

problems that it is no easy matter to determine them satisfactorily.

Dr. Curnow, of King's College, London, Eng., also bears the following testimony to the advantages, physically speaking, which this style of seat possesses over its predecessors: 'The reason why the sliding seat does not fatigue the body so much as the stationary seat is, I think, easily explained by the strain being more completely thrown on entirely different groups of muscles, which contract during the stroke, and relax in the reach forward, and vice versa. By this easy alteration of the leg-muscles the chances of cramp are reduced to a minimum.'

THE ART OF SCULLING.

If a man has a fair idea of rowing, but has never handled sculls in any shape, we would advise him to commence thus:—1. To keep clear of a sculling-boat for the first day or two. 2. To hold in equally pious horror 'hack' boats of any description, especially 'whiffs.' A good outrigger gig should be used to commence operations. A 'dingey' he should fight shy of; she is so short that when pressed she will hold no 'way,' will turn too easily, and from the fact that she goes no faster for a long stroke, may teach him to row short from the outset. Let him see that the thowls of his gig are 'proub' (raking forward), and devoid of grooves in the upper portions of the thowl, worn by the upper angle only of the loom of the scull pressing the thowl in a feather under water, which is too common among scullers. Let him next see that his stopper is far enough off from the thowl to prevent his sculls from 'locking' in the rowlock when forward. Few gig rowlocks are wide enough between thowl and stopper for even full reach in rowing, without some fling away of the stopper, and a wider rowlock is needed for sculling than for rowing, from the sharper angle which the scull, compared to the oar, makes with the rowlock (when the body is forward), from the fact of its being shorter inboard. If he confines his reach in his first essay to that suffered by narrow rowlocks, he will, when he comes to reach out more fully in the wider rowlocks of a sculling-boat, find his hands not 'together' in the increased reach, but one getting into the water before the other. The best way to hold his sculls, so as to avoid cramp of wrists, and to prevent his hand shifting away from the end of the scull when greasy from perspiration (thus losing leverage), is to let the upper joint of

the thumb 'cap' the end of the handles. Let him put his stretcher as short as he can possibly bear it, and of course commence with a fixed seat, even if he has been ever so proficient in rowing upon a slide. He will have enough to do in thinking how to get his hands in and out of water together, when commencing sculling, to have any spare attention to bestow upon sliding, and if he practises the latter without thought he may breed faults for which he will be sorry hereafter. Let him choose a pair of sculls that lie true in the rowlocks, and, if possible, let him get a proficient to test the true bearing of the sculls for him before he uses them, that he may know whether unevenness in their action be the result of misfortune or of fault. The amount that they should overlap at the hands is to some extent entirely a matter for his own taste, but if he has no taste in the matter he will find five inches a safe medium. Let him spend his first two or three days, if not more, in long, steady practice in his gig. The same principles that he learnt in rowing—of straight arms when the water is first caught, use of back, loins and legs—he must still put in force. But he should keep his arms straight for a longer distance of swing, and may go much farther back before he begins to bend his arms and to bring them into his body than when rowing. As his arms begin to near the body he may bring himself up by them, pull himself up to his sculls at the finish, a thing which with his oar he should not do. A sculler should endeavour to do as much work he can with stiff arms, his body and loins doing the main duty; he may go back almost to his full available distance before he bends arms at all; if he were then to continue to go back still farther all the time that his arms were coming in to the body, he would go back too far for his power of recovery. If he were to stop his body for his arms to overtake it, he would be during that time making no use of his body, and wasting time with it; but by commencing recovery with the body before the arms have come home he economizes his body, wastes no time, eases his recovery, and prevents his boat's head from burying. So much for the action of body and arms; his hands must acquire special attention. He must try to time them to the tenth of a second, that the sculls shall fall into the water simultaneously, and shall leave the water with wrists simultaneously turned, at the same instant. If he does not acquire this knack in the gig to some extent he will find himself all abroad in a waker-boat. So soon as he has some confidence in the eve