

**MODERN
MOTORING OR THE
AGE OF GASOLINE**

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Modern Motoring or the Age of Gasoline by Alfred Armstrong Crocker

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ALFRED ARMSTRONG CROCKER

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OR
THE AGE OF GASOLINE

BY
ALFRED ARMSTRONG CROCKER
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CINCINNATI, O., U. S. A.
THE EBBERT & RICHARDSON CO.
1912



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MODERN MOTORING, OR THE AGE OF GASOLINE

CHAPTER I.

TECHNICAL POINTS OF THE MOTOR.

In presenting the motor car subject it is a question whether to present the technical side first, then the popularity side, or vice versa. It can readily be noticed by the adept from what point of view or combined points the novice approaches the game. However, there is a technical side, in fact, a very technical side, to the subject, and it is my aim and intention to make plain the salient points of same, so that the reader will have full knowledge both

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theoretically as well as afterward practically. There are so many who are really interested in the sport, who notice the wheels go round and catch the image of the limousine and touring car, who feel unacquainted with the principles which actuate the motor, that they are drawn with curiosity, then with absorbing interest to a knowledge of the mystery.

These technical points are simple yet necessary, and with no extra amount of application may be readily understood and aptly applied by the public in general. Motoring is already as widely diffused as to knowledge as is music, and possibly if it keeps up its rapid pace will be as popularly understood as horsemanship and possibly more so.

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The abstruse technical points of the motor and chassis (chassis means running gear and engine, in other words, auto in the nude), are adequately treated of in special books on the subject. See "The Gasoline Automobile," Albert L. Clough; "The Horseless Age;" "Self-Propelled Vehicles," James E. Homans, A. M., Theo. Audel & Co.; "The Operation, Care and Repair of Automobiles." These books are purely technical and are of great value to the motorist, being devoted to the algebra of motoring.

The four-cylinder engine of about 30 H. P. is the standard engine of manufacture and use. There is no lapping of the power impulses in the four-cylinder type, but each cylinder takes up the power stroke with such con-

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stant and uniform continuity that the torque is practically constant. By this I mean that the power stroke in one cylinder starts as soon as the power stroke in one of the other cylinders ends. The four-cylinder engine is the medium of all the various merits and demerits of construction and does the work. They may eventually put in a six where they formerly supplied a four, but all users of the four will remember its many advantages.

The phases through which each cylinder passes are: intake, compression, power, exhaust. On the intake stroke downward the intake valve is open and at near lower dead center it closes and the piston coming up compresses the gasoline mixture drawn in from the carburetor on the intake

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stroke. At the top dead center at end of compression stroke (a little before in fast running under load) the gas is fired by the ignition apparatus through the spark plug and the power stroke ensues, the piston passing downward under impulse of the expanding gases to lower dead center again. Then follows the exhaust stroke, the piston coming up with the exhaust valve open. Near top dead center it closes and immediately the intake stroke follows. During compression and power strokes both intake and exhaust valves are closed. These cycles and phases of the engine follow in quick succession. In a four-cylinder engine each of the four cylinders is placed on one of these four phases so that each cylinder represents at any time some one

