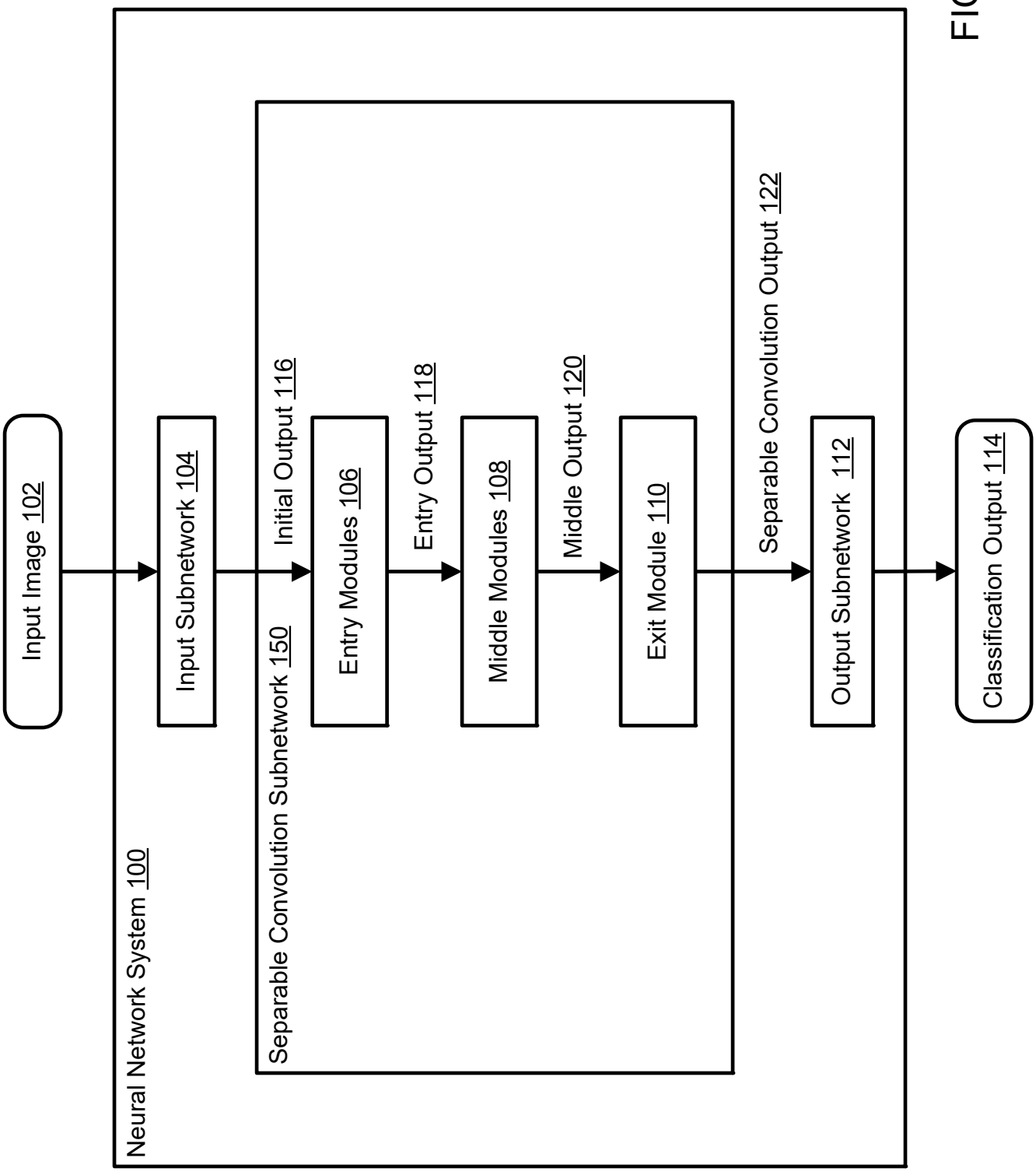
Input Image 102
Input Subnetwork 104
Initial Output 116
Entry Modules 106
Entry Output 118
Middle Modules 108
Middle Output 120
Exit Module 110
Separable Convolution Output 122
Output Subnetwork 112
Classification Output 114
Separable Convolution Subnetwork 150
Neural Network System 100

FIG. 1

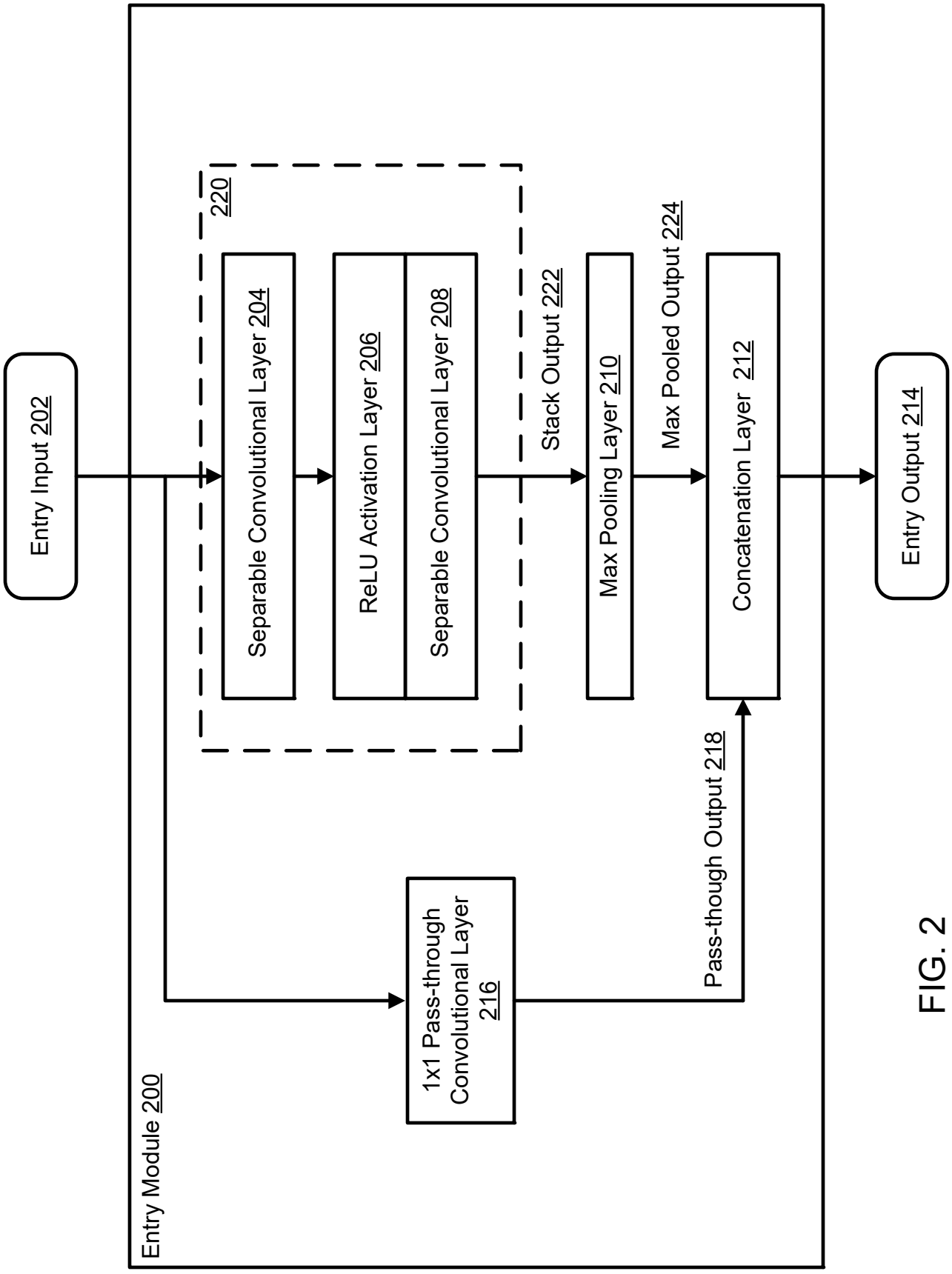
Entry Input 202
Entry Module 200
220
Separable Convolutional Layer 204
ReLU Activation Layer 206
Separable Convolutional Layer 208
Stack Output 222
Max Pooling Layer 210
Max Pooled Output 224
Concatenation Layer 212
Entry Output 214
1x1 Pass-through Convolutional Layer 216
Pass-though Output 218

FIG. 2

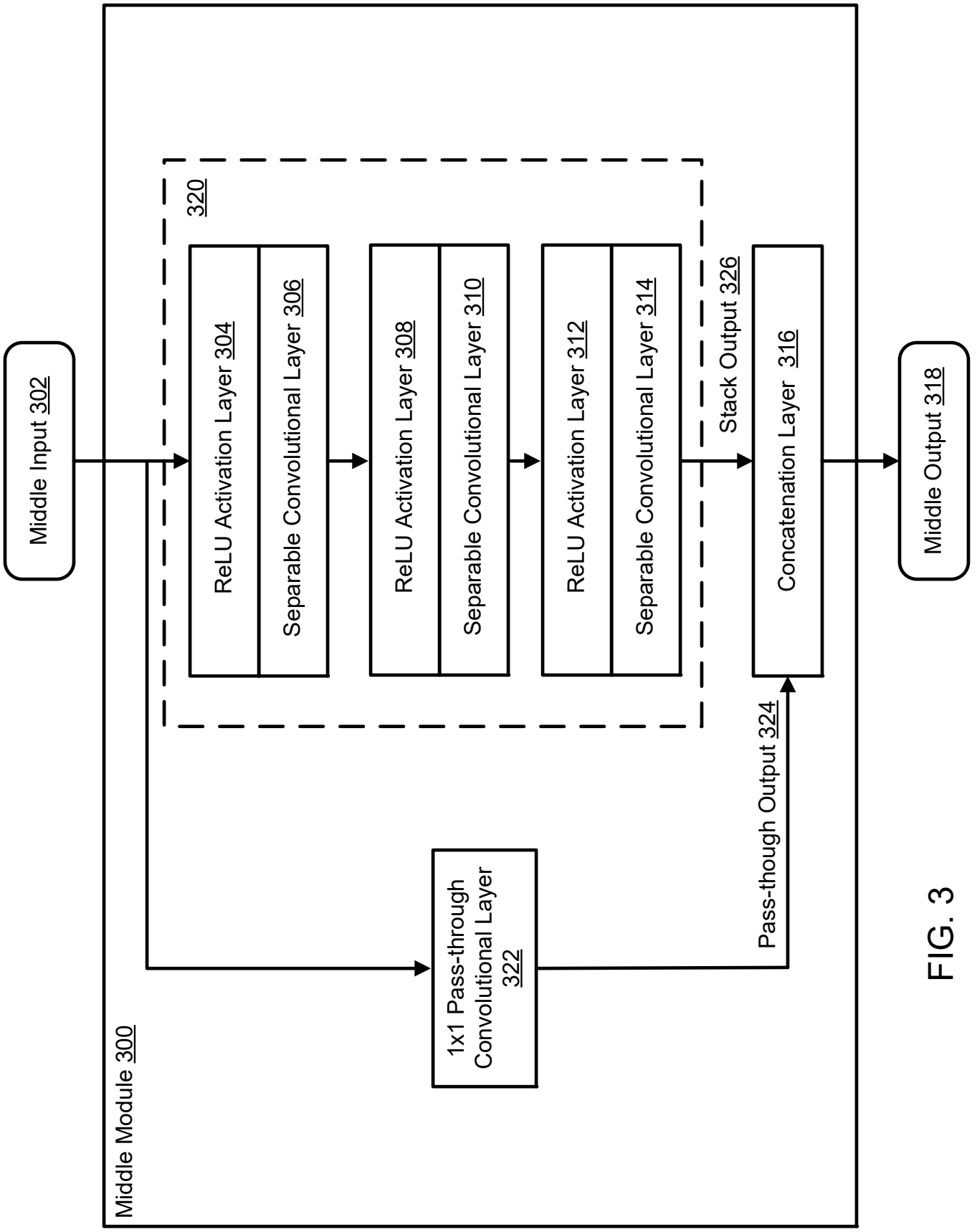
Middle Input 302
Middle Module 300
320
ReLU Activation Layer 304
Separable Convolutional Layer 306
ReLU Activation Layer 308
Separable Convolutional Layer 310
ReLU Activation Layer 312
Separable Convolutional Layer 314
Stack Output 326
Concatenation Layer 316
Middle Output 318
1x1 Pass-through Convolutional Layer 322
Pass-though Output 324

FIG. 3

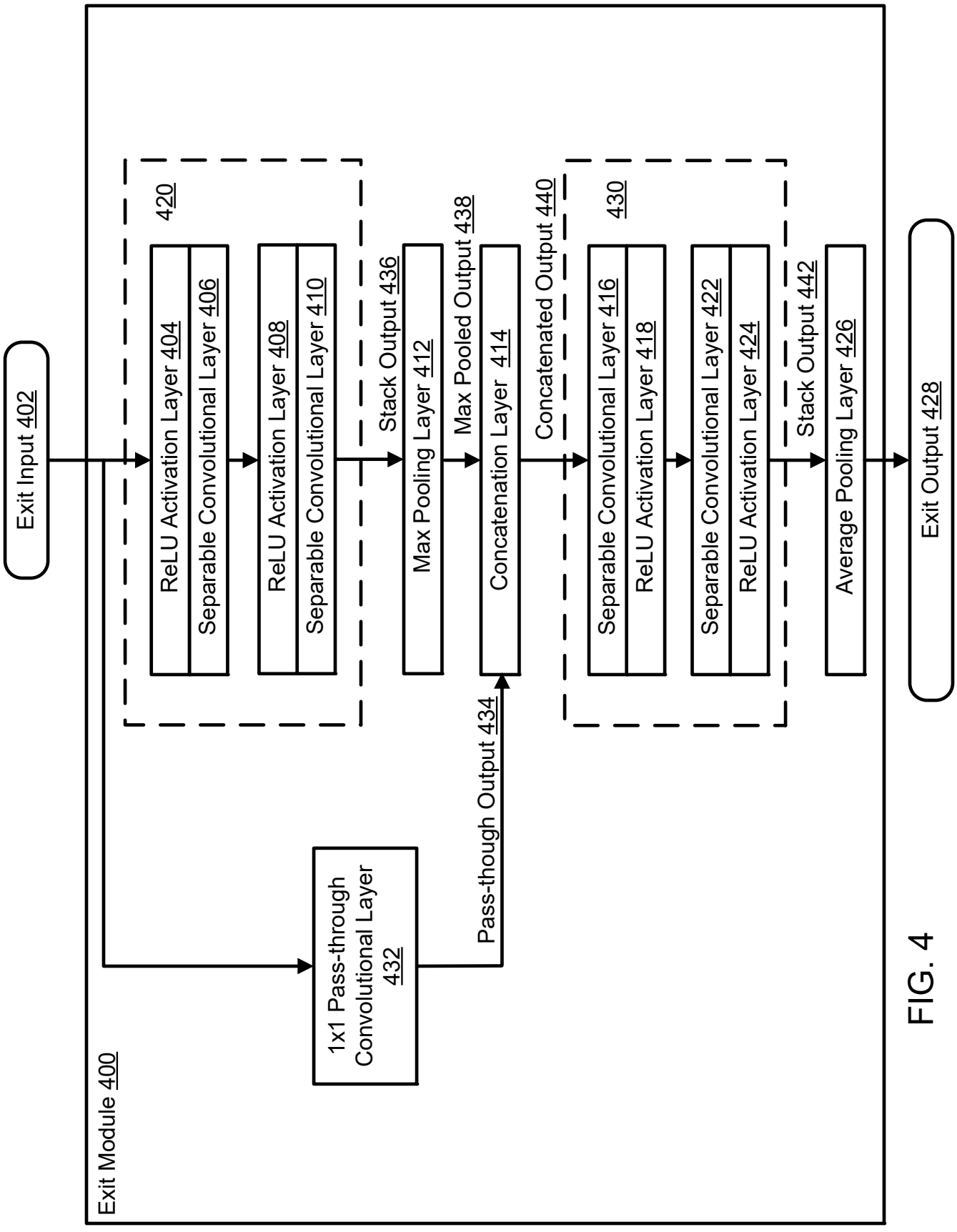
Exit Input 402
Exit Module 400
420
ReLU Activation Layer 404
Separable Convolutional Layer 406
ReLU Activation Layer 408
Separable Convolutional Layer 410
Stack Output 436
Max Pooling Layer 412
Max Pooled Output 438
Concatenation Layer 414
Concatenated Output 440
430
Separable Convolutional Layer 416
ReLU Activation Layer 418
Separable Convolutional Layer 422
ReLU Activation Layer 424
Stack Output 442
Average Pooling Layer 426
Exit Output 428
1x1 Pass-through Convolutional Layer 432
Pass-though Output 434

FIG. 4

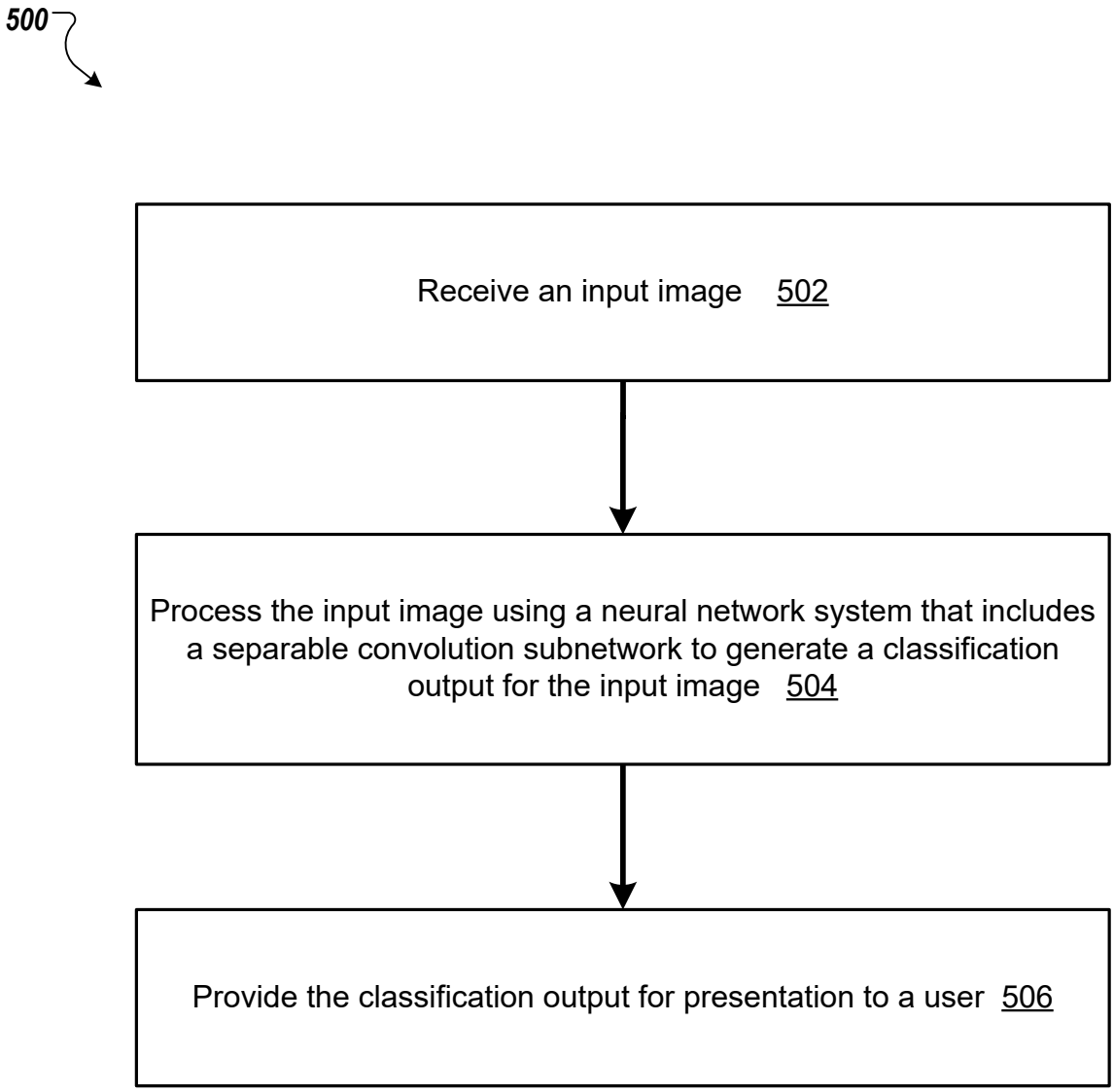
500
Receive an input image 502
Process the input image using a neural network system that includes a separable convolution subnetwork to generate a classification output for the input image 504
Provide the classification output for presentation to a user 506

FIG. 5