

with a joint stock, to be laid out in the construction of the road along which it was intended that the trees should slide down into the lake of Lucerne, an arm or gulf of which fortunately approaches quite near to the bottom of the mountain. The sum required for this purpose was very considerable for that country, amounting to £9,000 or £10,000; £3,000 to be laid out on the purchase of the forest from the community of Alpnach, the proprietors of it, and the rest being necessary for the construction of the singular railway, by which the trees were brought down. In a country where there is little enterprise, few capitalists, and where he was himself a stranger, this was not the least difficult part of Mr. Rupp's undertaking.

The distance which the trees had to be conveyed, is about three of the leagues of that country, or, more exactly, 46,000 feet. The medium height of the forest is about 2500 feet; (which measure I took from General Pfyffer's model of the Alps, and not from any actual measurement of my own.) The horizontal distance, just mentioned, when reduced to English measure, making allowance for the Swiss foot, is 44,325 feet, eight English miles and about three furlongs.

Along this line the trees descend, in a sort of trough, built in a cradle form, and extending from the forest to the edge of the lake. Three trees, squared, and laid side by side, form the bottom of the trough; the tree in the middle having its surface hollowed; so that a rill of water received from distance to distance, over the side of the trough, may be conveyed along the bottom, and preserve it moist. Adjoining to the central part, (of the trough,) other trees, also squared, are laid parallel to the former, in a manner so as to form a trough, rounded in the interior, and of such dimensions as to allow the largest trees to lie, or to move along quite readily. When the direction of the trough turns, or has any bending, of which there are many, its sides are made higher and stronger, especially on the convex side, or that from which it bends, so as to provide against the trees bolting or flying out, which they sometimes do, in spite of every precaution. In general, the trough is from five to six feet wide at top, and from three to four in depth, varying, however, in different places, according to circumstances.

This road has been constructed at considerable expense; though as it goes, almost for its whole length, through a forest, the materials of construction were at hand, and of small value. It contains, we are told, 30,000 trees; it is, in general, supported on cross timbers, that are themselves supported by uprights fixed in the ground; and these cross timbers are sometimes close to the surface; they are occasionally under it, and sometimes elevated to a great height above it. It crosses in its way three great ravines, one at the height of sixty-four feet, another at the height of 103, and the third, where it goes along the face of a rock, at that of 157; in two places it is conveyed under ground. It was finished in 1812.

The trees which descend by this conveyance are spruce firs, very straight, and of great size. All their branches are lopped off; they are stripped of the bark, and the surface, of course, made tolerably smooth. The trees, or logs, of which the trough is built, are dressed with the axe, but without much care.

All being thus prepared, the tree is launched, with the root end foremost, into the steep part of the trough, and in a few seconds acquires such a velocity as enables it to reach the lake in the short space of six minutes; a result altogether astonishing, when it is considered that the distance is more than eight miles, that the average declivity is but one foot in seventeen, and that the route which the trees have to follow is often circuitous, and in some places almost horizontal.

Where large bodies are moved with such velocity as has now been described, and so tremendous a force of course produced, every thing had need to be done with the utmost regularity; every obstacle carefully removed that can obstruct the motion, or that might suffer from so fearful a collision. Every thing, accordingly with regard to launching off the trees, is directed by telegraphic signals. All along the slide, men are stationed, at different distances, from half a mile to three quarters, or more, but so that every station may be seen from the next, both above and below. At each of these stations, also is a telegraph, consisting of a large board, like a door, that turns at its middle on a horizontal axle. When the board is placed upright, it is seen from the two adjacent stations; when it is turned horizontally, or rather parallel to the surface of the ground, it is invisible from both. When the tree is launched from the top, a signal is made, by turning the board upright; the same is followed by the rest, and thus the information is conveyed, almost instantaneously, all along the slide that a tree is now on its way. By-and-by, to any one that is stationed on the side, even to those at a great distance, the same is announced by the roaring of the tree itself, which becomes always louder and louder; the tree comes in sight when it is perhaps half a mile distant, and in an instant after shoots past with the noise of thunder, and the rapidity of lightning. As soon as it has reached the bottom, the lowest telegraph is turned down, the signal passes along all the stations, and the workman at the top are informed that the tree has arrived in safety. Another is set off as expeditiously as possible; the moment is announced

as before, and the same process is repeated till the trees that have been got in readiness for that day have been sent down into the lake.

When a tree sticks by accident, or when it flies out, a signal is made from the nearest station, by half depressing the board, and the workman from above and below come to assist in getting out the tree that has struck, or correcting any thing that is wrong in the slide, from the springing of a beam in the slide; and thus the interruption to the work is rendered as short as possible.

We saw five trees come down; the place where we stood was near the lower end, and the declivity was inconsiderable, (the bottom of the slide nearly resting on the surface,) yet the trees passed with astonishing rapidity. The greatest of them was a spruce fir, a hundred feet long, four feet in diameter at the lower end, and one foot at the upper. The greatest trees are those that descend with the greatest rapidity; and the velocity as well as the roaring of this one was evidently greater than of the rest. A tree must be very large to descend at all in this manner; a tree, Mr. Rupp informed us, that was only half the dimensions of the preceding, and therefore only an eighth part of its weight, would not be able to make its way from the top to the bottom. One of the trees that we saw, broke by some accident into two; the lighter part stopped almost immediately, and the remaining part came to rest soon after. This is a valuable fact; it appears from it that the friction is not in proportion to the weight, but becomes relatively less as the weight increases, contrary to the opinion that is generally received.

In viewing the descent of the trees, my nephew and I stood quite close to the edge of the trough, not being more interested about any thing than to experience the impression which the near view of so singular an object must make on a spectator. The noise, the rapidity of the motion, the magnitude of the moving body, and the force with which it seemed to shake the trough as it passed, were altogether very formidable, and conveyed an idea of danger much greater than the reality. Our guide refused to partake of our amusement; and he retreated behind a tree, at some distance, where he had the consolation to be assured by Mr. Rupp, that he was no safer than we were, as a tree, when it happened to bolt from the trough, would often cut the standing trees clear over. During the whole time the slide has existed, there have been three or four fatal accidents, and one instance was the consequence of excessive temerity.

I have mentioned that a provision was made for keeping the bottom of the trough wet; this is a very useful precaution; the friction is greatly diminished, and the swiftness is greatly increased by that means. In rainy weather the trees move much faster than in dry. We were assured that when the trough was every where in most perfect condition, the weather wet, and the trees very large, the descent was sometimes made in as short a time as three minutes.

The trees thus brought down into the lake of Lucerne are formed into rafts, and floated down the very rapid stream of the Reuss, by which the lake discharges its waters first into the Aar, and then into the Rhine. By this conveyance, which is all of it in streams of great rapidity, the trees sometimes reach Basle, in a few days after they have left Lucerne; and there the immediate concern of the Alpnach company terminated. They still continue to be navigated down the Rhine in rafts to Holland, and are afloat, in the German Ocean, in less than a month from having descended from the side of Pilatus, a very inland mountain, not less than a thousand miles distant. The late Emperor of France had made a contract for all the timber thus brought down.

Professor Playfair.

SUMMER IN INDIA.

BY CAPT. WESTMACOTT.

Now is the season when buffaloes bathe themselves in rivers, and crocodiles cock their snouts above water to snuff the air, and frogs disport themselves in deep pools, and porkers of tender age lie in the mud and are fondled by cherubs as naked as themselves. And a journey in a palankeen at noon is as good as a baking in an oven, and vegetables are scarce, and fruits plentiful, and the thermometer rises to near one hundred degrees in the shade.

Now fleas are on the alert, and pack-horses grow weary, and bullocks think their burdens a bore and had rather leave them in the mire than lug them a mile, and the covers of books curl at the corners like the toe of a Turk's slipper, and the pores of patients are opened without recourse to sudorifics. Now changes of linen are more frequent than changes of the weather, and lean people fall into a melting mood and are uneasy at parting with their substance, and fat folks dissolve like sugar—but not so sweetly—and no one from Caubul to Cape Comorin cries—"Oh! that this too solid flesh would melt."

Now jellies want consistency, and butter ceases to be solid, and claret and ale are better for a dip in the ice-pail; and they who get into gutters are careful to guard their noses, and they who forage for grass must be content to dig up the roots, and they who look about for greensward are greenhorns. Now leather becomes tough, and shoes shrink in the soles, and corns are a curse, and they who set out to walk a league are glad to stop at a furlong, and those who go forth to breathe the air gulp the dust;

and the skin gives out drops less pearly than dew, and moisture deserts the beds of rivulets, and is found sometimes in the beds of those who sleep in warm places.

Now women fill their water-jars at wells, and vegetation is kept alive by irrigation and man by refrigeration, and woollens and Welsh flannel are at a discount, and water-bearers, at a premium. Now ladies' looks smack more of languor than love, and stale loaves are common, and dry biscuits are not scarce, and butchers' meat a day old is an unprofitable commodity, and sweetmeats in bazaars are less savoury than usual, and flies congregate about the cheese-cakes and hold a carnival in honeypots; and rank smells are rife in market-places, and fishmongers that fail of customers in the morning are pretty certain not to find them at noon.

Now a washerman has a cooler birth than a cook, and a dinner-party is anything but a dry affair, and luckless wights that sit opposite to saddles and sirloins, and "cut" for a company, are sorry when people "come again," and are glad to change both their shirt and their situation. And sufferers from the tedium vitæ seek relief in aqua vitæ, and swains of more succulence than sentiment sipper an adieu to their sweethearts and fly to pale ale and ginger-pop.

Now mosquitoes are merry because of the sunshine, and keep a vigil under stools and chair bottoms, and sting unsuspecting people—it matters not where; and the air glows like a furnace, and fire-worshippers enjoy the sun in his glory, and they who are not fire-proof take the shady side of a street. Now tempests are terrific, especially if ushered in by thunder, and exhibitions of the electric fluid are dazzling rather than delightful; and rainbows are rare, and the sky wears a livery of blue, and is seldom overcast; and ducks are downcast for lack of drink, and water-wagtails weep for want of water; and nature is chary of her charms, and landscape limners and sonnetteers grow sorrowful, and reluctant inspiration promotes perspiration, and poets fly for relief to the pump-room, and dream less of Dryades than of water-nymphs.

Now is the witching time when tigers are taken in the toils, and fishes in nets, and fevers in the forests; and sportsmen are brisk as a belle in a large bustle, and powder and ball quit the shelves, and double-barrel guns and rifles their cases. Now lovers put off the lighting of the hymeneal lamp, or, as plain Mr. Simpson would say, people postpone their weddings till after the warm weather; and life in country-quarters is pretty nearly confined to "loll-shrub," and jolling on sofas, cold-bathing, curry, and cayenne, sherbet, and champagne, the pipe, parade, and the punch-bowl.

Now bellows-blowers in a smithy cry "blow me this is warm work," and to be cool is a comfort, and a hug is anything but a happiness, and a great-coat puts the wearer in a sweat; and chimney-nooks are neglected, and fire-irons are out of employ; and babies are carried about by black men, and little children go along chirping in hand-chaises; and servants carry chatahs to shade them from the sun. Now to flirt a lady with a fan is agreeable to her feelings—and some like to flirt themselves—and punkhas are in a state of agitation, and the blood of stagnation, and ruddy dames and rosy damsels mourn over their fading beauty, and pale lasses grow a shade paler, and brunettes a shade browner, and sick people turn yellow like a leaf in autumn. And now the ink has dried without the aid of pounce, and put an end to a dry subject, and to weep over the mishap is impossible, for the springs that feed the eyes have given over gushing, and "the sacred source of sympathetic tears" is dried up with the drought.

New Monthly for April.

ADAM AND EVE.—It certainly must have been a glorious day, that on which this planet of ours first felt itself pressed by the foot of man. Imagine this sphere rolling for thousands of years, thousands, perhaps of centuries, through the orbit which it still occupies—bearing on its surface not so much as one reasoning creature—the abode of fishes—of monsters that roamed about like walking castles, living on the topmost branches of trees, treading over forests in their progress, and drinking up Mediterranean at a draught; and in their train nothing but hyenas and leopards, dogs and reptiles, and winged bipeds of every order and degree. At length, an upward-looking, erect, graceful, intelligent form lights upon the green turf from some other orb—his countenance shining with a divine light, at once subdues them to his command—they pass in review before him—he gives them names—and from that moment a new order of things commences over the whole of their ancient habitation. How different that splendid morning from the *Deis Ira* still to come!

But he was alone. I can thoroughly enter into his feelings when, seated beneath the shade of a spreading cedar, he gazed upon the Eden around him—just before he slept—and though full of joy while surveying the charming scenes that met his eye on every side, and listening to the enchanting melodies of waving groves and feathered choirs, and falling waters that were soothing him to slumber, he was still conscious of a voice in his heart remaining to be filled up. And when upon re-opening his eyes, after his first delicious repose, he saw standing beside him EVE—Oh, the transport of that moment were worth exile even from that garden of bliss!—*Metropolitan*.