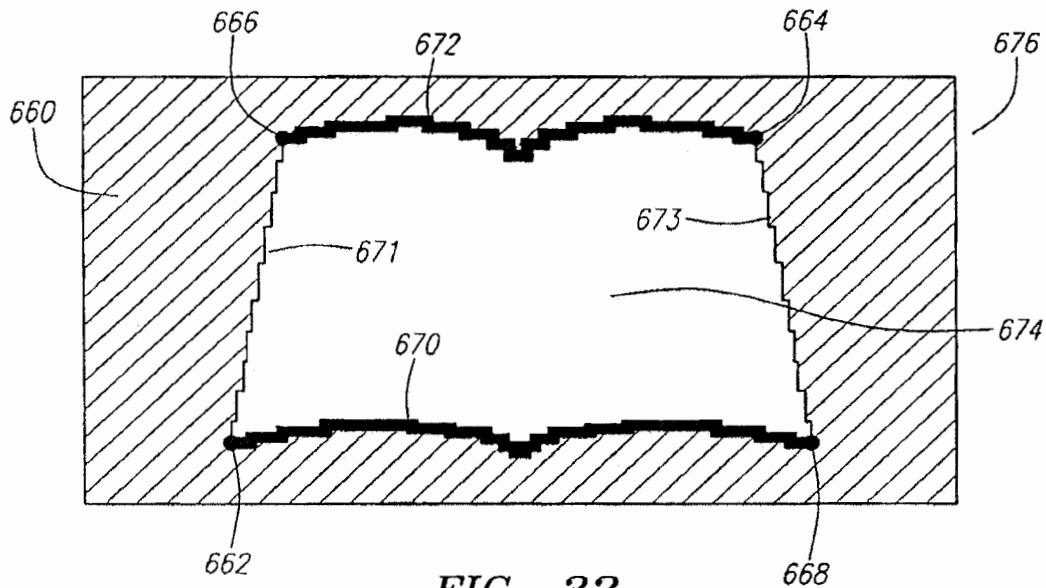

666
672
664
676
660
673
671
674
670
662
668

FIG. 32

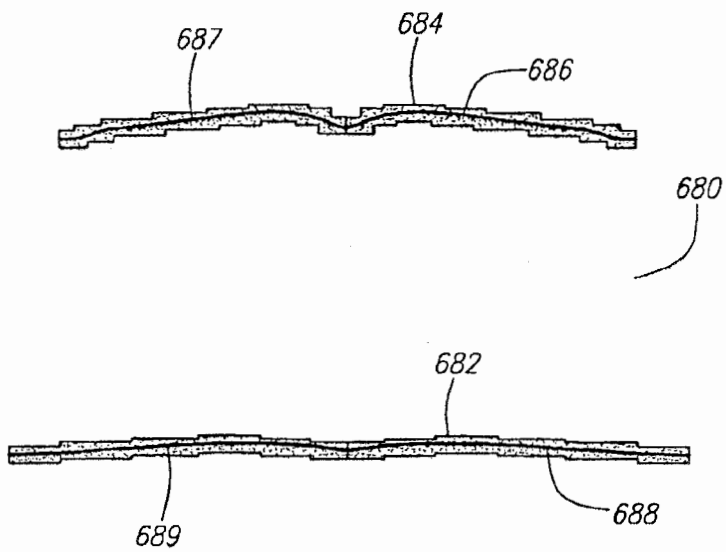

687
684
686
680
682
689
688

FIG. 33