

# The First Austin Lorry

## A Remarkable Design of Two-Ton Chassis

It is generally known that for quite a number of years Mr Herbert Austin, of the world-renowned British motor manufacturing firm of that name, has been looked to for originality and boldness of design in whatever branch of construction he interests himself. He has seldom allowed his undoubted creative



*The Austin 2.5 tonner is captured in all its glory, while the south-bound freight train rumbles by.*

genius to be fettered by conventional methods of construction. It is for this reason that an invitation from him to inspect any new model which may have been produced from his shops is always accepted with no small degree of pleasure.

## Quite a Departure.

It is a long while since Mr Austin gave such serious attention to the production of commercial motors of any considerable load capacity. As a matter of fact, his only incursion into the industrial field since he has been building up, in so remarkable a manner, the fortunes of the Austin Motor Co., Ltd., at Northfield, Birmingham, has consisted of the production of a natty little cab chassis, which, however, did not quite satisfy the ideas of the Scotland Yard authorities. Nevertheless, the same model has done excellent service as a small van and as a private landaulette. It may be remembered that the driver is seated centrally, as regards that chassis, immediately over the engine.

## A Low Loading Line

The dominant feature in the unusual methods of construction that have been adopted in the course of the design of the new Austin industrial chassis is undoubtedly the lowness of the frame line, and much of the whole conception is directly traceable to a desire to preserve a low loading platform on this model. The frame-work consists of a somewhat elaborate open girder-work construction, and this is suspended, respectively, on the front and back axles by novel arrangements

of the usual laminated springs. At the front long semi-elliptic springs of normal type are located within the frame line, in order to ensure a quite unusual degree of lock for the front pivoted wheels. The front springs are anchored at their forward ends.

### **Novelty of Suspension**

At the rear of the frame an entirely new method of suspension is adopted. Two springs are used on each side of the rear axle; one of each pair is placed above it and the other below, and it is claimed by the constructor that this arrangement efficiently provides for the transmission of either propelling or braking effort without imposing lateral bending action upon them.

### **Large Lock and Easy steering**

Reference has just been made to the provision which has been made to ensure that this machine should have the maximum of lock. Care has also been taken to ensure the greatest possible facility of steering. For that purpose, special; cast wheels have been devised, and these are dished in such a manner that the pivots are located directly over the points of contact between tyres and road. Another feature of the wheel design is the entire absence of protruding hub, a characteristic which will be much appreciated by those who have not hesitated to launch criticisms in this respect at some of the models which are much in use today. Quite a considerable proportion of the collisions in thick traffic, in which London motor 'buses' are involved are due to the striking, by some passing object, of protruding front hub caps. All four road wheels on the Austin two-tonner are cast steel, and the front one is riveted on to a flanged spindle of case hardened nickel steel, which runs in phosphor bronze bushes carried in the swivel heads. The rear wheels are bushed, and run on axle tube, which is specially ground for the purpose.

### **Accessibility a Great Feature**

The mounting of the whole of the power unit is not the least conspicuous feature of this novel chassis. Engine, clutch, gear box and differential are all arranged conveniently on a sub-frame, and these components can be removed there-from with very little difficulty. The radiator is part and parcel of the dash board, so that it

will at once be realized that the removal of the bonnet renders the whole of the engine exceptionally accessible. The gear box, which is of exceptionally compact design, is of the constant-mesh type, changes of speed being affected by engagement or disengagement of the requisite dog clutches. The change speed lever and gate is mounted direct on the gear box, and is, therefore, placed on the driver's left-hand side. The hand brake operating the rear wheel brakes is still retained in the customary offside position.

### **The Twin-Bevel Final Drives**

Perhaps the most novel feature of the Austin mechanism is the arrangement by which the drive is transmitted from the rear part of the gear box, which portion houses the differential gear, to the hind driving wheels. Each wheel is driven independently by means of a universally-jointed propeller shaft, and at each end of each shaft an enclosed bevel gear is mounted. This usual arrangement has been decided upon primarily in order to arrive at a suitable combination of the relative advantages of the side-chain drive and of the worm or bevel live axle drive. It is claimed that this method yields the same clearance beneath the rear axle which is available with side-chain drives, and it preserves, at the same time, the principal mechanical advantages which accrue from the employment of one or other of the better known forms of live axle. There is no central casing, of course, to detract from the ground clearance, and what disadvantages there may be to chain drive are not present. The differential cross shaft carries at each of its extremities outside the rear end of the gear box, a well designed pedal operated brake mechanism.

### **Has Been Well Tested**

It is unnecessary to say anything further with regard to this striking design. This actual example has successfully undergone very stringent tests round and about the Northfield works. Since the beginning of the year it has been carrying heavy loads of sand, soil, bricks, and slack, totaling well over its normal carrying capacity, in order to ensure good eliminating trials. We hear on excellent authority that the machine has created quite a name for itself in the locality of its testing ground on account of its quiet running and its turn of speed on the level with a full load up. In conclusion it

may be mentioned that the Austin lorry has a track of 5ft., the ground clearance is 12 in., and the turning circle 42 ft., while the wheel base is 11ft. The sole agents in New Zealand for this high-grade lorry are the Scott Motor Agency, Cuba Street, Wellington, who are quoting the chassis (gear box, four speeds and reverse) including tyres at £600.