Life Boats---Loss of the Birkenhead.

MESSRS. EDITORS—We have another proof, among many of the impossibility of saving, by boats, more than a limited number of persons. Here, in calm weather, a stout steamship of war runs on a rock, and not one-third of the people on board are saved! The boats being, as usual, almost useless. The same story has been told a thousand times, and will be told again and again, before means are adopted or inventions are enforced upon the attention of those interested. The ship itself, whatever her size and tonnage—whatever the amount of her cargo—must be made a life-ship: there is no other way. It is absurd to trifle with life in the way we do, to save some trivial expense, or to avoid some pretended inconvenience or want of room for improvement.

I never went on board a vessel, whether on the broad Atlantic, or on a river, without a conviction of the almost useless nature of boats in case of accidents, and a feeling of contempt for the reason of men, who allow their common sense to be mystified by such a fallacious appearance of security. A moment's thought, not to speak of every day experience of the inefficiency of such means, ought to satisfy any one of the humbug—for such it is. Let the public, now becoming such an immense traveller, be fully alive to the truth, and some chance of a remedy may be applied.

Safety-ships have been constructed in England, divided into water-tight compartments. A variety of other plans have been suggested at different times, some of which are very good. Would it not be sufficient to place under the decks, and between the beams, tubes or compartments of india rubber or gutta percha, connected with numerous pumps on deck, which might be inflated at a moment of danger so as to support the ship with ease? These tubes or compartments can be made to lie close against the ceilings, and be kept there by pieces of wood pressed by a spring, which would give by pressure from within. The whole contrivance is simple, in no way inconvenient, might be ornamental, and but of little expense. How much more consoling to run to the pumps to inflate these tubes (one half of which ought to be made sufficient to support the whole vessel) than to set to work in anxiety and doubt, amounting to despair, to keep the water out of a leaking sinking ship. Let all your boats be safety-boats for the limited services they can render at sea—but, in common sense, let your ships be safety-ships in case of accident. A hundred pumps for the purpose in question might be placed around a ship, were it necessary, and form a part of the bulwarks; with what alacrity would every man work at them! With what greater confidence would not the public trust itself in the magnificent but now treacherous palaces which float in the Old and the New World?

I will merely add that no vessel should put to sea without first ascertaining the working condition of her safety-power. C. L. A.

Washington, D. C.

[The Birkenhead was an iron steamer, and, like the Orion, which was wrecked two years ago on the coast of Scotland, it was, we believe, divided into water-tight compartments. While it is just, proper, and prudent to make every ship, as far as possible, a life-ship, it is also prudent to have a sufficient supply of good life-boats, ready at the moment of disaster to be easily launched, and sufficient in number to carry all on board. There is not a single ship that navigates the ocean (always excepting whalers) which has its boats in proper condition to be used in cases of great and sudden danger.—[ED.

Cure for Rheumatism.

A Parisian correspondent of an English paper says:—

"I picked up the other day, from one of the most eminent and intelligent physicians in France, the favorite pupil of Dupuytren, some curious scraps of medical lore, that perhaps might amuse you; and coming from a man whose liberality of opinion is one equalled by his own skill and intellect, they are certainly worthy of perusal, and might afford valuable hints to science. A lady who had formerly been a patient of his, but whom, in consequence of her removal from Paris, he had not seen for some time, came to him lately to say that her daughter was afflicted with violent rheumatic pains. As she still resided in the country, however, Dr. C. could not do more than give her some general counsel, deferring the actual treatment till she could bring her daughter to Paris. In a few days she returned, telling him that her sufferings were completely removed, in the following singular manner:"—"One night being seized with an attack, the violence of which was intolerable, the mother, in despair, sent to the only medical practioner of which the village boasted—a man who, by the help of a little self-taught lore, and a certain knowledge of simples and old woman's remedies, treated the peasants satisfactorily enough.

No sooner did our Galen arrive, than he directed that all the empty bottles that could be collected should be placed on the floor, the mattresses laid over them, and the sufferer extended thereon. The effect was magical. In a few minutes the patient experienced the greatest relief, and finally a complete cessation of suffering; and though the attacks had afterwards returned, they never failed to yield to this singular remedy. The solution of the mystery, (of which the village doctor was quite ignorant), Dr. C. found at once. Electricity, it appears, is the great aggravator of all such maladies; and of this force, glass is a non-conductor. If, then, the electric current is cut off from contact with the patient, immediate relief is the consequence. Profiting by the hint, Dr. C. has since caused thick glasss cylinders to be under the feet of the malade's bed, and with success the most complete.

Another case was a cure where consumption had actually commenced, and had made some progress by passing some five or six hours a day in a butcher's shop. A third, where what was considered a fatal affection of the spinal marrow in a young girl, completely yielded to the process of sun burning—the patient being stripped to the waist and placed facing a south wall during the hottest part of the day.

[We have noticed the above in at least thirty papers. We publish it entire, so that our readers may understand it fully. It is like a great deal of the nostrum nonsense which is so plenty at the present day, and which appears to be gulphed down with a universal faith by so many who seem to prefer quackery to anything else. This affair about the bottles is the old revived stuff of beds with crystal legs, the bottle part of the cure is new, consequently rheumatism will soon cease, all that will have to be done, according to the foregoing, by those afflicted, to effect a cure, is simply to wear thick glass soles in their shoes, sit upon crystal legged chairs, and sleep on mattresses laid upon bottles.

The cases mentioned about consumptive people is the greatest piece of nonsense we have read in many a day, the sun burning operation is as brutal as that of a doctor we heard of who fired a train of powder along the back of his patient to cure the spine disease.

Manufacture of Beet-Root Sugar.

Dr. Scoffern thus describes the beautiful system of mechanical sugar making appliances now followed by M. Van Goethem, at Lembecq, near Brussels, in Belgium:—

The preliminary operation of cleaning the roots, grating them, and expressing the juice, need not be detailed. This juice is loaded with albuminous and other impurities to such an extent that if they be not separated within a few hours at farthest, fermentation will rapidly set in, and the contained sugar be destroyed.

M. Van Goethem employs lime for this separation; he uses sugar of lead in the laboratory, and acknowledges it to be the better agent; but he fears to employ it in the large scale. Being defecated, the juice undergoes a series of mechanical treatments; first it is forced by means of a monte-jus up to the summit of a copper chimney, not made of one wall of copper, but described as a flat copper chamber rolled into a cylindrical or slightly curved form. Into the chamber itself steam is admitted; the chimney thus having two hot or evaporative surfaces, one on the inside and a second on the outside.

The beet-root juice, being conducted to the summit of this chimney, is then spilt into two divisions; one being caused to trickle down in contact with the inner evaporative surface, the other on the outer; and thus when the juice has arrived at the lower extremity of the chimney, it is found to have acquired a density of 28° Beaume, and is in a fit state to be passed through animal charcoal.

After having been exposed to this charcoal filteration, it is passed down over a similar copper chimney a second time; and this is all the evaporation to which the juice is exposed.

Properly speaking, the juice cannot be said to have been boiled; and, at the period of the termination of the final evaporation, not a crystal has formed. The concentrated juice is now put aside in shallow wooden tanks, lined with zinc, and abandoned to spontaneous crystallization. As soon as a crop of crystals is formed, they are removed by a kind of net, and exposed to the agency of centrifugal drainage.

Returning now to the wet crystals of sugar which have been taken out of the crystallizing tank—they are put into one of these rotary engines, or turbines; and the machine is made to revolve with the velocity of 1,000 times per minute, the result of which is that a large portion of the uncrystallized matter is driven off. The crystals, now dry, but still dark colored, and very small, are put into another tank, surrounded with a fresh quantity of concentrated juice, and allowed to remain at rest until they have grown to the size desired. They are then taken out and rotated again with the same result as before. The principle is the entire abandonment of every crystallizing means save the agency of spontaneous evaporation. There are some scores of these tanks, in which the original juice as well as the molasses, separated by rotary agency, are abandoned to spontaneous crystallization.

The result of this treatment is the production of sugar so pure that mere rotation will separate nothing further.

Use is now made of a concentrated solution of pure sugar and water, which, being poured into the centre of the turbine during the period of rotation, rushes through the crystals and washes them white.

The last stage consists in converting the disintegrated grains into loaves; which is accomplished in the following manner:—The sugar, being mixed with a certain portion of concentrated solution of pure sugar in water, is heated for some time at a temperature of 178° Fah., and then poured into moulds.

Loaves thus prepared, are, like all sugar loaves at a similar stage of manufacture mixed with a considerable amount of uncrystallized matter; which in sugar-houses, as ordinarily conducted, is allowed to leak away, and finally the loaf is washed absolutely white by pouring upon its face a certain amount of pure and saturated sugar solution. This treatment, however, occupies by the ordinary method a week at least; whereas M. Van Goethem, by having recourse again to rotation accomplishes the desired end in about twenty minutes.

This rotative loaf-machine consists of a horizontal wheel of iron, shaped like a steamer paddle-wheel, and fitted with peripheral rings, into each of which fits a sugar-loaf. There are fifty-one rings in all, arranged in three rows; so it follows that fifty one sugar-loaves are exposed to rotative agency at the same time.

The machine is made to revolve at a velocity of about 1,000 per minute, and with the result of showering forth all the wet impurities existing in the sugar-loaf through small apertures in the apices of the moulds.

This pouring of a concentrated solution of sugar and water upon the basis of the loaves is effected by means of a large metal tube tending vertically down into the central orifice of the rotating wheel, and bending, when arrived opposite the apices of the first row of loaves, abruptly toward them at a right angle. Thus it follows that the amount of liquor being proportioned to the capacity of the space left on the base of each mould, not a drop is lost; that portion which overflows the first row of loaves, after they can hold no more, passing on to the second row: and the overflow from this passing in its turn to the third from which there is no overflow except the fluid has been added in excess.

A few minutes' rotation suffices to drive thoroughly the loose part of the liquor through the sugar-loaves. The machine is then stopped, and the sugar-loaves taken out sufficiently dry for being stored.

This large rotary machine is, as might have been *a priori* imagined, rather dangerous Some time since, at Valenciennes, one of these engines, yielding to the force of centrifugal power, burst into pieces, which, flying about, killed no less than eight men.

Harmony of Color in Dress.

A lady correspondent of the London Art Journal, in treating upon the subject of dress, says that "the optical effect of dark and black dresses is to make the figure appear smaller, hence it is a suitable color for stout persons; black shoes diminish the apparent size of the feet. On the contrary white and light-colored dresses make persons appear larger. Large patterns make the figure look shorter, longitudinal strips, if not too wide, add to the height of the figure, horizontal stripes have a contrary effect, and are very ungraceful. Incongruity may be frequently observed in the adoption of colors without reference to their accordance with the complexion of the wearer, as a light blue bonnet and flowers surrounding a sallow countenance, or a pink opposed to glowing red; a pale complexion associated with a canary or lemon-yellow, or one of delicate red and white rendered almost colorless by the vicinity of a deep red. If the lady with the sallow complexion had worn a transparent white bonnet; or if the lady with the glowing red complexion had lowered it by means of a bonnet of deeper red color; if the pale lady had improved the cadaverous hue of her countenance by surrounding it with pale green, which, by contrast, would have suffused it with a delicate pink hue; or had the face of delicate red and white been arrayed in a light blue, or light green, or in a transparent white bonnet, with blue or pink flowers on the inside—how different and how much more agreeable would have been the impression of the spectator! In general the broken and semi-neutral colors are productive of an excellent effect in dress. They may be enlivened by a little positive color, but the contrasting color should bear but a small proportion to the mass of principal color. A blue bonnet and dress may be contrasted with an orange colored shawl, but the blue to contrast the orange must be of a very deep tone; a pink bonnet may be worn with a green dress, but the hue of each should be carefully assorted according their exact contrast. Colored shawls are instances in which a great variety of colors may be arranged with harmonious and rich effect. It is always necessary that if one part of the dress be highly ornamented or consist of various colors, a portion should be plain, to give repose to the eye. The French manufacturers pay great attention to this subject, and the good effects of this study are visible in the textile fabrics which are so highly valued. American manufacturers, by the same attention, may reach the same degree of perfection.

Fire Without Coal.

Recent arrivals from Europe bring gratifying results of some curious experiments, which have been made at the London Polytechnic Institution, to test the result of the recent invention of Dr. Bachoffner, which consists in the substitution of thin pieces of metal in the place of coals in fire grates, which being acted upon by a small jet of gas immediately become red hot, and emit a prodigious degree of heat. The flame which is produced by the gas co-operating with the metallic luminæ, gives the appearance of a brisk and cheerful coal fire, &c.

[The above we have seen within three weeks copied into almost all the daily papers as something but a few weeks old. It was sent over in some late correspondence, we suppose, of those wonderful *enterprising* papers which always have the *first* news. We would suggest all such to copy their new inventions direct from the Scientific American if they want to be posted up in such matters. For a description of this artificial fire, we refer to the Scientific American of September 1851, page 3.