**[0007]** In accordance with another embodiment, a thermal cycler system for use with a sample holder configured to receive a plurality of samples includes a sample block configured to receive the sample holder, a heated cover, and a first sensor. The heated cover is configured to move in a direction toward the sample block from a raised position to a first lowered position, wherein the heated cover is in contact with the sample holder when the sample holder is received by the sample block, and from the first lowered position to a second lowered position when the sample holder is removed from the sample block, wherein the heated cover is in a position intermediate of the first lowered position and the sample block. The first sensor is configured to detect whether the heated cover is in the first lowered position.

**[0008]** Various additional features and advantages of the invention will become more apparent to those of ordinary skill in the art upon review of the following detailed description of the illustrative embodiments taken in conjunction with the accompanying drawings.

## Brief Description of the Drawings

**[0009]** The accompanying drawings, which are incorporated in and constitute a part of this specification, illustrate embodiments of the invention and, together with a general description of the invention given above, and the detailed description given below, serve to explain the invention.

**[0010]** FIG. 1 is a perspective view of a thermal cycler system according to one embodiment showing the cover lid in an open position.

**[0011]** FIG. 2 is a perspective view of the thermal cycler system of FIG. 1 showing the cover lid in a closed position.

**[0012]** FIG. 3 is a front perspective view of the thermal cycler system of FIG. 1 with an outer housing removed.