

tenance involve considerable expense, difficulties and hindrances of various kinds often presenting themselves, especially in the loftier regions, where the pipes have to be carried along projecting or overhanging rocks. For long distances the conduits are hewn in the solid rock, or supported by means of masonry. Projecting rocks that could not be rounded have been tunnelled through, some of the tunnels being 1,300 feet in length. In the case of overhanging rocks the conduits are constructed of wood and supported by brackets, or, as is now often practised, fastened by means of iron rods, one end of which is let into the rock, while the other is suspended by a wire rope. This work involves no slight risk to the person employed in it, since he must be lowered by ropes over the precipice—the commune of Mund recently purchased a rope 4,000 feet in length for this purpose! In places where stones frequently fall, or where the conduits must be carried through glacial moraines and mounds of *débris*, the channels are cut deep into the mountain and covered either with logs, slabs of stone, or timber galleries. The ravines and fissures of the rocks are frequently crossed by boldly constructed bridges, and occasionally we meet with arched stone bridges, having up to seventy feet span. The Clavoz aqueduct has no less than seven bridges of masonry. In the Visp valleys the water is often conducted over the river.

The maintenance of these aqueducts is very costly, for it happens not infrequently that they are filled up or destroyed by heavy showers, to the great detriment of agriculture. It is usually necessary to clean them out every spring, and often this operation has to be repeated several times during the summer; in many places the wooden conduits are removed before the winter, especially where they would be liable to be destroyed by avalanches.

The cost of maintenance and superintendence is covered by the sale of the water. Every landowner receives a certain quantity of water during a certain period of the year, the amount being proportioned to the area of the farm.

The most striking example of the success of this system is afforded by the stretch of meadow-land known as the Champssecs, between Sion and Brämis. It has not been ploughed up for 300 years, has, so to speak, never been manured, and yields nevertheless most abundant crops.

The total length of the aqueducts of Valais is over 5,000,000 feet, or nearly 1,000 miles; and taking the average cost at the low figure of 1s. 1d. per foot, we have a total of £270,000.