made at Fort Franklin in 1825, 1826, and 1827. 243

bulb with a thin film of silk paper, and then blackening it thoroughly with china-ink and indigo. The silk paper was used to overcome effectually the polish of the glass and prevent the reflection of any of the sun's rays. From the commencement of the observations till the end of April 1826, the blackened bulb thermometer was hung on the south side of a rough deal shed used as an observatory; while the corresponding thermometer with a clean bulb was secured on the north, and consequently shady side. The black-bulb thermometer was therefore sheltered from the winds that came from the northern points of the compass only. In May 1826, and all the following months, both the clean and black-bulb thermometers were secured on the top of a slender detached post rising three feet above the sandy soil. A square, thin, clear glass bottle, four inches wide, placed on the top of the post, enclosed the radiation thermometer, and protected it from the wind. Its mouth was left open. The other thermometer was secured on the same post, at the same height, and its bulb, with the lower part of its scale, were enclosed in two concentrie brass cylinders, which permitted a free circulation of air, but effectually intercepted the sun's rays. This was ascertained by almost an hourly comparison with two other thermometers, one inside the observatory, which was regularly registered in connection with the magnetical observations, and another hung in the open air on the north side of the observatory. The latter always felt the influence of the sun in May and the summer months, both in the morning and evening (owing to the high latitude), and being also unsheltered from radiation of the sandy soil and of the deal observatory, was scarcely ever lower than the thermometer enclosed in the brass cylinders even at noon. The black-bulb thermometer in the bottle was very sensitive, and has been noticed to fall 10° in the short space of time occupied by a cloud passing over the face of the sun in a moderate breeze. In clear nights it often shewed a lower temperature than any of the thermometers with clean bulbs, the difference in some instances amounting to 4°. During May 1826, a spirit black-bulb thermometer unsheltered by glass was hung against the observatory and shifted from side to side with the course of the sun. A re-

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