

becomes more accustomed to them, these prejudices will die out. Horses are being educated to meet motors without shying, as they were educated to meet railroad trains, trolley cars, and bicycles, and familiarity is daily breeding—not contempt, but the necessary added care on the part of all concerned, which this new method of locomotion calls for.

MOTOR-BOATING.

WHAT is more delightful to while away an hour or two of a sunny afternoon than a spin up the river at a steady five or six miles an hour, without the slightest fatigue? What the light car is to the road the small motor-boat is to the river.

To many people, especially those within convenient reach of our rivers and canals, and at seaside resorts, the attraction of a spin upon the water is irresistible. Their ambition is to be possessed of a small motor-boat, but the question of cost is so much an inscrutable mystery that they hesitate and finally dismiss their desire as being impossible, owing to the limited length of their purse-strings.

The motor-boat has so many advantages over the simplest motor-car that a great many people would much rather boast a boat than a car. There are fewer integral parts, and less liability to breakdowns. There are no change-speed gears about which to worry, nor differential gears to cause any anxiety. Moreover, there is no trouble in connection with the facilities for cooling the motor so long as the engine is fitted with a powerful pump. The driver does not have to husband his cooling medium after it has passed through the cylinder jacket, for he can discharge it directly into the water and draw fresh supplies from an illimitable source.

The fundamental components of a motor-boat are the motor: invariably a reducing gear, to reduce the number of revolutions of the engine shaft for the propeller shaft (since it is obvious that a speed of 1500 or more revolutions per minute in the engine is utterly unsuited to the propellers); the propellers, together with reversing gear—though every boat is not fitted with the latter mechanism, the propeller simply revolving in a forward drive. The reversing gear, however, is invaluable, especially when it is desired to arrest the speed of the boat suddenly or to manœuvre, and is well worth the extra cost.

A motor-boat is no more exposed to the danger of fire than a motor-car. All fear of fire can be easily overcome by the exercise of cleanly and careful habits. The bottom of the boat beneath the engine should be kept scrupulously free from all accumulation, then no fear of fire need be entertained, and the boat will be as safe from this danger as a car or a bicycle.

The great efforts are toward a practical, every-day, moderately

speedy, safe, and reliable craft, that can be used as a tender for a larger boat or for cruising on its own account. The motor-boat, with a speed of from fifteen to eighteen miles an hour, and that can be relied upon to reach its destination, has much to recommend it to a yachtsman, and its use in naval affairs is unlimited.

The motor-boat's great field lies, however, among those who cannot afford a larger craft—the hundreds who satisfy their craving for sea life with a small sailboat or a steam-launch. The motor-boat is of such light draught that it can go almost anywhere in any river or lake, and its ease of handling recommends it to those who have not sufficient mechanical knowledge to operate a steam-launch or a launch with the regular type of marine motor. The manufacturers have devoted much attention to the production of an easily operated boat, and, working along the lines previously followed by the automobile manufacturers, have turned out boats which can be run with very little care.

MOTORING.

BY

SIGMUND KRAUSZ, AUTHOR OF "KRAUSZ'S COMPLETE AUTOMOBILE RECORD."

The Care of an Automobile.

WITH the simplification of the mechanism, the introduction of automatic lubrication, and the protection of the machinery against road dirt by means of metal aprons and gear casings, etc., the modern automobile does not give half as much trouble in its care-taking as of yore. Nevertheless, the man who runs his car himself, and wants to do it on an economical basis, will find that it takes considerable attention to keep an automobile in good condition, which is the only way to get proper service out of it. Neither should his attention, in the form of supervision, be omitted in case a chauffeur is employed, as many of these are only too negligent in the care of the vehicles entrusted to them. In both cases an intimate knowledge of the working parts of the machine is a necessity.

Undoubtedly, the most important thing in the preservation of the motor mechanism is the lubrication; but while a modern automobile, as a rule, has an effective system of automatic oiling for the principal parts of the motor, transmission, etc., there are still numerous components of the car which need personal attention. According to the wear to which the various parts are subjected, they will need more or less attention and a larger or smaller quantity of oil, the quality and

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