

AMERICAN UNDERSLUNG ADDS FIRST SIX-CYLINDER MODEL

Employs Long-Stroke Block Motor of Unusual Compactness and Devoid of External Pipes—Traveller Features Retained.

After having permitted others to feel out the market for the six-cylinder car, and having itself successfully performed the feeling operation for underslung construction, the American Motors Co., of Indianapolis, Ind., at length and after careful preparation has launched a model combining these

and stems, which feature, it is pointed out, effectually obviates the possibility of unequal distortion and consequent sticking or breakage. Permitting more effective distribution of the cooling water through the radiator, two inlets are provided, with a branched T-shaped header. Draft through the tubes is induced by a cast aluminum fan with ample provision for taking up the slack in the driving belt.

Conforming to modern practice, both intake and exhaust passages, as well as water passages, are cored integral with the casting. Thus, it becomes a comparatively simple matter to eliminate the usual intake manifold and to substitute for it a comparatively short pipe leading directly from the

frame members to prevent the ingress of road dirt.

Leaving the intake side of the motor perfectly clear except for the presence of an electric horn, which forms part of the regular equipment, the high tension magneto which provides ignition energy is mounted on the left side, together with the water pump and the electric lighting and engine starting equipment. Thus, in addition to facilitating carburetter adjustments, the location of the magneto on the opposite side effectually reduces the fire hazard due to the ordinary juxtaposition of these two essentials. The lighting and starting equipment is mounted on a substantial base and is



AMERICAN UNDERSLUNG "SIX," VICE-PRESIDENT MENASCO AT THE WHEEL.

two features in the newest addition to a line that long has been one of the leading exponents of the principle of underslung frame construction. As might have been expected, the new car has a number of features in common with its predecessors, though it differs from them radically in a number of others, not the least significant of which is the employment of an unusually compact T-head, block-cast motor, in which even the water pipes have been eliminated by incorporating them within the casting. The car is designed to sell for \$4,500, the price including complete equipment quite as a matter of course. It is styled Type 666, the figures serving to indicate that it employs a six-cylinder, 60-horsepower motor and the body accommodates six passengers.

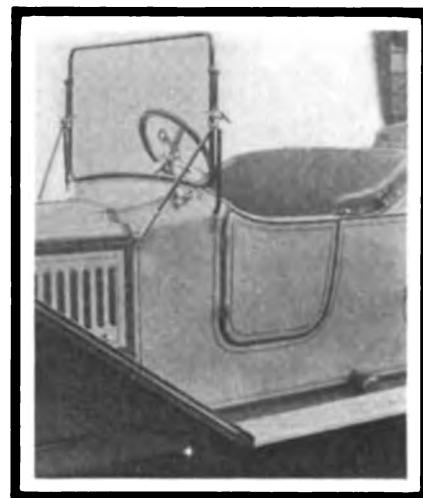
Barring the compact appearance of the motor, which, by the way, measures 4½ x 6 inches and delivers 65 horsepower at 1,000 revolutions, its most conspicuous feature is the absence of water piping and the miscellaneous other odds and ends usually considered essential to proper and efficient operation. Instead of being conveyed to the cylinders through outside pipes, the circulating water is led directly into the cylinder casting from the radiator, the passages being cored integral. Full advantage is taken of this method of construction thoroughly and adequately to cool the valves

carburetter to the side of the casting, the disagreeable tendency of some of the slightly heavier grades of fuel to "load up," or condense en route to the cylinders by reason of long passages, being obviated. In-



AMERICAN TANK SUPPORT

identally, the construction permits of the carburetter being placed fairly high where it is instantly accessible for adjustment. Oil pipes also are contained within the casting and the effect of "cleanness" which prevails is heightened by the use of closely fitting valve mechanism covers and webs cast between the supporting arms and the side



INTEGRAL WINDSHIELD AND LAMPS

driven through the intermediary of solid shafts to the timing gear train, which has been proportionately strengthened to perform its added work. Consequently, the usual forms of flywheel gearing and "silent" chains are conspicuous by their absence.

In the matter of a clutch, American engineers have found little room for improvement in the cone type that has been used for so many years in the Traveller models, and hence that type has been adopted in its entirety except that a few minor refinements have been made. Thus, for instance, the combined helical and spiral spring which holds the clutch in engagement is retained quite as it has been used in the past. It is equipped with a ball thrust bearing to take the end load and ball bearings on the clutch bushing and the yoke successfully eliminate friction at these points. Similarly, the change speed mechanism is substantially the same as that used in the Traveller models, with a few minor improvements. Gears are large of face, of high grade alloy steel and are cut to close limits to eliminate the usual growl that emanates from "down below" when running on low speed. Four speeds forward and reverse are provided, both lay and drive shafts being mounted in large diameter im-

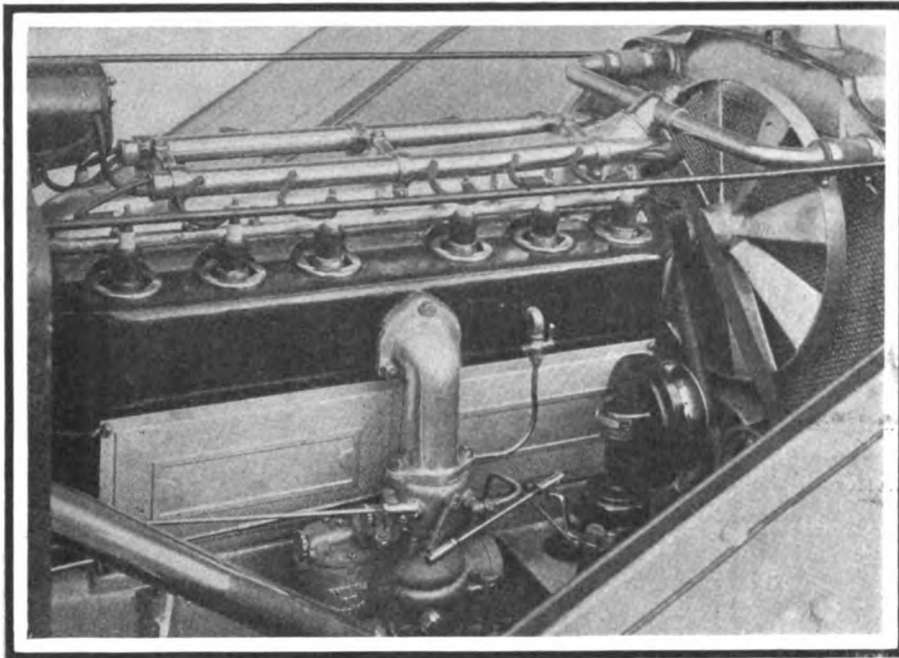
ported ball bearings. Shifting rods are supported in exceptionally long bearings and are fitted with positive locks, making gear shifting easy and certain.

From the gear box, power is transmitted to the rear wheels in the orthodox manner through the intermediary of a propeller shaft enclosed in a drawn steel torsion tube made fast at the after end to the axle housing, which is of the built-up type in which the axle tubes are rigidly fastened to a cast steel differential housing. The top half of the housing is removable without the necessity for disturbing any other part of the axle, and the entire differential mechanism can be lifted out through the opening. The axle itself is of the full-floating type in

point out—is materially to lower the center of gravity and thus to increase stability. Both front and rear are supported on unusually long and flexible semi-elliptic springs. One slight departure from previous practice is to be found in the method of hanging the gasoline tank at the rear, the construction, which is exceptionally solid and provides more than ordinarily complete protection for the tank being best made plain by the accompanying picture.

The chassis is fitted with a roomy six-passenger touring body in which the effort at the elimination of projecting parts is reflected by the absence of door hinges and latches and the clever manner in which the side lamps have been almost hidden in min-

Woodward avenue, Detroit, Mich., which for some time has been in process of formation, at length is ready to market its first product, an orthodox five-passenger touring car styled the Read "30," which lists with complete equipment at \$850. The car mounts a four-cylinder unit power plant in which the cylinders are pair-cast and measure $3\frac{3}{4} \times 4\frac{1}{2}$ inches; ignition is effected by means of a high tension Briggs magneto and mixture is furnished by a Holly carburetter. The other essential elements of the car include a three-speed selectively operated gearst with the control lever in the center of the footboard, leather-faced cone clutch and semi-floating rear axle. Rear springs are full-elliptic, with the lower halves hung beneath the axle and the front members are semi-elliptic. The wheelbase is 115 inches on $32 \times 3\frac{1}{2}$ Goodyear tires carried on demountable rims. Equipment includes top, windshield, speedometer, gas head lamps and tank, and the usual horn and tool complement.



INTAKE SIDE AMERICAN "SIX," SHOWING ABSENCE OF PIPING

which the weight of the car is supported on large annular ball bearings. In the case of the drive pinion and the ring gear, the bearings are mounted in adjustable cages.

Naturally, the front wheels also are mounted on large diameter annual ball bearings, though it is one of the distinctive features of the car that a double thrust bearing is provided. Both sets of brakes, service and emergency, are equalized and are mounted inside rear wheel drums which measure 16 inches in diameter; each brake band is two inches in width, thus providing sufficient braking surface to bring the car up "all standing" if necessary. The steering gear is of the irreversible worm and sector type and is mounted in special bearings to ensure easy operation.

In the design of the frame and the method of suspension, the construction differs in no whit from that already made familiar by previous Americans. The frame is carried beneath the axles, the immediate effect of which—it scarcely is necessary to

ature tunnels. Incidentally, the windshield is no more an accessory than is any other part; it is built in place without the use of the usual filler board and the struts are so placed as to offer the least possible obstruction to the driver's vision.

The standard equipment of the car, all of which is included in the price, embraces a specially designed cravenetted mohair top with the usual slip cover and side curtains, electric lighting and engine starting system, 100-mile electrically lighted speedometer-clock combination, adjustable windshield, electric horn, shock absorbers, demountable rims with two spares, robe and foot rests, and the usual complement of tools, tire repair kit, pump, jack and spare parts.

Read Makes Ready an \$850 Model.

Having finally perfected its organization by the election of R. J. Read as president, Roy Herald as secretary and J. E. Beatty as treasurer, the Read Motor Car Co., of 541

Kelly Truck's Branches Reorganized.

Since Charles B. Shanks assumed charge of the Kelly-Springfield Motor Truck Co.'s sales department, its system of branches and service stations, among other things, has been considerably reorganized, a number of new men having entered the service. As reorganized, the branches and their managers are as follows: New York City, N. Y., A. S. Holly; Cambridge A. Boston, Mass., P. S. Aultman; Philadelphia, Pa., James Joyce; Kansas City, Mo., Charles B. Packham; Chicago, Ill., L. R. Garrison; Seattle, Wash., Henry E. Schmidt; San Francisco, Cal., Frank G. Miner; Los Angeles, Cal., J. L. Stone (assistant branch manager in charge); Dallas, Tex., A. R. Hayden; Cleveland, Ohio, D. C. Hathaway; Birmingham, Ala.

A. C. A. Decides to Retain Laboratory.

It has been decided by the Board of Governors of the Automobile Club of America that the club's fine testing laboratory, the discontinuance of which was practically decided upon because of the expense involved in its maintenance, is to be retained. The work will even be carried further than the laboratory itself permits, for it is planned to make road tests of cars and accessories—carburetters, tires, ignition apparatus, cooling systems and so on. In making road tests the A. C. A. is following the example of foreign organizations, which have done work of this character for dealers and manufacturers.

The Firestone Tire & Rubber Co. has opened a branch in Milwaukee, Wis., at 456 Milwaukee street. It will be managed by J. E. McGinnis.