The Smart Electric Pressing Iron

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Despite advancement in the operation of electric pressing iron, the control still depend on human regulation, hence once in a while, clothes still get damaged due to excessive heat resulting in burnt or scorch marks, apart from the tendency to overheat or under-heat clothes. This project seeks to design a Smart Electric Pressing Iron (SEPI) that can automatically adjust itself to the optimum temperature needed for ironing clothes. The project consists of a stable ironing board made of fiber but coated with Teflon. The SEPI set to base temperature of 85 degree Celsius. When the cloth is placed on the stable and SEPI on it, the SEPI will self-calibrate to determine the optimum ironing temperature for the fabric. The stable contained the controlling circuit, that is, the processor PIC 1688, a thermocouple that measures the differential temperature and the time taken for the equilibrium temperature to be attained across the fiber with LM324 as a comparator. Calibration tests were conducted according to the FAST Procedure. The time taken is sent to the PIC 1688, which compares it with its stored calibrated value and thus, determine the type of fabric and the optimum temperature, thus, controlling the relays that control the voltage input to SEPI. This calibration figures are sent to the processor, PIC1688. The use of triac controls the voltage into the SEPI and consequently, prevents the current from being switched off and on intermittently like the conventional electric pressing iron, but maintaining the required voltage. Thus the ironing temperature is kept constant at the fabric optimum temperature. The Smart Pressing Iron has demonstrated that electric iron can be made smart to identify the fabric to be ironed and auto-adjust itself to its optimum ironing temperature.

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