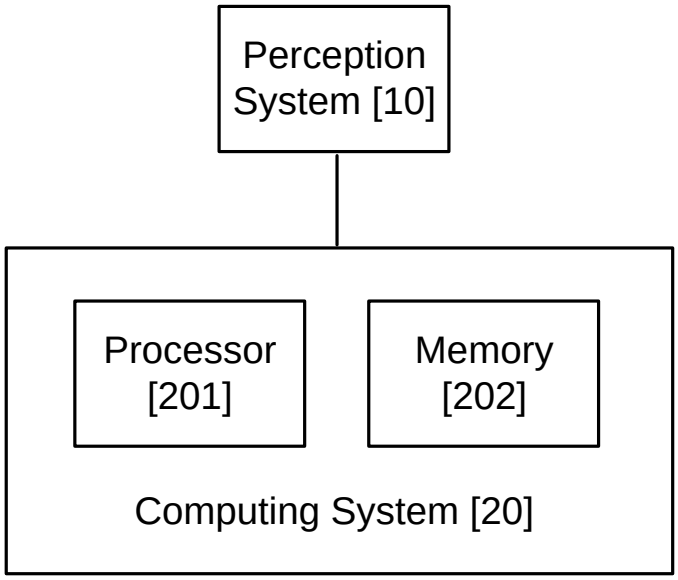

Perception System [10]
Processor [201]
Memory [202]
Computing System [20]

FIG. 1

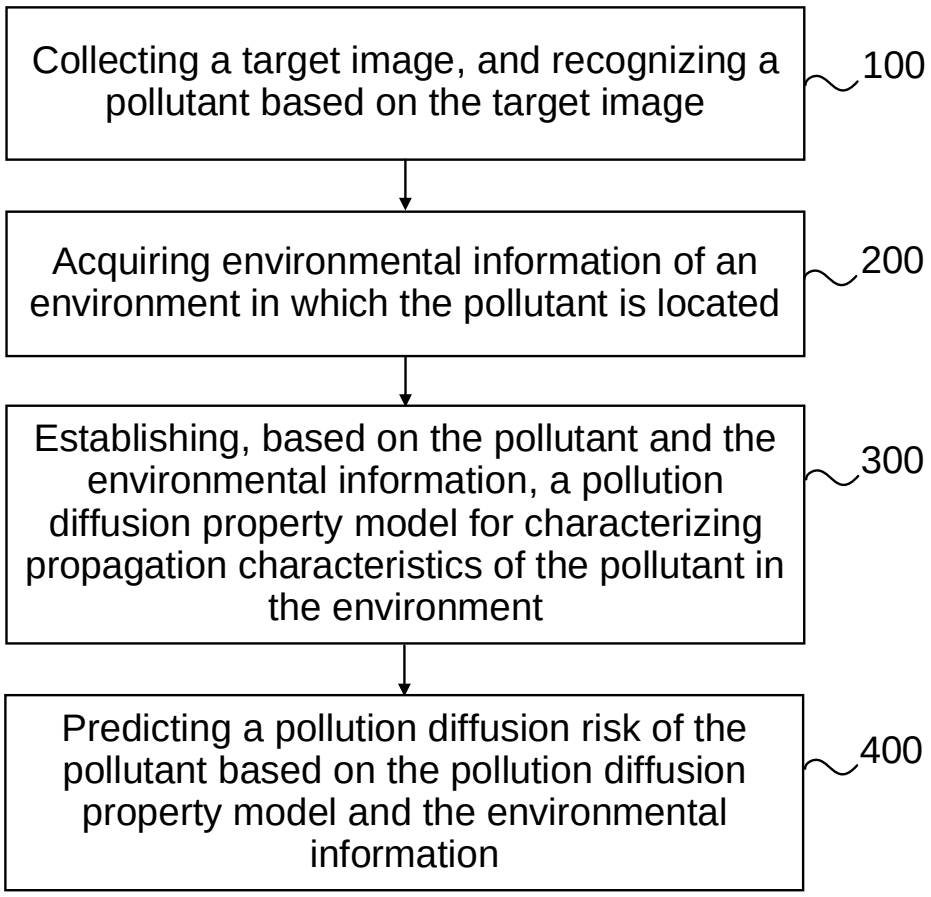

Collecting a target image, and recognizing a pollutant based on the target image
100
Acquiring environmental information of an environment in which the pollutant is located
200
Establishing, based on the pollutant and the environmental information, a pollution diffusion property model for characterizing propagation characteristics of the pollutant in the environment
300
Predicting a pollution diffusion risk of the pollutant based on the pollution diffusion property model and the environmental information
400

FIG. 2

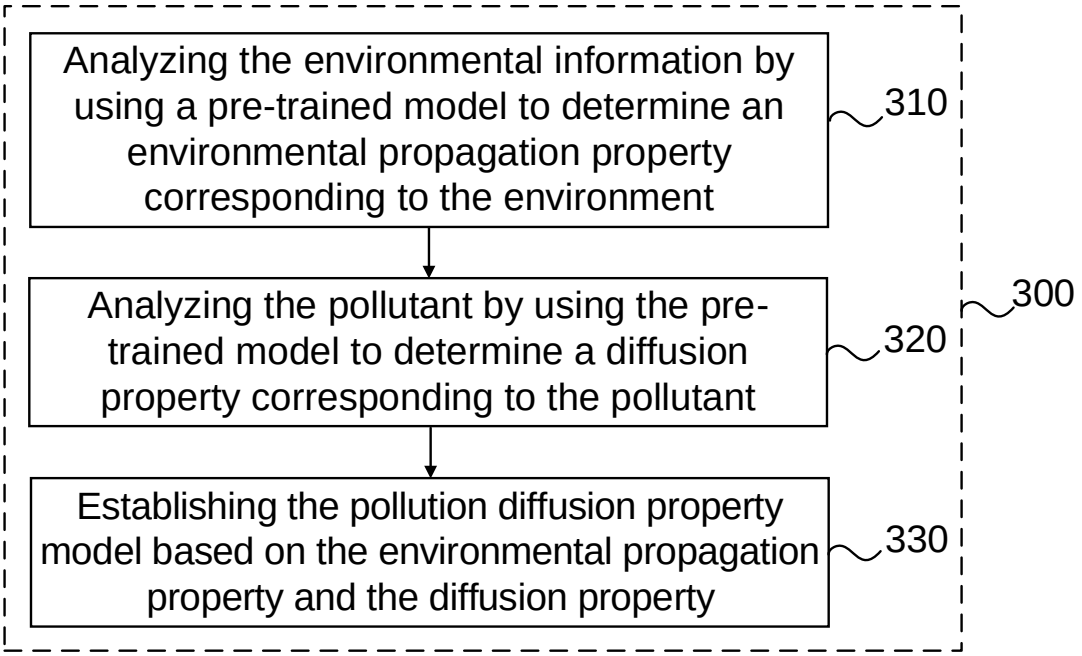

Analyzing the environmental information by using a pre-trained model to determine an environmental propagation property corresponding to the environment
310
Analyzing the pollutant by using the pre-trained model to determine a diffusion property corresponding to the pollutant
320
Establishing the pollution diffusion property model based on the environmental propagation property and the diffusion property
330
300

FIG. 3

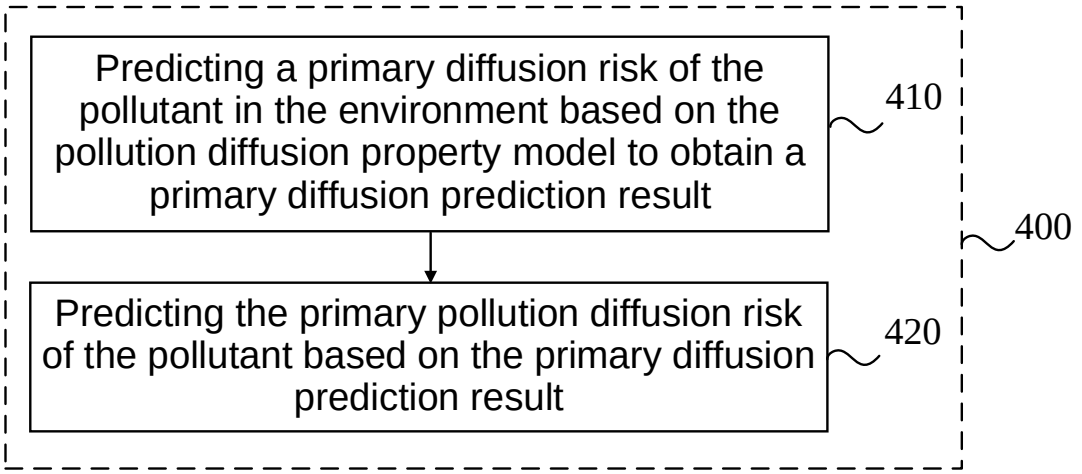

Predicting a primary diffusion risk of the pollutant in the environment based on the pollution diffusion property model to obtain a primary diffusion prediction result
410
Predicting the primary pollution diffusion risk of the pollutant based on the primary diffusion prediction result
420
400

FIG. 4

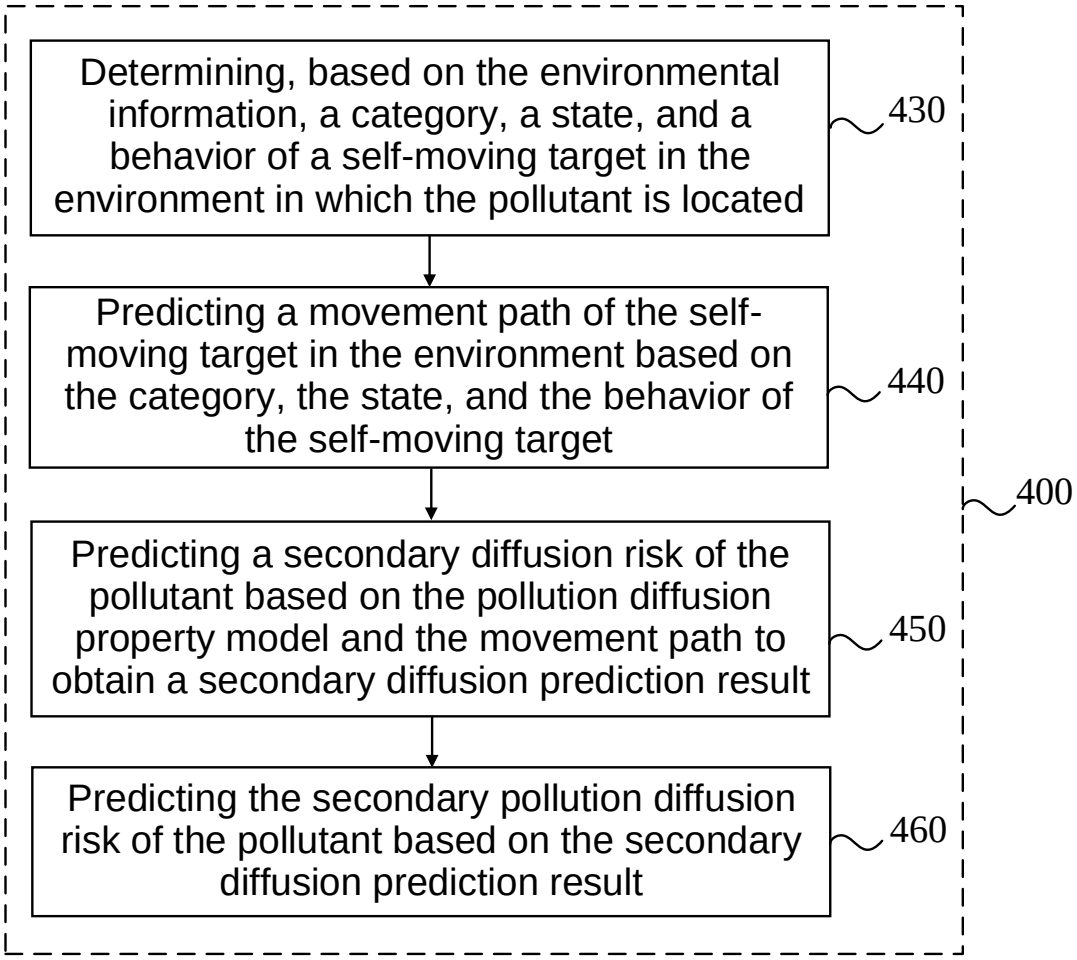

Determining, based on the environmental information, a category, a state, and a behavior of a self-moving target in the environment in which the pollutant is located
430
Predicting a movement path of the self-moving target in the environment based on the category, the state, and the behavior of the self-moving target
440
400
Predicting a secondary diffusion risk of the pollutant based on the pollution diffusion property model and the movement path to obtain a secondary diffusion prediction result
450
Predicting the secondary pollution diffusion risk of the pollutant based on the secondary diffusion prediction result
460

FIG. 5

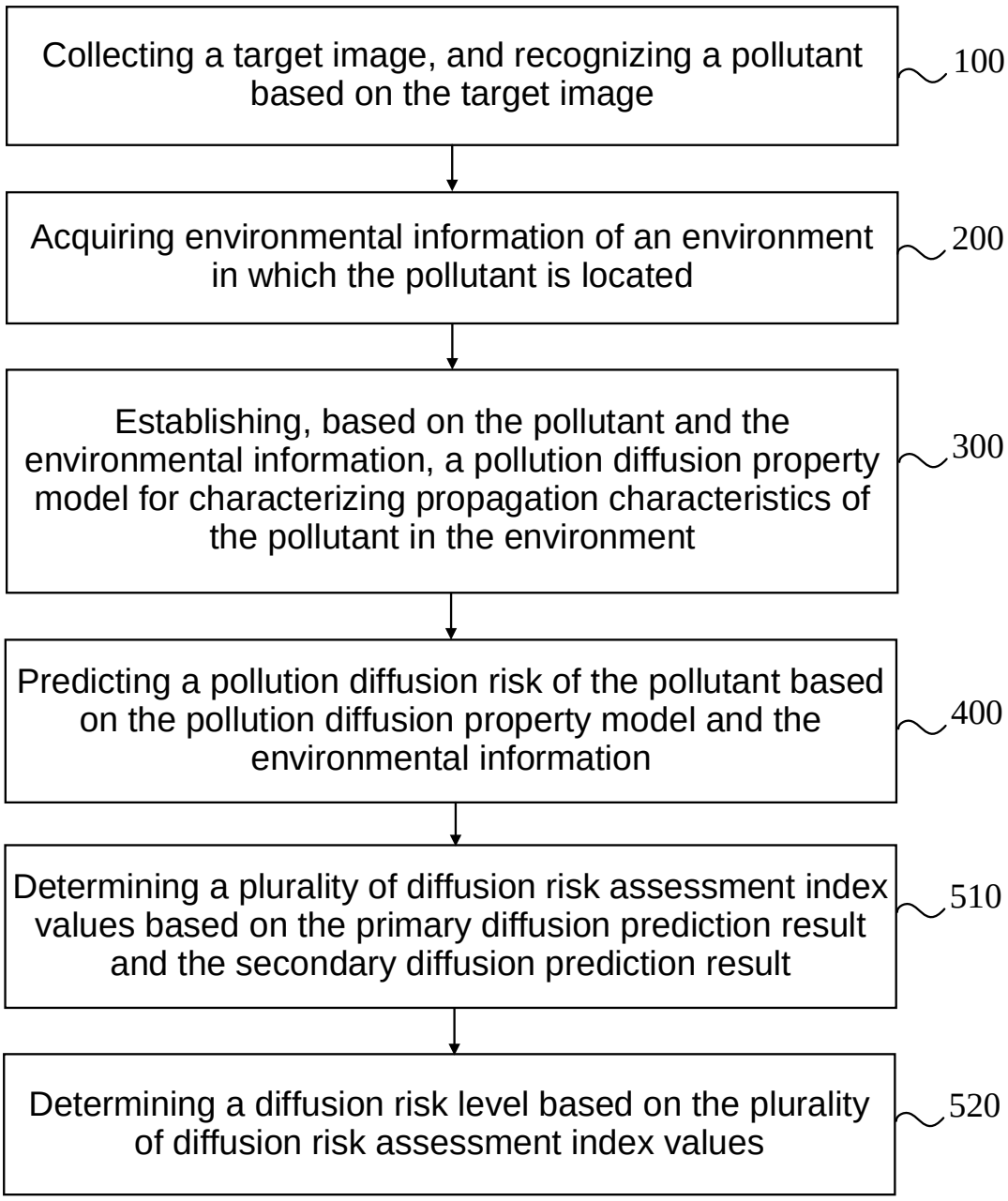

Collecting a target image, and recognizing a pollutant based on the target image
100
Acquiring environmental information of an environment in which the pollutant is located
200
Establishing, based on the pollutant and the environmental information, a pollution diffusion property model for characterizing propagation characteristics of the pollutant in the environment
300
Predicting a pollution diffusion risk of the pollutant based on the pollution diffusion property model and the environmental information
400
Determining a plurality of diffusion risk assessment index values based on the primary diffusion prediction result and the secondary diffusion prediction result
510
Determining a diffusion risk level based on the plurality of diffusion risk assessment index values
520

FIG. 6

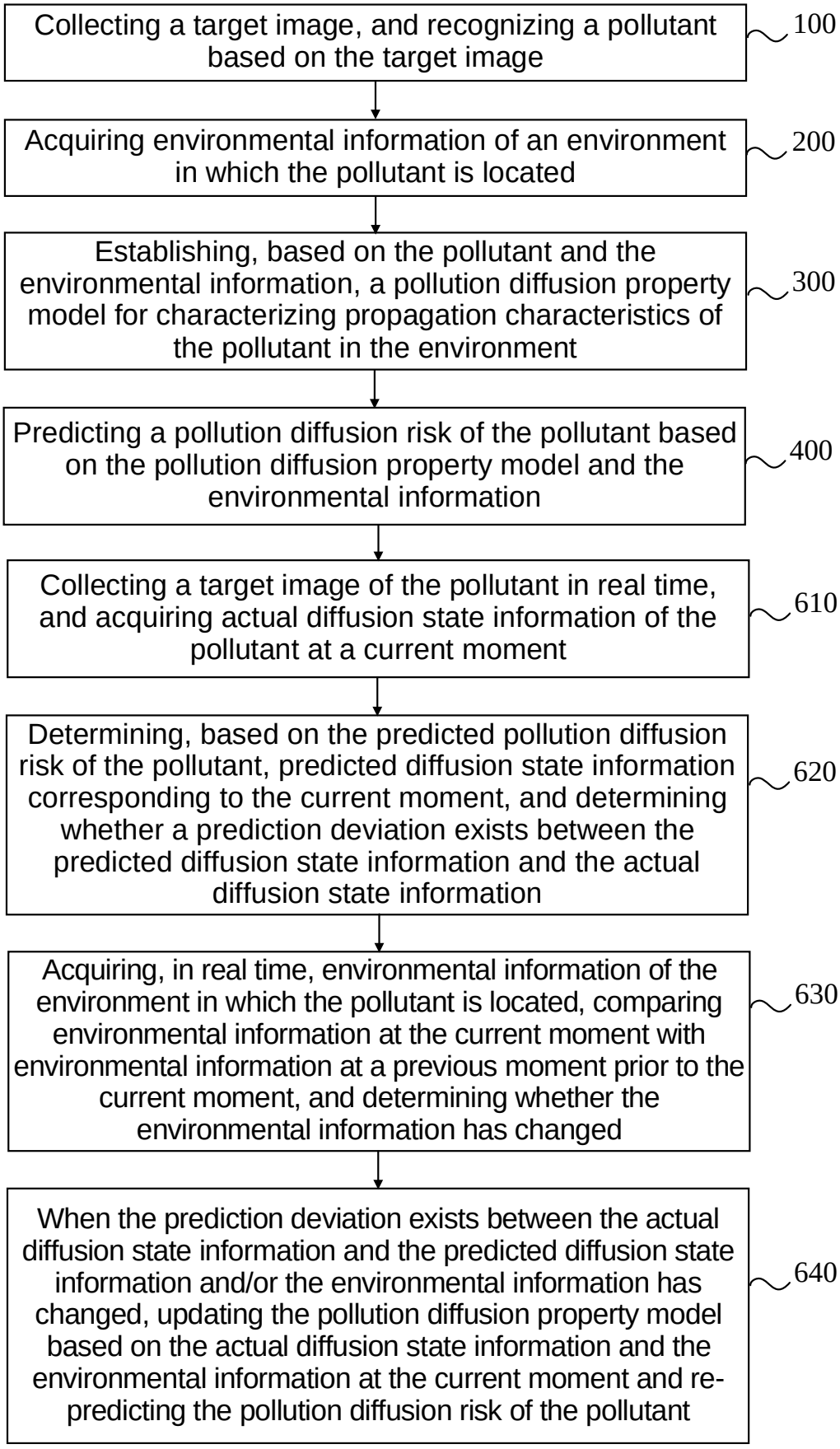

Collecting a target image, and recognizing a pollutant based on the target image
100
Acquiring environmental information of an environment in which the pollutant is located
200
Establishing, based on the pollutant and the environmental information, a pollution diffusion property model for characterizing propagation characteristics of the pollutant in the environment
300
Predicting a pollution diffusion risk of the pollutant based on the pollution diffusion property model and the environmental information
400
Collecting a target image of the pollutant in real time, and acquiring actual diffusion state information of the pollutant at a current moment
610
Determining, based on the predicted pollution diffusion risk of the pollutant, predicted diffusion state information corresponding to the current moment, and determining whether a prediction deviation exists between the predicted diffusion state information and the actual diffusion state information
620
Acquiring, in real time, environmental information of the environment in which the pollutant is located, comparing environmental information at the current moment with environmental information at a previous moment prior to the current moment, and determining whether the environmental information has changed
630
When the prediction deviation exists between the actual diffusion state information and the predicted diffusion state information and/or the environmental information has changed, updating the pollution diffusion property model based on the actual diffusion state information and the environmental information at the current moment and re-predicting the pollution diffusion risk of the pollutant
640

FIG. 7

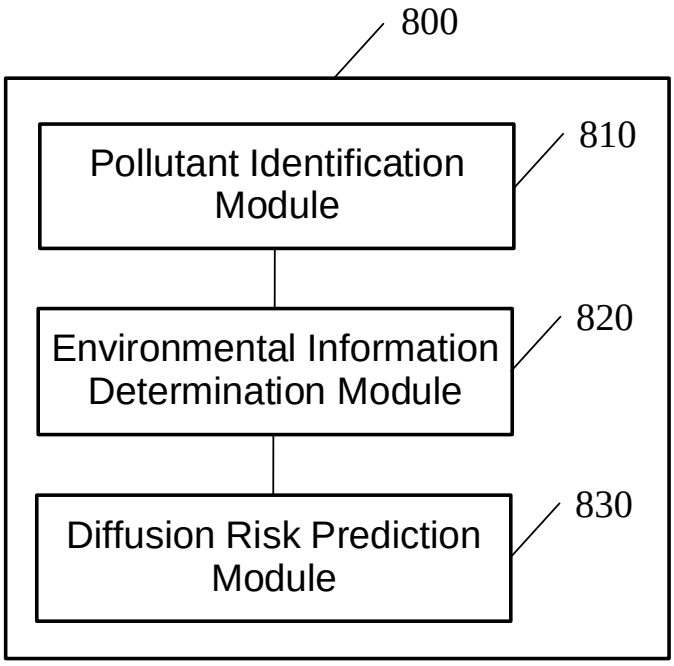

800
Pollutant Identification Module
810
Environmental Information Determination Module
820
Diffusion Risk Prediction Module
830

FIG. 8

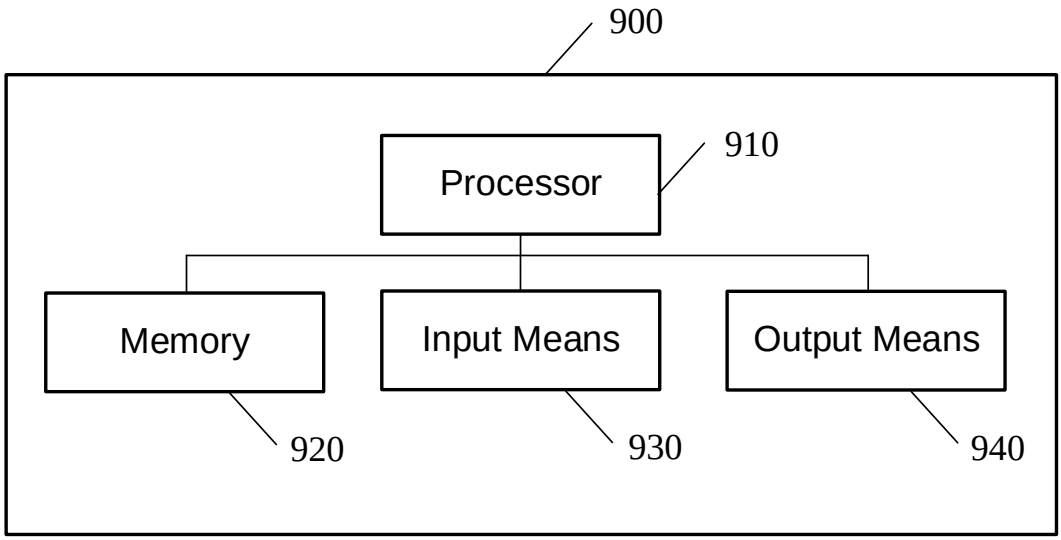

900
Processor
910
Memory
Input Means
Output Means
920
930
940

FIG. 9