

possibly arrive. We are satisfied that fires in dwellings can always be extinguished by that means, and in warehouses, very often long before the alarm could be conveyed to the fire station. All that is required will be to provide the police in districts with a turn cock, hose and a branch pipe. Mr. McDonald, before turning off the water, showed with what rapidity, ease and facility, houses could be washed, and streets and foot-walks cleaned and watered by the same means. The flags in Dale Street were in a minute relieved from snow, &c.

Shifting of Sandbanks in the Bristol Channel.—For a considerable time past, a material transposition of the sandbanks of the upper part of the Bristol Channel has been observed to take place; and it is conjectured that the late gales have seriously assisted the progress of lapsing. The master of one of the steamers asserts that a change of a most serious character has occurred;—and that recently, where he thought the track to be clear, he could only find eight feet of water upon a moderate ebb. The vessel, upon that occasion, took the bottom; and all the steamers have frequently felt the bottom, within a short space of time. This is a matter of the greatest moment, and requires prompt attention from the Trinity Board.—*Bristol Journal*.

Chalk and Coal Fires!—The practical utility of chalk as an article of fuel has been tested within the last few weeks, according to a Salisbury paper,—and with the most satisfactory results. Surrounded with coal, it gives a strong heat, and a clear fire, at half the usual expense; so that to the poor, in the chalk districts, it must be an invaluable boon.—*Builder*.

Fact vs. Fancy.—A correspondent, in glancing through the volumes of the "Spectator," has marked a passage in No. 241 of that work, which he thinks worth bringing under our notice, as offering a curious example of a matter treated by an enlightened writer of the time, as a piece of fabulous extravagance, yet more than realized in one of the most extraordinary applications of modern science:—"Strada, in one of his prolusions, gives an account of a chimerical correspondence between two friends by the help of a certain loadstone,—which had such virtue in it that if touched by two several needles, when one of the needles so touched began to move, the other, though at ever so great a distance, moved at the same time and in the same manner. He tells us that two friends, being each of them possessed of these needles, made a kind of dial-plate, inscribing it with twenty four letters—in the same manner as the hours of the day are marked upon the ordinary dial-plate. They then fixed one of the needles on each of these plates in such a manner that it could move round without impediment, so as to touch any of the twenty four letters. Upon their separating from one another into distant countries, they agreed to withdraw themselves punctually into their closets at a certain hour of the day, and to converse with one another by means of this their invention. Accordingly, when they were some hundred miles asunder, each of them shut himself up in his closet at the time appointed, and immediately cast his eye upon his dial-plate. If he had a mind to write anything to his friend, he directed his needle to every letter that formed the words he had occasion for—making a little pause at the end of every word or sentence, to avoid confusion. The friend, in the meanwhile, saw his own sympathetic needle, moving of itself to every letter which that of his correspondent pointed at. By this means, they talked together across a whole continent, and conveyed their thoughts to one another, in an instant, over cities or mountains, seas or deserts. * * In the meanwhile, if ever this invention should be revived or put in practice, I would propose that upon the lovers' dial-plate there should be written not only the twenty four letters, but several entire words which have always a place in passionate epistles;—as flames, darts, die, language, ab-

sence, Cupid, heart, eyes, hang, drown,—and the like. This would very much abridge the lover's pains in this way of writing a letter—as it would enable him to express the most useful and significant words with a single touch of the needle."

Singular Magnetic attraction of Mud in the American Lakes.—The smaller Lakes of America whose wild and solitary shores attract the tourist, have some singular physical peculiarities. One of the early explorers of its northern regions, Sir A. Mackenzie, was the first to notice the attractive power of the mud at the bottom; which is sometimes so great that boats can with difficulty proceed along the surface. This extraordinary fact is thus stated:—At the portage or carrying place of Martrees, on Rose Lake, the water is only three or four feet deep, and the bottom is muddy. I have often plunged into it a pole twelve feet long with as much ease as if I merely plunged it into the water. Nevertheless, this mud has a sort of magical effect upon the boats, which is such that the paddles can with difficulty urge them on. This effect is not perceptible on the south side of the Lake, where the water is deep; but it is more and more sensible as you approach the opposite shore. I have been assured that loaded boats have often been in danger of sinking, and could only be extricated by being towed by lighter boats. As for myself I have never been in danger of foundering; but I have several times had great difficulty in passing the spot with six stout rowers, whose utmost efforts could scarcely overcome the attraction of the mud. A similar phenomenon is observed on the Lake Saginaga,—where it is with difficulty that a loaded boat can be made to advance; but fortunately, the spot is only about four hundred yards over. This statement has received confirmation from the experience of Capt. Back and others, during the arctic land expeditions. A part of Lake Huron, likewise in the same district, appears to be the centre of a remarkable electrical attraction. There is a bay in the Lake, over which the atmosphere is constantly highly charged with electric fluid;—and it has been affirmed that no person has ever traversed it without hearing peals of thunder.

Draining of the Lake of Haarlem.—When the trial was made of the engine called the Lecghwater, all the parts moved with great regularity; and the 11 pumps, at every stroke of the piston, raised 66 cubic metres of water. Though every time such a mass of water was raised, the engine was subject to a pressure of more than 200,000 kilogrammes, hardly any shock was felt in the vessel; and the only noise that was heard was that made by the flowing off of the waters that were raised by the pumps; the number of strokes of the piston was about seven in a minute; the water was raised to the height of 130 to 150 metres, and the pressure of the steam in the boiler was from 30 to 35 lbs. English. If it should be necessary in draining the Lake of Haarlem to raise the water from a greater depth, the force of the steam-engine may be safely increased by 70 lbs. English, and by this means the celerity of the play of the pumps might perhaps be increased. At present, taking the operation as it was on the first of October, this steam-engine is able to raise, deducting the loss, 450 cubic metres per minute, or 648,000 in 24 hours, which is about 45,000,000 ordinary pailfuls. The power of the engine may be estimated as equal to 300-horse power. Whatever be the quantity of coals employed to obtain so great a power, the expense may always be diminished by the continuance of the operation. A former experiment has already proved that no more than two kilogrammes of coals per hour was necessary to obtain one-horse power; whereas seven kilogrammes of coals were required by the old engine employed at the Zuidplay. Notwithstanding the important saving of coals which the Lecgh water affords, the engine still requires two hundred bushels of coals to obtain the result expected from it.