aid, the trees are, in the case of the river or stream I allude to, floated right up to the saw mill (water) at Abernethy village.

I must premise that, were the stream to remain full long enough for the purpose, the logs would simply be floated down in the ordinary way (singly, not in rafts), watched and assisted by men on the banks; but this is rarely the case, and arrangements have to be made for storing water at several points on the way, which can be let into the main stream, as required, in sufficient quantities to carry on the logs to their destination. This is effected in the following manner:—A temporary weir, constructed of logs and stones, is thrown across the river down which the timber is to be floated. A channel is led from above this weir, to supply a reservoir made for the purpose at the nearest eligible site in the vicinity of the river, the channel being furnished at its head with a sluice whereby the supply is regulated.

From the reservoir a channel is led to the river, meeting the river bank at a point considerably below the site of the weir, and this channel is also furnished, at its head, with a sluice whereby the supply to the river is regulated. By this arrangement water taken from the river and stored in the reservoir, is capable of being used as an auxiliary power for floating the timber to a point considerably further down the river than could be reached by means of the water power in the river itself.

The various stages in the transit of the timber are these. It is floated by the available water power in the river to a given point, and then stranded. Immediately below this point the temporary weir above described is constructed. This raises the water sufficiently to float the timber once more, and the weir being removed, the timber is carried on to a point further down the river, and again stranded. At this second point is the mouth of the channel led from the reservoir; the sluice at the head of this channel being opened, the water stored in the reservoir flows down the channel into the river, the timber is again floated, and is thus carried on to its destination. There are, of course, as many dams as are found necessary along a river, and the process may be repeated as often as required.

The "Big Dam" which I saw was about 90 yards long, 10 feet high, and about 15 yards thick at the base, the sluice, fitted with two doors or vents raised by a powerful lever, being in the centre. The reservoir, which covered a large area when full, can be filled in two or three days, and the water is sufficient, when let on, to keep the river in floating order for four hours. The accompanying rough sketch will perhaps explain better than any written description. (*Vide* Plate I.)

The work of construction is all done by the forest establishments, and though rough, and not calculated for the sudden freshes of an Indian mountain stream, it answers the purpose here, where, however, the men can be more relied on to go and open the sluice gates of the main dam, or to shut that leading from the river, in the event of very heavy and continued rains. A self-closing sluice for the latter would probably be found necessary in India, to prevent danger of the main dam being carried away or breached, or the simplest arrangement for safety would be an escape in the river bank, just above the weir, as shown at G in the sketch.

Saw Mills (*Water Power*).—I gave particular attention to the saw mills and machinery throughout my tour, and here inspected that at Abernethy, to which the logs are floated down as already described.

There are two wheels, drawing two separate sets of machinery, in adjoining sheds, one 14-feet breast wheel, with segment and 4½-feet drum, single action, driving four circular saws when required. The action is very simple and effective. The other is a small 4-feet breast wheel turning a crank which works a vertical band-frame saw. (*Vide* Plates II. and III.)

This appears particularly simple and useful for squaring large beams, and could be easily constructed and put up in our Indian forests, having the great advantage that there is scarcely any iron employed. All there is could be easily done by a village blacksmith.

Grazing.—I made particular inquiries on this point, in order to ascertain the usage, as the case of this estate, with 60,000 acres under what may be called the Strathspey Forest Department, in the midst of a great grazing county, bears some analogy to the question in Madras, where every little enclosure for planting or formation of reserves is apt to be met with an outcry, as lessening the extent available for pasture. I have invariably argued in India that not only did our enclosures make no appreciable difference in the enormous extent of hill pasture available, to which they bear, and always should bear, a very small proportion, but that eventually grazing might be allowed in the plantations and reserves, and the pasture would be found to be improved. I now find that this is exactly the case here, where ordinary pasture land on the hill side lets for 6d., and that of enclosed plantations for 2s. 6d. an acre, the one being as strictly reserved to the renter only as the other.

The practice with existing woods or plantations over 15 or 20 years old, is to let the grazing for a term of years, on the condition that the renter puts up the fence and keeps it in repair, the landlord providing the posts in the first instance, but not the wire nor work. At the expiration of the lease, if not renewed, the landlord has the option of taking over the wire and work at a valuation, or arranging for the incoming tenant's doing so. The pasture, particularly under larch, is much better than elsewhere, and the trees afford shelter for the sheep from the excessive cold in the winter (as they would in India from the excessive heat in the hot weather on the plains, and on the hills from the rain and cold winds), whilst, on the other hand, the landlord gets an enhanced rent, and has his fences put up and kept in repair.

From young plantations or natural woods all men and cattle are rigidly excluded, as well as from tracts from which a crop of timber has recently been removed, and which, according to Mr. Thomson's system is allowed to lie entirely fallow for some time. It often happens, however, that enclosures are made, or exist, before the forest establishments are ready to plant them. In these cases the grazing is rented, and often goes a long way to pay for the fencing. I trust we may yet arrive at some such system in India, allowing, of course, a wide margin for the people's actual requirements in the shape of grazing for their cattle sheep, and goats, but not hesitating to take up, for planting or reserve, any of the residue which may be required, to be thrown open again, or rented, as thought fit, when the trees have grown out of harm's way.