obtained, which gives the highest perfection to this art, and such as it never could have reached by the old method.

“An establishment of so much importance was worthy the patronage of the government, and it has accordingly honoured it with its special protection. The director, who is a member of different royal societies of arts and sciences, obtained at the exhibition of Ghent in Flanders, in 1820, the silver medal. At the last exhibition at Haarlem, in 1825, he also received the silver medal; besides various medals for several inventions and improvements in the manufacturing of cards for wool and cotton. The royal society of Haarlem for domestic economy, assigned to the director of this fine establishment of national industry, its medal of honour; and at the exhibitions both of Ghent and Haarlem, the king purchased many of the principal specimens produced by the manufactory.”

Plan for giving buoyancy to Chain Cables. By John Pole, Commander H. M. S. Maidstone.

THE advantage of a hemp cable over a chain one consists in its yielding more readily. Whenever a chain cable forms a curve it requires a great power to draw that curve to a straight line. In moderate depth of water, the curve formed by the chain is very considerable; but in very shoal water, as Table Bay, where ships anchor in four fathoms, and lay nearly with 100 fathoms cable out, the cable is then nearly horizontal, and supported in a straight line by the ground; consequently when the ship receives a blow from the sea it can yield little or nothing, and it snaps. Now, I propose that in very shoal water, as the cable cannot form a natural curve, to make an artificial one, and I think in a very simple and efficient manner. Every ship has always a few empty water casks at hand; four or five good sized casks, would be quite enough, and any thing of a buoyant nature might be employed in aid of them. These casks should be kept slung with a hook and thimble in the lower part of the slings, and when coming to an anchor in moderate weather, I should veer out a moderate quantity of cable, and when it comes on to blow fresh, as I veered I would hook on a cask at every ten or fifteen fathoms, according to the size of the cask and weight of the cable. These casks, from their buoyancy, would festoon the cable when it became slack, and when the ship was forced astern again by a blow from the sea, she would have to pull each of these casks down, and also astern, as every cask would be farther from the anchor with a straight cable than when festooned. In Table Bay there is an under tow setting strong into them; which under tow would also make a resistance to the casks, as the vessel drew taut her cable, and the ship would then be regularly eased to her anchor, and no sudden shock could be felt. I think a table might be computed to show how much buoyancy it would require for a certain length of cable in a certain depth of wa-

ter to give the most desirable curve; and in fact I think you may give any elasticity you like to a chain cable by this simple method.

These casks, it must be recollected, will be below the influence of the sea, and cannot be injured by it, and the only strain they will feel, will arise from their own buoyancy. After the gale was over, you would, of course, heave in to your usual length of cable, and take the casks off.

Merchant ships find the advantage of chain cables in so many ways, and there are so few objections to them beyond their liability to snap in shoal, and also in very deep water, that if any simple method could be devised to do away with these objections, there can be no question of its great utility. Whether festooning the cable, as I propose, in very shoal water, and in very deep water giving the cable a certain degree of buoyancy to relieve the ship, will have that desired effect, I will leave others to judge.

[*Mech. Mag.*

¶ *First Report of the Proceedings of the British Association for the Advancement of Science, assembled at York.*

[Continued from p. 9.]

The same views are, perhaps, still more happily presented in the following paragraphs, which we really hope will go far to do away with the erroneous impression, still existing in some quarters, of an intentional interference on the part of the new institution with other scientific bodies.

“But there is a defect in these separate societies, in respect to their own immediate objects, which I am sure no member of them would wish to dissemble, and which arises from the narrow basis on which they are of necessity built. It is not only, that the constant converse of men, who, to borrow the expression of Goldsmith, have often travelled over each other’s minds, is not half so effectual in striking out great and unexpected lights, as the occasional intercourse of those who have studied nature at a distance from each other, under various circumstances, and in different views; but it is also, gentlemen, that none of our existing societies is able to concentrate the scattered forces even of its own science; they do not know, much less can they connect or employ, that extensive and growing body of humble labourers who are ready whenever they shall be called upon, to render their assistance.”

“What numberless suggestions, what a crowd of valuable but abortive hints are continually floating in the thoughts of philosophers, for the pursuit of which time is wanting to themselves! Now I say, gentlemen, that we have among us, scattered through the country, men willing to adopt these unexecuted hints, as they arise out of the profound and varied meditations of more experienced minds, men not incapable of surveying with accuracy a limited district, though they may not pretend to draw the general outline of the map, or fill up the whole of its details. Many such there are who only wait for