







Fishing reel facts

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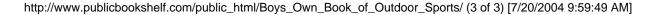
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How to select a gun

A twisted barrel enhances the value of a gun, as it is never known to burst with ordinary use.

The length of a sporting gun should never exceed thirty inches, for this will kill at sixty yards certain, and the average distance that game is shot is from twenty to twenty-five yards. The most useful gauge is No. 14, for though narrower might do for partridges and small birds, and wider for others, this bore will take an average charge, and, if a good gun, will kill at any ordinary distance.

The stock of the gun should be exactly fitted to the shape of the shooter. On putting a gun to the shoulder, there should be no straining of the neck, to take aim. When the eye is fixed upon a distant point and the gun raised to the shoulder, the object aimed at, the sight at the muzzle, the center of the breech, and the eye should all be in a direct line without further adjustment. To ascertain whether or not the shape of the stock is that best adapted for the shooter, he should in this manner frequently raise the gun to his shoulder, and take aim at a distant point with both eyes open; then, closing the left eye, he will perceive whether or not he has mechanically taken a correct aim. If, with the left eye closed, he does not see the object, the stock is too crooked; if he sees all the rib, it is too straight; and if his line of arm is not along the centre of the breech, but from the left corner of it, the stock is not properly cast off. Should the line of aim be along the right side of the breech, the stock is too much thrown off. With a gun properly fitting, the aim is instantaneous; and the sportsman, if not naturally a good shot, is greatly assisted int he field. A gun of the proper shape may be chosen among others very easily by the above simple means

How to select a gun

of ascertaining that it carries a correct aim to a given object with both eyes open; and with such a gun, the shooter will acquire a practical dexterity in the field otherwise quite unattainable. When a stock is too much bent, the muzzle is depressed, and it is therefore preferable to have the stock rather straight; and it is a safe rule that in looking along the rib you distinctly see one-third of the whole length next the muzzle, as well as the sight. This gives the shot elevation and increases the range.

The word of the stock should be hard and tough; wild cherry is the best. The mounting and locks should be carefully fitted into the wood. In shape, the stock should be thin and well suited to the grasp, immediately behind the locks, where it is termed the handle. From that it should rapidly swell backwards, and acquire its greatest thickness immediately behind where the butt succeeds to the handle. The fore-end of the stock should be broad and full, wide at the end of the lock plates, and may be chequered or not in the same manner as at the handle. The lock is an essential part of the gun; it should be as simple as possible in its construction, but filed in all its parts to perfection. The main-springs should be lively in action, and depend less upon quantity of metal for its strength, than upon width of expansion when released from its confinement, and great care in tempering. The tumbler and sear should be carefully bound down by the bridle and be justly fitted to each other. To test a good lock, draw up the striker with the thumb, and observe that there is no grating or roughness - that it rises freely with decreasing power - and that it "speaks" well, with a clear sound at half and full cock. Draw the trigger, retaining the thumb upon the striker, and observe that it goes down freely, with increasing force, as it approaches the nipple. The trigger should be long and well curved, affording a good hold for the finger. The edges should be rounded, so as not to cut the finger in firing, and they should be set well separate. For nervous persons who have any hesitation, under the excitement of shooting, in choosing the proper trigger, the right-hand one may be chequered, thus giving a distinguishing mark. The guard of the trigger, termed the bow, should be rounded and somewhat thick at the edges, and have no improper projection likely to injure the middle finger in firing.

Breech loading rifles

The most marked improvement in the construction of fire-arms for sporting purposes, is that known as the breech-loading gun. The advantages of this invention are the extreme facility, quickness, and great additional safety in loading, the increased rapidity or sharpness and strength of shooting, absence of foulness, recoil, and less liability to be affected by wet or damp. The rapidity of loading may be imagined, when twelve shots can be fired in a minute; and no foulness accumulates the remains of the burnt powder being driven through the barrel with every succeeding shot, as the thick elastic wad which fits in the breech end is two sizes larger than the muzzle; and, consequently, after the thousandth round the barrels are as clean and free from lead as they were after the first discharge. In using the breech-loading gun, place the stock under the arm, and with the right hand pull the lever back, and ease down the barrels with the left hand. Take out the exploded cartridges with the thumb, or should they be rather tight (which is rarely the case,) tap the pin with a loaded cartridge, or draw them out with the small instrument made expressly for the purpose. When loading, pour the powder and shot into a basin. Use the small brass measures, and first put in a measure of powder, then a felt wadding, next the shot, and card wadding, and turn the end of the paper over, to secure the wadding, with a screwpress socket. For cleaning, on returning from shooting, wipe out the barrels with dry towel, then grease them slightly with an oiled rag, taking care not to bruise the breech end of the barrels by placing them on stones, as the nicety of fitting may be destroyed. The barrels need not be taken off the stock in cleaning. For safety, quickness, cleanliness, and execution, no gun can compare with the breech-loader.

How to load a gun

All general rules on the subject must be laid down with several qualifications and reservations. Hold the gun upright, and in that position pour in the powder, striking the butt-end of the piece against the ground, to carry down such grains of powder as may be lodged against the sides of the barrel and also to settle the mass. Next, pass the powder-wad down until it reaches the powder, on which it ought to be pressed as tightly as possible. This done, pour down the shot, and give a shake or two to settle them evenly and solidly in their bed. Place over them wadding of sufficient substance and elasticity to maintain the shot steadily in their position, for which purpose, give a pressure to the wad, but do not ram it hard. The first charge, however, may be pressed a little harder than the subsequent ones. It may be proper when the powder is wadded, to observe whether it makes its way into the nipple by the pressure of the confined air, made in passing down the wad. It does not always follow, that if the powder is not seen on the pivot, it will not explode; it is, nevertheless, more satisfactory to see it there; and when it cannot be seen, the breech should be slightly tipped, to introduce the powder further up to the touch-hole. The last act of gun-loading is that of putting on a fresh cap, and letting the cock down very gently to fasten on the nipple. When a gun has been discharged, it is a good practice to load it immediately, while the barrel is still warm; for when allowed to cool, and moisture begins to settle on its inner surface, it catches some of the finer particles of the powder-charge, and either decomposes them there, or prevents them falling to the bottom: and in either case the detention diminishes the projectile force which is to act on the shot.

The art of gunning

In order to obtain a complete mastery over the gun, the young beginner should proceed in something like the following order: Let the handling and shouldering of the gun be expertly acquired in its unloaded state, taking care to regard its height, length of arm, and inclination of shoulder of the pupil. This practice should be gone through for an hour or two at a time for some days, until complete familiarity with all the required movements is attained. He should be expert at raising or depressing his gun to every kind of level, and taking an aim at various objects. To hold the gun firmly to the shoulder is an important consideration. It is likewise recommended to place the left hand close, or nearly so, to the trigger, as this prevents, in a great measure, any danger from the bursting of the piece. To cultivate a steady and decisive mode of walking and standing, is very advantageous for successful shooting. Anything like trepidation and an indecisive gait are inimical to successful sport. A firm placing of the limbs greatly assists the arms in readily and gracefully elevating and presenting the gun. The gun should be carried barrel upwards, and sloped towards the left arm, the lock being clasped by the hand of that side, the fingers embracing the stock, which allows the arm, though supporting the gun, yet to do it with readiness and ease, and to be placed with facility within the grasp of the hand previous to the meditated elevation. In the act of cocking, the forefinger should quit the front of the trigger, and extending itself sloping forward through the guard, only feel the side of it with a gentle pressure. The body, by this action of throwing out the butt, combined with the step-out of the left leg in taking form, will be brought with its weight principally upon that limb; a position assumed as more immediately called for, when the flight is nearly in a line from the gunner, or to the left, which will comprise four out of five of all the shots. Again, when the

The art of gunning

word present! Is used either audibly or mentally, the following directions are given. Let the barrel at this moment, inclined over the left shoulder, be swept in a circle forwards with a smart motion, the forefinger of the right hand (moving as directed above) being as it were the centre of motion upon which the gun turns during the sweep; by which action, the butt should be raised nearly to its full height, and then bring it back with a sharp motion into its place within the shoulder; whilst at the same time, an increased grasp with the left hand, which till now has kept its hold very loosely, combines with that of the right hand upon the gripe of the stock to keep it firmly there. The direction of barrel to the mark, or what may be termed the line of level to be taken, in the first instance, is a little below what, as already drawn by the eye to the object, may be distinguished by the name of the line of sight. The latter should be firm and immovable, to which a precise adjustment of the line of level must be firmly made by an easy flexure of the upper part of the body altogether, but without any loosening or twisting of the butt from its firm hold within its shoulder; and on the instant that these two lines are brought into contact, bear direct upon the object. Before an object crossing, the aim should be full high for a bird rising up or flying away very low, and between the ears of hares and rabbits running; it should be straight away; all this in proportion to the distance; the shooter rarely erring by firing at the crossing bird when at forty yards, at least five or six inches before it. As the barrels of double guns usually shoot a little inwards at long distances, there is so far a preference in favor of the right barrel for an objectcrossing to the left, and vice versa. Till the pupil is fully master of these intricacies, he will find great assistance from the sight, which he should have precisely on the intended point when he fires; he will thus by degrees attain the art of killing game in good style, which is to fix his eyes upon the object, and fire the moment he has brought up the gun. The shooter should accustom himself not to take his gun from his arm till the bird is on the wing, and never to vary his eye from the very one it first fixed upon. Another good rule is, that as soon as the eye bears on the object to be fired at, provided that the muzzle of the gun the same, then it is proper to fire; for when the eye dwells too long, the distance becomes increased, and the sight is impaired. To kill birds flying across either to the right or the left, allowance must be made by the shooter not only for the distance he is from them, but also for the strength of the birds

The art of gunning

and the velocity of their motion; thus, it must be taken into account that the flight of the partridge in November will be greatly accelerated to what it was two months before. It may also be mentioned that in a cross-shot to the right, the difficulty is very much increased if the right leg is first when the birds rise; the gun cannot then be brought but a very trifling way beyond a straight line to the right. When dogs point, or when game has been marked and expected to spring, the walk should be with short and easy steps; the body can then be easily turned upon the legs, as if on a pivot, and the range of the bird commanded even if it should fly quite round the sportsman. The science of aiming accurately, however, will be of little service, except the gun be held steady from all starting or flinching in the act of firing. Shooting in company has given rise to a code of laws for the government of sportsmen. All birds that cross should be considered as belonging to the gunner to whose side their heads are pointed, unless a previous understanding is come to, that either party may take an aftershot at a tailing bird. When single birds rise and go away fair from either party, it may be proper to have it previously understood that such should be taken alternately by each shoot.

How to use a rifle

With Americans the Rifle is a great favorite. One of the first lessons should consist of the following practice at a target about eighteen inches in diameter, and at a distance of ten or twelve paces. Having put a small copper thimble, or percussioncap from which the composition has been removed, upon the nipple, the pupil should raise the rifle (previously cocked) steadily to his shoulder, and, while closing his left eye, look intently with the right along the first sight to the more distant one, the gaze being steadily fixed upon the mark, however, and not on the sight, and the muzzle being raised above the bull'seye.; The rifle should now be steadily lowered, and at the instant that the more distant sight covers the center of the bull'seye, the motion should be arrested, the center of the heel-plate as above directed, firmly pressed against the muscle of the shoulder, and the trigger simultaneously pulled. All delay is bad when once the aim has been clearly got. After the cock has fallen on the nipple, the eye should still look, for the space of a second at least, as fixedly as before upon the target, noting carefully the deflection upon each occasion. Easy as this may appear, it will be found that to do it without flinching requires some considerable practice. When that amount of proficiency is obtained, the same process should be repeated with caps, proceeding gradually to the use of a few grains of gun-powder, increasing the charge to two or three drachms. When the slightest terror is no longer felt at the critical moment of the explosion, a bullet, with a very small charge of powder may be ventured on. By degrees the shooter will find himself acquiring confidence, and having repeatedly struck the target at a dozen yards with half a drachm of powder, he will find the same feat practicable enough at twenty, fifty, and finally at a hundred yards, with one drachm, or one drachm and a half. Having proceeded so far, he will do well to continue working daily at

How to use a rifle

the latter range for some weeks, until he can make certain of raising his rifle to the "Present," and of striking the bull's-eye almost at the same moment. He may then progressively extend his distance by twenty or twenty-five yards at a time, till he has reached the extremist limits at which good shooting can be calculated upon. He may consider himself somewhat above an average shot, when at fifty yards he can make sure of obtaining twenty hits all within a circle of five inches in diameter; at a hundred yards within a circle of ten inches; at two hundred yards within a circle of twenty inches; and so on up to a thousand yards. As to that range, if the shooter can be certain of putting ten bullets in succession within eight feet in diameter, he will do as much as any one need hope to achieve. A very important matter to be kept in mind while practicing at the target is the charge of powder. It cannot be too strongly inculcated that, after careful trial, the proper charge for a particular rifle having been once determined upon, that charge ought never to be increased or diminished even by a grain. When the greatest possible accuracy is required in shooting, it is well worth while to weigh each charge in a delicate balance, and subsequently to enclose it in a small dry glass or metal tube, carefully securing it with a cork or stopper. If this process be deemed too tedious a small brass charger should be used, slight "hopped," each time that it is filled; it should then be tapped lightly at the bottom, so as to shake off the superfluous grains, leaving the measure exactly filled. Care should be taken that no extraneous matters get mixed up with the powder, as every particle of the kind, however small, will diminish more or less the momentum of the bullet, causing it to strike low, for besides displacing a certain bulk of powder, any matter of the kind prevents the due and regular ignition of the charge. It has frequently been remarked that, when using a loose charge, the best shooting was at the commencement of the practice, when the flask was full. This arises from the common habit of filling a flask when about three parts empty; the dust, smaller grains, &c., thus collect at the bottom, and the force of each later discharge is proportionably feebler. To avoid this, the stock of powder should be occasionally sifted through a lawn or silk sieve. Some riflemen attach much importance, at shooting matches, to wiping out the barrel after every discharge. For this purpose the shooter is provided with a number of pieces of rag (the material preferred being cotton flannel, each about two inches square; one of these being twisted round a rod kept for

How to use a rifle

the purpose, is passed up and down the barrel after each shot, care being taken never to use the same rag twice until it has been thoroughly washed.

How to keep a dog healthy

The best way to keep a dog healthy is to let him have plenty of exercise, and not to overfeed him. Let them have at all times a plentiful supply of clean water, and encourage them to take to swimming, as it assists their cleanliness. When they are washed no soap should be used, as it prevents their licking themselves, and they may thus become habitually dirty. Properly treated, dogs should only be fed once a day. Meat boiled for dogs, and the liquor in which it is boiled, thickened with barely-meal or oatmeal, forms capital food. The distemper is liable to attack dogs from four months to four years old. It prevails most in spring and autumn. The disease generally manifests itself by a dullness of the eye, husky cough, shivering, loss of appetite and energy, and occasional fits. During the prevalence of this complaint dogs should be allowed to run on the grass, their diet should be spare, and a little sulphur placed in their water. To administer medicine to a dog, place him, if of moderate size only, upright on his hind legs, between the knees of a seated person. Apply a napkin round his shoulders, bringing it forward over the fore legs, by which he is secured from resisting. The mouth being now forced open by the pressure of the forefinger and thumb upon the lip of the upper jaw, the medicine can be conveniently introduced with the other hand, and passed sufficiently far into the throat to ensure it's not being returned. The mouth should now be closed and kept so until the matter given is seen to pass down.

How to keep a dog healthy

How to train a dog for hunting

A well trained dog is indispensable to success in gunning. We give full directions for the breaking him to his work. Taking the pointer to operate on as being more perfectly under the control of the sportsman than most other kind of dogs.

The first lesson inculcated is that of passive obedience, and this enforced by the infliction of severity as lenient as the case will admit. The dog is taken into a garden or field, and a strong cord about eighteen or twenty yards long is tied to his collar. The sportsman calls the dog to him, looks earnestly at him, gently presses him to the ground, and several times will make him down immediately, and take him to the place where the birds rose. Chide him with "Steady!" "How dare you?" Use no whip, but scold him well, and be assured that he will be more cautious. If possible, kill on the next chance. The moment the bird is down, the dog will probably rush in and seize it. He must be met with the same rebuff, "Down charge!" If he does not obey, he must receive a stroke of the whip. The gun being again charged, the bird is sought for, and the dog is allowed to see it and play with it for a minute before it is put in the bag. He will become thoroughly fond of the sport, and his fondness will increase with each bird that is killed. At every time, however, whether he kills or misses, the sportsman should make the dog "Down charge!" and never allow him to rise until he has loaded.

If a Rabbit should be wounded, there will, occasionally, be considerable difficult in preventing him from chasing her. He must be checked with "Ware chase," and if he does not attend, the sportsman must wait patiently. He will by-and-by come slinking along with his tail between his legs, conscious of his fault. It is one, however, that admits of no pardon. He must be How to train a dog for hunting

secured, and while the field echoes with the cry of "Ware chase," he must be punished to a certain but not too great an extent. The castigation must be repeated as often as he offends; or, if there be much difficulty in breaking him of the habit, he must be got rid of. By attention to the rules here laid down, the person whose circumstances only permit him occasionally to shoot, may very readily educate his dog, without having recourse to keepers or professional breakers. Generally speaking no dog is half so well broken as the one whose owner has taken the trouble of training him. The scholar being thus prepared should be taken into the field, either alone or with a well-trained steady dog. When the old dog makes a point, the master calls out "Down!" or "Soho!" and holds up his hand and approaches steadily towards the birds; and if the young one runs in, or prepares to do so, as probably he will at first, he again raises his hand and calls out "Soho!" If the youngster pays no attention to this, the whip must be used, and in a short time he will be steady enough at the first intimation of the game. If he springs any birds without taking any notice of them, he should be dragged to the spot from which they rose, and, "Soho!" being cried, one or two sharp strokes with the whip should be inflicted. If he is too eager, he should be warned to "Take heed." If he runs with his nose near the ground, he should be admonished to hold up, and if he still persists the muzzle-peg may be resorted to.

The best plan to accustom dogs to the gun, is occasionally to fire off one while they are being fed. When the dog has grown tolerably steady, and is taught to come at the call, he should also learn to range and quarter his ground. Let some clear morning, and some place where the sportsman is likely to meet with game, be selected. Station him where the wind will blow in his face; wave your hand and cry "Heigh on, good dog!" Then let him go off to the right about seventy or eighty yards. After this, call him by another wave of the hand, and let him go the same distance to the left. Walk straight forward with your eye always upon him; then let him continue to cross from right to left, calling him in at the limit of each range. In doing this, the same ground should never be twice passed over. The sportsman watches every motion, and the dog is never trusted out of sight or allowed to break fence. When this lesson is tolerably learned, he may, on some good scenting morning

How to train a dog for hunting

early in the season, take the field, and perhaps find. Probably he will be too eager, and spring upon his game. A loud but not an angry voice says, "Down!" or "Down charge!" The dog does not know the meaning of this, and struggles to get up; but as often as he struggles, the cry of "Down charge!" is repeated, and the pressure is continued or increased. This is continued a longer or shorter time, until the dog, finding that no harm is meant, quietly submits. He is then permitted to rise; he is patted and caressed, and some food is given him. The command to rise is also given in the terms "Heigh up!" A little while afterwards the same process is repeated, and the dog struggles less, or perhaps ceases to struggle altogether.

The attachment of the dog should be gained by frequently feeding and caressing him, and giving occasional hours of liberty; but every now and then inculcating a lesson of obedience, teaching him that every gambol must be under the control of the master; frequently checking him in the midst of his gambols with the order of "Down charge!" patting him when he is promptly obedient; but scolding or moderately chastising him, when there is any reluctance to obey. The dog is then suffered to run over the field, seemingly at his pleasure, when suddenly comes the warning "Down!" He perhaps will pay no attention to it, until he is seized by his master, forced on the ground, and is menaced with the order of "Down!" somewhat sternly uttered. After a while he is suffered again to get up. He soon forgets what has occurred, and gallops away with as much glee as ever. Again the "Down!" is heard, and again little or no attention, is paid to it. His mater once more lays hold of him and forces him on the ground, and perhaps inflicts a slight blow or two, and this process continues until the dog finds that he must obey the command of "Down charge!" The owner should now walk from the dog a little way backward with his hand lifted up. If the dog make the slightest motion, he must be sharply spoken to, and the order peremptorily enforced. He must then be taught to "Back," that is, to come behind his master when called. When he appears to understand all this, he is called by his master in a kindly tone, and patted and caressed.

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How to train a dog for gunning

What are the best dogs for hunting?

The highest place among shooting-dogs is by many sportsmen awarded to the setter. Says Craven: "In style and dash of ranging, in courage and capacity of covering ground, in beauty and grace of attitude, in variety of color and elegance of clothing, no animal of his species will at all bear comparison with him." This is high praise, and a little hard, in our opinion, on the pointer. The pointer is an excellent dog, but he is more delicate than the setter; still, as a set-off, he never lets his enthusiasm in sport get the better of his discretion, an indiscretion into which setters will sometimes be betrayed. The setter has one marked advantage over the pointer, the hairy protection of its feet enabling it to go through an amount of work, without injury, that would dead beat the pointer. It is equaled by none in points of docility and personal attachment. The setter is a capital dog for all sorts of ordinary sporting. "I have tried all sorts," says a large breeder of sporting dogs, "and at last fixed upon a well-bred setter as the most useful. For cover or snipe-shooting, the setter is far superior - facing the thorns in the cover and the water in the swamps without coming to heel, shivering like a pig in the ague. I have also found that setters, when well broken, are finer tempered, and not so easily cowed as pointers. I also find that after a good rough day the setter will out-tire the pointer, though, perhaps, not start quite so fresh in the morning."

The pointer, said by some to be of Spanish origin, is more nearly allied to the race of hounds than any other shooting dog. They will, almost without education, or, in technical phraseology, with very little breaking, exhibit a strong tendency to the peculiarity of their race, and stand at game of What are the best dogs for hunting?

every kind, and that even when they are puppies. The pointer follows game by scent, and his peculiarity is that he will stand as if turned to stone, the moment he comes in contact with the slightest scent of game. But pointers are never considered complete unless they are perfectly staunch to bird, dog and gun; which implies, first, standing singly to a bird or covey; secondly, to backing (or pointing instantaneously, likewise), the moment they perceive another dog stand; and lastly, not to stir from their point upon the firing of any gun in company, provided the game is neither sprung nor started at which the original point was made.

The water-spaniel and the Newfoundland dog are of great use to the sportsman when bent on shooting water birds. As to the water-spaniel, docility and affection are stamped on his continence, and he rivals every other breed in attachment to his master. His work is double; first, to find when ordered to do so, and to back behind the sportsman when the game will be more advantageously trodden up. In both he must be taught to be perfectly obedient to the voice, that he may be kept within range, and not necessarily disturb the birds. A more important part of his duty is to find and bring the game that has dropped. To teach him to find is easy enough, for a young water-spaniel will as readily take to the water as a pointer puppy will stop; but to bring home game without tearing is a more difficult lesson; and the most difficult of all is to make him suspend the pursuit of the wounded game while the sportsman reloads. The Newfoundland dog is, in point of fact, only a spaniel of large growth. That which most recommends him is his fearlessness of water. "It is our opinion," says Craven, "that in most cases he might be made the most valuable of sporting dogs, his intelligence - or instinct, if such indeed it merely be - appearing to be called into action in a greater variety of instances than in any other dog, except the original mountain or shepherd dog. As a retriever, he possesses a quality of unquestionable value that of mouthing his game without breaking it; and he may be brought into the field with pointers without interfering with their province."

The Retriever

This useful dog is a cross between the spaniel and Newfoundland or Spaniel or Poodle. Their chief value consists in their fearlessness and perseverance in penetrating the thickest bush, or cover.

Rabbit hunting tips

In approaching these wary animals, a degree of caution is necessary, so as not to disturb them. It is well, therefore, never to advance in a straight line, or even look directly towards them; walk leisurely along in the face of the wind; stoop and pick up, or appear to pick up, a bough or piece of turf, or to examine any matter before you, and such conduct will often throw them off their guard. While doing this, if a dog is with you, keep him close; your clothes, also, should be dark, so as not to be seen on the approach a long way off. When you have ventured as near as they will allow without retreating to their earth, then stoop. When storms arise, the intervals between are often favorable for getting near rabbits, particularly when the wind blows from them to you. When a number are come upon suddenly at the edge of a wood frequented by them, it often happens that the old ones will immediately take the covert; but not so the young ones, who prick up their ears, and perhaps raise themselves up to examine you; now take your shot.

How to hunt snipe

These are to be met with in low marshy grounds. In spring, they disperse themselves to higher and more airy situations. Snipe shooting affords excellent diversion; but those who attempt should be possessed of a strong constitution, and considerable fortitude and energy: wet and dirt must not be cared for, nor must the coldness and severity of the weather be heeded. Snipes are difficult to hit when on the wing, owing to the irregular twistings of their flight; but this difficulty is soon surmounted if the birds are allowed to reach to a certain distance, when their flight becomes steady and easy to traverse with the gun; there is no reason to be apprehensive of their getting out of the range of the shot, as they will fall to the ground if struck but slightly with the smallest grain. Snipes like many other birds always fly against the wind; therefore, the sportsman by keeping the wind at his back, has this advantage of the bird when it rises, that it presents a fairer mark. In severe weather, snipes resort in numbers to warm springs, where the rills continue open and run with a gentle stream; these, on account of their long bills, are then the only places where they can hunt for food. Snipes lie better in windy weather than in any other, and as they then usually make a momentary halt or hanging on, that is the time to fire. When they cross, also, by firing well forward, they seldom escape. Snipes are among the most inconstant of birds; a frosty night will send away the whole of a flight that had been there the day before; and again in two days' time they may return, if open weather and a dry wind succeed. A regular snipe locality should be tried not only every day, but twice a day, so uncertain are snipes in fixing themselves even for a day.

Hunting tips

Partridge Hunting

The best time for partridge shooting is in the morning early, or late in the afternoon. Always endeavor to get cross shots, this may usually be effected by walking across or heading your dog when pointing. If you go straight from him to the birds, they will generally go straight away. Birds when flying across you, present a far easier shot, and expose a more vital part. During the entire season, the wheat-stubbles and turnips are the best spots for holding partridges. In storms and fogs partridges lie very close, and in fine days which follow storms. Heavy rains cause them to lie extremely close in turnings; and therefore, as well as for other reasons it is not favorable for sport.

Woodcock Hunting

The shooting of the woodcock requires more skill and experience than any other game. It is an uncertain bird, that requires careful treatment, but is worth all the trouble. A team of small spaniels is all that is needed in the way of dogs; nearly every thing depends on the trigger. When the cover is beaten, look out sharp for the cock, as your shot must depend very much on his humor, whether he is all alive or sluggish. Sometimes, for example, he won't stir till fairly beaten out of the cover, and then a shot will bring him down; sometimes he will be off and away almost before the cover has been touched. When in places likely to hold a cock, towards evening try the mosses, banks of rivulets, and boggy bottoms; at that time the birds are on the "road," or feed, and, consequently, are more easily met with than when laid up in the snug harbor of some old osier-bed, or beneath the root of some monarch of the wood, in the deepest recesses of some wide cover. When flushed, bear in mind that the woodcock seldom, if ever,

Hunting tips

pitches on feeding-ground.

Wild Fowl Hunting

Care must be taken not to fire too soon, distance is very deceptive on water, and many good aims are made worthless through miscalculating the distance. The scent of the water fowl is exceedingly keen, and to get within range it is better to keep to the leeward of them, than to bear direct down upon them. Ducks are hunted with decoys in the early spring and fall. Wild geese are shot from behind screens on the margins of lakes and rivers. The hunters decoy them by imitating their cries. Tame geese may also be used as decoys.

Deer Hunting

The best method for hunting deer is by the "Still Hunt." This is done by finding fresh track of the deer and then with care and quietness following the trail till the deer is found. If care is exercised in approaching, a good shot can generally be obtained. The following directions are given by a practical hunter: "For 'Still Hunting,' the hunter should provide himself with a good rifle and a pair of deer skin moccasins. When finding the trail he should walk carefully and keep a good lookout ahead as deer are always watching back on their trail. When routed, they almost always stop on hills. In order to get within gun shot, it is necessary to circle round and come up to ward in front or at the side - always circling to the leeward side, as their sense of smell is very acute. The deer, when the early snow comes usually get up and feed till about 10 o'clock, a.m., when they lie down till about 3 o'clock, p.m., when they start on a rambling excursion till near the next morning. In these excursions they almost always return to the place from whence they started, or near to it." In "Still Hunting," when the buck, doe and fawns are found together, shoot the doe first, the buck will not leave till you get another shot.

Buffalo Hunting

Buffalo hunting is not unaccompanied with danger. When the head is disturbed, they at once flock together, into a compact mass, and rush through all obstacles. They should only be approached on the outskirts. The usual way of hunting the buffalo is on horseback, as a person on foot cannot approach Hunting tips

them without screening himself. An eight inch navy revolver is the best weapon, but a breech loading carbine or rifle is very good. Hunt up a drove feeding; approach them from the leeward side, or they will scent you and move off. The horse does not disturb them, therefore lie down on the horse and let him gradually work towards them; select a cow and approach heron the left side of you have a pistol, and right side if you have a rifle. Shoot for the heart. The ball should be aimed just back of the foreleg, a few inches above the brisket.

Trapping technique

All furs are best in winter; but trapping may be carried on to advantage for at least six months in the year; i.e., anytime between the first of October and the middle of April. There is a period in the warm season, say from the first of May to the middle of September, when trapping is out of the question, as furs are worthless. The most trapping is done late in the fall and early in the spring. The reason why furs become worthless in summer is, that all fur-bearing animals shed their coats, or at least lose the finest and thickest part of their fur as warm weather approaches, and have a new growth of it in the fall to protect them in winter. This whole process is indicated in the case of the muskrat, and some other animals, by the color of the inside part of the skin. As summer approaches, it becomes brown and dark. That is a sign that the best fur is gone. Afterward it grows light-colored and in winter when the fur is in the best condition, it is altogether white. When the pelt is white, it is called prime by the fur-dealers. The fur is then glossy, thick and of the richest color, and the tails of such animals as the mink, marten and fisher are full and heavy. Beavers and muskrats are not thoroughly prime till about the middle of winter. Other animals are prime about the first of November. There is probably some variation with the latitude, of the exact period at which furs become prime, the more northern being a little in advance. Trappers are liable to begin trapping too early in the season, consequently much poor fur is caught, which must be sold at low prices, and is unprofitable to the trapper, the fur-buyer, and the manufacturer.

The skins of animals trapped are always valued higher than those shot, as shot not only make holes, but frequently plow along the skin making furrows as well as shaving off the fur. Trapping technique

To realize the utmost for skins they must be taken care of, and also cleaned and prepared properly.

1. Be careful to visit your traps often enough, so that the skins will not have time to get tainted. 2. As soon as possible after an animal is dead and dry, attend to the skinning and curing. 3. Scrape off all superfluous flesh and fat, and be careful not to go so deep as to cut the fiber of the skin. 4. Never dry a skin by the fire or in the sun, but in a cool, shady place, sheltered from rain. If you use a barn door for a stretcher (as boys sometimes do), nail the skin on the inside of the door.

Fox trapping tips

There are several methods of catching this cautious animal. The trap should be concealed in a bed of ashes, leaves, or chaff, taking care that the trap is well smeared with blood or bee's wax. Fasten to a clog so that he can move about when caught. To make the allurement doubly sure, obtain from the female of the dog, fox or wolf, the matrix, in the season of coition, and preserve it in alcohol, tightly corked. Leave a small portion of it on something near the trap; also, when visiting the traps, put some on your boots. Make a trail in different directions round the trap. A piece of raw flesh may also be dragged about. Be sure and leave everything around the trap and vicinity as natural as possible. Another good plan is to get some earth from a kennel where a tame fox is kept. Set the trap in it.

Mink trapping tips

These can be taken either on land or water, the land is generally preferred by trappers. The trap is set near the bank of a stream. If one of their holes cannot be found, make one. Three sides of the cavity should be barricaded with stone, bark or wood, and the trap set in the entrance. For bait, use fish, bird or muskrat, cut in small pieces and placed in the hole beyond the trap so that the mink will be obliged to step over the trap to get it. Cover the trap with leaves, grass or feathers. In the coldest weather, smoke the bait to give it a stronger scent. The best scent for attracting mink is made as follows: Get some eels, trout or minnows, and cut up into small pieces, put them into a loosely corked bottle and hang it in the sun for two or three weeks in summer, an oil will be formed on the top which emits a very strong odor. Sprinkle a few drops of this oil on the bait and around the trap. It will be sure to draw mink from some distance. The chain of the trap should be fastened to a spring pole to lift the animal out of the reach of depredators, or if the trap is set near water it should be attached to the sliding pole, so as to drown it at once...

Muskrat trapping tips

Find a log with some recent droppings of the muskrat on it, a notch is cut in the log for the trap, an inch or two under the water. The trap is fastened to a spring pole. If on the land, among weeds and bushes, he will not unfrequently twist off his leg and escape. The traps are also placed in the runs, on bogs and old muskrat houses, and wherever there are recent indications that the muskrats come to feed. Where the game is scarce, the traps are sometimes baited, but otherwise this is not necessary. Carrots, parsnips, apples, potatoes, or a piece of the flesh of muskrat can be used for bait. A stick is stuck in the ground, slanting in such a manner that the end shall be 6 or 8 inches above the treadle of the trap. The bait is stuck on the end of the stick, and in this way, if there are any rats in the vicinity, you are pretty sure to catch them. Sometimes the traps are covered with an inch or two of weeds; and some trappers put a drop or two of the oil, found in the glands of the muskrat, on or near the traps. Equal, if not better than a steel trap, is an old barrel. Sink it near the bank of the ditch, where there are evidences of the presence of the animals, to the level of the ground, and half fill it with water. Put in a couple of shingles, or light strips of board, to float on the water. Place sweet apples or carrots cut in small bits in the runs of the muskrats, and toll them to the barrel. Put several pieces upon the floats, inside. The rats will jump in after their food, and will not be able to get out. Where they are plenty, several muskrats may be taken in a night by this simple trap, it costs nothing but labor, can be visited at one's convenience, and there is plenty of room in it for a dozen or more at once.

Squirrel trapping tips

In trapping squirrels, set a steel trap on the upper rail of a fence near where they frequent; set a pole with an ear of corn, or some other squirrel food fastened to the end of it, up against the side of the fence, leaning in such a position as to spring the bait over the trap at a height of six or nine inches; when the squirrel reaches to get the bait he will get into the trap.

Skunk trapping tips

Take an old barrel, and place it on its side on a triangular stick of wood about 7 inches high, fastening the bait on the bottom of the barrel. When the skunk goes for this bait as soon as he passes the centre, the barrel turns up with the skunk, without making any scent. Then take it by the tail and do with it as desired. Care must be taken not to place the barrel too high, as it might throw over and not remain upright. The more skunks you catch in the same barrel, the better the trap. They may also be caught with the steel trap and spring pole. Set the trap near their hole or path. Strew pieces of meat or dead mice before and after the trap. The offensive discharge can be prevented either by a blow over the back or by seizing the parts by the hand and pierce its throat with the other.

Beaver trapping technique

These animals are now exceedingly scarce. The clearing up and cultivation of the soil has driven them nearly all from the country. When a beaver pond has been found, the principal object is to take each beaver in it alone and drown it as soon as possible. If the remaining beavers get a knowledge of capture of one of their family they will all remove away. The trap should be set near the shore, about three inches under water. Carefully hide it by a covering of some soft substance that will not interfere with its springing. Use for bait a small portion of beaver castor, a milky secretion found in glands near the testicles of the male beaver, leave it on the bank near the trap. Carefully remove all trace of footprints by drenching the tracks with water.

Trapping rabbit: Tips and Technique

The steel trap is simply buried in the run, and leaves, grass or earth strewed over its surface so as not to give an appearance of an unusual character. Bait with a piece of apple. Precaution should, however, be taken to tie the trap to a bough or peg in the ground, by a piece of strong string, otherwise the rabbit will carry away the trap. Wire snares are also very effective traps. They are made of fine copper wires, and being inexpensive, a number of them may be set where rabbits abound. The wires are made to form a running loop, just such as we form with string; only the wires are so arranged that they all unite to form the one loop. No ingenious person could fail to form the loop after a few minutes handling of the wire. It is so simple that it will suggest itself. The loop thus made is set across a run, so that the top of the loop stands say about six inches from the ground; and in order to keep it in its proper position, a peg of wood is driven in the ground a little way from the run, and in the top of the peg there is a slit which serves to catch the ends of the wires and holds them in position. The wires must be tied firmly at the end to a string, which may lie on the ground; the end of the string should be tied to a bough sufficiently high from the ground to yield a little when it is pulled. This yielding of the bough prevents the rabbit from snapping the string, which it would otherwise do in its endeavors to escape. Netting rabbits is effected by nets being placed across the runs, but it is very seldom resorted to, as it is less practicable than other methods. There is an ingenious mode of taking rabbits by single wires and what is called a springle, the same in principle as the spring pole. A strong and springy stick is stuck deep into the ground in an upright direction; its smaller end is then bent over, and also buried sufficiently in the ground to keep it down.

Trapping rabbit: Tips and Technique

To this end a wire is tied by a short string, and when the rabbit is caught, his first jump pulls the end of the springle out of the soil, and it then lifts the rabbit completely from the ground, thereby depriving it of all power of escape.

Bird trapping: tips and technique

In the daytime birds are taken principally by means of nets, springs, traps and birdlime. The method adopted in the suburbs of London is most ingenious. The nets used are generally twelve yards and a half long, and two yards and a half wide. The bird catcher provides himself with call birds, usually consisting of five or six linnets, two goldfinches, two greenfinches, a woodlark, a redpole, a yellow hammer, titlark and perhaps a bullfinch. These are placed at short distances from the nets in little cages. He has besides what are called flurbirds, which are placed within the nets and are raised upon a movable perch, which the bird catcher can raise at pleasure by means of a long string fastened to it, and gently let down at the time the wild bird approaches. The flur-birds generally consist of a linnet, a goldfinch, and a greenfinch, secured to the flur by a contrivance called a brace, which secures the birds without doing any injury to their plumage. When the bird catcher has laid his nets, he disposes of his call birds at proper intervals. The instant that the wild birds are perceived, notice is given by one to the rest of the call birds, and they all raise their voices in a loud and cheerful chorus, which arrests the wild birds in their flight and attracts them down to the spot near which the nets are placed; and the bird catcher watching his opportunity, closes his nets upon them.

Bird trapping: tips and technique

The Springle: Effective Bird Catcher

The Springle is a somewhat complicated apparatus, but very effective as a bird catcher. It consists of five parts, as follows: 1The stump: a small stout stake of wood about five inches in length, which is fixed firmly in the ground, with its head about an inch above the surface. 2. The Spreader: a small bent switch, having a notch at its thicker end; it is kept in its bent position by a piece of small cord whipped over its smaller and larger end, and united just above the notch. 3. The Bender: a piece of pliant withy or hazel, of about eighteen inches long; both ends of it are fixed into the ground so as to form a kind of arch. 4. The Springer: a hazel rod of about four feet in length, thick at one end and tapering at the other; to the tapering end is fixed a piece of string. 5. The Catch: a sound piece of wood fixed at the end of the string of the springer; it is about half an inch long, a quarter broad, and the eighth of an inch thick. It is slightly beveled off at one end, so as to adapt it to the notch or the spreader. 6. The Noose: a knot formed of horsehair, fastened below the catch. In setting the springle, the following directions are to be attended to: Drive the stump firmly into the ground. Place the spreader around the stump so that its bight is in contact with it. Fix the bender into the ground at about the length of the spreader from the stump; then fix the thick end of the springer in the ground at a little distance from the bender, and the small end of it bent down till one end of the catch is placed upwards and on the outside of the bender. Raise the spreader about an inch from the ground, and put the small end of the catch into the notch. Finally, arrange the horsehair slipknot loosely around the bender, and the trap is set. Scatter a little seed within, and for some distance around the spreader, and watch at a short distance to seize the bird as soon as it is

The Springle: Effective Bird Catcher

ensnared, otherwise it will flutter itself to death or be strangled. Birds may also be caught by means of horsehair loops. To accomplish this, tie a large number of loops upon a long string, the longer the better, and lay this string in a series of rings winding outward from the center, so that the ground will be completely covered with them; then lay the trap, with the loop properly opened, on a spot resorted to by birds. When a bird gets its feet into a loop, it is almost certain to draw the loop tightly about its legs, and is thus caught. The common brick trap is well known; it consists of four bricks arranged two lengthways, upon their edges or narrow sides and one in front, and the fourth between the two side bricks; this is so placed that it will fall and lie easily upon the front brick. Within the trap a stout peg is driven into the ground, upon which a forked twig is placed horizontally; above this a stick is placed, one end being on the twig and the other end supporting the brick in a slanting position. The end of the twig that rests upon the peg is cut flat to give it a better hold. The bait is strewn upon the ground inside of the trap. When the bird flies to the trap he generally perches for a moment on the forked twig and causes it to give way by reason of its weight, the brick that has been propped up then falls upon the front brick, enclosing and securing the bird. In preparing this trap, caution should be used to setting the upper brick, so that it does not fall between the two side bricks unsupported by the front brick, as in such a case the bird would be crushed to death. The downfall is an effective trap for taking field fares, thrushes, redwings, blackbirds, larks, sparrows, starlings, and all birds that congregate upon the ground. It is most effective when snow lies upon the ground, for then the birds being hungry, are less shy than is their wont in the pursuit of food. The trap consists of an iron or wooden hoop covered with a net, formed of meshes of about one inch. The lighter the net the better. The hoop is put to stand at an angle, as in the engraving, and is propped up by a piece of stick about two feet in length. At the bottom of the net, and lying upon that part of the hoop which rests upon the ground, is placed a heavy stone, in such a manner that directly the stick is withdrawn, the net will drop down suddenly upon the birds. A long string is tied to the stick, and is held by the person, who keeps as far away from the trap as is compatible with his being enabled to see when the birds are under it. It is better not to drop the trap when a single bird enters, as it will serve as a decoy, and a little patience will be

The Springle: Effective Bird Catcher

rewarded by the capture of a number of birds instead of one. In some parts of France a curious mode is practical of taking birds; a frame is constructed of the stripped branches of the slender straight growing poplar, in the centre of which a seat is placed for the birdcatcher to sit upon. The frame so constructed is afterwards covered with boughs and evergreen shrubs, among which are openings for the entrance of the birds, and also for the hands of the birdcatcher to come out, who is seated within. When the birds alight on or about the sides of the holes, the bird catcher nimbly seizes them by the hand or by means of a small flap trap which he trusts out at one o f the holes, and upon which the birds alight. Woodcocks, partridges, and other land birds are said to be easily caught by what is called lowbelling. In this method a strong light is employed and two persons carry nets, one on either side of him who bears the light. The light bearer carries a large bell, which he rings incessantly and with a regular jingle. The birds after a while become so alarmed by the combined effects of the light and the bell, that while some fly against the nets, others fall upon their backs on the ground and will not move, and so are captured.

For catching birds by means of bird-lime, the following is the most successful method: Take a large branch or bough of a tree, and after having trimmed it of all the leaves and superfluous shoots, cover it all over with bird-lime, taking great care to lay it on properly, for if it be too thick the birds will see it and will not settle on the bough, and if it be too thin it will not hold them when they do. When the bough is well limed it must be fixed on a low dead hedge near a rickyard, hemp or flax field, or in some other place which is a favorite resort for small birds, and the sportsman having concealed himself is near to the bough as he can, must imitate with his mouth or with a bird call the notes which birds make when they attack or call one another, but if he should not be expert at this, there is another mode of attraction called a stale. A hawk of any species or a bat make very good stales, but an owl makes the best of any, for this bird never shows himself at daylight without being followed by all the small birds that see it; so that if an owl be fastened in some conspicuous place at a short distance from the limed bough, the birds will collect around it in great numbers, and will be sure sooner or later to settle on the bough and be taken. When one bird is thus enticed and stuck fast, it must not be disengaged, but suffered to remain

The Springle: Effective Bird Catcher

and attract others by its fluttering, so that many may be taken at once. If a live owl is not to be obtained, a stuffed one will do nearly as well. Sometimes the representations of an owl carved in wood is used, and being painted in the natural colors of the bird, is found to succeed very well.

What are the best fishing times?

The "regular season" for fishing is between the months of April and November. The best time of the day for angling is, during the summer months, from sunrise to two or three hours after, and from two hours preceding sunset until an hour after that time. IN the colder months the best hours are from twelve to three, for the fish are shy at biting until the air is warmed by the sun. A warm lowering day is, of all others, the most propitious; on a cloudy day, also, succeeding a moonlight night, the fish will bite readily; the most favorable winds are south and southwest - easterly, the most unfavorable.

When fishing, keep at some distance from the margin of the stream, so that your shadow may not fall upon the water, and frighten away the fish; to avoid the same consequences, do not indulge in laughter or loud conversation.

If the water be still, throw in small pieces of ground bait; if a strong current, large pieces; do this quietly and cautiously, for fish are so wary and suspicious, that it requires the nicest delicacy and management to circumvent them.

When the wind blows right across the water, fish with your back to the wind, as you will not only be able to throw your line better, but the fish will be on that side, attracted thither by the flies and other natural bait which the wind will blow into it.

What is the best live fishing bait?

The common angle worm is a universal bait for fresh water angling. They grow almost everywhere except in sandy soils. The common white grub is also used successfully in trout fishing. They are found in fresh ploughed earth, and under old stumps, decaying foliage, etc. The grasshopper is also good for trout in his season. The trout or salmon spawn will attract trout quicker than any other possible bait, but it is not always to be had. Catapillars, flies, locusts, beetles, etc., are good for trout.

Live bait consists of the minnow, the shiner (or mullet), the goldfish and other small fish. Ponds of these fish are kept by those who furnish baits, and by some habitual sportsmen.

The frog is an excellent bait for pickerel. They are sometimes used whole, but in case where you use the hind legs only, they should be skinned.

For saltwater fishing, the shrimp is the leading bait. The shedder crab, in its season, is most excellent, particularly for striped bass. The soft shell clam, cut in small pieces, is a good bait for many kinds of sea fish. The horse mackerel or small blue fish is an excellent bait. Where the tide runs swift, use the tail, leaving on the fins.

How to fish for the pike or pickerel

Pike is fond of shady places and in summer they frequent the parts of the stream nearly where the pickerel weed grows. They generally spawn in march or April and earlier in some southern streams. In winter they get under rocks, or stumps, or into convenient deep holes, and they can be taken then with small live fish for bait. In rivers you can generally catch pickerel near the mouth of some small stream emptying into the river; the fall of the year is the best time for catching them. In the hot summer months they will seldom bite at all, except, perhaps, in a very windy day. In the fall, too, they are in better condition. Pickerel fishing in the spring is sometimes very successful; however, though the fish are not so good when breeding. In the more northern waters they are sometimes taken as early as August in good condition. The tackle used for pickerel is a pretty stiff 10 foot rod, with a reel, and some 50 or 60 yards of flax line which should be protected by the hook with gimp or wire. The Limerick or Kirby salmon hook is used. The size is 0 to 5, according to the size of the fish. IN a running stream, the sinker and float will also be found necessary. The bait should be a small live fish, or frog, or the hind leg of a frog skinned. Worms are sometimes used in small streams, where the water is clear, and the game small. In using live bait, when the pickerel takes it, do not draw your line too quick. The bait, if properly impaled, will be very lively, and will be apt to make a violent effort to escape its enemy. Inexperienced anglers may take this movement for a veritable bite; but when the bite comes, there is no mistaking it. In impaling a small fish for bait, pass the hook under the back fin, just under the roots of its rays. This will not disable the fish, and it will appear lively in the water. When using live frog bait, you pass the hook through the skin of the back or belly, or the back muscle of the hind legs. The live frog is generally used on the top of the water - if

How to fish for the pike or pickerel

not, you should let him rise occasionally to take the air. When the pickerel has seized your bait, give him plenty of time to swallow it, and also plenty of line. Sometimes he will hold it in his mouth and play with it before gorging. On bringing him to land, be careful of his jaws, for he has a set of teeth, sharp as needles.

How to fish for Perch

The perch spawns at the end of April or beginning of May, depositing it upon weeds, or the branches of trees or shrubs that have become immersed in the water; it does not come into condition again until July. The best time for fishing for perch is from September to February; it haunts the neighborhood of heavy deep eddies, camp sheathings, beds of weeds, with sharp streams near, and trees or bushes growing in or overhanging the water. The baits for perch are, minnows, red, marsh, brandling or lob worms and shrimps. The tackle should be fine but strong, as with a fish bait a trout or pike may frequently be hooked. Perch, unlike fish of prey, are gregarious, and in the winter months, when the frosts and floods have destroyed and carried away the beds of weeds, congregate together in the pools and eddies, and are then to be angled for with greatest success from 10 to 4 o'clock, at the edge of the streams forming such eddies.

Π

Trout Fishing

Trout, which are caught in the numerous running streams of the United States, vary in color, appearance and size with the quality of the soil pertaining to the streams they inhabit. The fish called "black trout," which are found in sluggish muddy streams, does not belong properly to the species. Trout will vary as much in shape and flavor, as in the color. They spawn in September and October, and the time for taking them is in the spring and summer. You may fish for trout until the 20th of August, though the finest ones are taken in the months of May and June. They bite the best in March and April. You can hook trout in several ways.

Some prefer fly fishing, and this is the most interesting mode in summer. The rod to be used should be light, and the line made of hair, or silk and grass. The fly should be placed on a length of gut, or a single light hair. Do not fish with your back to the sun. Stand as far from the stream as circumstances will allow. Always throw your line from you - never whip it out. Fly fishing is only suitable for pleasant weather. The best time of day is early in the morning or just at sunset. The line should be about half as long again as the rod. It should be thrown up stream, and let the fly gradually float down, and if possible fall into the eddies where the fish is apt to retreat in case of alarm. Let your line fall into the stream lightly and naturally, and when you raise it, do so gently and by degrees.

In trout fishing with the fly, only a small part of the line is allowed to be in the water. The end, or leader, should, as before stated, be a single light hair, if you can get one, as the trout is extremely shy and suspicious. If you stand on the bank of the stream, throw your line as far up as possible, as you cannot expect to catch a trout opposite or below where you are

Trout Fishing

standing. If bushes intervene between you and the stream, (which is all the better) do not rustle them or make a noise.

The usual length of a rod for trouting is 14 feet, though longer or shorter ones may be used, according to fancy or convenience. The bottom of the line, unless you have a light hair, should be strong silk-worm gut. The size of the hook will depend upon your flies. Nos. 4 and 5 are used for worms and beetles, and 7 to 9 for small flies. If the flies are too small, put two on the hook, as these insects frequently fall into the water in couples. The largest and best trout lie in shallow water, faced up stream, or else they lie near the surface. They are found on the south, or shady side of the stream. It is necessary to be exceedingly cautious not to show yourself, as if they see you they vanish for the day. Grasshoppers and other small field insects are frequently used with success when worms fail.

Worm fishing for trout is practiced with similar caution. After a rain, when the water of the brook is a little riley, you can catch trout by this mode - sometimes very rapidly. It is usually practiced in the spring. A single split shot will generally be enough to sink your line, unless the stream is deep and rapid. The rod should be of bamboo, 16 to 20 feet long, and the line shorter than the rod. Keep the point of your rod exactly above the bait, steadily following it, as the bait drags along the bottom. When the fish takes the bait, do not let him run with it, but keep a steady hand. Do not jerk, but play gradually with him. If the day be clear, and the stream shallow, the best way is to wade up the stream cautiously, throwing your line far up, and letting it come gradually towards you. The fish always heads upstream and you should not fail to remember if he once sees you he vanishes. Bottom Fishing with the blue-bottle flies is practiced as follows: Use a silk or fine hair line, with gut leader, and a small quill float. Hook No. 10 is about the proper size. You will want one or two split shot on the line. Fill a glass bottle with the common blue-bottle fly found on fresh horse or cow dung. Bait your hook with two of these flies, and let it sink nearly to the bottom. In this way you may catch trout in ponds, or deep waters deposited by running streams, and often in the slack water of mill dams, when you could not catch them in the stream itself. This kind of trout fishing is practiced in July and August. When the fish has taken the bait, play him towards the top of the water always. Do not let him tangle your line int eh

Trout Fishing

weeds or under brush.

The fin of a trout, or rather small fish, is sometimes used as a bait for trout with good success. It is dropped and roved, as with a minnow or fly.

Brook trouting is the very poetry of angling. It is an intellectual amusement, too, and requires as much caution, calculation and prescience as a game of chess - as fine touches of art as are necessary to perfect a picture or a statue. Through the meadow, where the rivulet, scarce a stride across, glides silently through the grass; along the gravelly bottom, where it sings and gurgles among the pebbles; through the gapes between the stony ridges, where it chafes and dances and raises its tiny roar among the splintered rocks; and across the woods, where it turns, and doubles, and feigns to sleep in quiet pools, the trouter must pursue

In every promising nook, on every inviting eddy, at the foot of every mimic cataract - in fact, in every spot where a trout would be likely to resort for fun, or food, or privacy - his fly must settle. After each deposit in his "creel," he may look around and admire the prospect, open his ears to the song of the spring birds, and sniff up the delightful odors which the world exhales in turning green. But all of the spring birds, and sniff up the delightful odors which the world exhales in turning green. But all these things are to the trout fisher as if they were not, while he is professionally engaged; it is only in the pauses of his art that he ventures upon a parenthetical glance at the general features of the landscape. His basket filled, however, he has leisure to be sentimental, and can sit down on a fence and invoke the muses, if he happens to have the gift of jingle.

Π

Salmon Fishing

This most delicious of fish sometimes grows to an immense size for a frequenter of fresh water. Salmon begin to run up certain northern rivers in April and stay there until the latter end of July, when they return to the sea. It is while thus running that they are taken by anglers and salmon fishermen. They deposit their spawn at the extreme point that they reach on the river, and by the time they return, the young fry are ready to return with them. The same young ones follow their parents up the river the year following, having grown to be about six inches in length. At the end of the second year they weigh from five to seven pounds, and it takes them six years to attain their growth.

The salmon, like the trout, is timid and easily frightened. When they become alarmed, they move very rapidly in the water, and go a great distance without stopping. It is, therefore, necessary to be extremely cautious in fishing them, and requires skill and perseverance. The most wary and scientific anglers have their patience tried in taking this fish, whose instinct leads it to astonishingly artful and singular efforts to escape. The feeding grounds of the salmon are swift streams, and deep lakes, with gravelly and pebbly bottoms, where there are easily outlets to the sea. The time for fishing them is early in the morning or late in the afternoon, and they may be taken from May until August. In the first of the season, worms, small fish, or shrimp, is the usual bait; but in July and August they are partial to the fly.

The tackle used for salmon, should combine strength with imperceptibility. A large sized reel is necessary, with some two hundred yards of line made of silk and hair combined, or a grass line is sometimes used. The leader should be four or five Salmon fishing - how to fish for salmon

feet long, made of twisted gut, and with a swivel sinker, or a swivel alone in fly fishing. The rod should be fifteen to eighteen feet long, and elastic at the end. The proper hook for worm and live bait is te Kirby and Limerick pattern. Nos. 0 to 4; and Nos. 0 to 3 in fly fishing. Fishing with artificial flies is often very successful, the flies being made of gray and gaudy feathers.

How to troll for fish

One of the branches of angling which is generally practiced at mid-water or thereabouts, and includes spinning with a live, a dead, or an artificial bait, with a small fish generally, or its representative. When neither fly fishing nor bottom fishing can be practiced, in consequence of certain forbidding circumstances of water and season, trolling can be resorted to as an excellent substitute. The fish most commonly taken by any sort of trolling in our rivers are pike, perch and trout. Trolling is divided into there parts, viz: sinking and roving, trolling with gauge and snap-hooks and spinning. Sinking and roving is practiced with a live bait; a minnow or a loach for the common trout or perch; bleak, gudgeon, dace or roach for pike or large trout. The best general bait for all sorts of trolling is the gudgeon. The rod used should be a long bottom one, with a good winch, and prepared plaited silk trolling line. For footline, about a yard and a half of the best gut. The link to which the hook is tied, should be of fine gimp, if pike are sought fore; but gut, or three-twisted hairs, will do for trout and perch. The baits must be strong and lively, and placed on the hooks with as little injury to them as possible. Allow the bait to swim, here and there, generally at mid-water, but in deep places, deeper, drawing it up gently to the surface now and then, letting it sink again and guiding it to the best looking spots of the locality. Snap-baits are mostly used at seasons when pike do not feed with sufficient voracity to pouch their baits promptly. Their merit lies in allowing the troller to strike quickly, before the fastidious fish suspecting something wrong, has time to eject the bait from his mouth. The rod used must be short and stiff: that known as the punt barbel rod being the best. Snap-baits are two-fold - one, which does not spring when you stroke the fish, and the other which does.

How to troll for fish

The first-named consists of three hooks - two large ones, tied back to back, with their barbs pointing different ways and one smaller hook tied on at the top of the shanks of the others, and pointing straight out from them. The spring-snap is generally used with dead bait; it requires deep insertion in the bait to allow the spring to act, which it will not do without some considerable resistance. Spinning is a dashing, killing method of angling, and the practice of it requires considerable muscular exertion. The best spinning rod is made of a single piece of East India mottled cane, fourteen or sixteen feet long, well ringed, with a screw winch, requiring no winch fittings. With a rod of this description, salmon and large trout can be trolled for in the deepest and widest waters. In narrow streams, the angler can spin with a very small portion of line out and almost avoid casting, the length of the rod allowing the bait to be dropped noiselessly wherever it is wished, and to spin it accordingly. The baits used in spinning should be of the most brilliant colors; the brightest minnows, gudgeons, you can procure. The hooks used in spinning should be of the bright steel color of the wire, no changed to the ordinary blue line of hooks; and they should be whipped on with light-colored silk, waxed with white wax. Artificial spinning baits are sold at the various tackle stores. They all kill fish more or less successfully; but the majority of them are inferior to the natural bait. A small sail boat, or skiff is used, with an attendant to manage the boat as you direct. You can sue the live bait, or an artificial bait, as most convenient. Some sportsmen are very fortunate with the artificial bait. A stiff rod and reel, with the same tackle as before described, and no sinker - is all that is requisite. The boat should move gently, and let your line drag far in the rear. With artificial bait the fish is hooked almost instantly. If you use live bait, be exceedingly careful in determining when the fish has gorged it. You should give him several minutes after he has seized it, for this purpose. On seeing the bait, the pickerel will generally run off with it, and will then stop to gorge it, but does not always do so. The sign that he has swallowed it, is a peculiar slackening of the line, which experienced anglers can easily understand. But if he has gorged the bait, he will soon start off a second time, and sometimes will stop and start off the third time. In these cases, you should never be in a hurry. When you are convinced that he has taken down the bait, draw a tight line, and strike for your fish. If he is large, you should play with him until he is quite exhausted, or

How to troll for fish

you may lose him in the attempt to land. The difficulty of taking a pickerel from the hook may be obviated in a measure by gagging. For this purpose some anglers provide themselves with prepared sticks of various lengths. If the hook is completely swallowed, as is frequently the case, open the stomach in the middle, cut away the hook, and unslipping the knot that holds the gimp, draw it out that way rather than through the mouth.

Salt water fishing tips

Although less art and skill are necessary for sea fishing, the sport is increased by the exhilaration of a pleasant sail or row upon the briny deep.

The first requisite of salt-water fishing is a good boat, which may be anything, from a row boat up to a yacht of a hundred tons, as the taste ro the means of the sportsmen may dictate. For in-shore or harbor fishing, a sail-boat of fifteen feet in length, with a cuddy forward for shelter in case of rain, is the most convenient craft. It should be as light as possible, yet strong enough to resist the action of heavy waves, or an occasional bump on the beach or the rocks.

If you are going "down below" for a day, you want a cod-line for each member of the party, also a perch-line, and, if in the season for mackerel, a mackerel jig.

The best time for starting is on the ebb tide, which should be at an early hour in the morning to render the trip most favorable. You will then have the tide in your favor, if the wind should be light or not fair, with the same advantage to aid you in getting home. You will first run out into deep water, to some approved fishing-ground, whose locality you must learn from those acquainted with the coast. The water will be from ten to thirty fathoms in depth. Here you will anchor if you can - if not, lie too.

Salt water fishing tips

How to fish for mackerel

If you are so fortunate as to fall in with a school of mackerel, you will abandon all thought of cod, haddock and perch, for no sane fisherman ever catches anything else when these "beauties" are to be had. If you strike the school, occasionally heave over refuse fish or clams, cut up fine, to keep them near your boat. Bait your jig with a bit of salt pork, and sink it only two or three feet. They bite quick and sharp. Haul them in, swing them over the fish-tub with a jerk, and the mackerel drop from the line without any further assistance. You will catch them just as fast as you can pull them in, or you will not catch them at all.

Blue fish fishing: How to catch blue fish

These fish abound in all the waters of Massachusetts, Rhode Island and Connecticut and the catching of them is an exciting sport. The tackle consists of a large hook, attached to an ivory or white bone imitation of a small fish. In the absence of this gear, a common cod-line, with a piece of red flannel wound round the cord close to the heel of the hook, so as to form a cylinder about half an inch in diameter, will answer a very good purpose.

For blue fishing you need a quick working boat, and at least a five knot breeze, for the fish are taken by trolling. Throw your line overboard, and make fast at the stern of the boat, while under full headway. The hook will drag near or on the surface of the water, and the blue fish will snap at the bait, taking it on the wing, as it were. When he gets on, pull in, and be sure you keep a taut line all the time, or the fish will escape. If you succeed in getting him into the boat, hit him over the head with a club, for he has teeth, and has been known to bite when he could not help it. He is very active and will be troublesome if not silenced as directed. Take the wind abeam, with tacks of two or three miles, makes the pleasantest sailing

How to fish for eel

The eel is found in rivers, reservoirs, ponds, canals, etc., being very fond of still water with a muddy bottom. Those that have chosen for their habitation rivers having uninterrupted communication with the sea - unlike the salmon - are supposed to migrate to the sea, deposit their spawn, and the young to enter the rivers and pursue their upward way in large swarms, until they find fresh water wherein to take up their future habitation.

The eel may be taken by the angler at the bottom with worms, loach gudgeon, bleak, minnows, a small lamprey, the entrails of fish, flesh, or fowl, or, indeed, with almost anything; but it is generally caught by nightlines, to which several hooks are attached, and which are cast into the water by a brick, stone, or other weight being attached thereto, and the other end pegged into the bank, or tied to a branch of a tree, or to a bunch of weeds on the water side. Sniggling is a plan successfully adopted for catching eels in the daytime, when they creep into holes in the bank or woodwork, or under stones, or logs of wood. It is practiced by baiting a small hook or stout needle bound to the line for half of its length only with a worm, and presenting it at the entrance of the hole, or at the edge of the stone or log by the aid of a bent rod; the eel takes the bait, and the angler holds the line taut until his prey, gradually relaxing its adhesion to the shelter, is drawn out. Bobbing also is practiced by first string - a quantity of large lob worms upon worsted, attaching them to a bell-shaped piece of lead, sufficiently large to readily sink them; the lead and worms are secured to a pole of sufficient length, say twelve or fourteen feet long, by a piece of stout cord. The eel may be felt to bite, when it is to be gently but quickly lifted, either out of the

How to fish for eel

water, or to be suffered to drop into a basket, floating ready for its reception; their teeth become entangled in the worsted, from which they cannot disengage themselves, if the angler is an adept at the process. Eels are caught in rivers in baskets or pots, to which access is easy, but retreat difficult, wherein have been placed some small fish or some flowers of the elder tree, and in bucks, which are large baskets made on the same principle, fitted to a framework, and at suitable periods and convenient states of the water, lowered therein, when the eels run into them on their downward passage to the sea, or when seeking a new locality. Eels are also taken by spearing them whilst they are lying singly on the bottom, or in clusters imbedded in the mud. The instrument used, called an eel-spear, is of six or eight prongs of flattened iron, the edges of each prong benotched, and fastened to a long pole. It is then violently plunged into the mud and quickly withdrawn; the eels are retained between the prongs by their serrated edges.

How to fish for catfish

This is a fresh water bottom fish found in streams and ponds all over the United States. It is an easy matter to catch catfish. You have only to procure tackle strong enough to draw them out of the water, using a hook according to the expected size of your game. A single or double gut leader is necessary, according to the strength required. Minnows, pieces of fish, shad roe, worms, toasted cheese, insects, pieces of meat or liver, chickens offal - any of these baits will attract the catfish. You can fish with hand lines, or with a rod, as you may prefer. The proper hook is the Limerick salmon from No. 1 to 5, according to the size of your fish. They do not bite very vigorously, but perform a series of fine nibbles, similar to the bite of an eel. They are plentiful always in mud bottoms, above mill-dams, and in coves of the river. The large ones are often taken by trolling with artificial squid or fly. The time for fishing catfish begins in April and lasts until cold weather.

How to fish for the sucker fish

There are a great many different species of the sucker, and some of them will not bite or nibble at any bait whatever. The kind that does not bite is sometimes taken with wire slip-noose, but as that is not legitimate sport, we do not deem it necessary to particularize the manner. The regular trout tackle and hooks are used in fishing the sucker everywhere, and worms are the proper bait, though he will bite at shad roe in the spring season. They suck in the bait, and thus nibble at the hook. They are not very lively when pulled up and unless cooked immediately, their flesh grows soft.

How to trap quail

A quail trap may be any kind of coop, supported by a figure 4. The spindle of the figure must either be so made as to hold grain, or, what is better, some grains of wheat or buckwheat are strung over a strong thread with the aid of a needle, and tied to the spindle. Quails and prairie hens easily enter a trap when the ground is covered with snow. At other times it is rather difficult to catch them.

How to trap wild turkey

A wild turkey trap is made by first digging a ditch; then over one end is built a rude structure of logs, covered at the top. The structure should not be tight, but, of course, sufficiently close not to let the birds through. Indian corn is scattered about and in the ditch, and inside of the pen. The turkeys follow up corn in the ditch, and emerge from it on the inside. Once there, the silly birds never think of descending into the ditch, but walk round and round the pen, looking through the chinks of the logs for escape that way. To make all sure, the ditch should end about the center of the pen, and a bridge of sticks, grass and earth should be built over the ditch, just inside of the pen, and close to the logs; otherwise, in going around the bird might step inside the ditch, and once there it would follow the light and thereby reach the outside of the pen.

How to breed mink

Adult minks are almost untamable, but young ones readily submit to handling and are easily domesticated. The time to secure young minks is in May and June, when they begin to run with their dams. The streams must be quietly watched for mink trails, and then tracked to the nest. When they leave the hole the old one may be shot, and the young ones secured, or they may be dug out. Those who own a breeding stock of minks ask high prices for them; but trappers represent to us that it is an easy matter to get the wild young ones. Habits - A successful breeder says that he does not attempt to tame a wild mink, but only aims to supply for it in a small space all the necessities of its national instincts. He says the mating season commences about the first of March, and lasts two weeks, never varying much from that date.

The female carries her young about six weeks. IN the minkery, where diet, water, temperature, etc. are similar with each animal, there is so little difference in the time of mating and time of bearing young in different animals, that five out of six litters dropped last spring, were born within twelve hours of each other. The young are blind from four to five weeks, but are very active and playful as kittens. The mother weans them at from eight to ten weeks old. At four weeks the mother begins to feed them meat; this they learn to suck before they have teeth to eat it.

The nests in which the young are born are lined by the mother with some soft material, and are made in the hollow of some old stump, or between the projecting roots of some old tree and always where it is perfectly dry. The nest is located near pure running water, which the mother visits twice every twenty-four hours. She feeds her young on frogs, fish, birds, mice, crabs, How to breed mink

etc., etc. The mink is from birth a pattern of neatness and cleanliness, and as soon as a nest begins to get foul and offensive, she takes one of the young in her mouth and depositing it in a clean suitable place, builds a nest about it, and then brings the balance of the litter. She feeds and cares for them until they are three and a half or four months old. When the young are weaned, about the 10th of July, she builds her nest near the water, in which the young soon learn to play. There are usually four in a litter, though the number ranges from two six. Towards fall the mother separates them into pairs. One pair - or if the number be odd, the odd ones - is left in the nest; the other pair of pairs, she places often half a mile from each other, and then seeks new quarters for herself.

The young soon separate, and each one catches his own frogs, etc. They do not pair, but the male is a sort of rover and freelover. Minks are unsociable, petulant, vicious in play, savage in war. Late in the fall they establish regular runaways from one stream to another, and usually under brush, fallen trees, weeds, swale, and under banks - anywhere, in fact, where they can avoid the sunshine and escape the chances of observation. The mink is a sure prophet and just before hard winter begins, he lays by a store of food for the winter in safe places near his winter nests, of which he has several. As the snows fall he burrows under the snow, where he remains until about February, when his supply of food is exhausted and he is forced to seek further for food.

The Mink

Mink being by nature solitary, wandering creatures, being seldom seen in company except during the breeding season, are, therefore, impossible to be reared successfully, if large numbers are kept constantly together, therefore their enclosure should be a large one. The male and female should be permitted to be together frequently from the middle of February until the middle of March. At all other times keep them entirely separate. The young mink make their appearance about the first of May. When wild in the woods they will seldom vary five days from this time; but when kept in confinement there is greater variation. About this season they should have plenty of fine hay, which they will carry into their boxes to make nests. A box three or four feet long and 18 inches wide is the shape they prefer.

The young mink when first born are small and delicate, destitute of any kind of fur, and much resembling young rats. If the old mink is tame, the young ones may be taken out of the nest and handled when they are three weeks old. They will soon learn to drink milk, and may be fed every day. At five weeks old they may be taken from the mother and put into a pen by themselves, when they will soon become very playful and pretty, and make much better mothers than they would if allowed to run with the old ones.

Fishing rod facts

Fishing rods are now usually made from the bamboo, the Calcutta reed, or of ash wood, as it is necessary they should be made light, tough, and pliable. The butts are frequently made of maple, with bored bottom; and this butt will outlast several tops. Rods for travelers are made in joints, so as to be easily transported. Some of them are made to be used as a walking cane until needed for sport. A perfect rod should gradually taper from end to end, be tight in all its joints, and be equally and uniformly pliable, not bending in one place more than another. The different lengths of rods required in fishing are mentioned in describing the tackle used in catching different fish. It is therefore only necessary to say that they vary from 12 to 20 feet in length.

Fishing reel facts

Some sportsmen do not consider reels necessary but this is because they have either never used them, or never had a good article. American made reels are now considered the best in the market, particularly for taking large fish. The smaller English reel will do very well for trout fishing. There are two kinds: the plain reel, and the multiplying reel. Some prefer the former; but the multiplying reel saves a good deal of time, and is easily worked when you get accustomed to it. Reels are made of brass, and of German silver. Either article is as good as the other.

Fishing facts: Lines

Lines are made of India grass, of silk alone, silk and hair, of hemp, of flax, and of cotton. Gut lines are also made, but are not easily managed. The best trout lines are made of India grass, though silk, or silk and hair are frequently used in trout fishing. Trout lines are usually from eight to eighteen yards long, and of various degrees of fineness according to the size of the fish angled for, or clearness of the stream. Salmon, bass, and pickerel lines are made from hemp, flax, silk, grass or hair, and vary in length from 30 to 150 yards. Cotton and hemp lines are made for trolling purposes, and for fishing seafish generally. The length of these will vary according to the condition or depth of your fishing grounds. The size of all lines should vary according to the state of the streams or size of your fish. Clear streams require as small lines as will answer the purpose. If you have a good multiplying reel, the line should be as long as the reel will carry.

Tools for fishing: Hooks

The old Kirby hook is now generally superseded by the Limerick, which is considered the best fish hook made. We subjoin the different sizes and numbers, which will be hereafter referred to in these pages. In cases where we have recommended the Kirby, you will find the size of that hook to correspond exactly with the numbers of the Limerick. The trout hook is used for the small fry, while the salmon hook is attached to the tackle for catching that fish, and also other large lake and river fish, etc.

Besides the regular Limerick and Kirby hooks, whose sizes and numbers correspond with the foregoing plates, we have given on the cover of this work a plate of "blackfish hooks," of different patterns and sizes for bottom fishing - also pickerel hooks, the snapspring hook, etc., with numbers and explanations. You should examine the point and barb of each hook to see that it is perfect, and file it if it is not. Always have a small file with you.

Tools for fishing: Sinkers and swivels

The ordinary plain sinker is made of lead, shaped round like a pipe-stem, and swelling out in the middle. There are loops of brass wire on either end to attach the line. The weight is from a quarter of an ounce for trout fishing up to a couple of pounds or more for sea bass and porgies. The swivel winker is similar to the plain one, except that instead of loops, there are swivels on each end to attach the line. This is a decided improvement, as it prevents the line from twisting and tangling. In trolling, swivel sinkers are indispensable. The slide sinker, for bottom fishing, is a leaden tube which allows the line to slip through it, when the fish bites. This is an excellent arrangement, inasmuch as you feel the smallest bite, whereas in the other case the fish must first move the sinker before you feel him. Split shot are sometimes put on trout lines in place of a sinker. Independent swivels are useful in some kinds of fishing to prevent the entanglement of your line.

How to use fishing bait

The common angle worm is a universal bait for fresh water angling. They grow almost everywhere except in sandy soils. The common white grub is also used successfully in trout fishing. They are found in fresh ploughed earth, and under old stumps, decaying foliage, etc. The grasshopper is also good for trout in his season. The trout or salmon spawn will attract trout quicker than any other possible bait, but it is not always to be had. Caterpillars, flies, locusts, beetles, etc. are good for trout.

Live bait consists of the minnow, the shiner, (or mullet) the goldfish and other small fish. Ponds of these fish are kept by those who furnish baits, and by some habitual sportsmen.

The frog is an excellent bait for pickerel. They are sometimes used whole, but in cases where you use the hind legs only, they should be skinned.

For saltwater fishing, the shrimp is the leading bait. The shedder crab, in its season, is most excellent, particularly for striped bass. The softshell clam, cut in small pieces, is a good bait for many kinds of sea fish. The horse mackerel, or small blue fish is an excellent bait. Where the tide runs swift, use the tail, leaving on the fine.

Preparing Baits - We have before said that salmon roe was ane excellent bait for trout. The roe of large trout or salmon trout is just as good. These are tempting baits for many other fresh water fish besides the trout. Old fishermen preserve it as follows: First put it in warm water, not hot enough to scald much - then separate the membranous films - rinse it will in cold water and hang it up to dry. The next day salt it with two ounces of salt and a quarter of an ounce of saltpeter to the pound of roe. Let it stand another day and then spread it to dry. How to use fishing bait

When it becomes stiff put it in small pots, pouring over each some melted mutton tallow. You can then use a pot of preparation as you may want it for bait. It is excellent for trout, and indeed for almost any fry in fresh water.

Angle-worms are thus prepared: Take a lot of common moss and wash it in clean water, press it until nearly dry, then put it in an earthen pot with your worms. In a few days the worms will look exceedingly bright and be tough and active. If you wish to preserve them longer, you have only to take out the moss, wash it, sponge it, and return it to the pot. Repeat this process every three or four days and your worms will be in excellent condition as long as you desire to keep them.

How to fish for sunfish

This is a small yellow and brownfish, with colors similar to the yellow perch, but without the shades - fins tinged with scarlet. Its shape is broad and flat like a pumpkin seed, and in some places the fish is known by that name. They are usually from three to eight inches long - though in some streams in the Western States a kind are found which exceed a foot in length. They are caught with the angleworm, in the same manner as the perch. They bite very rapidly, and hence ladies on picnic parties are particularly fond of fishing sun-fish.

How to fish for bass

This excellent fish is found all along the Atlantic coast, from Florida to Maine. It inhabits the rivers, bays, inlets and creeks; and is taken in great abundance, particularly in the Chesapeake Bay and its tributaries. There, it frequently grows to the length of three, four and even five feet and weighing in some instances, full one hundred pounds! The striped bass will run up some rivers a hundred miles or more, and in Maine they are found quite plentiful in the Penobscot. In the Connecticut, too, some very fine ones are taken. In winter they still keep their haunts, and do not go into deep water like other fish of similar habits. The word (bass) is said to be a Dutch name, signifying perch; but it little resembles the fish we know by that name. The bass is one of the most beautiful fish in point of color and perfect symmetry that swims, and next to the salmon is the most delicious for the table.

In the spring of the year the striped bass runs up the rivers and into other fresh water places to spawn - and then again late in the fall to shelter. The fall run is the best. It can be taken, however, nearly all the year round, and of all sizes.

The apparatus for bass fishing is a pliable rod from 12 to 18 feet in length, according to circumstances. The reel should have 200 to 300 feet of line, which may be made of flax or grass. Silk line is sometimes used. The swivel sinker and float should be gaged according to your ground. The leader should be three or four feet in length, with a Limerick or Kirby hook from 0 to 3, according to the size of the fish to be taken. Double leaders are often necessary. Use your own judgment in this respect. In boat fishing, the float is not usually used, and the sinker should be light enough to float off with the tide, but at the same time to touch bottom at all times. By this mode you How to fish for bass

will get large fish, as the large ones are generally nearest the bottom.

The best place for fishing bass is the quietest place you can find, and at full neap tide. When this tide occurs early in the morning, or late in the afternoon, and if the wind is off shore and a gentle ripple on the water you may take bass very easily, and in abundance. In rivers, get in the exact channel, or over some deep cove, near an outlet of a brook, or some small stream.

In the waters near New York City, the striped bass begins to bite well early in April. At this season shrimp is the best bait, especially in salt water. In fresh water they will bite shad roe at this season. In June you must begin t use soft shell crab though they will usually bite at shrimp until about the first of August. The mode of fishing with crabs differs a little from the other, inasmuch as the bait should now lie on the bottom, whereas in the case of shrimps it is suspended near the bottom. A sliding sinker is now used, and the float dispensed with altogether. About the first of October you again resort to shrimps, as the shell of the crab now begins to harden. The Killey fish is also used now, in salt water, which is, in fact, preferable to the shrimp for large fish. In fresh water you should use the white opened soft clam. But the bass is very whimsical and dainty. In some places he will jump greedily at a clam bait, while at others he will take nothing but shrimp or crab. There is a beautiful little fish called the spearing which is fished with at certain places in salt water, with great success. In the Hudson river, the largest and finest bass are taken with set lines, as follows: Two stakes are driven in the bottom of the river at a certain distance apart, and a strong cord is stretched across. To this cord is attached short lines at convenient distances, with strong hooks, baited with tom-cod or other small fish. In this way the very largest bass are taken in great abundance.

Trolling for bass is excellent sport, and is practiced a good deal by amateurs. The tackle employed is a strong hand line, and artificial bait is used with good success. This consists of silver plated "spoons, or bits of mother pearl worked into a proper shape and other ingenious contrivances to be had at the fishingtackle stores. Squid are also an excellent bait for trolling. To fasten the squid to your hook, you should use a needle and waxed linen thread. Take off the skin of the squid, and pull out How to fish for bass

the spine - then insert the needle through the opening made by the spine, and in this way fasten your hook so the point will pass through near his eye - commence sewing him onto the hook from his tail, and stitch up to his neck. This is so troublesome a process that few sportsmen use it; but very large fish are taken in this manner.

How to fish for black bass

There are two distinct species of the black bass, which are so near alike that it is hard to distinguish one from the other, unless they are together. The observable difference then is, that the Oswego bass has a more forked tail, is thicker at the shoulder, has coarser scales and larger mouth. This latter fish is found in great abundance in Lake Ontario and particularly at the mouth of Oswego river, which gives him his name. He also frequents other streams which flow into Ontario. The black bass is abundant in Lake Erie, and a few of them have found their way into Ontario, probably by way of the canal, as it is not supposed that any one could survive the fearful descent of Niagara Falls. These two fish are alike in their habits and peculiarities. A third species of black bass in Lake Huron, grow larger than the Oswego species, which seldom exceed fifteen or sixteen inches in length, but is chubby-shaped, being five inches broad, and two or more in thickness. The black color of this fish extends the whole length of the back and sides, growing lighter as it comes towards the belly, and in some cases of a yellowish and sometimes of a greenish hue. It generally feeds on small fish, which it takes in head-foremost, and it is this habit that enables the angler to hook them easily. It will bite, at certain seasons, at lobster, and muscles; and a peculiar artificial fly is also used, at times, with success.

This fish begins to bite at Tonnawanda in the latter part of May, and at Oswego early in June, and at about the same time in the more western lakes. They continue to afford good sport for a couple of months, the time for fishing them being early in the morning and after four in the afternoon. In August they are spawning, and will not usually bite at all, and if caught are poor affairs. In September and October they may be taken again, and some fine ones are caught in the latter month. How to fish for black bass

The tackle used for fishing black bass is similar to that described for striped bass, viz: a stout pliable rod, with reel, and some two hundred feet or more of flax or grass line, with a gut leader four or five feet in length, and a Limerick or Kirby hook. For bait, live minnows are the best for large fish. Fix your hook through the eyes of the minnow with extreme care not to touch the brain, and he will swim almost as lively as ever. In some parts of Michigan small sun fish are used as follows. After running the hook through the end of the nose of the small fish, conceal its point with an angle worm. On being thrown into the water, other sunfish will throng round the captive, being attracted by the worm. The bass darts suddenly among them, and while those that are free escape to shallow water, the bait is seized by the head, and the bass is thus easily hooked. After hooking your bass, it is not always that you catch him. Indeed he is the most uneasy fish imaginable to be hauled out of the water; and his vigorous and pertinacious struggles for liberty make the sport of fishing him excellent. After being hooked, the bass will often rise to the surface and leap into the air, shaking himself violently to dislodge the hook. At other times he will turn suddenly towards the angler, slacking the line, and in this way detaching himself from the hook by floundering about. It is, therefore, necessary to be careful to keep your line taut by means of the reel; and with proper care and expertness in this respect you will land your fish. A large artificial fly of gay appearance, is also an excellent bait, and next to the live minnow. You can usually get the fly at a fishing tackle store, or if you make it yourself, the body should be of peacock feather, and scarlet wings tipped with white pigeon feathers. The scarlet is what attracts the fish, and be sure to put that on your fly. Small frogs and crawfish are sometimes used for bait; and in May, in the rivers, they will bite angle worms. The bait, in all cases, should be kept in motion, as in that way it attracts the attention of the bass, and he darts at it very suddenly.

Trolling for black bass is excellent sport, and six pounders are sometimes caught in this way. You may use the spoon with good success, or a few white feathers with scarlet cloth fixed up to imitate a gray insect will answer. In Lake George, trolling is the favorite sport, and the bass caught are usually from one to four and a half pounds weight. How to fish for black bass

In Niagara river, near its confluence with Lake Erie, both black bass and perch are taken in the summer season in untold thousands with the hook and line, both by professional fisherman and amateurs. Trolling is the favorite scientific way of catching them. You take a light, clinker built boat of some twelve or fifteen feet long, at Buffalo or Black River, enter the river a mile below, go down the current three miles to opposite the head of Grand Island, then bait and throw out your hooks, slowly drift down the river near the island shore, and by the time you reach Falconwood, if it is a good day and you are an expert angler, you draw up half a dozen to twenty beautiful bottle green victims, giving you all the play to land them securely in your boat that the most ardent Waltonian would desire. They are from two or four pounds in weight, fat as a clam, and delicious as the shad, or the tautog. This is the very poetry of bass fishing.

How to fish for spotted bass

This is a southern fish being caught in nearly all the inlets of the Atlantic below Baltimore, and in those of the Northern shores of the Gulf of Mexico. At these latter points he is called the redfish, because, in death, he changes to variegated reddish colors. His color, in life, is light silvery, and near the tail is usually one dark spot, which looks unnatural, and as though it came there by accident. Some of them have three or four of these dark spots in a cluster. When taken as far North as Charleston, he is called the spotted bass, a name derived from these spots on the tail. In North and South Carolina, he begins to bite in March, and is then fished for all through the rest of the year, and sometimes in January. In the Gulf of Mexico you can get redfish the year round. He runs in shallow water, and at the extreme South is taken with a small sized codhook and shrimp bait, or pieces of mullet will sometimes answer. With a rod and reel, you may follow the directions given for weakfish or striped bass, using No. 00 Limerick or Kirby hooks, and twisted gut leaders.

How to fish for trout

This is a fish of excellent flavor, and some people consider it fully equal to salmon. The flesh is reddish, and hence it is often called the salmon trout. The color is dark or dusky grey, back and sides sprinkled with spots somewhat lighter, belly light brown or cream color - the teeth, gums, and roof of the mouth having a bright purple tinge. It is a large fish, usually averaging from two to five feet in length, and inhabits all the great lakes in the West, as well as the smaller lakes in the Northern part of the State of New York. It is entirely different from the common lake trout, so abundant in some of the Western lakes.

Sportsmen always take the salmon trout by trolling, or by set lines. For the latter they use the largest sized cod hooks and cod lines, and for bait, bits of lake herring or white fish are all that is necessary. In trolling, both tackle and bait are different, the minnow being chiefly used for bait. If you use a rod it should be a stout one with a hollow butt, and an extra top, which could be replaced in case of breakage. The line should be of a length adapted to the ground - firmly made of cotton or strong flax - and your leader should be of twisted gut a yard or more in length. A No. 1 Limerick salmon hook is generally used, with live bait, and No. 3 or 4 hook in fly fishing. A light swivel sinker is necessary when the fish run in deep water. In trolling use swivels freely to keep your line from getting tangled. When you have a bite, slack the line a little to allow the fish to gorge his bait, then begin to pull steadily, after arranging everything in a proper manner to enable you to play your fish. A gaff is generally used for securing the fish after he is brought to the surface. In fly fishing the largest and most gaudy salmon flies are generally chosen, attached to No. 3 or No. 4 salmon hooks. Trolling for salmon trout is most excellent sport, and amateurs sometimes spend a whole month at a time

How to fish for trout

in the wilds of Northern New York in pursuing it.

There is a new method for fishing the salmon trout, by using what is called a train of hooks, being a row of hooks fastened on a large round piece of gut, about an inch apart. Three or four hooks are generally used, though some sportsmen use six to seven. They should be hooked in different parts of bait, one in the mouth, one in the tail, and others in tough parts of the shiner. The size of the hooks used are No. 5 Limerick salmon, or No. 1 trout. The mouth hook is on a loop, so it can be moved and adapted to any length of bait. The tail hook is fastened on the end of the gut. To ensure success you should have an experienced hand to row your boat in trolling for this fish. The necessary tackle can generally be procured at the tackle stores, as it is a favorite and delightful amusement for amateurs.

How to fish for black trout

This is a fish rather coarse in flesh; but in outward appearance it resembles the black bass of the Northern lakes. His back is very dark, and the sides gradually grow lighter around to his belly, which is white. He has a large head and mouth, with projecting under jaw. He is found only in Southern waters, and may be taken in most of the streams in the Southern states. One peculiarity of this fish, entirely different from the black bass, is that they meditate, at times, near the surface of the water, getting near logs or lilly pads, so they can dive out of the way at the least alarm. In this position they are baited with success with a small fish called the horny head. The ordinary tackle used for the black trout is similar to bass tackle, viz: a pliable rod eight or ten feet long, with a silk, grass or flax line, and reel - Kirby hook No. 2, or Limerick No. 1, attached to strong gut leaders. For bait, the minnow, and the Killey fish, or the roach is better when you can get it. He will not bite at all unless the water is clear. Artificial bait is often used in taking the black trout, as follows - a fancy fly made in red and white colors, either feathers or flannel, and fixed on a Limerick salmon hook No. 3 or 4. This should be attached to a long line; and with a light reed pole, the sportsman should whip it along on the water, when the fish will dart at it and get hooked. The time for fishing the black trout is from April until June, and from September down to winter weather. They spawn in July and August, and do not bite at all in those months.

How to fish for black trout

How to fish for catfish

This is a fresh water bottom fish found in streams and ponds all over the United States. There are several kinds of them, which vary in size from a couple of inches in length up to those monsters of the same species which inhabit the mud banks of the Mississippi river, and the great Western lakes. The common catfish is of a dusky color on the back, which gradually lightens towards the belly, the belly itself being of a light greyish hue. The sides of the head or greenish, and some species of them have small prickly horns. They are taken in great abundance, and their size varies with the size of the stream, or the richness of their feeding ground. In good situations in large rivers they weigh from one to four pounds. In the Mississippi, the lakes of Northern New York, they grow to twenty, thirty, fifty and even one hundred pounds. It is an easy matter to catch catfish. You have only to procure tackle strong enough to draw them out of the water, using a hook according to the expected size of your game. A single or double gut leader is necessary, according to the strength required. Minnows, pieces of fish, shad roe, worms, toasted cheese, insects, pieces of meat or liver, chickens offal - any of these baits will attract the catfish. You can fish with hand lines, or with a rod, as you may prefer. The proper hook is the Limerick salmon from No. 1 to 5, according to the size of your fish. They do not bite very vigorously, but performs a series of fine nibbles, similar to the bite of an eel. The catfish is an excellent pan fish when properly cooked. In St. Louis the large ones are sold in market like our large seafish, being cut up in steaks of the size desired by the purchaser. They are plentiful always in mud bottoms, above mill dams, and in coves of the river. The large ones are often taken by trolling with artificial squid or fly. The time for fishing catfish begins in April, and lasts until cold weather.

How to fish for hake

This is an Irish salt water fish, similar in appearance to the tom cod. In Galway bay, and other sea inlets of Ireland, the hake is exceedingly abundant, and is taken in great numbers. It is also found in England and France. Since the Irish immigration to America, the hake has followed in the wake of their masters, as it is now found in New York bay, in the waters around Boston, and off Cape Cod. Here it is called the stock fish, and the Bostonians call them poor Johns. (Poor Pats would be more appropriate.) It is a singular fact that until within a few years this fish was never seen in America. It does not grow so large here as in Europe, though here they are from ten to eighteen inches in length. They are fished for by day or by night, and bite the most readily when the tide is running strong, either out or in. The tackle used is similar to that described for black fish, the hook being No. 4 Limerick salmon. Shrimp, clams or crabs either of them is good bait. The general color of this fish is a reddish brown, with some golden tints - the sides being of a pink silvery luster. It is exceedingly voracious, and affords considerable sport in fishing, though our sportsmen seldom go in pursuit of it.

How to fish for the sea bass

These salt water fish are caught in immense quantities in the vicinity of New York bay on what are called the Fishing Banks. In the summer months, which is the time for fishing them, steamboats are daily leaving New York to accommodate fishing parties. The tackle used is a hand line of flax or hemp twelve to eighteen fathoms long, with several hooks attached, ten to fifteen inches apart. The hooks for the porgy should be the black fish hook No. 3, and for sea bass, the Kirby pattern, No. 1. Provide yourself with a goodly number of hooks, as you are apt to lose them in various ways. You should have a lead sinker weighing three quarters of a pound or more. Clam bait is the only kind necessary, and if you salt it a little it will be tougher and stick better to the hook. You should watch your lines cautiously, and jerk them strongly at each bite to hook your fish, or you may lose your bait. The fish thus taken average from one to four and a half pounds, and it frequently happens that two or three are drawn out of the water together. You will thus see the necessity of having very strong tools, and also of wearing an old pair of leather gloves to preserve your hands from blistering while drawing up your fish.

How to fish for the white bass

This is a very fine fish, somewhat resembling the white perch, though larger. It is found in the lakes of Northern New York, and also in some of the more Western lakes. Its back is dark, with white sides and belly, and with narrow darkish stripes running lengthwise on the sides. The size of this fish is from 10 to 15 inches, and it usually weighs from one to four pounds, though larger ones are sometimes taken. The striped bass tackle is used in fishing it, but it is a very skittish fish, and to catch it requires a good deal of tact and caution. If you succeed in finding a good ground, however, you may have excellent luck, as this fish moves in schools, and when not frightened, will bite readily at the live minnow. The season for fishing them is in May and June, and in the fall months after the middle of September. They are exceedingly lively on the hook and afford a good deal of sport.

How to fish for white or silver perch

This fish is very plentiful in the Harlem river, New York City, and is also taken in some of the Long Island ponds, as well as in the Hudson river, in the Schuylkill, and in many of the streams of Connecticut. It probably frequents other soft water streams and lakes, though we are not well enough acquainted with its haunts to give any definite information. It moves in schools, and when in the mood will dart at the bait in the liveliest manner, sometimes springing entirely out of the water when seeing it. The tackle to be used for this fish is about the same as that used for the yellow perch, and the bait is the small minnow, or the Killy, or shiner, though worms are sometimes used. The hooks should be Nos. 1 to 3 trout. They bite most readily early in the morning in shallow water near the shore, but are often taken at mid day on bars near to deep water. At sundown the white perch may be found on the sunny side of the stream, or lake, and will then bite with the same eagerness as in the morning. His bite is different from that of the ordinary yellow perch, as when he gets hold of the bait he drags the float under and keeps it there. When fishing from a boat, the best way is to drift along down the stream, throwing your hook in every nook and corner; and where you once get a bite, anchor your boat, and fish as long as you have luck. You may be quite as fortunate by rowing up the stream and trying the same process over again. This fish always prefer sunshine to shade.

How to fish for white or silver perch

How to fish for blackfish

This fish was called the tautog by the Indians. It is caught in the vicinity of Massachusetts and New York Bays, in Long Island Sound, and in nearly all the inlets of Rhode Island. Of late years, black fish have increased in numbers, notwithstanding the numbers caught to supply the Boston and New York markets. The upper end of Long Island is a famous place to catch them. Their feeding ground is generally on rocky bottoms, and reefs, though they are caught in other places. It is a singular fact that those found close in on rocky reefs are shorter or more chubby, and of a darker color, than those that sport in the running tide. The color is a deep bluish black on the back and sides, with light belly. The usual size of the black fish varies from one to three pounds, though larger ones have been caught. Eight and ten pounders are reported to have been taken in Rhode Island.

Black fish are usually caught with hand lines from a boat, though your true sportsman prefers his rod - a stiff one some twelve or fifteen feet long. A flax line of ten to thirty yards in length, with slide sinker, and triple gut snells, is all that you want. You can dispense with the gut if you wish, as the fish is not timid or wary, and a plain flax leader of ten to fifteen inches in length, will answer. You can catch them with almost any kind of a hook from No. 10 downwards. They frequent eddies made by the running tide, and there watch for shrimps or small crabs. By dropping your line back, and letting it run with the tide through an eddy, you are generally successful. As soon as the fish bites in earnest, pull up, starting your pull by a quick motion to fasten the hook in his mouth, which is tough and hard. The baits used are shrimp, soft crab, shedder lobster, soft clam, ordinary clam, etc. The crabs and lobsters are the How to fish for blackfish

best. If a thunder storm comes up while you are fishing for black fish, you may as well go home, as you will not be apt to catch any more that day. A school of porpoises will frighten them to that they will leave for the day. There is a good deal of sport in catching black fish, his bite is so earnest, and he is so readily taken. In hand line fishing, many sportsmen have a brass ring at the end of their line, and to it they fasten two or three leaders, of different lengths, sometimes catching two fish at a time by this means.

The black fish begins to bite early in April, and is then easily taken. As the hot weather comes on he is not very fierce for a bait, but yet he is taken all the season through, until the cold weather benumbs him, and he refuses to eat. He never runs into fresh water, but remains in his haunts the years through. It is an excellent table fish, whether stewed or fried, though it is very difficult to dress.

How to fish for shark

Shark fishing is a stupendous sport resorted to by persons who have a hankering after excitement. Parties who go on sharkfishing expeditions, engage a vessel for the purpose, together with experienced hands as assistants. The ship-chandler furnishes them with lines, while a blacksmith is engaged to make hooks, swivels, etc. of the sizes wanted. The line is a strong hemp cord made for the purpose, and hooks of various patterns are used. Almost any shaped hook will catch a shark, provided it is strong enough to hold him. When you get to your sharking ground, you launch your small boat, and tie your line to the stern. The hook should be fastened to it by a chain and swivel, and is baited with a good sized piece of beef or pork. You then row your boat along rapidly until you get a bite. Do not get too far from your vessel, as when you once get a bite, and hook the monster, you must bring him along side before you attempt to land him, or he may upset you in his wrath.

Catching the devil fish is a favorite amusement of the South Carolinians. These monsters frequent the sounds and inlets thereabout in schools, and are killed in various ways - by harpooning, shooting, etc. The sizes of the fish thus taken are from twenty to thirty feet long. After being struck with a harpoon, the devil fish will sometimes run many miles, towing a boat full of men after him. The sport of taking them is very exciting.



Following are more "How to fish" articles from A Boys Own Book of Outdoor Sport:

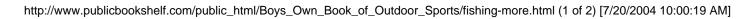
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How to tie a hook to a line

To Tie a Hook to a Gut or Line - Prepare, by waxing with shoemaker's wax, a piece of strong silk or thread; take your hook in your left hand between your thumb and forefinger, about as high up as the point of the barb or a little higher, as you may fancy; place the end of your silk under your thumb, take three or four random but firm turns around the shank of the hook until you reach the end (for the purpose of preventing the gut being cut by the hook, and moreover that your gut may stick firmly without the possibility of coming off;) now lay your gut or line (the inside of the hook, up) on to this winding, holding it with the end of the thumb, and commence whipping it around firmly and closely, occasionally pressing the turns to keep them even; continue this operation until you get within three or four turns of the finishing point; in order to fasten firmly - give three loose turns, then insert the end of your silk under them, and drawing it through, you have a secure fastening, called the hidden knot. Another method of finishing when you have arrived at the fastening point, is to make two or three half hitch knots; this is done by passing the end under one turn of the silk, making a loop, and drawing it down. The hidden knot is the better and most secure mode.

How to use the horizontal bar in gymnastics

Every one knows what a horizontal bar is, and its construction. One of the best of many modes of construction, particularly where the space is limited, is to have two strong upright posts firmly fixed in the ground, from fourteen to sixteen feet high, fitted with mortice holes to admit the horizontal bar. One of the posts should be fitted with notches to allow the gymnast to reach the top easily or to descend. The bar at first should be placed just out of reach of the hands of the gymnast, that a small spring is necessary to grasp it. Many of the feats on the horizontal bar here described may be performed on a swinging bar, as proficiency is attained. At first the bar should be firm, and the gymnast should grasp it with the hand, not with the thumb and fingers. The thumb should rest by the side of the fingers, which should assume a hook-like form.

Exercise 44. - The first exercise is to hang on to the pole, the body remaining loose and straight in a natural position. Gradually let the body hang by one hand until the arms are accustomed to the weight of the body. Be cool, and do not twist, or down you will come. When the arms are used to the weight of the body, attempt to walk along the pole, moving first one hand and then the other. The body must be kept as still as possible. You may vary this by placing one hand at each side of the bar. It will soon become easy.

Exercise 45. - Seize the bar with both hands and attempt to raise the body up to the bar until it is on a level with the breast. Lower yourself gradually, and continue the exercise until it is easy and familiar. A good gymnast can do this a dozen time successively without experiencing fatigue. When it can be done How to use the horizontal bar in gymnastics

easily the body may be raised to the full extent of the arm. This exerts the muscles powerfully, and requires a strong effort.

Exercise 46. - Now try the swing by the hands on the bar. It gives a peculiar sensation, but you soon become accustomed to it. When at the swing, accustom yourself to let go the bar and spring forward or backward on to the feet.

Exercise 47. - Raise the body as high as possible, throw the arms over the bar, holding firmly by them. This relieves the pressure on the wrists, and is a very useful exercise, particularly when the body is raised from the ground and is held up by one arm. To do this, however, the arm must be passed underneath the bar, which must be pressed firmly between the hand and shoulder. Each arm should be tried alternately.

Exercise 48. - After raising yourself to the full extent of the arms, change your hands and curl over the bar, dropping lightly on to the feet. The changing hands is to reverse the position of the finger points on the bar, and in this instance they must be turned towards the body.

Exercise 49. - Kicking the Bar - This feat is performed by hanging by the hands and drawing up the feet until the instep touches the pole. The head must be thrown well back, to counter-balance the legs and feet. Do this slowly, and beware of unnecessary jerks and strains when this can be easily accomplished.

Exercise 50. - May be tried. The legs are raised as in the kicking bar, but the feet are passed underneath the pole until the body hangs down with the arms twisted. The gymnast may drop on to the ground after this, or he may try to bring the body and legs back again. This will be found very difficult to all but the young and very supple. The strain on the twisted arm is very great.

Exercise 51. - A series of movements to sit on the bar are thus performed. When hanging on the bar, pass one foot between the hands as in kicking the bar. Hitch the leg over the bar, the other leg must hang as low as possible. Give a swing backwards and come up right on the bar. The other leg can be brought over so as to sit on the bar. The same attitude is often How to use the horizontal bar in gymnastics

assumed by passing both feet under the bar and stretching them straight into the air until the head points to the ground, and the heels to the air. Draw yourself upwards until the weight of the legs and feet bring you upon the bar seated. In both these movements the beginner generally overbalances himself. You may leave the bar when seated on it in two ways. One of which is to put the hands on the bar with the finger points forward, slide backwards, keeping the knees bent, roll over backwards, and come down on the feet. The second is the vaulting practice. Place both hands on one side, with the fingers away from the body, then with a slight spring bring the feet over the pole and vault to the ground.

Exercise 52. - Hitch one leg over the bar and hold on with the hands, one on each side of the bar. Now give a swing backwards until you can give yourself such an impetus as to come right round the bar into the same position. Try the same movement with different legs and with both hands on one side of the bar until you can do it a dozen times without stopping. The hands may be placed on each side of the bar, and the legs raised on each side and crossed above the bar. Now try and spin round the bar like a fowl on a spit; when you can do this easily try the reverse way, bring the legs backward over the bar and spring in the Indian Cradle position. This is very difficult.

Exercise 53. - Form the Letter I, as on the parallel bars, count fifty before you drop. Bring the feet through the arms, keeping the knees straight all the time. Place one hand on each side of the bar, form Letter L, then bring the legs upwards, and repeat the movement as before, but keep the arms inside the legs.

Exercise 54. - Sit on the bar, point the fingers to the front, grasp the bar firmly on each side, let your body slide forward until the bar crosses the small of the back, and the elbows project upwards. Draw yourself back again and resume the sitting position. Sit on the bar as before, then suddenly slide backwards and drop, catching yourself by your bent knees. Be careful to drop perpendicularly, and do not communicate any movement to the body. When this can be easily done, first one leg and then the other may be unhooked. The released leg may be thrown over the instep or hang loosely. When the beginner feels confidence he may hitch both insteps over the pole, forcing the toes upwards. Loosen the hands from the pole and let the body hang perpendicularly. Drop on to the ground on

How to use the horizontal bar in gymnastics

the hands and spring to the feet.

Exercise 55. - Two difficult movements are called the "trussed fowl," and the "true lover's knot." To perform the first, you hang on the bar, draw up the feet and place the insteps against the bar. Push the body through the arms and remain in that position as long as you can. The latter is a schoolboy's trick, and very difficult to do. Grasp the bar, pass the left knee through the right arm until the inside of the knee rests against the inside of the right elbow. Now pass the right knee over the instep of the left foot, let go the left hand, and with it grasp the right foot. You will now hang by the right hand in an attitude that professional tumblers can seldom assume.

How to use the wooden horse in gymnastics

Every one likes the exercises on the wooden horse. The apparatus is easily made. It only requires a piece of the trunk of a tree, barked and smoothed, firmly fixed on four posts, or legs, so that it cannot be easily pushed over. It should be the height of the gymnast's nose. A little nearer one end than the other, a rough, stout saddle should be placed, with the wooden pommels covered with common leather. The hind pommel should be rather higher than the other. On the offside of the horse, a sawdust bed, some four feet square, should be made, on which the gymnast may alight after he jumps. On the near side a spring board is desirable, but not essential a slight covering of sand on the near side is, however, absolutely necessary to avoid slips in taking the leaps.

Exercise 56. - Commence by standing on the near side of the horse with one hand on each pommel. Spring up, bring the arms straight, until the body is supported by the hands, and the knees rest against the body of the horse. Spring lightly down on the toes, and continue to practice this until it becomes easy and natural. Then jump a little higher, throw the right leg over the saddle, removing the hand, and you are mounted. Practice mounting both ways. To dismount, place the left hand on the fore pommel, and the right hand on the saddle. A slight raising of the body, and you can throw yourself off easily. Endeavor also to sustain the body by the hands and arms, whilst the feet are off the ground, by throwing yourself a little way form the horse, so as to prepare yourself against the restiveness of a real nag.

Exercise 57. - Now then for the knees. Place your hands on the

How to use the wooden horse in gymnastics

pommels, leap up and place the right knee on the saddle. Down again, and up with the left knee on the saddle, when you can do it well and quickly by both knees, but beware of going over. To avoid this by no means uncommon occurrence, practice leaping with both knees on to the saddle, and then lean forward, make a spring and clear the legs from the saddle, and come to the ground. Your motto in this, as in many other feats, should be "dare and do."

Exercise 58. - Mount and seat yourself behind the saddle. Place the left hand on the fore pommel and the right hand on the hurdle. Swing the body completely round, so as to seat yourself before the saddle. Change hands, and bring yourself into the position from which you started. You may vary this as follows: When mounted, place both hands on the front pommel. Swing yourself as high in the air as you can. Cross both legs whilst doing so, and twist the body so as to seat yourself again on the saddle, but looking in the opposite direction. Try the reverse action, and resume your original position. This is more astonishing than useful. Other feats are performed on the horse, - as vaulting, leaping on to the saddle with one hand on the pommels, and turning somersaults over the saddle, jumping through the arms leaping on to the horse as if it had a side saddle on but these do not require any special directions.

How to write a resume

How to pole vault

Pole leaping is now becoming much in vogue. The pole should be strong enough to bear the weight of the leaper without bending, and sound enough not to fracture at the critical moment. The pole for beginners need not be more than seven feet long, and an attempt should be made to spring short distances with it. The hands should not be placed higher than the head, the right hand at the top, and the left hand may be placed in the most convenient position. The spring must be taken from the left foot at the instant the pole touches the ground, and a short run may be taken to give the necessary impetus. Now, in our school days, we always held the pole until the ground was reached, and of course came down with our face towards the spot from whence we started. But since that period high and perpendicular leaps are taken over a sixfeet and higher bar, and the pole is left behind. Care must be taken to place the hands high enough, and to have the end of the pole pointed, so that it will remain sticking in the ground. By letting the pole go as the body goes over the bar, the leaper descends straight forwards as in an ordinary jump. When you loose the bar, push it behind so as to make it fall backwards. As the leaper goes over the bar, the knees must be bent, so that on touching the ground they will form a spring, and the force of the fall is broken.

With a light pole and low jump, it is sometimes carried over. In long leaps, as much as eight or ten yards may be cleared. Leaps from a height may be practiced, always bearing in mind that the pole must bear your weight, and that on reaching the ground the knees be bent for the spring.

If these directions are followed, you may attain health and agility though you may not attain the skill of leaping over a bar How to pole vault

upwards of eleven feet in height.

Swimming as exercise

We need scarcely say that every one ought to know how to swim. There is not a man, woman or child in the country that cannot, and ought not to learn how to swim. There is no absolute necessity for learning the various aquatic tricks which are performed by masters and mistresses of the art, but there is a necessity that all should know how to support themselves in the water.

There is, perhaps, no athletic exercise which is so easily learned, which is so well adapted to both sexes of all ages, and yet so little known. There is really no art whatever in ordinary swimming, - that is to say, tin the ability to keep the head above the water, and to propel the body in any given direction. Art certainly confers greater grace, gives more endurance and ensures greater speed; but in the mere support of the body, nothing is needed except confidence, and very little even of that quality.

As to the value of swimming, it is simply incalculable. How many most precious lives might have been saved had the deceased persons only known the least rudiments of swimming! How many families have been thrown suddenly into grief and distress, because the father and bread winner happened to fall into a canal or pond that a swimmer could cross at a single stroke! How many parents could annually lament the loss of some beloved child, who has been accidentally drowned by falling into a river, or by stepping into a hole in the stream in which he is bathing!

How to swim

The first care of the intending swimmer is, of course, to find a proper piece of water in which to learn his first lessons. The very best water that can be found is that of the sea, on account of its saltines and bitterness, whereby two great advantages are obtained.

The first advantage is that, on account of the salt and other substances which are dissolved in it, the sea water is so much heavier than fresh, that it gives more support to the body, and enables the beginner to float much sooner than he can expect to do in fresh water.

The other advantage is, that the taste of the sea water is so nauseous that the learner takes very good care to keep his lips tightly shut, and so does not commit the common error of opening the mouth, which is fatal to all swimming, and is sure to dishearten a beginner by letting water get down his throat and half choke him. As to place, there is nothing better than a sloping sandy shore, where the tide is not very strong. In some places the tide runs with such force, that if the beginner is taken off his legs, he will be carried away, or at least that he will have great difficulty in regaining his feet.

We strongly recommend him to walk over the spot at low water, and see whether there are any stones, sticks, rocks, or holes, and if so, to remove all the moveable impediments and mark the position of the others.

Take especial care of the holes, for there is nothing so treacherous. A hole of some six or seven inches in depth and a yard in diameter, looks so insignificant when the water is out that few persons would take any notice of it. But, when a novice is in the water, these few inches make just the

difference between safety and death.

On sandy shores, the most fertile source of holes is to be found in large stones. They sink rather deeply into the sand and form miniature rocks, round which the water courses as the tides ebb and flow, thus cutting a channel completely round the stone. Even when the stone is removed, the hole will remain unfilled throughout several tides.

The next best place for learning to swim is the river with a fine sandy bed, clear water and no weeds. Since that extraordinary river weed has swept throughout our canals and rivers, it is extremely difficult to find a stream that is free from weeds. However, it will be easy enough to clear a sufficient space in which a learner can take his first lessons.

When such a spot has been found, the next care is to examine the bed of the river and to remove very carefully everything that might hurt the feet. If bushes should grow on the banks, look out carefully for broken scraps of boughs, which fall into the stream, become saturated with water, sink to the bottom, and become fixed with one of the points upwards.

If human habitations should be near, beware of broken glass and crockery, fragments of which are generally thrown into the river, and will inflict most dangerous wounds of trodden on. If the bed of the stream should be in the least muddy, look for mussels, which lie imbedded almost to their sharp edges, that project upwards and cut the feet nearly as badly as broken glass.

Failing sea or river, a pond or canal is the only resource, and furnishes the very worst kind of water. The bed of most ponds is studded with all kinds of cutting and piercing objects, which are thrown in by careless boys and remain where they fell. Then, the bottom is almost invariably muddy, and the water is seldom clean. Still, bad as is a pond, it is better than nothing and the intending swimmer may console himself with the reflection that he is doing his duty, and with the prospect of swimming in the sea some time or other.

Of course, the large public baths possess some of the drawbacks of ponds, but they have at all events the advantage of a regulated depth, a firm bank, and no mud.

As the very essence of swimming lies in confidence, it is always better for the learner to feel secure that he can leave the water whenever he likes. Therefore, let him take a light rope of tolerable length, tie one end to some firm object on the bank, and let the rest of the rope lie in the water. Manilla is the best kind of rope for this purpose, because it is so light that it floats on the surface instead of sinking, as is the case with an ordinary hempen rope.

If there is only sand on the shore, the rope can be moored quite firmly by tying it to the middle of a stout stick, burying the stick a foot or so in the sand and filling up the trench. You may pull till you break the rope, but you will never pull the stick out of its place. If you are very nervous, tie two sticks in the shape of a cross and bury them in like manner.

The rope need not be a large one, as it will not have to sustain the whole weight of your body, and it will be found that a cord as thick as an ordinary washing line will answer every purpose.

On the side of a stream or pond, tie the rope to a tree, or hammer a stake in the ground. A stake eighteen inches in length, and as thick as an ordinary broomstick, is quite large enough. Hammer it rather more than two-thirds into the ground, and let it lean boldly away from the water's edge. The best way of fixing the rope to it is by the "clove nitch."

Now, having your rope in your hand, go quietly into the water backwards, keeping your face towards the bank. As soon as you are fairly in the water, duck completely beneath the surface. Be sure that you do go fairly under water, for there is nothing more deceptive than the feel of water to a novice. He dips his head, as he fancies, at least a foot beneath the surface; he feels the water in his nose, he hears it is his ears, and thinks that he is almost at the bottom, when, in reality, the back of his head is quite dry.

The best way of "ducking" easily is to put the left hand on the back of the head, hold to the rope with the right hand, and then duck until the left hand is well under water.

The learner should next accustom himself to the new element by moving about as much as possible, walking as far as the

rope will allow him, and jumping up and down so as to learn by experience the buoyancy of the water.

Perhaps the first day may be occupied by this preliminary process, and on the second visit the real business may begin.

In swimming as in most other pursuits, a good beginning is invaluable. Let the learner bestow a little care on the preliminaries, and he will have no bad habits to unteach himself afterwards. It is quite easy to learn a good style at first as a bad style, although the novice may just at the beginning fancy that he could do better by following his own devices.

The first great object is to feel a perfect confidence in the sustaining power of the water, and according to our ideas, the best method of doing so is by learning to float on the back.

We will give a separate paragraph to the important point of floating on the back:

To take care that the cord is within easy reach, so that it may be grasped in a moment, should the novice become nervous, as he is rather apt to do just at first. Take it in both hands, and lay yourself very gently in the water, arching the spine backwards as much as possible, and keeping the legs and knees perfectly straight and stiff.

Now, press the head as far back as possibly can be done, and try to force the back of the head between the shoulder blades. You can practice this attitude at home, by lying on two chairs.

When you have thus lain in the water you will find that you are almost entirely upheld by its sustaining power, and that only a very little weight laid in the water. On reflection, you will also discern that the only weight which pulls on the rope is that of your hands and arms, which are out of water, and which, therefore, act as dead weight.

Indeed, you might just as well lay several iron weights of a pound each upon your body, for the hands and arms are much heavier than we generally fancy. Just break an arm or a leg, and you will find out wheat heavy articles they are.

Now, let your arms sink gradually into the water, and you will see that exactly in proportion as they sink, so much weight is

taken off the rope; and if you have only courage to put them entirely under water, and to loose the rope, your body will be supported by the water alone.

These are facts, but we may as well have reasons.

Bulk for bulk, a human being weighs considerably less than water, i.e., at the temperature of ordinary sea or river water. Now, as the lighter substance will float in the denser, it follows that the human body will float in water. If a dead body be flung into the water, some part of it will float above the surface until the lungs get choked up with water, and so the whole body is much heavier than it ought to be.

Now, supposing that a living person in a fainting condition, and, therefore, unable to struggle, were to fall into the water some part of the body would remain above the surface. But as the head, which is one solid mass of brain, muscle, and bone, is much heavier than water, it follows that the head would hang down in the water, and the shoulder blades would appear above the surface, being buoyed up by the air filled lungs. The hands and arms, of course, follow their natural inclination, and fall forward, thus turning the body on its face.

Then this is the natural position of a living human being in the water, provided that he does not attempt to struggle or alter his position. And the knowledge of the fact is the key to all swimming on scientific principles.

A considerable part of the body remains above the water, but it is the wrong part, as far as the preservation of life is concerned. We want to breathe, and it is very clear that we cannot breathe through our shoulders. Therefore, the first point in swimming is to reverse the natural order of things, and to bring the nostrils above the surface of the water.

The mouth may be set aside altogether, because there is no necessity for that aperture in swimming. It is meant for eating and for talking, but was never intended for breathing, which is the only function a swimmer regards.

Swimming, therefore, resolves itself into the ability to keep the nostrils above water, and the difficulty lies in the fact the nostrils are set in the heaviest part of the whole body, and that

which is absolutely certain to sink below the surface unless continual efforts are being made to keep it in its right position.

The simplest method of obtaining this object is to reverse the entire position of the body. Let, therefore, the learner be on his back, let him arch the spine in directly the opposite direction, and bend the head backwards instead of letting it hand forwards.

The result of this change of posture will be at once apparent. The heaviest part of the body, the back of the head, will be partly supported by the water, and partly by the air which fills the lungs. The nostrils will then become the lightest part of the body, and will, of course, be above the surface when the remainder is submerged.

Practically, the bather will find this result. If he will assume the attitude which has been thus described, and will be content to keep his lips tightly shut, and his limbs perfectly still, eh will find that when he takes an inspiration the face will rise almost entirely out of the water. At each expiration the face will sink as far as the eyebrows and the lower lip, but no further, the nostrils being always left free for the passage of air to the lungs.

Any one who will give this plan a fair trial will gain more real knowledge of swimming in an hour than can be obtained in a year by mere practical teaching. So powerful is the buoyancy of the water that if any one, whether he can swim or not, will lie in the attitude that has been described, and will not stir hand or foot, he cannot sink if he tries. A cork will sink as soon as he.

So impressed are we with the extreme value of floating on the back, that we recommend our readers to practice that and that alone until they feel perfectly competent that when they lie in the proper attitude, the water cannot fail to support them. If the bather wishes to lie quite horizontally on the surface of the water he can do so by stretching his arms as far as possible over his head.

Their weight will counterbalance that of the legs, and will cause the toes to appear at the very surface. This position is sometimes called the Balance. The directions which we have given are intended for those who are obliged to bathe in fresh water.

Those who are fortunate enough to bathe in the sea will find the lesson much easier.

The water supports the body so much more perfectly that even during an expiration the face seldom sinks lower than the chin, while a fair inspiration raises the whole face out of the water.

How to do the side stroke

We now come to that particular stroke which, in our opinion, and in that of most professional swimmers, is by far the most valuable.

This is the celebrated side stroke, so called because the swimmer lies on his side.

There is no stroke that enables the swimmer to last so long as it does, and for this reason: instead of employing both arms and legs simultaneously int eh same manner, the side stroke employs them simultaneously but in different manners; so that when the swimmer is tired of exercising one side he can just turn over and proceed with the other, the change of action resting the limbs almost as much as repose would do. Mr. Beckwith, the ex-champion of England, who held the belt for so many years, always employed the side stroke when swimming his matches, and the present champion follows his example. Indeed, out of all the professionals, there is scarcely one in twenty who adopts the old-fashioned breast stroke.

The side stroke is thus managed.

The swimmer lies on his right side, stretching his right arm out as far as he can reach, keeping the fingers of the right hand quite straight and the hand itself held edgewise, so as to cut the water like a shark's fin. The left hand is placed across the chest, with the back against the right breast, and the swimmer is then ready to begin.

He commences by making the usual stroke with his legs, and the right leg, being undermost, doing the greater share of the work. Before the impetus gained by the stroke is quite expended, the right arm is brought round with a broad sweep,

How to do the side stroke

until the palm of the hand almost touches the right thigh. At the same moment, the left hand makes a similar sweep, but is carried backwards as far as it can go.

The reader will see that the hands act directly upon the water like the blades of a pair of oars, and do not waste any of their power by oblique action.

In ordinary swimming we seldom use the left arm, but allow it to hand quietly in the water, so that it may be perfectly ready for work when wanted. Then, after some little time, we turn round, swim on the other side, and give the left arm its fair share of labor.

There is a modification of swimming on the side, which is sometimes called thrusting, and sometimes the Indian stroke, because the North American Indians generally employ it.

These terms are rather vaguely employed, but the former is generally used when the swimmer thrusts his arm forward, and the latter when he swings it.

In performing this stroke, the swimmer starts upon his right side, and sweeps his right hand through the water as above mentioned. While that arm is passing through the water, the left arm is swung just above the surface with a bold sweep, the hand dipping into the water when the arm is stretched to it utmost. This movement brings the body over to the left side when the two hands change duties, the left being swept under the body while the right is swung forward.

This is rather a showy style of swimming, but we do not think very much of it. It certainly propels the swimmer with great rapidity for a time, but it requires so much exertion that he is sure to tire before very long. We recollect seeing a race for a silver cup, in which the merits and defects of this stroke were well shown. The swimmer shot ahead of all his competitors with ease, and if the course had been a short one, he would quickly have won.

But the course was a tolerably long one, and the consequence was that when he had traversed almost half the distance, his exertions began to tell on him, and his strokes got rather wild and irregular. Before very long some of the steadier swimmers How to do the side stroke

began to creep up to him, and before two-thirds of the distance was traversed he was passed by two of them. The result of the race was, although he was well ahead half way, he did not even get a place at the finish.

How to tread water

This is employed when the swimmer wishes to raise his head as high out of the water as possible, and is particularly useful if he is reconnoitering, or if he is trying to save a drowning person, or if he wishes to grasp a bough or a rope above his head. The best method of making the stroke is as follows: Keep the body perpendicular, and make precisely the same stroke with the legs as is done in ordinary swimming. This action will keep the head freely out of the water, and if assisted by the hands the body will rise as far as the shoulders.

Some persons literally "tread" the water, striking each foot alternately as if they were ascending a staircase. We have thoroughly tried both methods, and much prefer the former.

How to do the dog paddle

The swimmer lies on his chest and moves his hands and legs alternately exactly as a dog does when swimming. The chief use in this stroke is that it affords a change of action to the muscles, and if the swimmer has to traverse any considerable distance, say a mile or two, he will find that a few occasional minutes employed in swimming like a dog will be very useful in relieving the strain on the muscles of both legs and arms.

Having become tolerably expert at these exercises, the young swimmer should now learn to support and propel himself, first, without his hands, and next, without his legs.

He should therefore place the hands along the sides of the body, sink the legs much deeper than in ordinary swimming, and make a succession of strokes with the legs. These strokes should be much shorter and quicker than are used when the hands are at liberty.

Next, suppose that the hands are tied at the wrists, and that the swimmer is a manacled captive trying to escape across a moat. Press the hands tightly together, with the fingers close to each other, and the whole hand made as flat as possible. Turn slightly on the left side, making the ordinary stroke with the legs, and bring the hand towards the left hip with a quick sweep, taking care to part them from it as soon as the stroke is made.

Then, try to swim without the legs. Allow the feet to hang as low as they like, keep the head well back, and make the ordinary stroke with the hands. But, instead of merely bring them back, press them down at every stroke, so as to lift the chin out of the water. This is a very slow business, but still it should be practiced, as the swimmer may happen to disable his How to do the dog paddle

legs and ought to know how to manage without them.

Lastly, he should learn to swim when both hands and feet are tied together. This feat is a very superior one, and always elicits much applause from spectators, being what is technically named a "gallery" stroke. Yet it is really very easy and can be performed by any one who has practiced the two former exercises.

Hold the hands together, as already mentioned, and press the feet together at the ankles. Then, giving short, sharp strokes, the hands and feet working about, but not quite simultaneously.

If you are performing this feat before spectators, add to the effect by tying the hands and feet with handkerchiefs. Swimming is not made more difficult by the ligatures, while the appearance of difficulty is very much increased.

How to dive

Having now tolerably mastered the surface of the water, the learner must proceed to explore its depth. It is, of course, a great thing to be able to support the body in the water; but the swimmer's education is only half completed until he knows how to dive. Many lives have been saved by the ability to dive, many have been lost from its absence.

Many a man has saved his own life, when escaping from enemies, by diving and swimming under water to some place of refuge, or by passing along out of sight of his enemies, merely allowing his nostrils to appear above the surface at intervals. Many a man - and woman, too - has saved the life of another by diving after the sunken body and bringing it to the surface before life was extinct. Therefore, our counsel is, that the young swimmer learn to dive without delay.

The first object is to keep the eyes open while under the water. In order to do this, sink yourself well under the surface, hold your hand before your face, and try to look at it. Don't be afraid of water getting into the eyes. A chance drop of fresh water flirted into the eyes will make them smart, but you may keep your eyes open even in salt water as long as you like without the least irritation.

Some persons recommend that the first experiment be made with a basin of water, in which the head is to be plunged. We specially recommend that this should not be done, and that the first experiment should be made while bathing.

When the young swimmer has learned that he really can keep his eyes open under water, he should drop to the bed of the sea or river, where it is about four feet in depth, some white object one of the well-known alabaster eggs used for deluding sitting

hens is as good an object as can be found. Still, a lump of chalk, a thick gallipot, or anything of like nature, will do very well.

Now, try to stop and lift the egg, and you will find two results. The first is that the egg will look as large as a hat, and the second is, that you will find very great difficulty in getting to it.

Now, try another way of getting to the egg. Drop it as before, spring up as high as the waist, bend your body well forward, throw the feet in the air, and try to reach the egg, head foremost. At first you will find this rather difficult, but after a little practice, it will come easily enough. Be careful to stand at some little distance from the egg, or you will be sure to overshoot it.

Next drop the egg, go back some eight or ten yards, swim towards the object, and dive for the egg, from the swimming posture. This is not very easy at first on account of the difficulty in getting the chest below the surface. If, however, the legs are thrown well up in the air, the weight forces the body under water.

The next object is to try how far the swimmer can proceed under water.

Swimming under water is managed in nearly the same manner as swimming on the surface. But in order to counteract the continual tendency upwards, the swimmer must always keep his feet considerable higher than his head, so that each stroke serves to send him downwards as well as forwards.

One of the chief difficulties in diving is to keep a straight course, because there is seldom anything under water by which to steer. In a river, when the water is clear, it is generally easy to look upwards and watch the g\trees, posts, or other objects on the banks; but in the sea it is very different business, and the swimmer must have learned to make his stroke with great regularity before he can dive in a straight line.

It is hardly possible to give too much time to diving. The learner should first take nothing but easy diving, such as have been mentioned, and then try to achieve more difficult feats. He should learn to dive at a considerable distance from any

object, swim towards it by guess, and try to bring it towards the surface. He should throw two, three or more eggs into the water and try how many he can recover at a single dive. When he has attained a sufficient mastery over the water, he should stand on the bank, or in a boat, throw an egg into the water, dive after it, and catch it before it reaches the bottom.

This is a favorite feat of ours, and when we were yet in the jacketed state of humanity, we used to secure many a penny and occasional sixpences by thus diving after them, the copper coins being wrapped in white paper to make them more visible. Sixpences were easy enough to see, but not so easy to catch, because their flat form and light weight made them move backwards and forwards instead of descending steadily through the water.

The Header - Now the young swimmer must learn how to enter the water in a proper and graceful manner. It is as easy to enter the water gracefully as clumsily, and only requires a little care at first.

Most beginners are dreadfully alarmed when they are told to jump into the water first. They cannot rid themselves of the instinctive idea that their heads will be dashed to pieces. Consequently, when they try the "header" they only come flat on the water with a flop, and a great splash, and hurt themselves considerably, the blow against the water having almost as stinging an effect as a stroke from a birch rod.

Therefore, let not the beginner try too much at first. He should go to the bank of a river where the water is only a few inches below him, and there make his first attempt at a header. He should stoop down until he is nearly double, put his hands together over his head, lean over until they nearly touch the surface, and so quietly glide, rather than fall, into the water. At first he will be sure to lose the proper attitude, but in a little time he will manage without difficulty. This should be done over and over again, and each time from an increased height.

Next, the leaner should take a short run, and leap head first into the water from the place where he took his first lesson at plunging, so that the water is no great distance from him.

He should then remain quite stiff, straight, and still, and see

how far his impetus will carry him. This is technically termed "shooting." At last he should accustom himself to leap from a considerable height, say from ten to twenty feet, and to do so either running or standing.

It is our firm belief that when the young swimmer has once ventured to jump from a height of ten feet, he will not be in the last alarmed at thirty or forty feet. At first there is a curious sensation as if all the internal machinery of the body were left in the air, the feeling very soon goes off, and the diver quite enjoys the rapid rush through the air. The oddest thing is, that he does not seem to be falling, but the water seems to rise up and meet him.

Also, he should practice leaping into the water at a distance from the bank, and also should try to leap over obstacles, such as reeds, branches, or similar obstructions. Very good practice may be gained by fixing a couple of upright sticks in the ground close to the bank, tying a string across them, and going head-foremost over it. Of course, the string should be set low at first, and its height increased by degrees. The height over which an experienced person can leap is really astonishing. The great difficulty is to avoid catching the string with the knee, and this brings us to an axiom in all diving from a height.

Keep the body, arms, and legs perfectly stiff, and all in the same right line.

Any one who will do this can leap from extraordinary heights without the least fear of danger. The hands, joined over the head, form a kind of wedge, which cuts its way into the water and opens a passage into which the body passes. The head is so bent over the chest, that even the slight shock which ensues when the water is reached only effects the crown of the head, which is the part which is best able to bear it.

Those who wish to see the attitude of the body in perfection, cannot do better than watch the ex-champion of England, Mr. Beckwith, while performing his well-known series of aquatic feats. As he passes through the air from the elevated leapingboard, his body and limbs become as straight as a dart, and as stiff as if he were a statue carved out of wood.

When he reaches the water, there is not the least alteration of

attitude, and he shoots through the water like a fish, traversing a wonderful space by the impetus of a single spring.

In jumping from a boat, the best way is to go to the stern and leap over, as there is no more resistance to the feet than is obtained by leaping over the side; and in getting into the boat again, always come to the stern, never in the side. Swim towards the boat with the feet high. Grasp the stern in both hands and kick the feet on the surface of the water, so as to keep them up; otherwise, the legs will be sucked under the boat.

Then give a vigorous kick with the feet and spring with the hands, and you will be lying on your breast over the stern, and to crawl fairly into the boat is then easy enough.

How to avoid swimming cramps

Perhaps more good swimmers have been drowned by cramp than by anything else, and only those who have suffered from it can conceive its fatal power.

Strong men and good swimmers, when seized with the cramp, have been known to sink instantly, overcome with the sudden pain and nothing can save the victim but the greatest presence of mind.

The usual spot where the cramp is felt is the calf of the leg, just below the knee; and it sometimes comes with such violence that the muscles are gathered up into knots.

There is only one method of proceeding under such circumstances.

Turn on the back at once, kick out the leg in the air, disregarding the pain, and rub the spot smartly with one hand, while the other is employed in paddling towards shore.

These directions are easy enough to give, but most difficult to be obeyed; cramp seems to deprive the sufferer of all reason for the time, and to overpower him with mingled pain and terror.

Still, there is no other hope of reaching shore than that which is here given.

The causes of cramp are generally twofold.

The principal cause lies in indigestion, for it is seldom that a person in really good health is attacked by this malady.

The second reason is over-exertion of muscles that have been

How to avoid swimming cramps

little used, and therefore, too strong a leg stroke should always be avoided.

Another thing which demands great practice, is the method of saving a drowning person.

The chief difficulty lies in the fact, that a person who cannot swim feels, in deep water, much as if he were falling through air, and consequently clutches instinctively at the nearest object.

And if he succeeds in fixing a grasp upon the person who is trying to save him, both will probably sink together.

Therefore, every precaution should be taken to prevent such a misfortune and the drowning man should always be seized from behind, and pushed as it were in front.

Should he succeed in fixing his grasp, the only remedy is to dive, when it will be found that he will loosen his hold in finding himself below the surface, and will allow his rescuer to take a better position.

The rules of cricket

This treatise being intended only as a handbook of the game of Cricket, I have thought best to confine myself purely to the theory and practicer of the game, considering all else to be fairly considered besides its scope and object, and therefore out of place.

Many people may say - indeed, many do say - "Where is the use of a book on cricket? Can cricket be read up?" To which I answer most emphatically, "Yes!" As much as chess, or any other game. Yes, cricket can be read up. Of course I do not mean to say that reading alone can or will make a cricketer; but I can unhesitatingly affirm that the hints and directions that are given in any good work on the subject will be found an invaluable adjunct to the purely mechanical practice in the field.

it is true that practice under the personal supervision of a good player, is from every point of view, most important - but then it is only a comparatively few who can obtain the services of a good instructor, so that for the rest it is book-teaching, or no teaching at all; and cricket by the light of nature, is a creation of strange and wonderful proportions.

Book-teaching, therefore, in the absence of downright personal instruction, is by no means to be despised; and even with it, it may be of service by fixing in the memory the various hints and directions received amid the directions of play, and therefore liable to be forgotten, or but feebly remembered. The book, too, has this further advantage, that each several player may extract from it at will that information of which he at the moment finds himself most in need, and even correct his tendency to any fault before it be formed into a habit, and its actual committal attract the attention of the instructor.

The rules of cricket

It may be still further objected that as cricket is only a game it is scarcely worth while to take such extreme pains, and devote so much study to its pursuit.

I have not space here to convince such, if they be worth convincing. I write only for those who take up this game as they should take up everything in life, with a firm intention and endeavor to do in it to the best of their ability, in accordance with the old adage, "What is worth doing at all, is worth doing well."

As for half-hearted players, fellows who field with hands in pockets, one eye on the ball, and the other on every bird that flies - that wander about the field restlessly till it is their turn to go in, and then have to be called up with much shouting and gesticulation, whose sole idea of cricket is batting, and who look upon fielding as a necessary evil, to be taken in as small doses and slurred over as quickly as possible- to such this treatise will be useless, because incomprehensible; they will not understand my earnestness, as I certainly cannot understand their apathy.

Let them conquer their sloth, learn to take some real interest in the game beyond the mere selfish consideration of themselves making so many runs, and have some consideration for the pleasure of their fellows in the game, and I shall have somewhat to say to them.

The following are the rules, universally accepted in their integrity, as published by the Marylebone (London) Club, the parent Cricket Club of the world.

The Laws of Cricket

The Ball. - 1. Must weigh not less than five ounces and a half, nor more than five ounces and three-quarters. It must measure not less than nine inches, nor more than nine inches and one quarter in circumference. At the beginning of each innings either party may call for a new ball.

The Bat. - 2. Must not exceed four and a quarter inches in the widest part; it must not be more than thirty-eight inches in length.

The Stumps - 3. Must be three in number; twenty-seven inches out of the ground; the bails eight inches in length, the stumps of sufficient and equal thickness to prevent the ball from passing through.

The Bowling Crease - 4. Must be in a line with the stumps; six feet eight inches in length, the stumps in the centre, with a return crease at each end towards the bowler at right angles.

The Popping Crease - 5. Must be four feet from the wicket, and parallel to it; unlimited in length, but not shorter than the bowling crease.

The Wickets - 6. Must be pitched opposite to each other by the umpires, at the distance of twenty-two yards. 7. It shall not be lawful for either party during a match, without the consent of the other, to alter the ground by rolling, watering, covering, mowing, or beating, except at the commencement of each innings, when the ground may be swept and rolled at the request of either party, such request to be made to one of the umpires within one minute after the conclusion of the former innings. This rule is not meant to prevent the striker from beating the ground with his bat near to the spot where he stands during the innings, nor to prevent the bowler from filling up holes with sawdust, etc., when the ground is wet.

8. After rain the wickets may be changed with consent of both parties.

The Bowler - 9. Shall deliver the ball with one foot on the ground behind the bowling crease and within the return crease, and shall bowl four balls before he change wickets; which he shall be permitted to do only once in the same innings.

10. The ball must be bowled. If thrown or jerked, the umpire shall call, "No ball."

11. He may require the striker at the wicket from which he is bowling to stand on that side of it which he may direct.

12. If the bowler shall toss the ball over the striker's head, or bowl it so wide that in the opinion of the umpire it shall not be fairly within the reach of the batsman, he shall adjudge one run to the party receiving the innings, either with or without an

The rules of cricket

appeal, which shall be put down to the score of "wide balls;" such ball shall not be reckoned as one of the four balls; but if the batsman shall by any means bring himself within reach of the ball, the run shall not be adjudged.

13. If the bowler deliver a "no ball" or a "wide ball," the striker shall be allowed as many runs as he can get, and he shall not be put out except by running out. In the event of no run being obtained by any other means, then one run shall be added to the score of "no balls" or "wide balls" as the case may be. All runs obtained for "wide balls" to be scored to "wide balls." The names of the bowlers who bowl "wide balls" or "no balls" in future to be placed on the score, to show the parties by whom either score is made. If the ball shall first touch any part of the striker's dress or person (except his hands), the umpire shall call "Leg bye."

14. At the beginning of each innings the umpire shall call "Play;" from that time to the end of each innings no trial ball shall be allowed to any bowler.

15. If either of the balls be bowled off, or if a stump be bowled out of the ground;

16. Or, if the ball, from the stroke of the bat or hand, but not the wrist, be held before it touch the ground, although it be hugged to the body of the catcher;

17. Or, if in striking, or at any other time when the ball be in play, both his feet shall be over the popping crease, and his wicket put down, except his bat be grounded within it;

18. Or, if in striking at the ball he hit down his wicket; 19. Or, if under pretense of running, or otherwise, either of the strikers prevent a ball from being caught, the striker of the ball is out;

20. Or, if the ball be struck, and he wilfully strike it again;

21. Or, if in running, the wicket be struck down by a throw, or by the hand or arm, with ball in hand, before his bat, in hand, or some part of his person be grounded over the popping crease. But if both the balls be off, a stump must be struck out of the ground;

22. Or, if any part of the striker's dress knock down the wicket;

23. Or, if the striker touch or take up the ball while in play, unless at the request of the opposite party;

24. Or, if with any part of his person he stop the ball, which, in the opinion of the umpire at the bowler's wicket, shall have been pitched in a straight line from it to the striker's wicket, and would have hit it;

25. If the players have crossed each other, he that runs for the wicket which shall be put down is out.

26. A ball being caught no run shall be reckoned.

27. A striker being run out, that run which he and his partner were attempting, shall not be reckoned.

28. If a lost ball be called, the striker shall be allowed six runs; but if more than six shall have been run before lost ball shall have been called, then the striker shall have all which have been run.

29. After the ball shall have been finally settled in the wicket keeper's or bowler's hands, it shall be considered dead; but when the bowler is about to deliver the ball, if the striker at the wicket go outside the popping crease before such actual delivery, the said bowler may put him out, unless (with reference to the 21st law) his bat in hand, or some part of his person be within the popping crease.

30. The striker shall not retire from his wicket and return to it to complete his innings after another has been in, without the consent of the opposite party.

31. No substitute shall in any case be allowed to stand out or run between wickets for another person without the consent of the opposite party; and in case any person shall be allowed to run for another, the striker shall be out if either he or his substitute be off the ground in manner mentioned in Laws 17 and 21, while the ball is in play.

32. In all cases where a substitute shall be allowed, the consent of the opposite party shall also be obtained as to the person to act as substitute, and the place in the field which he shall take.

The rules of cricket

33. If any fieldsman stop the ball with his bat, the ball shall be considered dead, and the opposite party shall add five runs to their score; If any be run they shall have five in all.

34. The ball having been hit, the striker may guard his wicket with his bat, or with any part of his body except his hands, that the 23rd Law may not be disobeyed.

35. The wicket-keeper shall not take the ball for the purpose of stumping until it shall have passed the wicket; he shall not move until the ball be out of the bowler's hand; he shall not by any noise incommode the striker; and if any part of his person be over or before the wicket, although the ball hit, the striker shall not be out.

36. The umpires are the sole judges of fair or unfair play, and all disputes shall be determined by them, each at his own wicket; but in case of a catch which the other umpire at the wicket bowled from cannot see sufficiently to decide upon, he may apply to the other umpire, whose opinion shall be conclusive.

37. The umpires in all matches shall pitch fair wickets, and the parties shall toss up for choice of innings. The umpires shall change wickets after each party has had one innings.

38. They shall allow two minutes for each striker to come in, and ten minutes between each innings. When the umpire shall call "Play," the party refusing to play shall lose the match.

39. They are not to order a striker out unless appealed to by the adversaries;

40. But if either of the bowler's feet be not on the ground behind the bowling crease and within the return crease when he shall deliver the ball, the umpire at his wicket, unmasked, must call "No ball."

41. If either of the strikers run a short run, the umpire must call "One short."

42. No umpire shall be allowed to bet.

43. No umpire is to be changed during a match, unless with the consent of both parties, except in case of violation of the 42nd

The rules of cricket

Law; then either party may dismiss the transgressor.

44. After the delivery of four balls the umpire must call "Over," but not until the ball shall be finally settled in the wicket-keeper's or bowler's hand; the ball then shall be considered dead: nevertheless, if an idea be entertained that either of the striker's is out, a question may be put previously to, but not after, the delivery of the next ball.

45. The umpire must take especial care to call, "No ball" instantly upon delivery: "Wide ball" as soon as it shall pass the striker.

46. The players who go in second shall follow their innings, if they have obtained eighty runs less than their antagonists, except in all matches limited to only one day's play, when the number shall be limited to sixty instead of eighty.

47. When one of the strikers shall be put out, the use of the bat shall not be allowed to any person until the next striker shall come in.

NOTE: The Committee of the Marylebone Club think it desirable that, previously to the commencement of a match, one of each side should be declared the manager of it; and that the new laws with respect to substitutes may be carried out in a spirit of fairness and mutual concession, it is their wish that such substitutes be allowed in all reasonable cases, and that the umpire should inquire if it is done with the consent of the manager of the opposite side.

Complaints having been made that it is the practice of some players when at the wicket to make holes in the ground for a footing, the Committee are of opinion that the umpires should be empowered to prevent it.

Return to Boys Own Book of Outdoor Sports

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How to play single wicket

1. When there shall be less than five players on a side, the bounds shall be placed twenty-two yards each in a line from the off and leg stump.

2. The ball must be hit before the bounds to entitle the striker to a run, which run cannot be obtained unless he touch the bowling stump or crease in a line with his bat, or some part of his person, or go beyond them, returning to the popping crease, as at double wicket, according to the 21st Law.

3. When the striker shall hit the ball, one of his feet must be on the ground, and behind the popping crease, otherwise the umpire shall call "No hit."

4. When there shall be less than four players on a side, neither byes nor overthrows shall be allowed, nor shall the striker be caught out behind the wicket, nor stumped out.

5. The fieldsman must return the ball so that it shall cross the play between the wicket and the bowling stump, or between the bowling stump and the bounds; the striker may run till the ball be so returned.

6. After the striker shall have made one run, if he start again he must touch the bowling stump and turn before the ball cross the play, to entitle him to another.

7. The striker shall be entitled to three runs for lost ball, and the same number for ball stopped with hat, with reference to the 28th and 33rd Laws of double wicket.

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This is a matter of no slight importance, as it is evident that any material edging off to one side would completely stultify all attempts of the batsman to obtain a correct guard, and would moreover, leave him constantly uncertain as to the precise spot from which the ball would be delivered, and thus render a correct defense impossible.

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Its length is unlimited, that a player may not be put out for running to one side of his ground, a practice not much to be commended, certainly, when unnecessary, but one which is sometimes unavoidable in case of a rush of fielders between wickets.

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Now, this supposed 'No ball' is simply a physical impossibility; let any man try to bowl - not chuck - but fairly bowl a ball with only the forward foot on the ground, and he will be convinced of the fact at once.

Another delusion, also very common, is, that fast bowlers drag their latter foot after them over the crease before delivery, and thus, of course, give 'no balls.' This, too, is almost an impossibility; the real fact is, as every one who will take the trouble to think must see at once, that the ball cannot be 'bowled' with any force or bias except from the firm fulcrum of the hinder foot, and consequently that any appearance of movement before the ball is delivered arises from defective judgment on the part of the umpire as to the correct sequence of the two events.

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Practically an umpire will not interfere, unless the bowler's style be palpably unfair.

A ball is jerked when the hand or arm is at the moment of delivery arrested suddenly by contact with the side.

This jerking imparts to the ball, in some mysterious way, a life and fury highly dangerous to the batsman; and is for this reason sternly prohibited.

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How to play single wicket

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Rule 35. Umpires should pay special attention to this rule. As an actual fact, few but regular professionals have sufficient regard to its requirement and attentions. One reason is, that with a sharp, eager wicket-keeper, it makes no slight demand upon the umpire's keenness and attention to enforce the rule in its integrity, not to mention the necessity of no little firmness and decision, in checking any infraction of its regulations.

Rule 38. This rule is aimed against those persons, of whom, sad to say, there are too many in the world who are ready to take advantage of every omission and flaw in a law or a rule - the principle is the same - that can for the moment turn to their own benefit. In playing the game each side should play to win, and play its very best; but a victory won by sharp practice is no victory at all, and a defeat staved off by similar means is a defeat still.

The Laws of Single Wicket.

How to play single wicket

Single wicket is not to be spoken of when double wicket is practicable, though I would qualify this if the double wicket were only possible with a tail of inferior players; better play a shorthanded game at single wicket with good players than a full-sided game at double wicket with inferior players.

There is nothing more deteriorating than play with inferior players; nothing more improving than play with superiors.

Single wicket, however, has one very useful quality; there is no better practice for hard hitting than a single-wicket match, with a bowler and two or three men in the field.

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The rules of single wicket

1. When there shall be less than five players on a side, the bounds shall be placed twenty-two yards each in a line from the off and leg stump.

2. The ball must be hit before the bounds to entitle the striker to a run, which run cannot be obtained unless he touch the bowling stump or crease in a line with his bat, or some part of his person, or go beyond them, returning to the popping crease, as at double wicket, according to the 21st Law.

3. When the striker shall hit the ball, one of his feet must be on the ground, and behind the popping crease, otherwise the umpire shall call "No hit."

4. When there shall be less than four players on a side, neither byes nor overthrows shall be allowed, nor shall the striker be caught out behind the wicket, nor stumped out.

5. The fieldsman must return the ball so that it shall cross the play between the wicket and the bowling stump, or between the bowling stump and the bounds; the striker may run till the ball be so returned.

6. After the striker shall have made one run, if he start again he must touch the bowling stump and turn before the ball cross the play, to entitle him to another.

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Cricket equipment

None but an experienced hand can estimate the vital importance of attention to all such details: - that the bat is the right weight, and properly balanced; that the shoes, gloves and pads are perfect in their fit and appointment; in fine, that the player stand at the wickets, or in the field, fully equipped for the fray, yet no wise impeded or hindered by ill-fitting garments, clumsy shoes, or cumbersome pads.

First, then, for the bat. This is limited in rule 2 both as to length and width, but the thickness and weight are left to the fancy or capacity of the player. In a general way, a tall man can use a heavier bat than a short one.

About two pounds is a fair weight for a player of middle weight and medium muscular development.

Although it is a great mistake to play with a bat that is too heavy to handle with ease, yet the opposite extreme is none the less to be avoided.

Too heavy a bat cramps the play, and entirely prohibits that beautiful wrist play that is the 'ne plus ultra' of good batting but on the other hand, one that is too light is useless for hard hitting, and can do little in the way of run-getting as against a good field, anything like a swift "shooter," too, will be apt to force its way past its impotent defense.

The points we must look for in a bat are these: first, weight suited to the player; secondly, good thickness of wood at the 'drive' - i.e., about four inches from the end, at which point the bat should be not less than one and three-quarters, or two inches in thickness, gradually tapering off up and down towards the end and towards the handle; thirdly, balance, so

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that when wielded there may be no sensation of deadweight at the end, as is painfully perceptible in all badly balanced bats experience alone can teach the right 'feel' of a bat.

The outward appearance of bats should by no means be invariably taken as a true indication of their inherent merits; very often a very plain, unstylish-looking bat is worth a dozen well-got-up, taking-looking specimens, amongst which it may be placed; but the eye of a real connoisseur will pick out at once a likely bat from amidst a whole crowd of others.

Nevertheless, nothing but actual trial of each individual 'bit of willow' can bring out all its inherent qualities, good, bad, or indifferent.

Too much stress should not be placed on the possession of a first rate bat; good tools cannot make a good workman, nor a fine bat a fine batsman.

Yet, still, the good workman is not at his best without his old familiar tools, and in like manner the cricketer plays best with a well-approved bat in his hand.

It is a very common thing to hear men begging the loan of a bat that, in the hands of some skillful player, has just run up a long score, as if the virtue lay in the instrument, not in the skill of its user.

It may also be generally, almost invariably observed, that such men, although armed with the talismanic weapon, scarcely add much to its run-getting reputation.

A really good player will make runs with almost anything - a hedge-stake or a broomstick.

By-the-way, these are not such inefficient weapons as might be supposed.

But some specimens are so deficient in the requirements of a good bat, that the best use they can be put to is to be burnt.

Bats vary also very much in price, as well as in make; and price varies in different localities.

As regards balls and wickets, it will be found better economy

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to purchase a good article in the beginning.

With good treatment a full priced match ball will outlast half a dozen of the cheaper sort, and what is more to the point will be much better to play with throughout.

As regards wickets, practice wickets need only be stout and strong, but for matches, not only looks should be attended to, but also perfect accuracy of dimensions and workmanship.

Each separate stump should be rigidly, or as it is now more the fashion of the day to say - righteously straight: of exactly the regulation length, and perfectly free form knots and any kind of flaws.

This latter is a very important item, for any weakness is sure to be found out sooner or later, and a broken stump is not only unpleasant in a match, but entails, in most cases, the purchase of a new set.

The stumps being approved correct in all particulars, attention must be devoted to the balls, that they are of exactly the regulation length and thickness, and that they fit the grooves in the stumps neither too loosely nor too tightly, and that the grooves themselves are neither too deep or too shallow.

The grove should be of such a depth that exactly half the ball fits into it.

Special care should be taken not to let any portion of the ball project beyond the head of the stump, the difference of even the sixth of an inch may at any moment make all the difference between out and not out, and it should be remembered that losing a wicket thus through negligence is the same in effect as giving the opponents the odds of eleven wickets to ten on the game.

A good set of match wickets ought, if properly treated and cared for, to last many seasons.

A mere abstention from active injury, from leaving them about in the wet, with perhaps a little attention in drying them when they do chance to get wet, before putting them up, is all the care they require. Cricket equipment

In choosing gloves, whatever pattern may be selected, and there are many new ones every season, the main thing to attend to is to get them to fit.

Nearly any kind of glove will afford the desired protection; if therefore pains be taken that the fit be perfect, and that the glove does not interfere with the grasp and easy handling of the bat, minor details are practically immaterial.

The same rule applies to foot-pads.

Each player must follow his own fancy in the choice between boots or shoes;

I, for my part, prefer to have the free unimpeded use of my ankles, and therefore wear only shoes, while many men require or think they require, external support to the ankles, and consequently wear boots with spring sides, or even, as I have in some cases known, tight laced boottees.

There is a very mistaken custom, whether invented solely by shoemakers or not, I cannot say, but certainly in general acceptance with them, arranging the spikes, one under the big toe, and two under the ball of the foot; the objections to this arrangement are these:

First, that in running as all the spring is from the toe, only one spike is available for giving a hold on the ground; secondly, that the spike on the outside sole is of no service whatever in this position; and thirdly, that on hard ground the ball of the foot is found to suffer considerably, even to the extent of being much blistered by the pressure of the spike.

The method of arrangement I have found most effective and most generally useful for all grounds and all weather, is this. The three spikes are arranged in the form of a triangle, the base toward the heel.

To give a further hold upon the ground, especially at the sides, I have added a double row of steel-headed nails, arranged zigzag round the toe, and down the inside of the side and heel.

Thus armed, the shoes give a hold upon the ground as near to perfection as possible.

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The nailing should not be overdone, a common fault with enthusiastic amateurs, a third of an inch is the minimum of distance that should be allowed between nail and nail, half an inch is not too much.

If the nails be ranged too closely they will be found to have a most uncomfortable tendency to become clogged whenever the ground is the least heavy.

To some I may appear to lay too great stress upon details of dress and equipments, but the experience now of a good many seasons has convinced me that they are of the first importance a cricketer, however great his natural capabilities, cannot play up to his full strength unless everything about him is in full keeping.

Every article of his attire and general outfit is an item on one side or the other of the account:

It is either an assistance or hindrance.

Ill-fitting head gear, a baggy sleeve, a tight boot, may make all the difference between a good or a bad innings, a successful or an unsuccessful turn with the ball, a day's enjoyment or a day's hard labor.

Therefore, I again repeat, see that everything be all right not necessarily a matter of any particular expense, before you join in any match, and you will add greatly to your enjoyment of it, and in equal measure increase the odds in favor of your success n all points of the game.

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Cricket strategy

Batting, bowling and fielding....of these three it is difficult to say which is the most important.

I am strongly inclined to the opinion that Fielding, neglected as it sometimes has been, is the very foundation and backbone of cricket. Where is the use of fine batting if you have not the skill to prevent your adversaries doing as well or better than yourself, where the use of good bowling, if the batsman can afford to disregard the field?

Nevertheless, though great proficiency in either of these essential points may make an individual cricketer in an eleven, all these must be combined as the condition of its very existence.

Bowling there must be, batting there must be, but for all that, fielding is the mainstay upon which unless under very exceptional circumstances, the fortunes of each match must depend.

Granted reasonably accurate bowling on each side, and the eleven good fieldsmen would beat eleven good batsmen nine times out of ten.

As a matter of fact, a man may be a very good bat but a very poor field; whereas a good field is invariably, or almost invariably, a fair bat.

Fielding is in itself good practice for batting or bowling, and above all, fielding at long-stops or the wickets; the player therefore who is bent upon developing his batting, need not think he is wasting time by laying aside his bat and going in for a little work in the field.

Cricket strategy

A man may very well bat too long at practice, an hour is almost too long, but he can hardly field too long; that is, as long as he does not get fagged out.

I have often heard it argued thus in choosing a side: 'Smith is by far a better player than Jones - until he knocks up. His batting is first rate, if he goes in early in the day. We have two or three "stickers" against us, and are pretty sure of a good deal of leather-hunting, therefore we will play Jones rather than Smith. Jones is only a medium player, but then he is good to the end, whereas Smith would be worse than useless after the first three or four hours.'

Therefore I strongly advise all would-be cricketers to practice fielding zealously.

As in everything else in this world, proficiency is not to be acquired except by hard work and devoted attention.

What was it that made the public-schools' men of former days such dead hands at fielding?

Was it not the daily fagging out as youngsters in the playing fields to the batting of the big fellows, all the while under the stimulus of the gentle discipline of the middle stump in reserve for inattention and 'muffing.'

By similar hard work only, voluntary or involuntary, can fielding be restored to its old place in cricket.

A reaction is certainly springing up against that too strict devotion of the gentlemen to Batting, to the neglect of Bowling and Fielding, which has called down so many warnings and expostulations from the best veteran players.

Having said so much in favor of Fielding, let us go into the matter, and see what are the methods by which proficiency may be best obtained.

Fielding.

The science of fielding naturally resolves itself under two heads.

First, stopping the ball by a catch at the hop or on the ground, and second, by returning it to the wickets.

It might be thought by the uninitiated that the mere return of the ball, after having succeeded in stopping it, is a matter of the simplest kind, and hardly worth speaking of, much less investing with the dignity of a disquisition.

But the real fact is, that a perfect return to the wickets is very rarely attained, even by first class players; presumably, therefore, the art is more difficult to acquire than its necessary preliminary, the more stopping of the ball.

Certain it is, that with beginners, however apt, correctness and quickness of return is invariably the last thing they ever master.

But more of this in its proper place.

Stopping the Ball - In doing this, as in everything else, there is a right way and a wrong way.

The beginner should take care to find out which is the right way, and should then carefully practice that and none other.

Every time he stops the ball, he is either forming a good habit or a bad one.

Of course this is true in other things besides cricket; but it is of more importance in cricket than elsewhere, because the cricketer is almost entirely a creature of habit.

He has no time, when the moment for action arrives, to consider how he shall play; so short is the space allowed him, in general, in which to act, whether in the field or at the wickets, that a habit of instant, unhesitating adaptation of his play to the ball is his only chance.

A good habit, therefore, a correct attitude, taking the word in its fullest sense, as signifying the arrangement of every finger, of every muscle in the body, is of primary, vital importance to every would-be cricketer.

There is a very common saying about 'attitude being everything' - but the saying is perfectly true for all that.

Be it remembered though, that there is a vast difference between assuming at all times a correct attitude, and that detestable abomination in a cricketer - attitudinizing: the one is indispensable, the other to be shunned like the plague.

Since attitude, therefore, is of so much importance, let us try to see, so far as mere verbal description may serve us, what is correct attitude.

Every ball ought to be stopped by the hand or hands, the position of the hands, therefore, is the first thing to be considered. IN stopping the ball the player has two things to consider, first to stop the ball, secondly to do so at the least possible inconvenience to himself.

Some might think that this arrangement might be reversed, and personal immunity made the first object; but this is not the principle of a true cricketer.

First then, to stop a ball in the air, or in other words, to catch it.

It matters not whether the ball comes fast or slow, the method of receiving it is the same, and is this: the hands must be held with the fingers well spread out and slightly curved inwards, like so many hooks or claws; the thumb must be stretched well back, also slightly curved, and the palm must be made to assume a slightly cup-like form; the result of this arrangement is that the impact of the ball almost closes the hand by its mere actions on the tendons, the palm is driven backwards, and the fingers close almost involuntarily upon the ball.

To avoid very unpleasant consequences to the ringers, such as broken bones or dislocated joints, the hands should never be held with the line of the fingers, reckoning from the wrist to the tips, pointing in the direction of the course of the ball - this line should always be at right angles to its course. That is, if the ball be well in a line with the body and above the chest, the fingers should point upwards; if much below the chest, they must point downwards; if the ball pass much to either side, the line of the hand must be across its course. In a falling ball the palms must be upwards, for a rising ball downwards.

Of course the position of the palm and fingers above mentioned must be preserved.

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In using both hands, for a low ball the fingers must be brought together (both palms to the front), and slightly interlaced; for a high ball the thumbs must be brought together in like manner.

Further, to save the hands and wrists from unnecessary jars, the hands should be always held in such a way, that either by the flexion of the elbows, or the yielding of the hands, the ball may be received as upon a spring, and not upon an unyielding body. In taking a ball directly in his front, the player must take care that his hands are not driven in upon his body, by an unexpectedly sharp ball; if the part with which his hand comes in contact be hard, woe to his hands; if soft, woe to that part. I have seen men receive very unpleasant 'facers' from their own knuckles in this way, either from carelessness or awkwardness, or both.

To acquire this art of stopping the ball correctly, it is well to begin with catching it from gentle tosses at short distances, gradually increasing both the distance and the speed of the ball, being careful the while, at each attempt to note whether the position of the hands was in rule, and endeavoring to correct the defects as they show themselves.

The same practice should be tried with a rolling ball, and then a bounding ball.

A fair proficiency having been acquired in these initiatory practices, the tyro may proceed to the more ambitious points in fielding.

But first he must learn to stop the ball, both on the ground and in the air, with right or left hand alone, and must not rest satisfied until he can thus use either hand equally well.

With most men the left hand is weaker and less under control than the right, and should therefore be more exercised.

It will be found a useful plan to practice principally the weaker hand, paying little attention to the stronger, which is sure to take care of itself.

In order to learn the more brilliant points of fielding, the learner should first get a friend to throw the ball to him to field, from all distances in all sorts of ways, and with varying speed

and delivery, until every ball that comes within reach is stopped with absolute certainty.

I have found it a very useful practice in training elevens of boys, to take some three or four out in the field, set up one stump, and then standing there as wicket keeper, throw the ball to one or another, stationed at various distances around, and require quick handling and a sharp return.

When the art of stopping a ball thrown from the hand has been fully mastered, the next step is to practice to balls sent from the bat.

This is not such a matter of course as might appear.

I have known many a player who was 'death' on a throw, by no means too safe in real fielding to the bat.

The fact is, there is a very material difference in the way in which a ball comes to the hand, from a throw or from a bat; moreover, the sight of a ball from a bat is not so good as that from a throw.

In a throw, there is first the movement of the arm to guide the eye, and secondly a settled starting point for the ball, i.e., the hand; but with the bat, until the ball is actually struck, it is never quite certain what will be its actual course, nor can the precise part of the bat from which the ball will come be confidently predicted.

I would strongly advise, a sedulous devotion to fielding to the bat upon every possible occasion.

A beginner cannot do better than devote himself, when others are practicing bowling and batting, to the somewhat despised alas, that it should be so - duty of fagging out in the field; trying his powers at all points; more especially at long stop.

There is no place in the field where more real cricket may be learned and practiced than in this.

Nor should the young player on these occasions rest satisfied with merely fielding the ball more or less creditably; he will find it a useful change from what is otherwise liable to become a somewhat monotonous task, and what is more a most

improving practice, to study his weak points, as he fields each ball, and try to overcome them.

For instance, when long-stopping, to stand somewhere about the place of long-slip, and then try to stop the ball, crossing it at right angles, and using only the left hand.

I left-handed, he might stand on the other side, and practice picking up with the right.

In the field too, practice in picking up a ball at half volley, that is, just as its rise from the ground, is most improving.

Almost any ball that pitches reasonably near, and yet short of the fieldsman, may be taken this way, and the catcher must force himself to take all he can thus, as he will see that a mastery of this, perhaps the most difficult of all points, will give him a wonderful command over the ball at all other times.

We will suppose that the learner has now mastered thoroughly all the points of near and out fielding, that, so far as stopping the ball is concerned, he is ready to take his place at long-stop, slip, point, or anywhere, without fear of letting anything by him.

So far so good.

But let him not fancy that he has mastered the whole art and mystery of fielding.

He has learnt much, but yet only a moiety of the whole, a very important one I grant, but not of any very great value unless backed up by its equally, if not more, important remaining half.

Stopping the ball is all very well, but returning it in true style to the wickets is perhaps better.

Nothing shows a good cricketer so well as clean handling of the bal (by which I mean receiving it at once into the hand without any fumbling or clutching), and quick, accurate return to the wickets. I once saw a man run out in an eleven and twenty-two match, by a splendid specimen of quick, neat fielding.

The batsman, one of the best in the twenty-two, young and

active, hit a ball hard to cover point, and started to run, only one pace.

With an ordinary field he would have made his one, and perhaps two runs, but Hayward was there, and to cricketers' talk, 'got in his way' - he ran forward, scooped up the ball in his left hand, passed it to his right, chest high, and returned it so true and straight to the wickets, that it was only by inquiry that the spectators could decide whether the ball took the bails before or after reaching the wicket-keeper's hands.

As it happened, the wicket was 'all there,' and had the bails down before the too eager batsman could regain his ground.

A better piece of cricket, both in the field and at the wicket I never saw. Indeed, nothing better could be seen - for it was perfection.

I am persuaded that that incident alone cost our side - not counting the probable runs the unlucky batsman might have made, be nearly made his score the second innings, what with ones that might have been twos, and unproductive hits that might have been ones - and so on; at least twenty runs, to say nothing of its influence upon the nerves of the succeeding batsman, certainly not to be braced by the near attentions of such terrible fieldsmen.

Consider, therefore, O, suckling cricketer, that until you can return the ball, upon the instant of handling it, fairly and sharply to the top of the bails, your talents, however great in the stopping line, are nothing worth.

Not only must the ball, to be properly fielded, be handled neatly and returned sharply, it must be met.

The fieldsman must not be content to stand still to let the ball come to him, running only when the ball would pass him on one side or the other; the ball must be met.

A good fieldsman starts instinctively forward to every ball that comes his way.

Not, only, too, must the player run to meet the ball, but he must continue to run until the ball has actually left his hands on the way back to the wickets.

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Many players, too many indeed, run until just upon the ball, and then stop to throw it, not recognizing the value of the time thus lost.

What with the difference between the place where the ball might have been taken and where it was taken, with the loss of energy of action resulting from the dead stop, the loss of the distance the player would have passed over in the necessary step or two after taking the ball and before returning it, and finally the loss of additional impetus in the return to the wickets, a very tolerable case of woeful loss of time might be made out.

I used to play, a few years ago, with an eleven, wherein was a man in whom this habit was inveterate.

I often joked him, and also, tried, vainly, to argue him out of it, but to no purpose; he would not even allow that it was a fault.

One day, however, we chanced to be playing a home match, and on opposite sides.

When it came to be my turn to go in, I told him as I passed him that I would back myself to get a run every time he had a ball to field.

I had often told him before that it was possible, and he had always said, 'Only let' em try;' now my theory was to be put to the test.

I saw he was bracing himself up to look extra sharp after the ball, but still I was pretty confident that standing, as he did, at long-field off, he must give a chance every ball, unless he ran fairly in.

Very soon I had an opportunity, and sent a ball his way, and following it up, got safely home well before the ball was returned.

My opposite soon followed suit in the same way; and we stole at least half-a-dozen runs, amidst the cheers of our side, and the growlings loud and deep of our opponents, before he would condescend, or, indeed, conquer his old habits of false play to run well into the ball.

He did at last, and then there was such a near shave for the crease, that we judged it best to discontinue our 'little game.' The most extraordinary part of the affair was, that it did not cure him, or even bring him to confess his error.

Last time I saw him play, he was playing in exactly the old style, not a movement or an attitude altered.

Of as much importance as quickness of return is the straightness.

A ball well thrown in should come in as nearly a straight line from the fieldsman's hands to the bails as possible.

If thrown from a distance, the less the height of its flight the less time will it occupy in transit, and the less chance of runs will there be for the batsman.

A sky-scraping throw is an abomination to a real cricketer.

The great aim of a fieldsman, in returning the ball, should be to bring it to the wicket-keeper's hands as quickly as possible.

That, too, in such a manner, that the least possible movement may be necessary to displace the bails.

One more most important word of advice to the fieldsman, and then we must proceed with the other branches of our subject.

Remember, that as long as the ball is in play, never take your eyes off it, or let your attention wander from it.

Watch it all over the field with the same devoted attention as you might bestow were you in the last stage of love, and the ball were the object of your affection.

This is more important than might be supposed.

In the first place, only so can you guarantee yourself form an awkward blow from a stray ball.

In the second, be always ready for any of those numberless chances that occur in cricket.

The ball has always a shrewd knack of coming in one's

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direction, exactly when least expected and least prepared for..

I remember distinctly. I was once fielding for three hours at long-field. The day being chilly, and my work not being enough to warm me, I thought of donning my jacket. Being impatient of the cold, and quite unexpectant of having anything to do, I was guilty of the un-cricketer-like set of putting, or rather trying to put, on my jacket in the midst of an over - when I put on my left arm through one sleeve, and was just getting the other in, when a puff of wind took it and wrapped it round my arm and shoulder. At that very moment, as if it had been watching the opportunity, the ball came towards me. I ran to meet it, and - I didn't make it!. Oh, the agony of that moment! The man I did not catch out made fifty-two runs afterwards without giving the slightest chance! Let this be a warning to the careless and inattentive. At any moment the whole fortunes of a match may depend upon any one of the individuals playing. A moment's inattention or hesitation - a single moment's unreadiness - may change the whole fortunes of the day.

Steadiness - Its Importance

Last, but by no means least, of the virtues to be cultivated by the Fieldsman, and indeed by cricketers at all points - butting, bowling or fielding - is steadiness.

By this I mean not only steadiness of conduct, though that is a very needful trait of a cricketer's character, but steadiness of nerve - the steadiness, in short, though in a different degree, of the soldier under fire.

No man who is liable to be flurried and lose his nerve can ever be good for much as a cricketer. Here lies one great advantage of the Professional players over the Amateurs: the Professionals have no nerve at all to speak of - at least if they have they themselves are quite unconscious of the fact; they look upon the game as a matter of business, and consequently take its many variations with the most perfect nonchalance.

If they are not in luck one day they are pretty sure to be so the next.

A long experience has shown them that matters balance themselves very regularly at the close of the season. That, taking one match with another, fortune is sure to declare in the main in favor of the better players.

The confidence thus derived from experience and natural constitution gives the Professional player that admirable steadiness and self-command under circumstances of excitement and trial that prove of such incalculable service against the perhaps more earnest, but certainly more excitable amateur players.

Never, or very rarely, do you see a professional give an overthrow, through wild throwing, in circumstances of excitement. On the contrary, if it be possible to find any fault, the Professionals err on the side of too much coolness and deliberation. In being too confident.

Years and hard work have mostly tamed down the ardor of our leading Professionals before they attain to a leading place among their brethren.

Even the comparative youngsters amongst them are so over done by the almost unbroken succession of matches, in which their presence is indispensable, that, however good their condition may be, they scarcely come on to the ground in their full freshness and vigor.

If, therefore, the Amateurs would only cultivate steadiness as an addition to their undoubtedly superior activity and enthusiasm, they would prove a much harder nut for the Professionals to crack than, as a rule, they contrive to be.

The following is an excerpt from **A Boy's Own Book of Outdoor Sports**, published in the early 1900's. It is a handbook of outdoor sports and activities which were popular in England and the United States at the time. Some of the methods and terminology discussed in this excerpt may be outdated.

Cricket tips: Bowling

Though placed in point of order second to Fielding, I must be allowed to qualify somewhat the observations before made upon the relative importance of the two.

In giving Fielding the first place, I looked at the game as it is, and not as it might be.

Of course if you will get bowlers so accurate that every ball should be straight to the wicket, and pitched directly in the manner most difficult to play, then the field might become a subordinate part; but even against bowling such as this a batsman with no fear of the field before his eyes might knock up a very pretty score before finally disposed of.

Moreover, very few men can go on bowling their best when chances from the bat are not taken, or when runs are thrown away through bad fielding.

Even the best bowlers must miss the wicket sometimes, and if the wicket-keeper is a muff, and long-stop incompetent, the runs from byes quickly assume formidable dimensions.

The bowling of the present day is of two kinds - Bound Arm and Underhand.

Of those two, the first is the only form tolerated by young players, and even by many of more experience, who ought to know better.

Doubtless, round-arm bowling, like that of a few of the leading 'cracks,' is ahead of underhand, but these are exceptional cases; Men with Special Gifts; And even with them the art was not acquired nor kept up with out an amount of patient practice, for

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which few can or ought to spare the time.

The case stands thus: round-arm bowling is chiefly valuable for the increased power over the velocity of the all, but this increase of power over the velocity of the ball, but this increase of power is only gained by delivering the ball from an unnatural position, and with an unnatural action - an action and position, in fact, purely artificial from beginning to end; and in consequence, except in extra-ordinary cases, as above noticed, as much or more is lost by way of accuracy as is gained in velocity.

Underhand bowling, on the contrary, requires no extraordinary exertions of the muscles, no swing of the body, the arm being allowed to swing in its natural line of motion, as a pendulum, and yet it allows of great precision, gives room for the development of bias in the ball, far more destructive than mere speed, is not incompatible with a very considerable degree of swiftness; and finally, but not least, is not by many degrees so fatiguing as round-arm delivery.

Should round-arm bowling then; be laid on one side in favor of the underhand?

Certainly not; if a young player has the talent and takes to round arm naturally, finds it not too fatiguing, and feels it an actual muscular pleasure to bowl in this way, he would only be thrown away as an underhand bowler.

But let each follow his own beat - his physical bent, I mean; and let there be no more forcing of round arm bowling, just because it is 'the thing.

Men are to be found, like Blondin or Leotard, who can perform the most extraordinary feats, and do with apparent ease what the vast majority of ordinary mortals could never do at all.

But we cannot be all Leotards or Blondins.

Ambition is all very well in its way, but we should remember there is such a thing as aspiring too high, and toppling over on the other side.

My advice to the beginner is, to make up his mind quickly as to what style he will adopt.

If round-arm bowling comes naturally and easily to him, and if he has time for the constant practice necessary for him to acquire the art and keep it up, let him not be content with underhand.

But if there be any failure in one of these items he had better abandon the idea of round-hand bowling for once and forever, and strive to attain what excellence he may be underhand. In the latter style, he may do something, even, perhaps, great things, while he is sure to do little or nothing in the former.

We will suppose that round-arm bowling has been found within the compass of the beginner's capabilities: how should he proceed in order to make the most of his powers?

First, then, to hold the ball.

The ball should be held in the fingers, not the palm of the right hand - if right-handed - the fingers being well wrapped round it - and should be lightly retained in its place by the thumb.

Many bowlers hold the ball in its place with the fingers of the other hand till the ball is swung back for delivery. In delivering the ball, the arm must be swung round in a semi-circle and stretched right out from the shoulder; the nearer the arm is to the horizontal the more bias will there be on the bowling, and the ball must be delivered as the chest and arm come square with the wicket. If the delivery be earlier than this the ball will have a tendency to go wild to leg, and if later to visit the slips.

The body must be held well upright, the chest projected, and great care must be taken to avoid stiffness of action; the play of all the joints should be quite free and unrestrained. It is well to acquire a fixed habit of delivery, to accustom oneself to a certain unvarying regularity as of a machine.

The slight variation necessary to change the pitch, etc., of the ball will in a very short time become a mere matter of volition. Even the number of steps in advancing to the wicket should be made a matter of custom to be rigidly adhered to. The ball should not be allowed to leave the fingers all at once like a stone from a sling, i.e. with no motion but a forward one, a ball thus delivered is a very simple and easy one for a batsman to

deal with. The fingers must be unwrapped from the ball, as it were, singly, and its final impulse should come from their tips; this will impart to it the rotation on its axis or bias, in which lies all the life of good bowling.

A ball thus rotating will not rise from the ground after the pitch at the same angle, and in the same line of direction as before, it will take a new course altogether, more or less erratic according as its rotation was more or less rapid.

Exactly, after the manner, in fact, and upon precisely the same principle as a billiard ball with the 'screw' on it, or a bowl with a bias.

Then, the plainest bowling becomes dangerous, and deadly to all, but the most rigidly exact defense.

A lively bias super added, backed by sufficient judgment to direct it, and the finest batting in the world will make but little head against it.

The exact spot upon which to pitch the ball varies very much with the speed of the bowling.

The faster the bowling, the shorter must be the pitch, and vice versa.

From medium face bowling, and to a batsman of ordinary stature, the pitch may be from ten to eleven feet in front of the wicket. In mere practice it is a good plan to fasten a piece of white paper, or put a dab of whitewash, to mark the exact spot, and the bowler should then endeavor to pitch every ball as nearly upon it as possible.

A few half hours of sedulous practice in this way will, if the bowler has it in him, produce results that will surprise even himself.

But he must not be satisfied with an occasional drop upon the spot.

At least three balls out of every four should be within an inch or so of it - an amateur must not hope to attain perfect accuracy before he rests content.

And even then his 'rest and be thankful' should be only a rest preparatory to further and more sustained efforts.

I am thus particular upon this point because accuracy in it is the one essential without which all other qualities are simply thrown away.

And, moreover, it is only when a bowler has mastered all the mere mechanical details, that he can begin to use his head in bowling.

Then he can venture to try various lengths and curves upon the batsman; for it is no use discovering a weak point if there is not mechanical skill and precision enough to take advantage of it.

As I said before, for every batsman there is a special point on or about which the ball ought to pitch, so as to prove most troublesome to the batsman.

A ball pitched exactly upon this spot is called a 'length-ball' - all others are non-lengths.

If they fall nearer the batsman they are said to be over-pitched, if further away they are called short-pitches, or long-hops.

A ball that does not rise after it takes the ground but runs along it, is called a 'shooter,' and is one of the most difficult possible to play.

Length balls are thus the perfection of bowling, and it must be the bowler's first object to find out the exact length most puzzling to each individual batsman.

Only he should remember this, that the nearer he can pitch to the bat without being hit away, the more difficult will his bowling prove.

First class men, in the past generation, like Lilliewhite, Clarke, and their compeers, and a few in the present, will advance the pitch of the ball, inch by inch, to the extreme verge of safety, and having discovered the raw, cooly peg away at it until the batsman makes a mistake, which, as Artemus Ward says, must be eventually if not sooner, and then there is trouble among the wickets.

Cricket tips: Bowling

The rationale of this is, that with good bowling the ball can only be judged from the pitch; the least bias making its rise and subsequent flight out of all calculation.

The first pitch of the ball, therefore, only indicates the point of departure of the ball in its second and more important flight.

With downright fast bowling all the resources of the bowler are, by the very nature of things, confined to variation of time and pitch, both very useful in misleading a batsman, but still, against a good defense, not by any means so destructive as the more delicate weapons of finesse in the power of the bowler of more moderate type.

The swift bowler, in fact, trusts for success mostly to his mere swiftness, while the medium and slow bowler trusts to head work and delicate manipulation of the ball.

The one is pure brute force, very telling in the hand of peculiarly gifted men, especially on rough ground, while the other may be called The Chess of Cricket.

Fast Bowling, moreover, has one failing which is, in my opinion, except in cases like those above mentioned, a very great objection to it, unless it is very good it loses more in runs than it gains in wickets, however good may be the fielding.

The cause of this is, that the bowler is dependent upon the wicket-keeper and long-stop to save byes, a work of unparalleled difficulty with fast bowling, unless the ground be of the truest and the bowling of the straightest.

All these considerations lead me to advise the amateur not to attempt any great pace, unless it comes naturally, not to rest content with a medium and more manageable pace.

There is a style of bowling coming very much into favor of late years, about which I must say a few words. I mean Slows - though why called slows I cannot quite understand.

Some men undoubtedly do bowl most unmitigated slows; but the great masters of the art certainly do not bowl slows; but the great masters of the art certainly do not bowl slow.

It is a great puzzle to many people how bowling of this simple

(looking) kind can prove so exceedingly formidable to the batsman.

I have heard it seriously maintained even by seasoned cricketers - victims themselves more than once to these 'deadly slows' - that the whole danger of them lies in the overconfidence bred in the batsman by their simplicity.

Being a bowler of this type myself, I have had to bear much contumely and neglect, to listen to numberless lectures, even from men whose wickets have paid penalty to my bowling, that is not cricket, and only fit for 'duffers. However, the fair conviction is gradually forcing its way that fair underhand bowling is better and more cricketer-like than poor round-arm; the only thing tolerated a few years back. And more and more every season is there to be found fast bowling at one end of the wickets, and slow at the other. The once-condemned art is now an object of envy to its possessor, and those who once despised it come to learn its elementary principles.

Since 'slows' are thus rising into importance, let us inquire into the art and philosophy of them. I must request by readers to remember, that in cricket, as in war, time is everything. All that a batsman wants is time to judge the ball; grant that, and the variest duffer in creation could keep his wickets up for ever.

But what the batsman wants is exactly what the bowler must not give him.

The bowler's first object, therefore, after securing tolerable accuracy of direction, is to give the batsman as Little Time as Possible in which to make up his mind; and he attains it in one of three ways:

Either by absolute pace of bowling, or by medium pace combined with fair bias, or, finally, by bias, variation of pitch, and curves of ball, with somewhat slackened speed.

Granting equal proficiency in the bowling, and the result is much the same.

But there is this to be remembered, that the fast and medium pace round-arm is altogether an artificial production, depending entirely upon an unnatural use of the muscles of the

arm and shoulder, capable of being brought to perfection but by few.

The percentage decreasing rapidly as the pace is increasing.

Not that the slower bowling is easy or of simple acquirement.

It requires more head work and far greater accuracy than the other two, but then it does not require such unremitting practice to keep it up, nor is it so fatiguing as they are; it is therefore the style most fitted for the amateur.

It will be remembered that I observed above that the batsman could only safely judge the ball, so as finally to judge how to play it.

After the Pitch. This is generally true, but at the same time only partially so of very fast bowling.

In very fast bowling the ball moves only (so far as the batsman is concerned) in straight lines, straight from the bowler's hand to the pitch, and straight from the pitch to the wicket; it rises, too, very nearly at the same angle that it takes the ground, and is therein of course more easy to be judged than if there were any variation: and thus the batsman knows all about the ball barring accidents, almost as soon as it leaves the bowler's hand. Further, a swift ball must, of necessity, be pitched shorter and therefore farther from the batsman, than a slow ball. This of course, gives the batsman a longer sight of the ball, so that even in this, matters are pretty well equalized between the two extremes of bowling.

A swift ball pitches shorter, but comes in quicker; a slow ball pitches farther, but takes a longer time getting over the same distance.

But the real power of slow bowling lies, first, in the extraordinary bias or "screw" that can be imparted bias is able to produce, partly from having a longer time to bite on the turf, and partly from its almost vertical fall to the ground which gives a better hold than the mere glance on and off of the swift bowling.

Secondly, in the facility the bowler possesses of concealing any change of pitch from the batsman by the simple expedient of

bowling a little higher if he means to pitch short, or a little lower if he means to pitch up.

To the spectator at the side this ruse will be at once detected but the batsman, it must be remembered, sees the ball end on, and therefore has scarcely any data to guide him except the height of the ball in its first flight.

If this, therefore, be varied in inverse order to what would be the ordinary rule, it is not remarkable that he should be sometimes at fault.

Thirdly, slow bowling making no extra demand upon the muscles, enables the bowler to pay more attention to accuracy of pitch; and pitch, as I have said above, is everything.

The bowler that can bowl most length balls - straightness being understood - is the best bowler in the end whatever his pace.

And, finally, the batsman has to deal with curves instead of straight lines, and, what is more, if the bowler knows his business, with curved lines in endless variety.

This, then, is the stronghold of the slow bowler.

He can puzzle the batsman by varying curves and delivery, as to the exact spot on which each ball will pitch, and by eccentric bias, puzzling him still more afterwards, force him to meet the ball with a straight bat, and play well down every ball that cannot be fairly hit, under the penalty of giving a chance to the field.

A spinning ball has, unless the batsman be very careful a very uncomfortable habit of running up the bat and flying off at quite an unexpected angle into the ready hands of point or slip, the easiest catch possible - a circumstance, the mortification of which is not decreased by the accident being laid to the account of the bad batting instead of to the credit of the good bowler.

Advice to Young Bowlers. Having adopted your style - form it, if possible, upon the model of one of the leading bowlers of the day, fast, medium, or slow, as the case may be - be careful to bowl in as plain a manner as possible.

All mannerisms are either the result of affectation, and

consequently simply detestable, or of mere unmeaning habit, and therefore unnecessary - away with them.

Bowl as upright as possible; every inch of height is an advantage, and moreover, the more upright you stand the better your command over your muscles.

Finally, keep the body as steady as you can, compatibly with free and easy movement of the muscles.

Remember, that in underhand bowling, especially, the shoulder is the fulcrum from which the power is obtained, and if that be unsteady, ow can the arm depending therefrom work truly?

A steady arm and hand, a ready wit, and a good eye, not to forget an even temper, with attention and practice are the making of a good bowler.

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How to bat in cricket

We now come to that part of cricket which is by many esteemed as the very first and the last.

However much opinions may differ upon this subject, and I have already put in a special demurrer against its claim to the first place in the game, sure it is that without batting, the game would be simply non est.

And without scientific batting too tame to be worth playing.

Let us, therefore, consider, in as extended detail as space will admit, the science of batting.

A correct attitude in readiness to receive the ball is of the utmost importance.

In one position, and in one only, can a player have all the use of all the muscles he will require at the critical moment. Batting, it must be remembered, is a succession of sudden starts into activity, with intervals of rest, and not one prolonged effort.

The body must, therefore, be so poised and situate in this attitude of quiescent expectation that the requisite muscles may be ready to come into play in the quickest and most effective manner, and this can be effected only by assuming one position, fixed and invariable in each individual.

To take up this position, which, however it may vary in minor matters, is substantially identical with all good players, the beginner may proceed thus:

Supposing a line to be drawn from the middle stump of the

How to bat in cricket

batsman's wicket to the point at which the ball leaves the bowler's hand, this will cross the popping crease nearly at right angles; this point of intersection is called The Guard, and may be marked by the batsman in any way he likes best (a scratch with a spike or one of the bails is as useful a way as any.)

A moment's consideration will show that the bat, grounded, and held upright at this spot (often, by-the-way, called the block-hole) will effectually obstruct the passage of any ball from the bowler to the wicket.

This gives the batsman a fixed point from which to judge the more or less accuracy of flight of the ball, and at the same time affords an invaluable guide to the correct position of the bat in defending the wicket.

The guard may be taken at any point between the popping crease and the wicket, at the pleasure or convenience of the player; but the one mentioned is the more advisable, as it gives the batsman more room for action, and at the same time a greater command over the pitch of the ball.

It is the business of the bowler's umpire to give the correct guard to the batsman.

The guard being taken and marked, the batsman has now to make ready for action.

If a right-handed man, he must stand with his right shoulder toward his own wicket, and his left towards the bowler's, his right foot parallel with and just inside the popping crease, and the toe about two or perhaps three inches from the guard, and the left foot somewhat advanced and pointed forwards.

The bat must be held with the face towards the bowler; the point touching the guard, and the handle slightly inclined forwards.

The right hand grasps the handle of the bat a few inches from the shoulder and in the rear, the left holds the handle a trifle higher up, but from the front; the hands being thus on opposite sides of the handle.

This is the 'position;' now for the 'attitude.

How to bat in cricket

For this the player has only Three Simple Rules to remember:

To stand as upright and as easily as possible, to balance the body on the right leg, leaving the left free for any movement, and to turn the face easily and naturally towards the bowler, watching him over the left shoulder which must be kept well forward, the left elbow well up.

Many good batsmen, indeed most of our very best; having 'taken guard' in the manner described, rise to their full height holding the bat still in the line of the wickets - but swinging a few inches clear of the ground.

This attitude, though apparently less cautious than the former, is in reality, in the case of an experienced player, far more effective even for defense, since the increased height of the eye gives a better sight of the ball, and the bat is more ready for 'bailers,' - balls that rise high to the bails - without losing, in my opinion even gaining, in the power of being down upon 'shooters.'

For, be it remembered, it is far easier to drop the bat than to raise it.

Moreover, the batsman standing upright has his muscular powers more at his disposal than when stooping.

The player is now ready for the bowler to deliver the ball; but something more is necessary before he can defend his wicket or strike with full effect.

The bat is merely hanging from his hands perpendicularly in front of the wicket, in order to put it in a position to block, that is stop the ball, or strike, a further movement is necessary.

As the ball is delivered, the point of the bat should be thrown lightly and smoothly back upon the bails, the right hand to be used as the pivot, and the left being changed from front to rear, until the whole bat lies in the line from the top of the middle stump to the bowler's hand.

This position allows the batsman, by the mere dropping of the bat to its previous position. If the call be straight and difficult, to stop it quite as effectually as if the bat had never been moved, with this further advantage, that the bat strikes the ball, How to bat in cricket

not the ball the bat - a point always to be gained if possible.

Thus offering the chance of a run, where otherwise the ball might have fallen dead.

And if the ball be hitable, the bat is ready raised for the purpose.

So thus the batsman is enabled to wait till the last moment and hit or block as seems best.

Only let him take this to heart, that if he block, he shall block as late and as hard as possible.

Thus have I often seen even fast shooters turned into capital by a good bat, to the great discomfort of the bowler.

A beginner should practice this action of the bat at every opportunity.

For practice, a stick is quite as serviceable as a bat.

The change of the left hand from front to rear is somewhat difficult to acquire at first; but may be very soon picked up by constant practice.

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Cricket tips: Hitting

The score is the real criterion of a batsman, and if he be not competent to make runs, however difficult it may be to get his wicket, I must at once pronounce him no cricketer - mere poking around the block-hole is not cricket - it is a mere waste of time.

Defense is the first consideration of a batsman, but it is so only that he may get opportunities for hitting.

The first point in hitting is to insure the flight of the ball from that part of the bat which will propel it farthest. This is called 'the drive,' and lies about five inches from the point of the bat, varying slightly according to the weight and make of each bat, but very easily discoverable by experiment.

The next thing is to time the hit so as to catch the ball just as the bat is moving at its greatest velocity, and this can only be done by hitting as late as possible, not with a heavy dead swing of the bat, like the sway of a sack, but with a sharp rapid action, as though wielding a switch.

In striking a ball as it passes, i.e., from an erect position, the whole power of the hit comes from the swing of the bat; but in forward hitting from the position of forward play, the main power is derived from a sudden thrust of the right arm and shoulder, meeting the ball just as in shoulder-hitting, in boxing.

The most forcible shoulder-hitters rise slightly upon the toes to gain more height, and then drop forward from the vantage ground thus formed with all the force and impetus of their body to back up the mere muscular action of their arms.

Hitting may be roughly divided under two heads, ground-

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hitting and sky-hitting.

The latter, especially from a half-volley, that is a ball picked up just as it rises from the ground, is the most alluring to batsmen, and most appreciated by the unscientific spectators; but a low skimming hit, the ball flying about three or four inches from the ground, is the safest, as not being liable to be caught, the most difficult to stop, and the most telling on the score.

An habitual sky-hitter is a man of short scores.

Bad fielding and bowling may, if he have a good eye, give him an occasional run of luck, but with real players his run of life in the cricket sense - will be very short. I should strongly advise the beginner sternly to deny himself during practice hours the indubitable pleasure of high hitting.

A habit formed at practice is very apt to lead one astray in a match, and one mistake may be fatal; high hitting, too, requires no practice: if a man can make the other hits he wants no tuition to enable him to punish an occasional loose ball by lifting it over the heads of the outfielders. Space forbids my following in detail 'the various hits upon the ball.' the Following diagram will show the position and name of each hit, and I must content myself with very slender directions for their due acquirement.

Slip is made by allowing a ball on, or a little wide of, the off stump to glance from the edge of the bat, care being taken, in this hit and in all others, to keep the ball down, or 'caught out' will be the result. If the ball be two or three inches wide, and near the ground, it may be sent with considerable velocity between the lines marked for the slip and the cut, by dropping the bat on it sharply just as it is passing the wicket, the later the better. This is done by a sharp, quick action of the wrist, and a down drop of the shoulders. It is technically termed 'snicking' which word I must use for want of a better.

The Cut proper is made by hitting a high rising ball with a horizontal bat, just as it reaches the wicket. Another form of the cut is made off a lower ball, and with an upright bat - it is not so brilliant a hit as the cut proper, nor so effective, but it is far safer, the attitude in the cut proper making it quite impossible to stop a shorter or keep out a breaking ball - i.e.,

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one that pitches wide of the off-stump and turns into the wicket. The other hits, until we come to square-leg, are not so peculiar as to require a special description.

Square Leg may be made either by playing forward as before directed, upon a ball slightly wide of the leg-stump, which will then fly off square to leg, or by the Cambridge poke, which is very useful for a high rising ball on the leg-stump.

Draw. By which a ball is allowed to glance off the bat to leg, is useful with balls like the preceding, but difficult to meet forward. The attitude is the same as in back play.

Leg Hit. Very useful against loose bowling. It is best made by stepping slightly forward with the left foot to an over-pitched leg-ball and hitting square to leg; the combination of the two forces, the original impetus of the ball, and the fresh impetus imparted by the bat, will carry it in the direction of leg. A hit is sometimes made by reaching forward to a short-pitched ball, and swiping across, the bat pointed to the pitch. This is all very well, if successful, but the least deviation of the ball may either take it past the bat, or more disastrous still, send it skying into the air off the edge; it is, therefore, not to be commended to the novice. There is a further modification of the leg hit, occasionally of some service. The left foot is made to describe a semicircle round and in the rear of the right, and the body is faced round nearly to square-leg. This hit is employed by a few to pick up leg-shooters - it enables the batsman to hit them along the ground to leg with considerable force. The hit must be as late as possible to the effective.