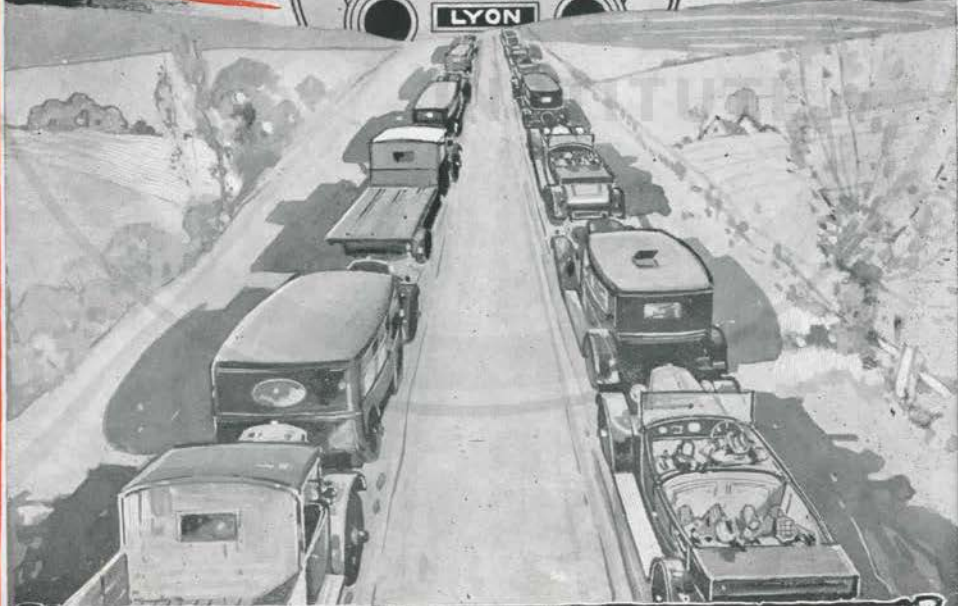


The

# Berliet

Times



JANUARY, 1926.

OVERSEAS NUMBER.

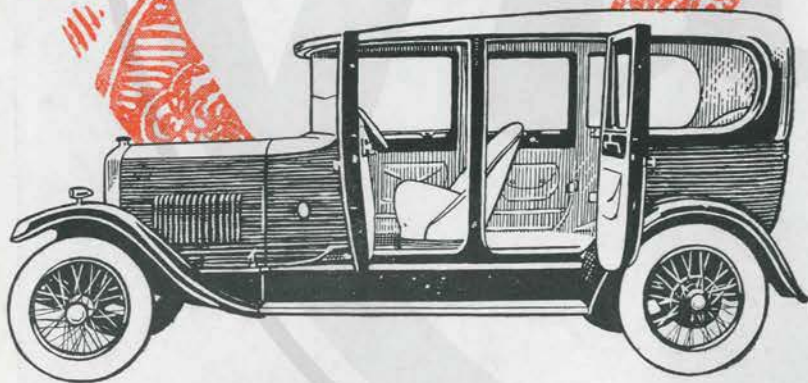


# Berliet

## Closed Car Comfort

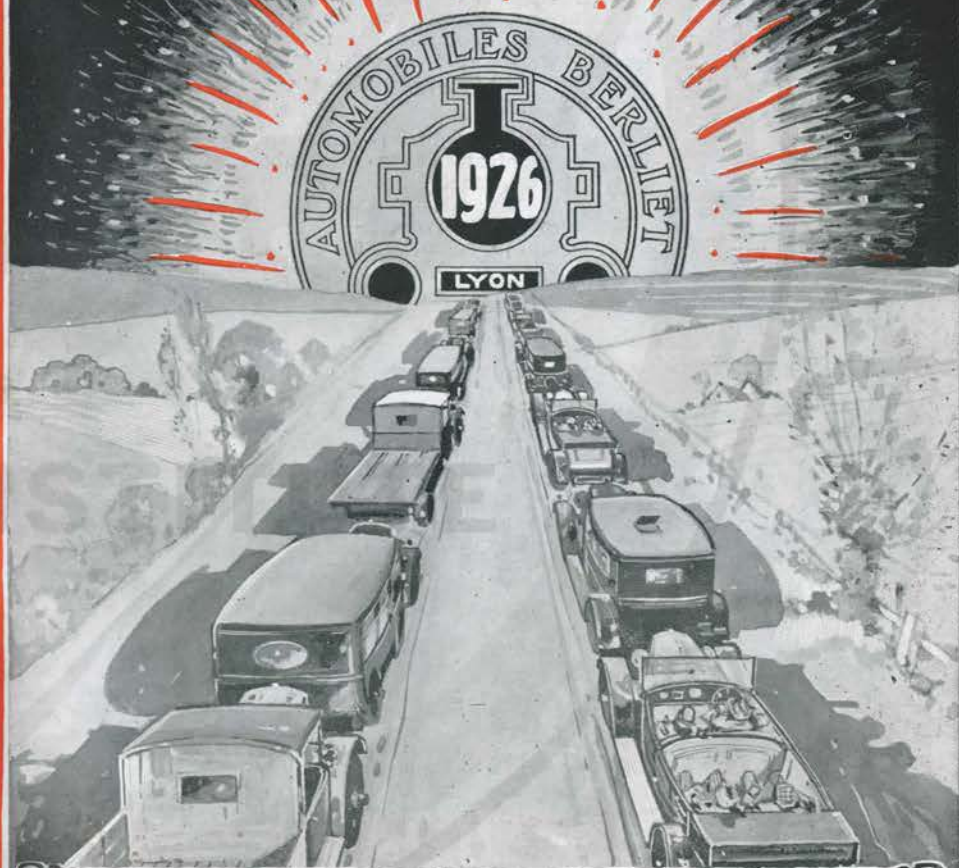
**H**OWEVER luxurious a body may be, it can never be thoroughly comfortable unless the chassis be in keeping. In the Berliet range are chassis suitable for every type of closed body-work. They range from the 10/20 h.p. to the de-luxe 23/70 h.p., and all are of the latest design with four-wheel brakes.

Choose a Berliet this time and know what REAL motoring comfort means.



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# The Berliet Times



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# Berliet

## 5-TON CHASSIS

WHEREVER the going is rough or the loads are heavy specify the Berliet 5-Tonner—the model which since 1912 has been the Heavy Duty Vehicle standardised by the French Army.

Bodies available include:—Platform body (as illustrated) Standard body with detachable tilt sheet, and several types of Tippers—hand, mechanical or hydraulic.



BERLIET WORKS - 500 ACRES 15,000 EMPLOYEES

JANUARY, 1926

Overseas Number

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## 1926.

ONCE more the time has come round when we must greet the New Year and wonder, as one is apt to do, what it holds in store. More than ever the omens for the coming year are good ones, and consequently we may look forward with more hopefulness than to any year since the war.

Optimism is once more the predominant note, and vastly improved business conditions during the past twelve months have brought a confidence which is bound to have its effect.

That you may have your full share of the prosperity is our earnest wish, and to this end we place at your disposal the experience of our Organization—in whatever way it can be of assistance to you it is entirely at your service.





## Profitable Passenger Transport

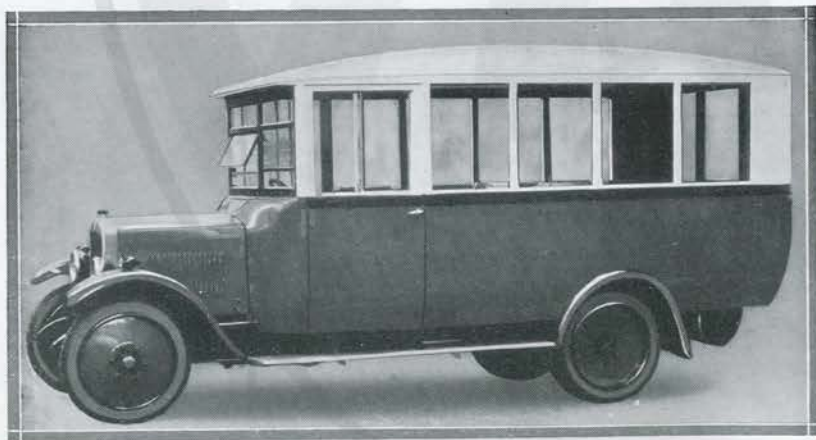
Points to be considered when choosing Passenger Carrying Vehicles. The most suitable Bodies.

IN choosing vehicles for passenger carrying there are more points to be taken into consideration than might at first be supposed.

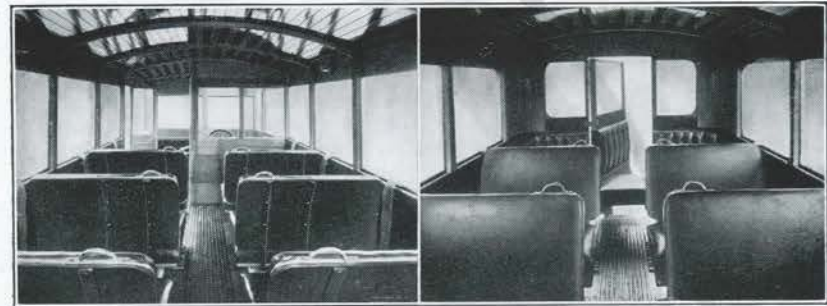
Roughly they may be considered under two main headings—from the owner's point of view and from the passenger's point of view. Taking the owner's first, possibly the most important consideration is the suitability of the vehicle for the purpose in view. This of course may be a regular 'bus service, a regular service visiting places of local interest, or a combination of the two. Providing it is required for one purpose only, the choice of a vehicle is naturally very much simplified, and taking, for the sake of example, a regular 'bus service, we will examine the points which must carefully be considered before a particular make of vehicle is definitely chosen.

In the first place, is the service short or long, frequent or intermittent, busy or otherwise? Is the number of passengers carried likely to increase or not? For on these points depends the size of the vehicle to be chosen.

As a general rule, an 18/20-seater 'bus will be found for an average service to be the most useful and the most profitable. In the first place, except in a very few parts of the country no conductor is required, and a one-man type body can be used, thus reducing operating costs, whilst running costs are also as low as possible. In addition this size usually has the merit of being comparatively speedy, so enabling a more frequent service to be maintained than would be the case with larger vehicles. Naturally, there are many



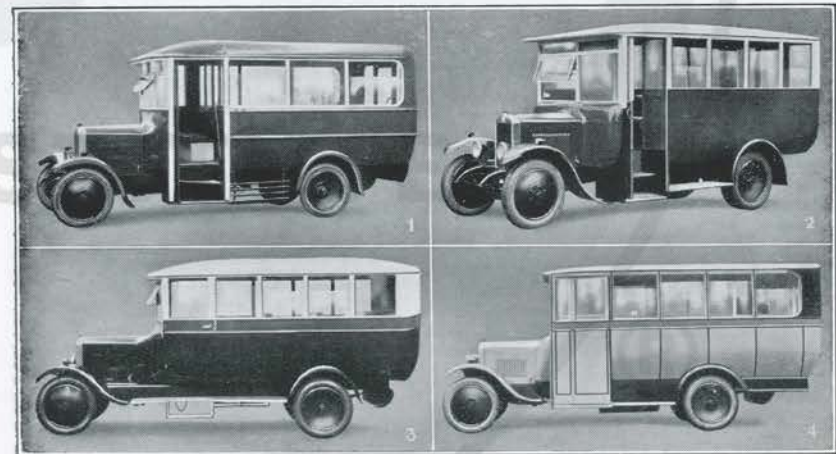
The smallest 'bus in the Berliet range—the 14-seater "Maidenhead," on the 20 cwt. chassis.



Interior views of a typical Berliet 'Bus body. The comfortable seating and ample room available will be noticed.

more details to be taken into account when deciding upon the size of the body, but it will have already been seen that it is not a question which can be disposed of lightly.

Next in importance is the type of chassis. Here there are three main points and each of practically equal importance—low cost of operation, reliability, and ease of obtaining spare parts when required. On the score of economy Berliet vehicles leave nothing to be desired. Taking the same example as before, the 18/20-seater 'bus, it is found that users are obtaining 16-20 m.p.g. of petrol, depending on the district in which they are used; 800-1,000 m.p.g. of oil, and that the life of a set of tyres is never less than 15,000 miles and very often over 20,000—cases of 23, 24 and even 25,000



17/18 Seater 'Buses.

- 1.—The "Roe."  
2.—The "Brigg."  
3.—The "Ware."  
4.—The "City."





miles being on record. Their reliability is best answered by the fleet of Berliet 'buses operating throughout the United Kingdom, in Scotland, Wales and all parts of England and Ireland. At our new Richmond Bridge Works many thousands of pounds worth of spare parts of every description are held in stock and their prompt despatch—within a few hours of receiving the order—ensures that there is a minimum of delay in effecting any necessary replacements. In addition, is the fact that Berliet 'buses are extremely competitive in initial cost, as a glance through these pages will show.

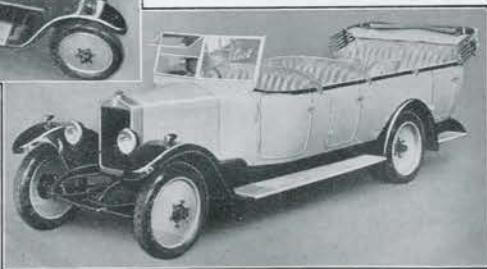
Now, from the passenger's point of view. Comfort and reasonably quick journeys are possibly the most important factors, but it must not be forgotten that the psychology of the public needs also to be studied. For instance, if there are competitive 'buses working the same route and other things being equal, the public are much more likely to patronize an attractive and clean looking 'bus than they will an old fashioned one which needs re-painting. Here again is a point which must be borne in mind if a 'bus service is to be profitable.

Reference to the following pages will show that in the Berliet range all these points have been taken into consideration. It will be noticed that the bodies are pleasing in design, and ample room is allowed the passengers, that the seats are comfortably upholstered, and that the means for entering and leaving the vehicles quickly and in comfort have been well thought out. Emergency rear exits are fitted to all models, and on most, the one-man operated door is standardized. Even where this is not so it can be always supplied at a small extra charge.

On the question of seating it will be found on examination that particular attention has been paid, not only to providing ample room for the passengers but also in the "lay-out" of the seats. Nothing is more annoying than a narrow gangway or temporary seating which interferes with passengers entering or leaving their seats. The question of spring seats and upholstery has also received careful attention and a variety of patterns is available.



The 14-seater Charabanc on the 30 cwt. low-loading chassis.



Although applying particularly to saloon 'buses the foregoing also holds good for charabancs. In these however, a special problem presents itself—the question of weather protection. When it is possible to start a trip in perfect weather and end it in pouring rain, some form of protection needs to be available, and available quickly. In some cases the ordinary hood with side curtains may be all that is required, in others an all-weather body of the type of our 14-seater "Lanark" or 20-seater "Templeton" may be necessary.

Both have the advantage of being erected quickly, but the ordinary hood is, in addition, comparatively light and also inexpensive. On the other hand an all-weather body is a more satisfactory job and whilst giving the advantages of a saloon 'bus has the added advantage that it can be easily opened in suitable weather.

### The Engineer's Vision.

THE President of the American Society of Civil Engineers in a recent speech said :—"After all, works of the engineer's creation are but the means to an end, not the end itself. They contribute to the well-being of humanity and man is more than a physical being.

Surely the engineer has a duty to perform in addition to the development and care of material things, wonderful as they are. I do not like to think that the engineer can see only the steel and masonry structure he designs and builds. I hope he has a vision of what it is built for, as the architect of the Middle Ages had of the great cathedral he erected, and that the spiritual, moral and aesthetic sides of life have a great value to him."



An unusual poster, with the wording in both French and Arabic. It announces that a Berliet Torpedo will be given in a lottery by a large store in Cairo.





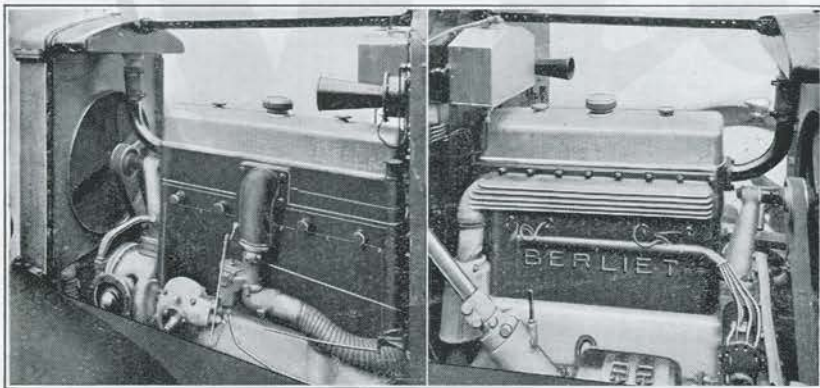
## A New Passenger Carrying Chassis

With Overhead Valve Engine, Front Wheel Brakes and Pneumatic Tyres, it is ideal for passenger carrying.

THE ever increasing demand from owners of 'buses and motor coaches for faster and more luxurious vehicles has rendered necessary the design of a chassis approaching more closely to that of a large private car than to that of a commercial vehicle. This is particularly so in the case of our latest 26-passenger Grande Vitesse Chassis which with its overhead valve engine, four-speed gear box, front wheel brakes and pneumatic tyres has a performance second to no other chassis of equal capacity on the market. The engine has four cylinders cast *en bloc* and provided with detachable heads. The bore is 110 m/m. and the stroke 140 m/m., giving a horse power of 30 by R.A.C. rating although on the brake the actual power developed is just under 100.

The crank case is aluminium, the upper half, to which the cylinder block is bolted, carrying the crankcase and cam shaft. The lower half is divided longitudinally, the lowest section forming the oil sump, which is entirely covered by a fine mesh gauze screen. The cam shaft driven by helical toothed gear wheels from the crank shaft operates the overhead valves by push rods and rocker arms.

The valves are located immediately over the centre of the cylinders and are interchangeable. At the front of the engine, and driven by skew gearing



Views of the near and offside of the overhead valve engine fitted in the 26-seater "Grande Vitesse" chassis. Note the clean design, and accessibility of such parts as magneto, carburettor, etc.



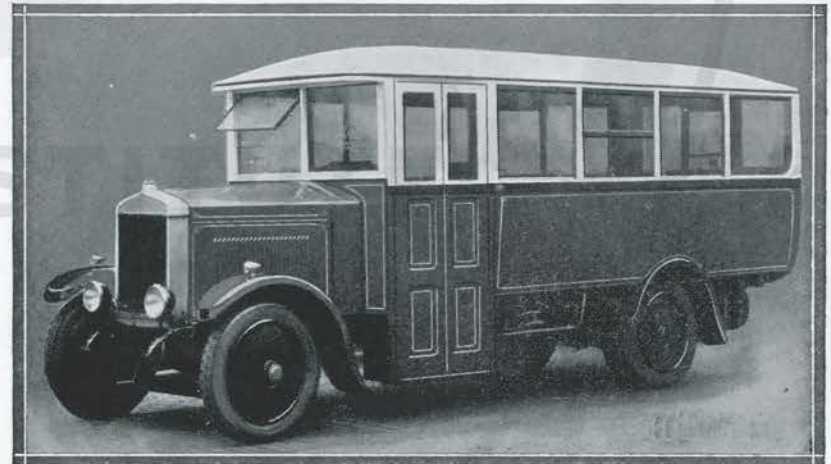
from the timing wheels is a transverse shaft driving on the one side the magneto, and on the other the water pump.

The gear wheel oil pump which is situated in the sump, and driven by skew gear from the cam shaft, delivers oil under pressure to the cam shaft bearings, from where it flows to the main bearings and thence to the big end bearings. Oil is also delivered under pressure to the overhead valve gear, a means of regulating the supply being provided.

Carburation is by Zenith Carburettor, fed from the rear petrol tank by vacuum feed, and ignition is by high tension magneto with control on the steering wheel. The 12 volt single unit dynamo is driven by a silent chain from the crank shaft.

From the engine the drive is taken through a multi-plate dry clutch to the four speed gear-box, the ratios of which are—1st speed 30 to 1; 2nd speed 17.63 to 1; 3rd speed 10.22 to 1; 4th speed (direct drive) 6.12 to 1. At the rear of the gear box is the transmission brake drum, ribbed externally for cooling, and provided with internally expanding shoes. From the gear box the drive is taken by an open propeller shaft to the full floating double reduction rear axle. Semi-elliptic springs are fitted front and rear, the latter being underslung. Pneumatic tyres 955 m/m. x 155 m/m. are fitted all round (twin on rear wheels).

The principal dimensions are as follows :—Overall length 21 ft. 5¼ ins. ; overall width 7 ft. ; dash to end of frame, 17 ft. 1 in. ; dash to centre of rear axle, 10 ft. 10 ins. ; track (front) 5 ft. 11½ ins. ; track (rear) 5 ft. 1 in. ; wheel-base 13 ft. 9¼ ins. ; turning circle (approximate diameter) 55 ft. ; height of frame from ground, 2 ft. 4½ ins.



A typical 'bus body on the 26 passenger "Grande Vitesse" Chassis—the "Sunbury."





The châssis weight is approximately 2 tons, while the gross load which can be carried on the chassis inclusive of the bodywork is  $3\frac{1}{2}$  tons. Front wheel brakes and electric light and starting are fitted as standard.

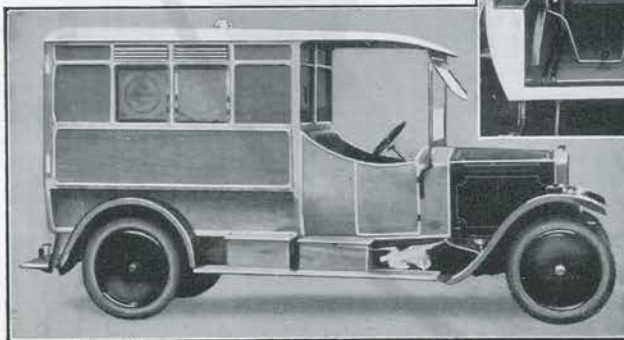
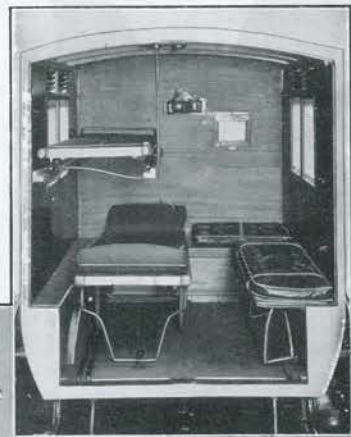
## Ambulances

**The L.G.B. type body standardised is suitable for most localities and adaptable for infectious or accident cases.**

**I**N our range of Commercial Vehicles we pride ourselves that there is a model for every commercial purpose, and naturally, ambulances play no small part. The "Local Government Board" type is standardised because it is a general purpose Ambulance, suitable for most localities and is adaptable for nearly every type of case.

The body is framed in selected straight-grained ash and panelled in mahogany. There are two doors at the back, slung on special hinges allowing of their opening to their full width so as to give plenty of clearance for the stretchers. Ventilation is provided in the sides and the doors by means of louvres and also by a "Torpedo" ventilator in the roof. Body dimensions conform in every way to the Local Government Board specification.

The two stretchers are located, one above the other on the near side—the top one being slung and running on a fully rabbetted frame: the lower stretcher is furnished with 12" rubber tyred wheels and run in on grooves in the floor of the ambulance body. It



Two views of the L.G.B. type Ambulance on the 20 cwt. chassis.



serves the purpose both of an Ambulance Litter and also a stretcher, as it can be used to wheel patients any distance and can be taken into places where the Ambulance itself could not go.

### Special Details.

If required for infectious cases, the interior of the body is specially prepared with all the corners neatly blocked and rounded off to prevent dirt or germs lodging: the stretchers in this case being fitted with patent "Dominion" wire mesh which is easy to disinfect. Where the Ambulance is intended for accident cases, the stretchers are covered with stout canvas, and pillows for the stretchers are provided.

On the opposite side of the body to the stretchers is a seat running the full length—for sitting patients and attendants. The interior fittings include water bottle and tumbler in frame, locker for splints, etc.

### Detachable Interchangeable Bodies.

It is also possible to make the body quickly detachable from the châssis, so that either of two types of Ambulance bodies may be used on the same châssis or, alternatively one ambulance body, and one delivery type body. This latter arrangement is particularly useful for Local Cottage Hospitals, or similar institutions where the demand for the use of an Ambulance is not continuous and where there is always a certain amount of goods carrying work to be done.

### Other Models.

Other Ambulance models available include the M.A.B. type, on the 20 cwt. châssis, and the Sheffield type, on the 30 cwt. low-loading châssis.

## Tyre Life on the 35-cwt. Berliet.

**W**E are indebted to the Michelin Tyre Co. for a copy of a letter from "a more than satisfied driver"—Mr. J. F. Smith, of Southampton, referring to the life of a set of Michelin Tyres on one of our 35-cwt. models used for laundry delivery work.

Mr. Smith says:—"For over two years the tyre has been on the same rim and the mileage it has run is 24,380. The other set of Michelins I had completed over 19,000 miles excepting the tyre mentioned above, which is still going strong, no canvas showing yet."

Mr. Smith then asks if this record has been beaten on a 35-cwt. model. Yes—many times—the 35-cwt. Berliet being famous for the long life of its tyres. Cases are common where whole sets—not individual tyres—have completed 22,000, 23,000 and even over 24,000 miles, and in these cases the châssis were mounted with 'bus bodies—very much more exacting work, from a tyre point of view, than delivery work.





## Tipping Bodies for Overseas.

Wide range of tipping bodies available—Hydraulic, Mechanical and Hand—either end or three-way.

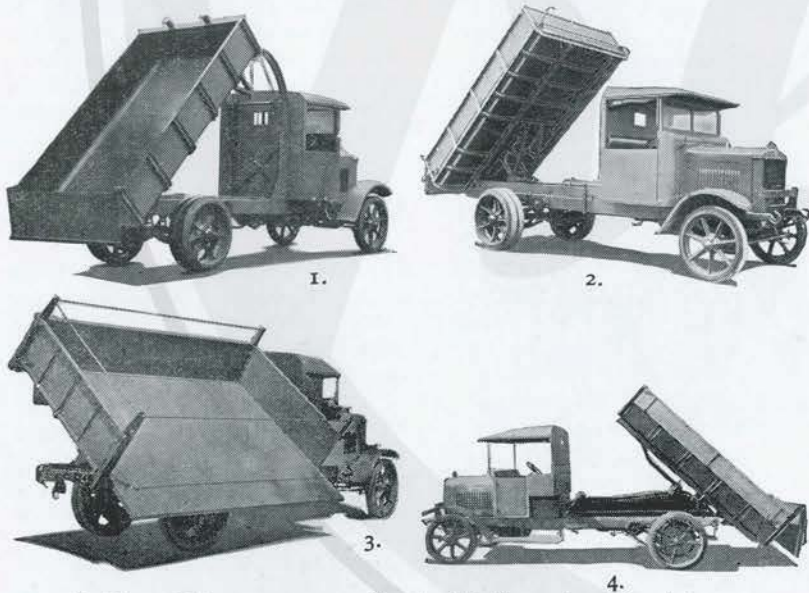
THE numerous advantages possessed by the Tipping body over those of the fixed type for the cartage of certain class of materials, are to-day practically universally appreciated, and in view of the large number of enquiries we are continually receiving for Tipping lorries, a brief description of the different types which we are in a position to supply, on our various Commercial châssis, will not be out of place in this issue.

Although for the Home Market it is customary for us to supply the vehicle complete with bodywork, it should be borne in mind by our friends in foreign countries that, in order to save freight charges, we can deliver the châssis with Tipping Gear only. In this case, bodywork drawings are supplied free of charge on request.

The Tipping devices described below are all thoroughly sound engineering propositions and can be relied upon to render satisfactory service during a considerable time. They are all quoted at exceptionally low prices and undoubtedly represent the best value on the market to-day.

### Berliet 5-ton Tipping Lorry.

The special BERLIET Tipping Gear for our popular 5-ton lorry is of extremely simple yet robust design. It is of the mechanical end-tipping



5-Ton Tipper. 1.—Standard Berliet mechanical end-tipper.  
2.—Wood type hydraulic end-tipper.  
3.—Tribenne hydraulic three-way tipper.  
4.—Hardy hand-tipper.



type and is operated without the driver leaving his seat.

The Tipping mechanism is enclosed in an oil-tight case positioned immediately in front of the gear box. A sliding gear wheel is mounted on a shaft driven by the propeller shaft meshes with a fixed gear on a worm shaft, which is in turn, meshed with the worm wheel. The latter is on a cross shaft having at each end, a cable drum, around which the hoisting cables, which pass over two jibs behind the driver's cab to the body, are wound. A set of reverse gears is also provided for lowering the body and as an automatic stop comes into action at the end of each operation, the mechanism is quite "fool-proof."

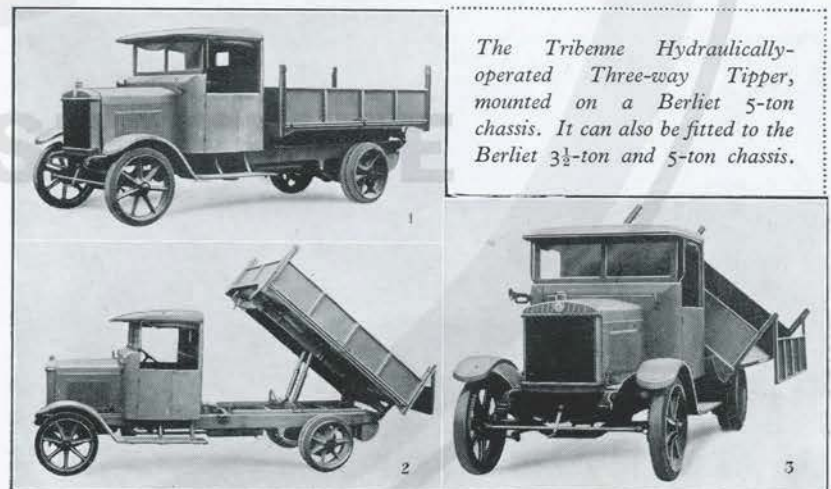
### "Wood" type Tipping Gear.

This equipment which is of the end-tipping type, is operated by a horizontal hydraulic ram driven by an oil pump which is friction-driven off the engine fly wheel. The ram is connected to a cross shaft having a large and small roller at each end which bear on a pair of runners fixed to the châssis, and two suitably designed castings fixed to the body sub-frame.

This equipment, which is extremely reliable, yet of simple design, takes up the minimum space and can be fitted to all BERLIET Commercial châssis.

### The "Tribenne" Tipping Mechanism.

For those who require side-tipping as well as end-tipping, the "Tribenne" three-way equipment can be thoroughly recommended. The lifting apparatus is composed of two hydraulic rams, coupled by ball joints to an arched head, which in turn fits into a hollow arc attached to the body. When tipping on either side, the rams lift vertically, and the arched head of the rams slide into the hollow arc as the body is raised. When tipping to the rear only, the arched head remains stationary inside the hollow arc, but the



The Tribenne Hydraulically-operated Three-way Tipper, mounted on a Berliet 5-ton chassis. It can also be fitted to the Berliet 3½-ton and 5-ton chassis.





rams swing slightly on their axis. In order to increase the tipping angle the rams are provided with telescopic extensions which emerge automatically as the body is raised.

This three-way type of tipping equipment has numerous advantages to recommend it, and can be fitted to BERLIET 3½-ton, 5-ton and 6-ton châssis.

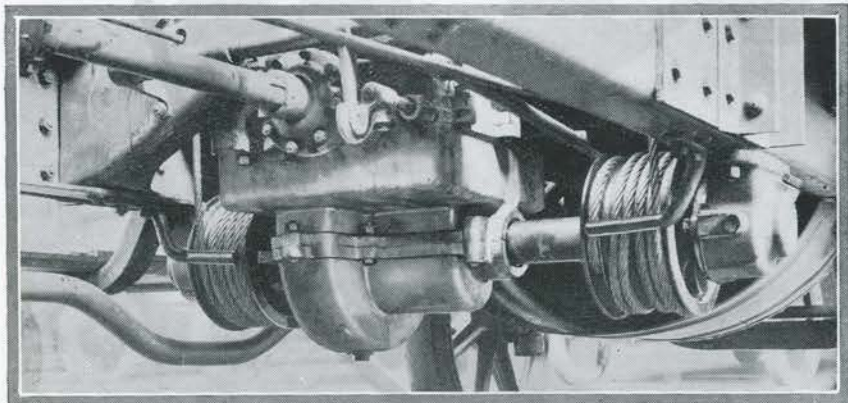
#### The "Hardy" Hand-Tipping Mechanism.

This equipment which can be fitted to all BERLIET Commercial châssis, is adaptable for both end and side tipping. Although, perhaps, taking longer to operate than the hydraulic or mechanically driven devices, it is yet a great advance on manual unloading, and its simple construction and low initial cost, recommend it in many cases.

#### The Joys of an Editor!

FOR some time we have been worrying our Irish representative, Mr. Pakenham-Walsh, for a suitably illustrated article on Irish Creameries and their transport, for inclusion in the BERLIET TIMES. As a large number of the Creameries in Ireland use Berliet Lorries and as Creamery work sounds, to a layman, as though it ought to be interesting, we thought such an article would be appreciated by our readers. We still do for that matter, which is why only a few days ago we wrote to Mr. Walsh asking him when the article and photographs might be expected. The reply has just come to hand:—

"It pains and grieves me to say that the article on the Irish Creameries has not yet come out of the hat, and like a good true Irishman I will continue to fill you up with promises instead of the BERLIET TIMES with articles—and anyway you can't photograph Creameries in mid-winter—and further



The operating mechanism of the 5-Ton End Tipper consists of extra gearbox interposed between the clutch and gearbox proper.



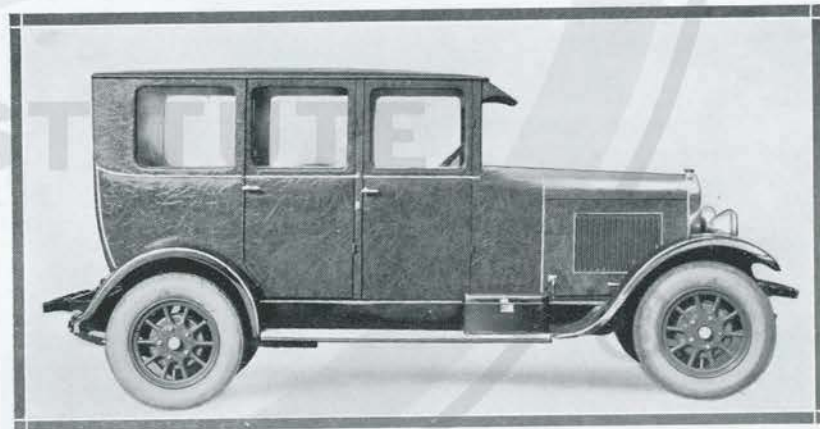
anyway it would prejudice the sale of butter seriously if I sent you photographs of milk in transit from cow to Creamery; never mind what happens after the milk gets to the separators—it arrives at the Creameries in every sort of vessel and in every sort of conveyance, that conveys everything necessary for good farming, and that's *why* I don't drink milk.

But seriously, I will surprise you someday by sending you a real live article (illustrated with cows rampant and Berliets triumphant) as a good friend of mine is now managing a Creamery and I will spend a couple of days on the task when next in his district.

## 10/20 h.p. Fabric Saloon

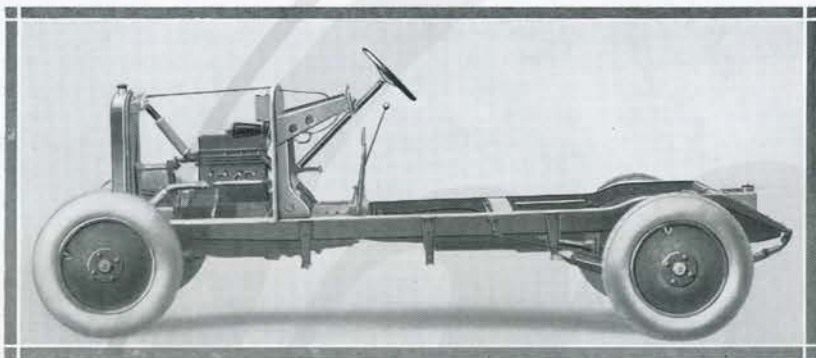
A new Light Saloon Model which is specially suitable for Overseas Countries.

THERE are no signs of any abatement in the popularity of the closed cars, and to meet the demand, a new Saloon has been added to our range of 10/20 h.p. models. Although slightly higher in price than the standard Saloon, which, of course, still remains on our list, this new body is suitable for the owner driver who requires a car that is a little more *recherche* in finish and appearance and, at the same time, affords the acme of comfort at all times. Warm in winter and cool in summertime, the 10/20 h.p. BERLIET Fabric Saloon is constructed on scientific lines with a view to eliminating all body rattles and squeaks. It is covered throughout with high class leather cloth, which presents a most pleasing appearance and has the advantage of being light in weight and easily replaceable at a moderate cost should this be necessary.



The new Fabric Saloon on the 10/20 h.p. chassis.



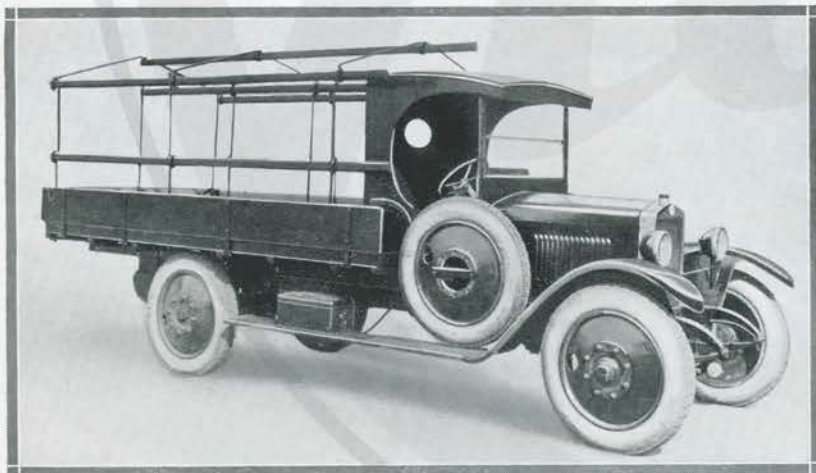


The 10/20 h.p. chassis now has the petrol tank at the rear.

The entire workmanship to both the outside and the inside of the body is of the highest standard throughout and we have no doubt that this new model will prove to be extremely popular among our overseas clientèle.

#### 10/20 h.p. Chassis Modifications.

The accompanying photograph represents the latest model 10/20 h.p. chassis on which the petrol tank is now fitted at rear with vacuum tank feed to the carburetter. The high power developed by this remarkable little engine combined with the four-speed gear box, front wheel brakes and admirable suspension, renders it most suitable for the exacting conditions encountered overseas.

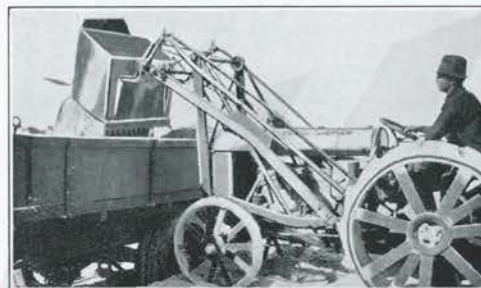


This 35 cwt. Berliet has been in constant use on a 130 miles trip, carting rabbits in Australia.



## Berliet Five-tonners in South Australia

WORKING on the immense gypsum deposits on the West Coast of South Australia is a fleet of BERLIET 5-ton Lorries. Miles from civilisation the deposit is 700 miles from Adelaide and nine miles from the nearest railhead.



Tipping the gypsum into the lorry.

Our illustrations show a Tractor depositing a load into one of the Lorries and two of the Lorries waiting to be loaded. It will be noticed that mechanical power is used throughout the whole operation—the special form of scoop which picks up the gypsum and carries it to where the lorry awaits it and then drops the load into the exact position required, being of interest.

Considering the type of country over which these heavy loads have to be transported, the fact that they are able to move thirty to thirty-five tons per day speaks wonders for the performance of the vehicles. Each journey represents eighteen miles—nine with load and nine returning empty, so that each lorry covers 126 miles every day. Naturally, when so far away from all sources of supply, reliability and economy are essential—hence the choice of Berliets.



Two of the Berliet lorries waiting to be loaded on the South Australian gypsum deposits.



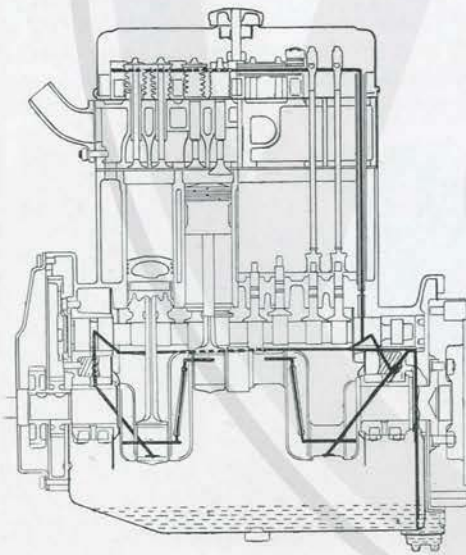


## Service

### The Oiling Systems of the 10/20 h.p. and 15/50 h.p. Overhead Valve Engines.

ON the 10/20 h.p. engine, the rear main bearing journal is drilled in two places—one hole is the oil duct which serves the rear big-end bearing, *i.e.* number 4, and is drilled in the crankcase web direct to the bearing journal. The other hole is drilled as far as the commencement of the cranked portion of the web, where it meets a copper pipe which travels down the outside of the web to serve number 3 big-end bearing. A similar arrangement is to be found at the front main bearing of this two-bearing crankshaft: the two oil holes in this case serving numbers 1 and 2 big-end bearings.

In the 15/50 h.p. engine, which has a three-bearing crankshaft, ducts drilled in the crankshaft itself serve the big-end bearings as follows:—from the front main bearing to number 1 big-end, from the centre main bearing to numbers 2 and 3 big-ends, from the rear main bearing to number 4 big-end. Oil is also delivered under pressure, on both engines, by means of a channel cast in the cylinder block to the overhead valve rocker spindle which is hollow and is, furthermore, drilled at each valve rocker. Regulating set screws are provided on the valve rocker spindle which should be set so that oil commences to discharge from the holes in the centre of the rocker arms at approximately 2,000 r.p.m. of the engine, equivalent to a road speed of 30 m.p.h.



The oiling system of the 10/20 h.p. engine.

Other internal parts of the engine, such as pistons, cylinder walls and small-end bearings, are lubricated by oil thrown off from the revolving crankshaft. The surplus oil from the main supply pipe to the camshaft bearings is discharged over the timing gears.

The engine sump of both vehicles should be drained every 2,000 to 3,000 miles and refilled with fresh oil and at every 6,000 or so miles, the base chamber should be removed and the sediment therein thoroughly cleaned out.

With a new car—of course the oil should be drained off after the first 500 miles.



### Overseas Representatives' Addresses.

Our clients overseas who may wish, in order to save time, to get into touch direct with our overseas representatives, are asked to make a note of the following addresses:—

#### AUSTRALIA & NEW ZEALAND:

MR. F. RASEY,  
c/o THE COMMERCIAL TRAVELLERS' CLUB,  
SYDNEY, N.S.W., AUSTRALIA.

#### INDIA:

MR. J. H. DA FONSECA,  
2 UNDERHILL LANE, QUEEN'S ROAD,  
DELHI, INDIA.



An Australian Berliet depot. The Sydney premises of Messrs. W. Alexander & Co.



# Berliet

## Closed Car Comfort

**H**OWEVER luxurious a body may be, it can never be thoroughly comfortable unless the chassis be in keeping. In the Berliet range are chassis suitable for every type of closed body-work. They range from the 10/20 h.p. to the de-luxe 23/70 h.p., and all are of the latest design with four-wheel brakes.

Choose a Berliet this time and know what REAL motoring comfort means.

