

**Railway Safety.****THE BLOCK SYSTEM IN ENGLAND.**

Mr. Alfred Watkins, an English Railway Superintendent, has published a pamphlet in which he thus describes the "block system" of signaling in use on the South-eastern Railway, "a plan so efficient," says *The Economist*, "that for three years it has enabled that railway to be almost alone in its exemption from even minor casualties."

The true objects to be attained in unimpeachable train signaling are—I presume to consider—first that no train shall be allowed to leave one signal station until that signal station has asked leave from the signal station in advance, and such second signal station has replied in the affirmative; second, that when the train has been so allowed to leave, the sending station shall inform the receiving station that the train has left, and the receiving station shall acknowledge that he has been so informed; third, that the signals of danger shall not be lowered until this process has been gone through; fourth, that a record, taken down at the moment, shall be kept in each signal box of the time of all signals.

These four conditions complied with will secure safety from collision so far as it can be secured by human agency. These conditions can only be realized in our modern practice by the use of the telegraph and the absolute "block" system. They are, and have long since been, realized on every part of the South-eastern system. I know of no other railways where the whole of the system is in application, except on the South-eastern, and London, Chatham and Dover. These two railways had no accidents to report last year, whereas the greatest and most prosperous of our railways—the London and North-western, Lancashire and Yorkshire, and Northeastern—contributed 64 out of the 122 accidents which disfigured the railway calendar of the whole empire. Again, an electrical means of communication—electrical because in no other way can an instantaneous and certain signal or message be conveyed—should be established in the case of trains running long distances, between the driver and the guard. I now proceed to describe the system by which the four essential conditions which I have laid down are and have been secured: On the South-eastern, the personnel of the signal box, or station, consists not merely of the "ministering," but also of the "recording" angel. The signal man, especially selected for intelligence, and paid good wages, is accompanied by a youth, who must understand, having been carefully taught, the use of the telegraph signal, and speaking instruments; who records with the clock before him, the exact time of all signals given and received.

**The Ardennes Dog.**

The dog of the Ardennes accompanies the flock when it leaves the pen-fold in spring, only to return when the winter's snow drives the sheep home again for shelter. Each shepherd possesses one or two of these dogs, according to the size of his flock, to act as sentinels. Their office is not to run about and bark, and keep the sheep in order, but to protect them from outside foes. When the herdsman has gathered his flock in some rich valley, these white, shaggy monsters crouch on the ground, apparently half asleep; but now and then the great sagacious eyes will open, and, passing over the whole of their charge, remain for a while fixed on the distant horizon, as though they followed a train of thought which led them away from earth—so sadly do they gaze into the infinite.

But let the mountain breeze bear to his ever-moving nostril the scent of the hated wolf, or his quick ear detect an unknown noise; then is the time to see one of these dogs in his glory. His eyes become black with fierceness; his hair stands erect; his upper lip becomes wrinkled, showing a range of white, formidable teeth, while a low growl alone escapes from his throat. When his keen faculties have detected the whereabouts of his foe, he rushes forward with a bound that overleaps all obstacles, and a bark that echoes from all the surrounding hills.

Every dog of the like breed that may be near, takes up the note, and rushes gleaming through the brushwood to join in the attack. Tender as the childhood he protects, woe to him who dare lift a hand on one of the little ones with whom he has been brought up. It is not he who buys him who is his master;

it is he who fed him when a pup, who petted and shared his pittance with him—he it is who has his love, and who reciprocates his faithful affection.—*Overland Monthly*.

**Artificial Ice.****CURIOSITIES OF ITS MANUFACTURE IN GEORGIA.**

Yesterday morning, in company with over fifty guests of the Ice Company, we visited the manufactory, and witnessed its wonderful operations. The machine is located close upon the Atlantic side of the Chattahoochee, near the abutments of what is known as the old bridge. The building rests on a massive stone foundation. All above the foundation is a cheap, temporary structure, but answering well the purpose for which it is intended. The machinery is mainly in the basement, and is immensely heavy, weighing in the aggregate, somewhere in the neighborhood of fifty tons. This is all very fine and very costly. It is impossible that the people would be somewhat surprised were we to name the actual amount of money that has been expended in fitting up this establishment.

When the party had gathered around the machine, and seen a number of cakes of clear, cold ice removed from it, Colonel R. H. Brown, at the request of one of the guests, gave a brief description of the process of ice-making.

The process is based upon the scientific principle that evaporation produces cold—the more rapid the more intense the cold. The agent adopted to produce the evaporation is *aqua ammonia*. This agent is deposited in an upright cylindrical evaporator, some twenty feet in height. Through this cylinder a number of steam-pipes pass, by means of which the ammonia is reduced to gas. This gas then passes into a liquifier, when it is compressed into a liquid state and passes on through a great number of pipes, in various directions, through the large prizing baths. The ammonia is then returned to its original condition and deposited again in the evaporator, to be again passed through all the necessary processes. The same material being used over and over again, there being no consumption further than results from the small portion that may escape during the various changes of condition that are necessary in the performance of the function for which it is employed. The freezing takes place in the baths mentioned above. The vast amount of water in these large baths (two in number) could be frozen easily and with great rapidity, but there would be great difficulty in removing the ice when frozen, and besides it would be left in a bad merchantable condition. This was avoided by filling the baths with strong salt water, upon which the cold is produced by the ammoniacal gas. The temperature of this brine is reduced as low as ten degrees above, and at this stage the freezing process progresses rapidly.

In the covers of these baths are a large number of apertures, with close covers, of sufficient capacity to admit a tin can in each, two and a half inches by nine, and about two feet deep. These cans are filled with fresh water, and plunged into the salt water bath and left till their contents are frozen. When frozen, the cans are lifted out, plunged for a moment in a hot-water bath to loosen their contents, and then smooth, clear, hard-frozen cakes of ice are emptied from them, each of which weighs about twenty-five pounds. Four of these cans can be emptied every five minutes. This is kept up steadily day and night, as is designed, which would make the capacity of the machine a little over fourteen tons a day. The aim of the company, however, is to produce ten tons of merchantable ice.—*Atlanta Sun*, July 12.

**THE UTAH CENTRAL RAILROAD COMPANY,**

HEREBY NOTIFIES THE OWNERS OF, and residents on Lot Six (8) Block Two (2) Ogden five (5) acre Plat A, Territorial Survey lying in the S. W. 1/4 of Sec. 29 T. 6 N. of R. 1 W. U. S. Survey, containing five acres more or less, that the aforesaid Company has filed a petition, with the Probate Court of Weber County, Territory of Utah, which said petition is to be heard on the 7th day of August, 1871, in which the petitioner asks the aforesaid Court to appoint Commissioners for the purpose of assessing the value of said lot of land, that the same may be condemned for the use of said company. The owners and residents of said Lot are hereby notified to appear and show cause if any why said petition should not be granted. w23 lm

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