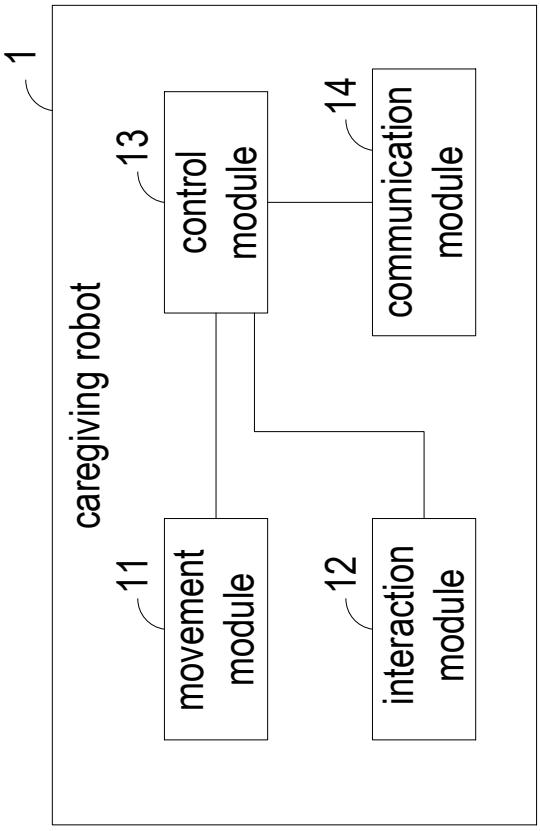

1
caregiving robot
13
control module
14
communication module
11
movement module
12
interaction module

FIG. 1

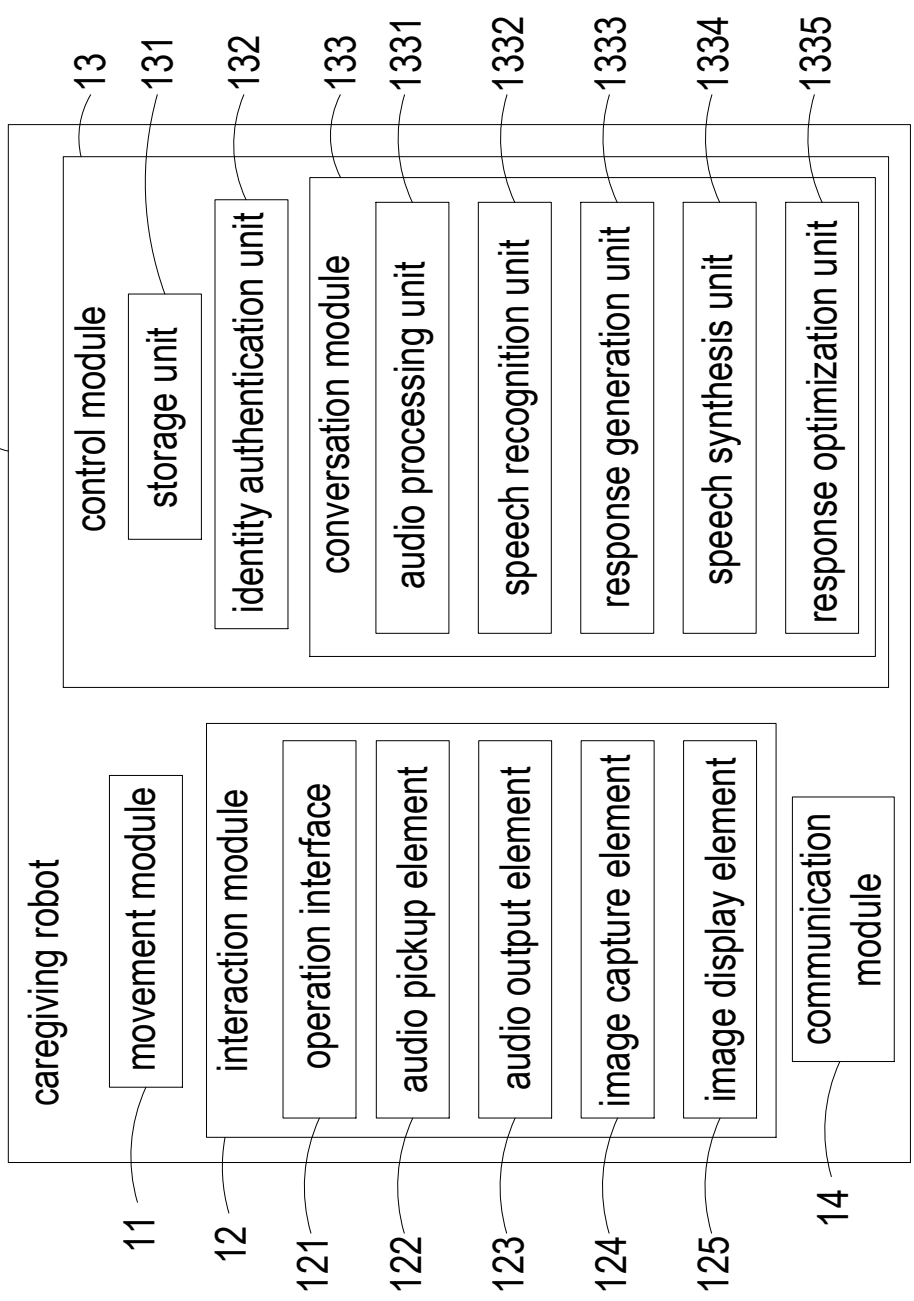

1
caregiving robot
movement module
11
interaction module
12
operation interface
121
audio pickup element
122
audio output element
123
image capture element
124
image display element
125
communication module
14
control module
13
storage unit
131
identity authentication unit
132
conversation module
133
audio processing unit
1331
speech recognition unit
1332
response generation unit
1333
speech synthesis unit
1334
response optimization unit
1335

FIG. 2

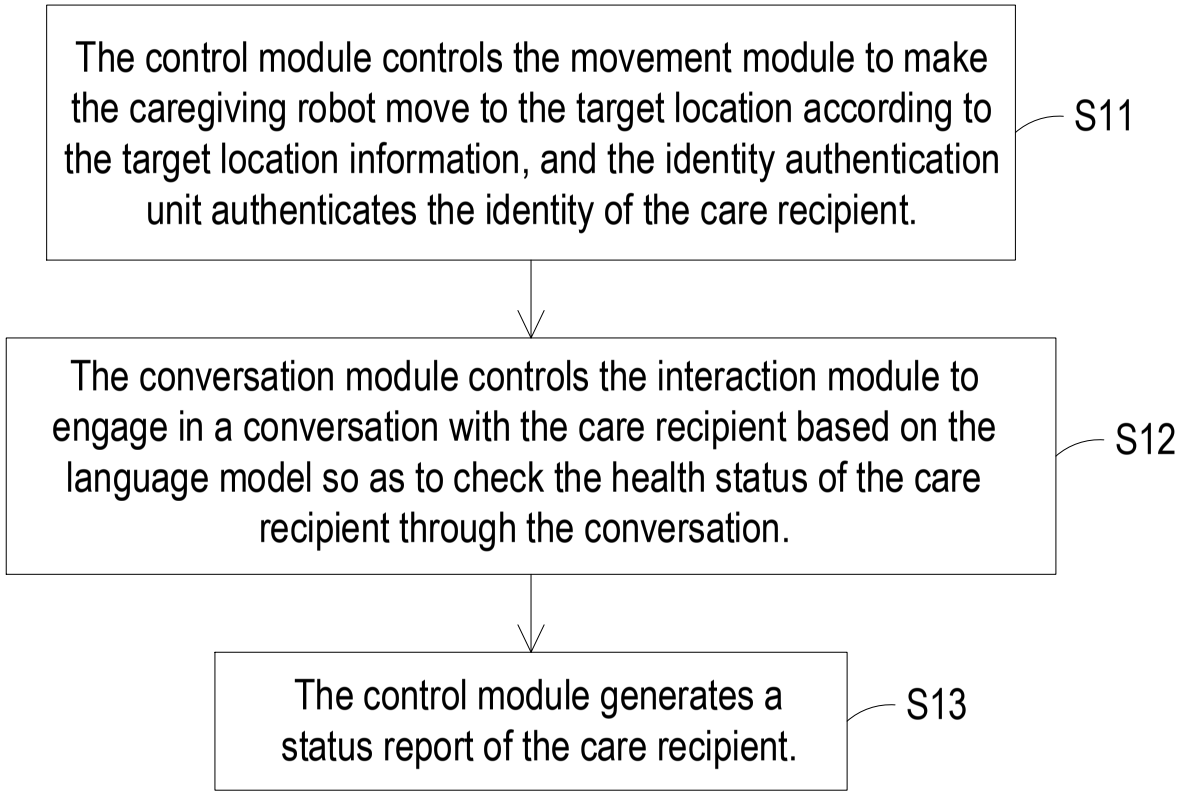

The control module controls the movement module to make the caregiving robot move to the target location according to the target location information, and the identity authentication unit authenticates the identity of the care recipient.
S11
The conversation module controls the interaction module to engage in a conversation with the care recipient based on the language model so as to check the health status of the care recipient through the conversation.
S12
The control module generates a status report of the care recipient.
S13

FIG. 3

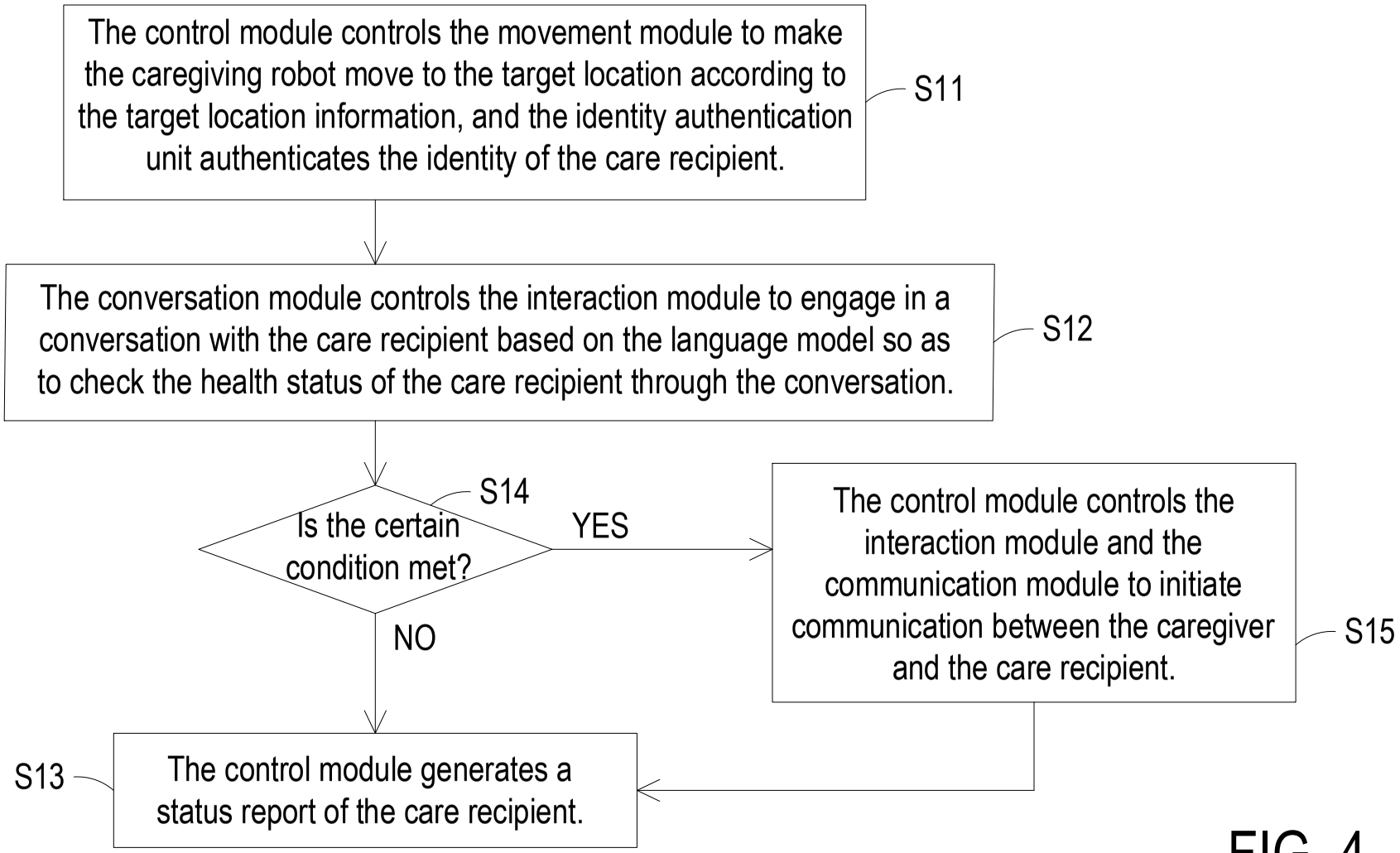

The control module controls the movement module to make the caregiving robot move to the target location according to the target location information, and the identity authentication unit authenticates the identity of the care recipient.
S11
The conversation module controls the interaction module to engage in a conversation with the care recipient based on the language model so as to check the health status of the care recipient through the conversation.
S12
S14
Is the certain condition met?
YES
NO
The control module controls the interaction module and the communication module to initiate communication between the caregiver and the care recipient.
S15
S13
The control module generates a status report of the care recipient.

FIG. 4

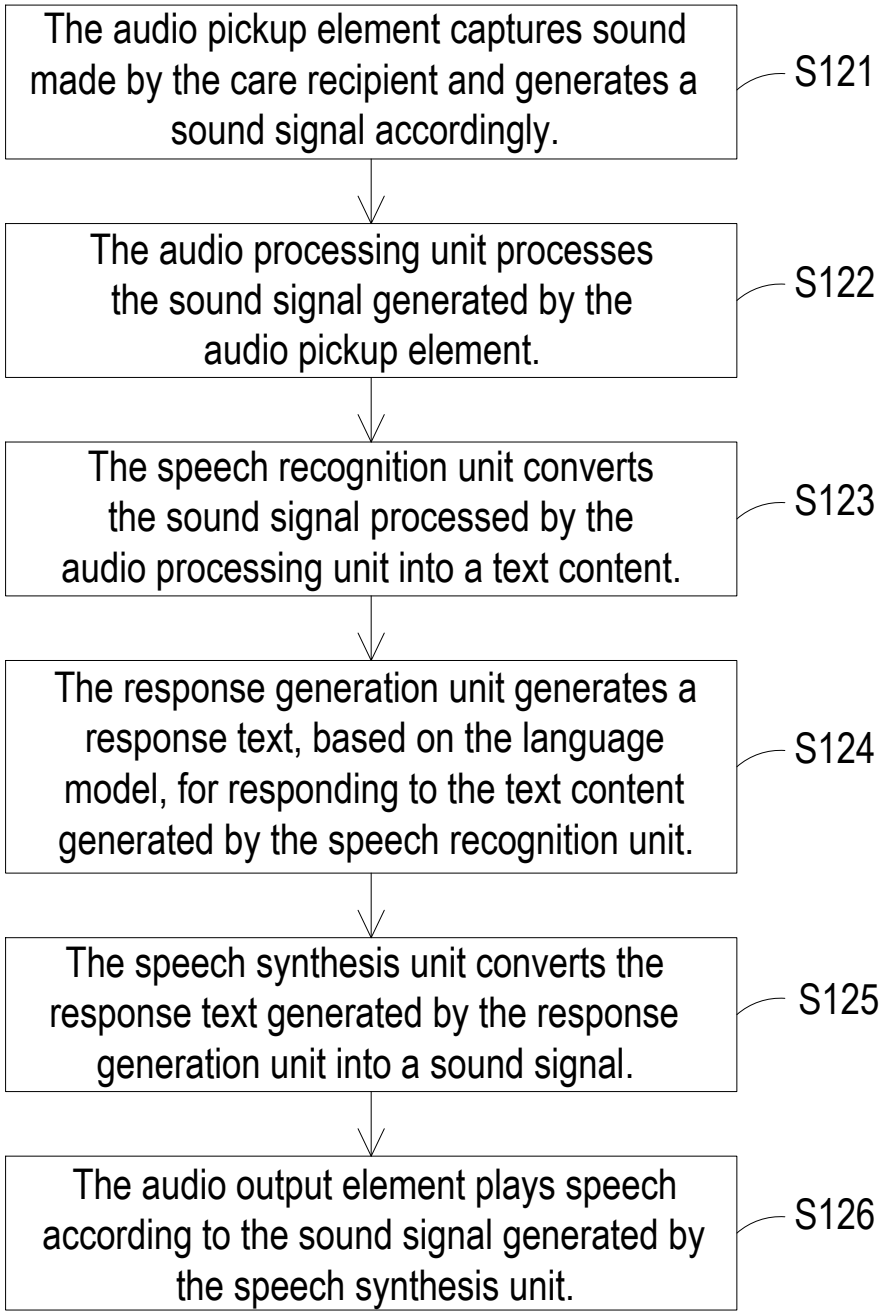

The audio pickup element captures sound made by the care recipient and generates a sound signal accordingly.
S121
The audio processing unit processes the sound signal generated by the audio pickup element.
S122
The speech recognition unit converts the sound signal processed by the audio processing unit into a text content.
S123
The response generation unit generates a response text, based on the language model, for responding to the text content generated by the speech recognition unit.
S124
The speech synthesis unit converts the response text generated by the response generation unit into a sound signal.
S125
The audio output element plays speech according to the sound signal generated by the speech synthesis unit.
S126

FIG. 5

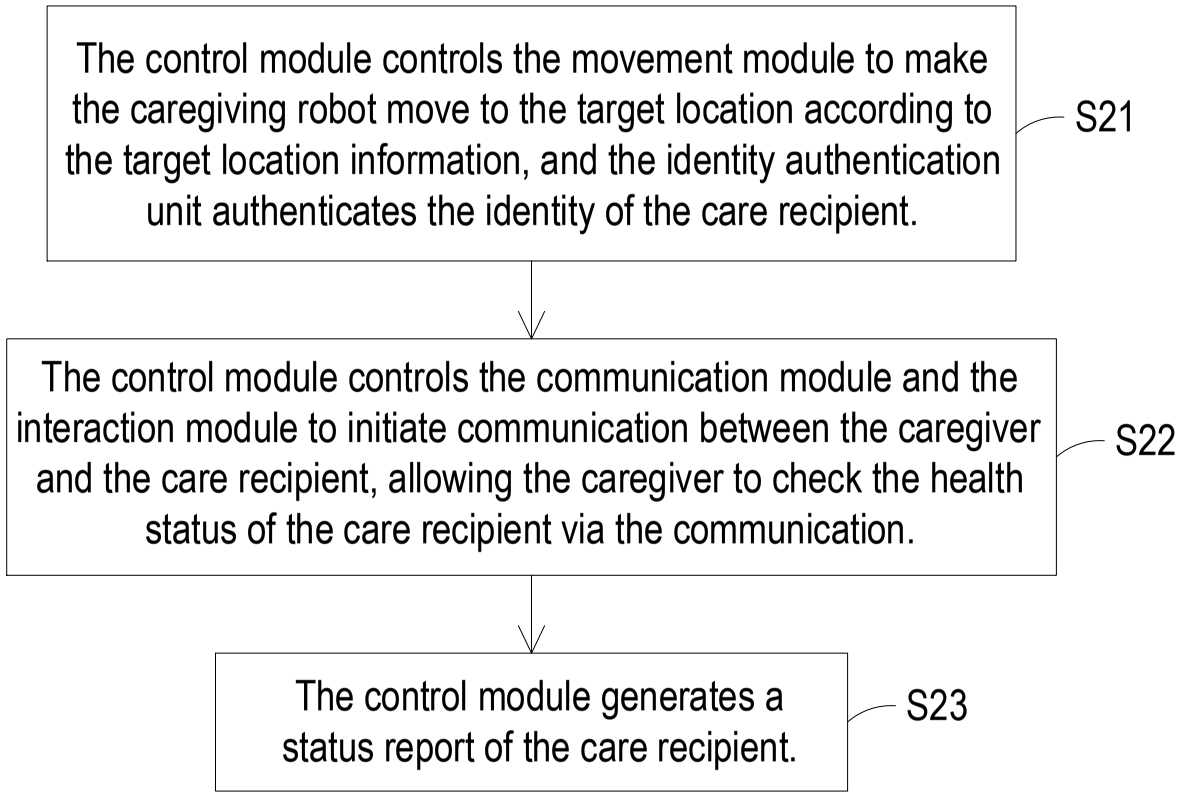

The control module controls the movement module to make the caregiving robot move to the target location according to the target location information, and the identity authentication unit authenticates the identity of the care recipient.
S21
The control module controls the communication module and the interaction module to initiate communication between the caregiver and the care recipient, allowing the caregiver to check the health status of the care recipient via the communication.
S22
The control module generates a status report of the care recipient.
S23

FIG. 6

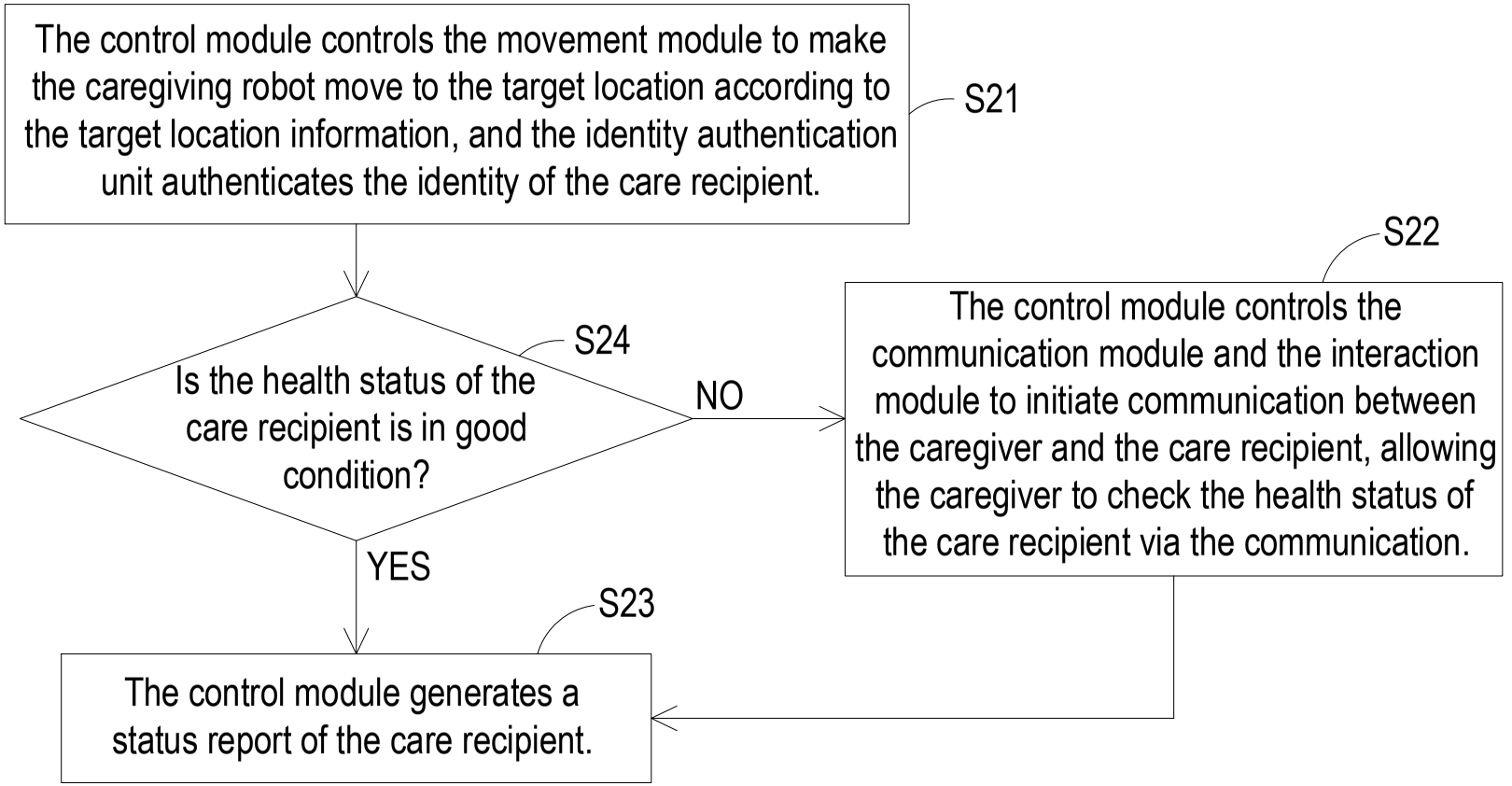

The control module controls the movement module to make the caregiving robot move to the target location according to the target location information, and the identity authentication unit authenticates the identity of the care recipient.
S21
S22
The control module controls the communication module and the interaction module to initiate communication between the caregiver and the care recipient, allowing the caregiver to check the health status of the care recipient via the communication.
S24
Is the health status of the care recipient is in good condition?
NO
YES
S23
The control module generates a status report of the care recipient.

FIG. 7

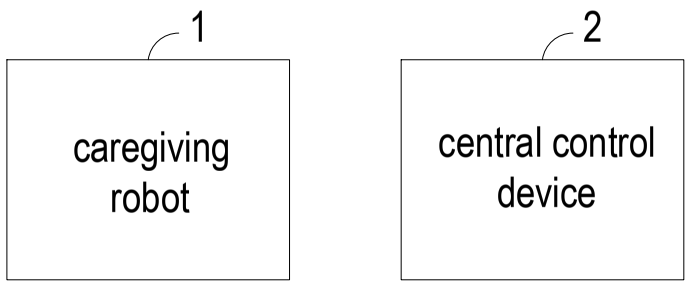


FIG. 8