Hence, at the equator perpetual frost exists at the height of 15,000 feet, diminishing to 13,000 feet at either tropic. Between latitudes 40° and 59° it varies from 9,000 to 4,000 feet. In almost every part of the frigid zone this line descends to the surface. These results, however, are greatly modified by several circumstances; so that, in fact, the line of perpetual congelation is not a regular curve, but rather an irregular line descending and ascending.

4. *Oceanic Currents.*—The surface of all oceans is occupied by currents. Some flow from the poles toward the tropics, carrying with them cold water, thus lowering materially the temperature of the warmer regions. Others flow from the tropics to the colder regions, carrying warm water and the products of warm climates, with effects to correspond. Most of the irregularities in the isothermal curves, where they cross oceans, are produced in this way. A familiar illustration may be seen along our coast. A cold current from Baffin's Bay passes near the eastern shore of North America, and makes the isotherm bend to the south along the whole distance; while the Gulf Stream, passing in the opposite direction, outside of the cold current, renders the climate of northern Europe much warmer than our shores at the same degree of latitude.

5. *Temperature of the Celestial Spaces around the Earth.*—This can not be much less than the temperature around the poles of the earth, where the solar heat has scarcely any influence. Now the lowest temperature hitherto observed near the poles (as recorded by Dr. Kane in North Greenland) is 70° below zero; and this has been assumed as the temperature of the planetary spaces. Hence it follows that there must be a constant radiation of heat from the earth into space.

6. TEMPERATURE OF THE INTERIOR OF THE EARTH.

In descending into the earth, beneath the point where it is affected by solar heat, we find that the temperature regularly and rapidly increases. If this rate is continuous, all the interior of the earth, below a crust of 100 miles thick, is at present in a state of fusion. Fig. 124 represents the proportion of melted and unmelted matter in the earth, on the supposition that the crust, which is represented by the black line, is 100 miles thick.