

CHAPTER XXXVIII.

THE SUN COOLING OFF.

WE are not driven to the necessity of summoning exaggerated and imaginary agencies to the destruction of the earth. There are hostile powers reserved for the final conflict that will not be content with directing toward us merely "Quaker guns."

The sun, we say, affords us thirty-nine fortieths of all the warmth which we enjoy, and we feel quite unconcerned about the alleged slow cooling of the earth. To the sun we owe the numberless activities of the organic and inorganic worlds, and we feel quite independent of the waning temperature of this dying ember which we call the earth.

The amount of heat dispensed by our solar orb is truly something the contemplation of which overpowers the imagination. The rays which fall upon a common burning-glass, converged to a focus, speedily ignite a piece of wood. The heat which is received by a space of ten yards square is sufficient, as Ericsson states, to drive a nine-horse power engine. The amount of heat which falls upon half a Swedish square mile is sufficient to actuate 64,800 engines, each of 100 horse power. The total amount of heat received annually by the earth would melt a layer of ice one hundred feet thick. As the solar heat is radiated equally in all directions, it is easily calculated that the total emission of heat from the sun is 2300 millions of times the whole amount which reaches our earth.

Such an enormous expenditure of heat is sufficient to re-