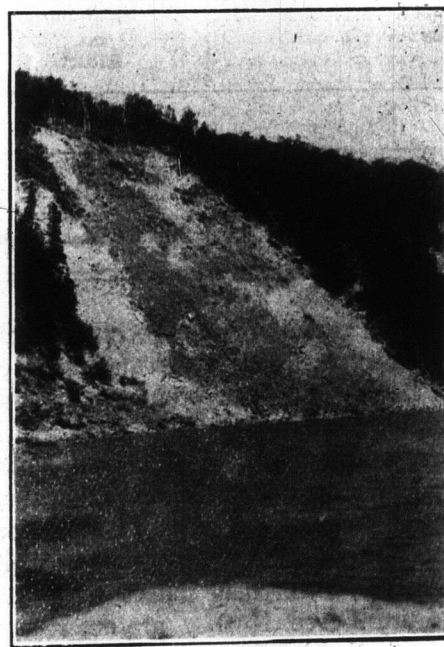




SQUAW'S CAP MOUNTAIN, NEAR THE SUMMIT.

broken rock fragments, rent by frost and ice from the rocky ledges of which they once formed a part. Here one of our first lessons may be learned. It is that what we commonly speak of and are apt to regard as the "everlasting" hills are evidently subject to decay. They are continually losing of their substance, and if this process continues indefinitely, the mountain must in time be worn down and disappear. It is the same lesson that we learned on the seashore, the lesson of inevitable change. Every one of our hills tells the same story, and the great piles of angular fragments on their sides, known to geologists as *taluses*, become both a proof and a *measure* of the change. They represent the results of what is known at the "creep" of rocks—movements which, ordinarily slow, but at times augmented by more vigorous slips or slides, are everywhere tending to reduce the heights of the land to the level of the sea. The accompanying cut shows one among the conspicuous land slides characterizing the Bay of Fundy coast in eastern St. John county, while similar effects are very conspicuous at Blomidon. Another feature of our mountains deserves attention here, for it gives another lesson based on mountain forms. It is this: If we look from some high eminence over the sea of hills spread on every side of us, we notice that however distinct the individual hills may be, they all rise to about a common level; in other words they owe their form and individuality mainly to the valleys which separate them. Now these valleys are occupied by streams, such as the Tobique, which, in the case of the Bald Mountain view already alluded to, may be seen, with its tributaries, winding like silver threads through the forests of green; and the question arises whether the valleys are not due to the streams, and whether, before the latter began their work, there were no

valleys and therefore no hills, what are now such being all united in a common block. This is the view now generally held as to many mountain regions, and it serves to explain many facts which would otherwise be inexplicable. Such flat blocks or plateau, of which there are several in New Brunswick, including the whole of our northern Highlands, are commonly known as *peneplanes*. They suggest a fact to which we shall return in a later chapter, that our rivers may, in some cases at least, be older than the hills. The fact referred to also explains—what is often found to be the case in our northern hills, like those of the Restigouche and Nepisiquit regions—that what appears from the valley below to be a veritable mountain is, as we prove by ascending it, only the cut end of a ridge, the top of which is flat for many miles. There are indeed isolated hills, and some of these, like the Sugar Loaf, already mentioned, or Bald Peak near Riley Brook on the Tobique, are very conspicuous, looking almost like volcanic cones, but even these are probably remnants of plateaus isolated or reduced by water erosion. The idea that mountains in general are wholly the results of upheavals, does not tally with the facts. A part of their elevation, and possibly a considerable part, may be due to up-



LAND SLIDE, ST. JOHN COUNTY, N. B.

ward bends of the earth's crust, but their prominence, and the details of their outlines are due almost solely to cutting down rather than to thrusting up. Like most geological results they are due not to sud-