

they remain suspended on the mountain-sides, and possess only on a diminished scale the characteristics of the great glaciers. In Spain no glaciers are met with but those of the inferior order.

Our illustration, Fig. 99, is an ideal section of an Alpine glacier, in which A represents the glacial mass descending from the mountain into the valley.

Figure 100 is a hypothetical section of the Glacier de la Maladetta, in the Pyrenees. A represents the glacier hanging on the mountain-acclivity; B the granitic soil of the Maladetta.

We shall here concern ourselves with *glaciers of the first rank* only.

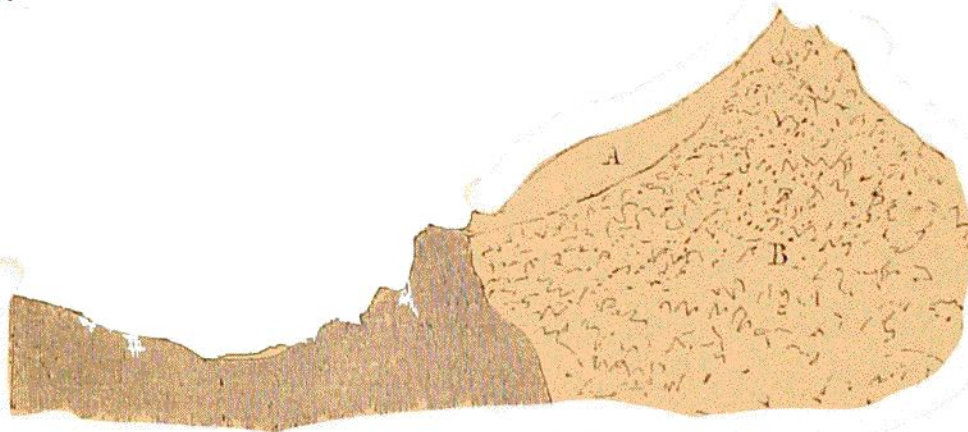


FIG. 100.—GLACIER OF THE SECOND RANK.

The orographical configuration is of great importance in the formation of glaciers. The first condition is the existence, at the upper end of a valley, of a large ravine, situated 8500 feet above the sea; for it is only at such an elevation the snows can accumulate and store themselves, when the mountain-side is swept by the winds. At a temperature of 44° F. or 50° F. above zero, the snow becomes dry, powdery, and as mobile as the desert-sand; it does not concentrate, or adhere, but is scattered abroad by every gust of wind. This is the reason why smooth and isolated mountains afford no opportunity or vantage-point for the formation of great glaciers, while the Alps, being broken up and fissured in every direction, afford all the necessary conditions for retaining and consolidating those mighty masses.