

plaster and dress them out nicely. Now for the secret. When the sets show for blossoming, then is the time to take two parts plaster and one part fine salt; mix well together, and put one large spoonful of this compound on each hill; drop it as nearly in the center of the hill as possible. Just as soon as the potatoes are ripe, take them out of the ground; have them perfectly dry when put in the cellar, and keep them in a dry cool place. Some farmers let their potatoes remain in the ground, soaking through all the cold fall rains until the snow flies. The potatoes become diseased in this way more and more every year; hence the potato rot. With such management they should rot.

THE PHILOSOPHY OF A DRY NORTH-EASTER.

On the eastern coast of the United States the causes of meteorological phenomena are so numerous and complex that they must generally remain in mystery; but occasionally a few forces overpower all others, and thus produce results which we are able to explain. Such is the case with the dry north-east wind which is blowing as we write, and which forms an exception to the usual humid character of the winds from that quarter.

All rain, snow, hail and dew is formed simply by cooling the air. Warm air will hold a great deal more water than cold air; and when a portion of the atmosphere has been warmed and brought in contact with the ocean, lakes, rivers, or moist earth, until it has absorbed a large quantity of water, and is then cooled below the temperature at which it will hold all of the water that it contains, the surplus above the quantity sufficient to saturate it at its reduced temperature is deposited. A south-east wind comes from the tropics, across the warm water of the Gulf Stream, being warmed, and saturated with moisture at that high temperature. When it leaves the Gulf Stream it encounters the cold belt of water along the coast, and is rapidly cooled, so that it can no longer contain the whole of its moisture. Of all the weather signs in this region, there is no other so certain as that a south-east wind will bring rain.

Even a north-east wind usually passes over the waters of the Gulf Stream which spread away toward the coast of Ireland, and when it reaches the land it is cooled; producing rain or snow. But after a long spell of hot weather, when the earth has become much heated, the wind may be warmed instead of cooled by striking the land; and in this case it will not part with its moisture. It is still more likely to find the land warmer than the ocean, if the ocean is filled with icebergs, as at the present time.

If this view is correct, a north-east wind would be less likely to be dry in winter than in summer; and perhaps some of our readers who keep meteorological registers will inform us how the facts accord with the theory.

Flax in Illinois.

This year has witnessed everywhere in the north a largely increased crop of flax, raised, not as heretofore, for the seed alone, but for the fiber, to supply the wearing material deficiency created by the sad downfall of the braggart King Cotton. From Illinois, a correspondent writes to the *Ohio Farmer* that flax was "very generally sown, and in some sections largely, some putting in as much as one hundred acres. In Central Illinois the straw is short, but the seed is superior. In my travels I noticed that the little old spinning wheel is out, buzzing once more; that the baby again is trying to get its fingers in the flyers, and that the ladies are knitting linen summer stockings. I actually saw a piece of checked, white and blue, flax pocket handkerchiefs. I also saw several men wearing pantaloons made this spring from flax which has lain for years in the loft of the barn."

SERIOUS ACCIDENT.—The splendid steamship *Golden City*, lately built for the Pacific Mail Steamship Company, met with an accident on her trip out to California, which obliged her to return to this port. When off the coast of Florida one of the boilers was so badly burned that the arches over the fire-box were almost completely inverted. It will take a long time to repair the damage. It is wonderful and most fortunate that the arches were not collapsed entirely.



Treatment of Engineers in the English Navy.

MESSRS. EDITORS:—In late numbers of the *SCIENTIFIC AMERICAN* you notice a discussion in British scientific journals, on the Condition of Marine Engineers in the Royal Navy. As a late chief engineer of that service, I thank you heartily for the candid and just spirit in which you have brought the question before the public. I feel satisfied that a comparison between the condition of Marine Engineers in other countries and those of the English service, will result in improving the condition of the latter; especially in your journal, which is so generally read in England and the United States, and so well known for its efforts to improve the condition of the mechanical trades generally. The truth really very far exceeds what is stated as "Grievances to be brought before the English House of Commons." I have known many young men of talent and good education who found themselves in a manner compelled to leave the service; not so much on account of the pay (small as it is), as from inferior accommodation, and having no real position: for their nominal position goes for nothing; they are consequently consigned to evil companionship, or the alternative—perpetual solitude. The treatment received by Engineers at the hands of officers of the Navy, is too often unfeeling. They are looked upon as interlopers, and treated accordingly. Class distinctions (absurd as they are generally) are something very tolerable in England, in comparison with the length to which they are carried on board war steamers. In short, the treatment is such that no man of any spirit or self respect could submit to. The result is such as might be expected—an inferior class of men to fill these very important situations. To my certain knowledge, railway drivers, stokers, &c., having got sufficiently "cramped" to pass a nominal examination as third-class Assistant Engineers, are often appointed, who frequently render the efforts of the Chief Engineer inadequate to maintain everything in proper working order when on a foreign station.

Clearly, then, the British Royal Navy is no place for educated or talented young men. This system is driving the best skilled workmen to foreign countries. The prejudices against the English Navy are so strong, and the advantages offered in other countries are so great by comparison, that even long after a better state of things is brought about, there will be great difficulty in persuading suitable men to serve their country in the capacity of Engineers.

JOHN ASHURST.

Toronto, C. W., Sept. 5, 1863.

Launch of the "Re don Luigi di Portugallo."

The two splendid frigates—so long the object of admiration to all observers—which Mr. W. H. Webb has had upon the stocks for the past two years, are now safely launched. On Saturday, the 29th ult., the last one was sent down the ways precisely at 10 o'clock. The dimensions of this vessel are 294 feet in length, 50 feet beam, and 36 feet 6 inches deep. These figures convey a very slight idea of the imposing outlines of the grand hull as it stood upon the ways, and afford no conception whatever of the thoroughness of the work. The occasion of a launch is generally the signal for a simultaneous laudation of all concerned in the building of the ship, from the person who slushes the ways to the proprietor of the yard; but we could not bestow any encomiums on Mr. Webb other than he has already won, or in any way add to the world-wide fame he has achieved. The vessels just launched for the Italian Government will have two powerful engines of 84 inches cylinder and 45 inches stroke of piston, and are to drive a propeller 19 feet in diameter, with a pitch of 31 feet 6 inches: the wheel so arranged as to be hoisted when not under steam. The machinery has all the modern improvements, and is much the same as that fitted to the *Grand Admiral*—the Russian line-of-battle ship built some years since by Mr. Webb. The armor on the *Re don Luigi* will be four and a-half inches in thickness, and the ship will be completely clad from stem to stern; she has also a short ram at the bow.

These two vessels, with the others now building abroad, are to form the nuclei of a powerful navy.

Antidote to Nux Vomica.

MESSRS. EDITORS:—In No. 10 of the *SCIENTIFIC AMERICAN*, I notice an article headed "Antidotes of Poisons." In it you say, "for Nux Vomica there is no antidote." About sixteen years since a friend of mine had a dog, which had been poisoned by Nux Vomica, and was nearly dead; I told him to give the animal strong coffee; my friend poured about a pint down the dog's throat, and in the space of half an hour it was well." C. LEAVETT.

Windsorville, Conn., Sept. 5, 1863.

Improved Printing Telegraph of David Hughes.

It seems many inventions are the result of accident. David Hughes, when he invented the printing telegraph improvement, was endeavoring to contrive a machine for copying extempore music, so that his melodious improvisations might not be lost. Boarding in the same house with him was the well-known musical composer and piano teacher, Louis Hast, and the very intelligent telegraph operator, Norbonne M. Booth; one supplied him with electromagnetic instruments, the other gave him the use of a piano; a printing telegraph was the consequence.

Hughes is now living in Europe, enjoying the well-merited fortune which his genius has earned. At the time of his residence in Kentucky, he was twenty-two years of age: a beardless boy in face and stature, and apparently lacking in mental power. His features were careworn: when spoken to he had a constant grin and giggle, not calculated to impress his interlocutor favorably. His ear for music was so acute that he could tell you, to a semitone, the note of anything sounded, from a dry stick to a shovel. This has been suggested by an article on Caselli's Pantelegraphy, found in the July number of the Paris journal entitled *La Science pour tous*. We had lost sight of Hughes, till seeing this article.

THE DRY GOODS TRADE.—The dry goods trade is very active at present in this city. The fall trade has set in under very favorable auspices. A large number of purchasers from distant places are in the city; money is plenty, and buyers are liberal. Domestic cotton goods are duller than any other class. Domestic woollens are active, however, and a large business is doing at satisfactory prices. Many articles are selling in advance of production, especially flannels and goods suitable for women's wear. An extensive manufacturer of goods for ladies' wear informed us last week that his orders and sales are larger than ever they have been before; and he has been in the business for nearly twenty years. The demand for shawls exceeds the supply. Foreign goods have been very active also, and a large amount of goods are now selling, both French and English, at full and satisfactory prices. Plain silks and worsted goods, delaines, alpacas, &c., are particularly active, and immense sales are made of all kinds.

APPLICATIONS FOR THE EXTENSION OF PATENTS.

The following persons have applied to the Commissioner of Patents for the extension of their patents for a term of seven years:—

William E. Nichols, of East Haddam, Conn., for extension of a patent granted on Dec. 11, 1849, on a machine for making cord. It is ordered that this case be heard at the Patent Office, Washington, on Monday, Nov. 23, 1863. All persons are notified to appear, and show cause, if any, why said petition should not be granted. Also; John F. Rogers, of South Bend, Ind., for extension of patent granted Nov. 27, 1849, on an improvement in railroad trucks. Parties are required to appear on Nov. 9, 1863, at the Patent Office, and show cause why said petition should not be granted.

THE WORK GOES ON.—Notwithstanding the numerous vessels added to the navy within the past two years, the work of construction is to still go on. The Navy department has just decided to build another fleet of iron-clad vessels. They will be longer and more formidable than any now in the service of this or any other country—being, in fact, exact copies of the great Ericsson ocean ships, *Puritan* and *Dictator*, which are now building in this city.