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(54) Title: **BED HAVING FEATURES FOR ESTIMATING CORE BODY TEMPURATURES FROM SENSING OF CARDIAC
PARAMETERS AND EXTERNAL TEMPERATURE**

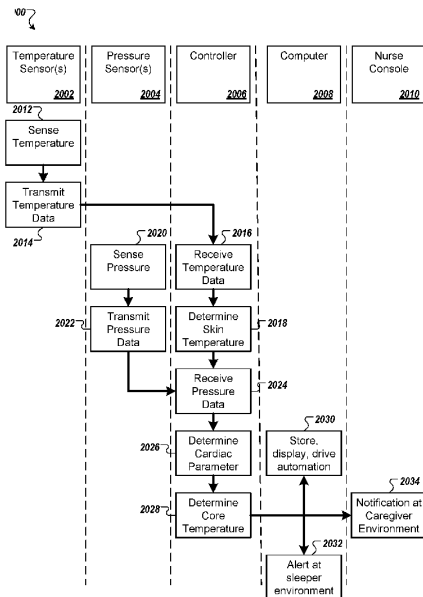


FIG. 20

(57) Abstract: A bed has a mattress. One or more temperature sensors are used, each sensor configured to: sense a temperature for the sleeper; and transmit, to a controller, temperature readings; one or more pressure sensors, each pressure sensor configured to: sense a pressure applied to the mattress by the sleeper; and transmit, to a controller, pressure readings. A controller may include a processor and memory, the controller configured to: receive, from the temperature sensors, the temperature readings; determine a skin temperature for the sleeper based on the temperature readings; receive, from the pressure sensors, the pressure readings; determine at least one cardiac parameter for the sleeper; and determine, from the skin temperature and the cardiac parameter, a core temperature for the sleeper that is different than the skin temperature and represents thermal state of a core of a body of the sleeper.

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