RAILWAY MATTERS.

A train on the Memphis and Little Rock Railway was stopped for an hour lately by the multitudes of caterpillars on the track.

A REMARKABLE engineering feat is now being accomplished in the crossing of the Andes by the Senia Oroya Railroad. The mountain chain will be crossed at an altitude of 15,000ft. by a tunnel 3000ft. in length. The grades are the steepest known on any ordinary railway. The workmen employed are Cholos Indians, the only operatives who can endure for a prolonged period the rarefied atmosphere at this great elevation.

AUSTRALIAN TRANSCONTINENTAL RAILWAY.—A large portion of the area proposed to be traversed by the projected Australian Transcontinental Railway is a dead level, and the cost of construction is estimated in consequence at not more than 3500*l.* per mile. This would give a total outlay upon 1800 miles of 6,300,000*l*, exclusive of rolling stock. The cost of hauling trains over the 1800 miles would, however, be very considerable, while the traffic to be accommodated must long be small. At the same time the line would probably prove extremely useful as a means of helping forward the colonisation of Australia

IT is understood that Hudson, U. S., is to be selected as the location for a new manufacturing enterprise to be known as the "Paper Car Wheel Company." Messrs. R. N. Allen & Co, of Brandon, Vermont, are the patentees of a new car wheel made of compressed paper, which is alleged to possess great superiority over iron or wood. These wheels have been in use on a Pullman palace car long enough to prove them, and it has been decided to establish a large manufactory at some favourable point. Hudson was chosen, and the machine works of R. H. Mitchell and Co., have been secured, with adjacent property, for the location of the new works.

AN inventor in Toledo, United States, has just received a patent for a new and useful invention recently completed by him for an improvement consisting of a combined seat and desk for railway cars. The device comprises a stiff spiral spring, situated in the base of an ordinary-shaped stool, in such a manner as to receive the full weight of occupant of the stool without permitting it to touch the floor. The spring serves to break all the jar and jolt caused by the motion of the train, thus affording a perfectly steady position to the small desk attached to the front of the stool. It is claimed by the inventor, after giving a careful test to his invention, that the occupant may write letters or make reckonings, while travelling at the rate of thirty miles an hour, with all the ease and legibility attainable in his own counting-room.

GREAT WESTERN DOUBLE TRACK.—The contracts for building the double track on the Great Western from Glencoe to Windsor have been let, in four sections, and the contractors for each section are preparing to commence work at once. The contractors for the sections between Chatham and Glencoe are Messrs. Carpenter, Seymour & Bowles, of Chicago. Chatham will be the headquarters of the firm while they are prosecuting the work. It is said the Company find some difficulty in arranging with owners of land through which the line passes, for the extra twenty-five feet right of way required for the double track, $200 per acre being demanded in many cases. The Company refuse to pay any such figure, and, where parties refuse to come to terms, propose to take possession, and allow the owners of the land to seek their remedy in arbitration or otherwise. It is the intention of the Company to have the double track ready for traffic this fall.—*Chatham Banner.*

At a railway meeting held at Dartmouth on the resolutions were passed to urge upon the consideration of the Governor-General the claims of the eastern section of the County of Halifax; that the town of Dartmouth furnishes the most commodious and most advantageous site for the terminus of the Intercolonial Railway; and that a petition to the Governor-General be prepared and circulated for signature, praying that before any money is expended in bringing the railroad further into the city of Halifax, steps may be taken to ascertain the advisability and practicability of bringing the railroad through the eastern part of the county, and the eligibility of Dartmouth as the terminus of the Intercolonial Railway. A committee was appointed to carry out the object of the resolutions.

THE ST. GOTHARD RAILWAY.

The machinery to be used for piercing the St. Gothard is now in a forward state. The large turbines for driving the air-compressors are being made by Messrs. Escher, Wyss & Co., the well known engineers of Zurich, who are also constructing the heavy portions of the air-compressors, whilst the more delicate parts are in the hands of M. Plainpalais, of Geneva. The erection of the temporary machinery, made in Belgium (which will be used until the permanent machinery is ready), has been somewhat retarded on account of the heavy floods during the last few months. The experiments with some Anglo-American tunnelling machinery at Geneva are said to have given most satisfactory results, and there seems to be no doubt of its being adopted for the tunnelling of the St. Gothard. The question respecting the purchase of the machinery and plant used at the Mont Cenis Tunnel seems at last to have been satisfactorily arranged on both sides, M. Favre, the contractor, being exonerated from the agreement by which he was bound to purchase all the plant from the Italian Government. It appears now that it is thought advisable to retain the air-compressors at Bardonnèche and Modane, and M. Favre has agreed only to take a quantity of pipes that were used for the transmission of the compressed air, the reservoirs, earth wagons, and some of the old tunnelling machines The advancement in the tunnel at the north side, at Goschenn up to the 31st December, was at the rate of only 0·30 per day, the heading here driven in the hardest granite, the total length driven up to that date being twenty metres. The number of persons employed at this end is about 100. At Airolo the rock met with is somewhat softer, and 102 metres were tunnelled up to the close of the year. At this end the masonry is also begun, and from 170 to 200 persons are employed. Specimens of every description of rock that is met with during the excavation of this tunnel will be kept, so as to form ten collections, sets of which will on their completion be given to the Italian and German Governments, and to some of the technical schools of Switzerland At the offices at Gos henn and Airolo a complete geographical record of the strata met with during the tunnelling operations will be kept, as also a register of the daily meteorological observations that are taken.—*Journal of the Society of Arts.*

THE SOUDAN RAILWAY EXPEDITION.

(*Continued from page* 55.)

One of the most interesting subjects connected with the country is the means adopted to promote cultivation in the comparatively narrow strip of land available for the purpose, and which is wholly dependent on the Nile for its water supply. The Yooseff Canal is an important feature in the system of navigation; it starts near Soohag and runs along the western side of the Nile valley, forming generally the boundary of the cultivated land, which lies between the river and the desert. It was chiefly used for carrying off the water from the flooded land, and is emptied into the lake El Targoon When the supply of cotton was cut off from the United States by the civil war, attention was turned to Egypt as a profitable field for cotton cultivation, and much money was expended in creating new and more effective means of irrigation; stationary pumping engines were erected in various localities and a new system, such as had never before been dreamed of in Egypt, was introduced It was, however, found after a short experience that the constant changes which take place in the course of the Nile, rendered the sites selected quite unsuitable, so that the machinery erected became almost useless; moreover, the amount of water raised was insufficient, and the cost of pumping was very great, owing to the enormous price of fuel. This failure led to the construction of the Ibrahimieh Canal, which starts from Siout and extends to Fesha. This canal is now