

CITROËN-KÉGRESSE

CARS

THE "KÉGRESSE-HINSTIN" ENDLESS BAND DRIVING ATTACHMENT
PATENTED IN FRANCE AND THROUGHOUT THE WORLD



SOCIÉTÉ ANONYME
ANDRÉ CITROËN

Capital 100.000.000 francs
143, QUAI DE JAVEL
PARIS XV^e

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FOREWORD

THE weight carrying capacity of a wheel can be gauged by its diameter or better still by its tread. As, in point of fact, both dimensions can vary but to a small extent, it follows that this carrying capacity is necessarily limited.

In actual fact, only roads and well laid tracks are accessible to wheeled vehicles, which do not prove successful in negotiating soft or marshy ground.

The various devices resorted to up to now in order to improve the use of wheels over ground of a varied nature, such as special chains called "Cingoli" and "Caterpillars" with metal tracks, have not proved altogether practical; they wore out very rapidly while their weight and the damage caused to the roads made their scope of application very limited.

« To travel at all speeds either over deep snow and ice or roads covered with lightly packed snow, or on dry and stony roads in a vehicle which can leave the road and proceed to travel across country without stopping or slowing down. »

Such is the formula according to which Mr. KÉGRESSE, the then Technical Manager of the Imperial Garages in Russia, carried out, in 1910, his first researches.

As a result his invention was submitted in 1920 to Mr. André CITROËN, who immediately realised its importance and acquired the exclusive right to exploit it.

A special Department has been organised at the Paris Works with a view to further improving vehicles of the flexible band type and developing their manufacture.



HISTORY

CREEPER TRACK cars were used for the first time in France in 1921, at the Motor Coach trial held on MONT REVARD. A few days later, 10 HP CITROËN cars equipped with KÉGRESSE-HINSTIN attachments climbed the LAUTARET and crossed the MONT GENÈVRE pass.

In September 1921, under the supervision of the military authorities, three of these cars travelled from PARIS to ARCACHON, one of them having in tow a caravan weighing 3 1/2 tons. Varied experiments made on the PYLA sand hills revealed that for moving over sand and snow alike, CITROËN-KÉGRESSE cars had an almost unlimited scope of action.

In February 1922, trials were held in the snow in the ALPS and the PYRENEES, and the new invention was thus made known all over the world.

In August 1922, CITROËN-KÉGRESSE cars were used during the manœuvres which took place in the TARENTOISE valley.

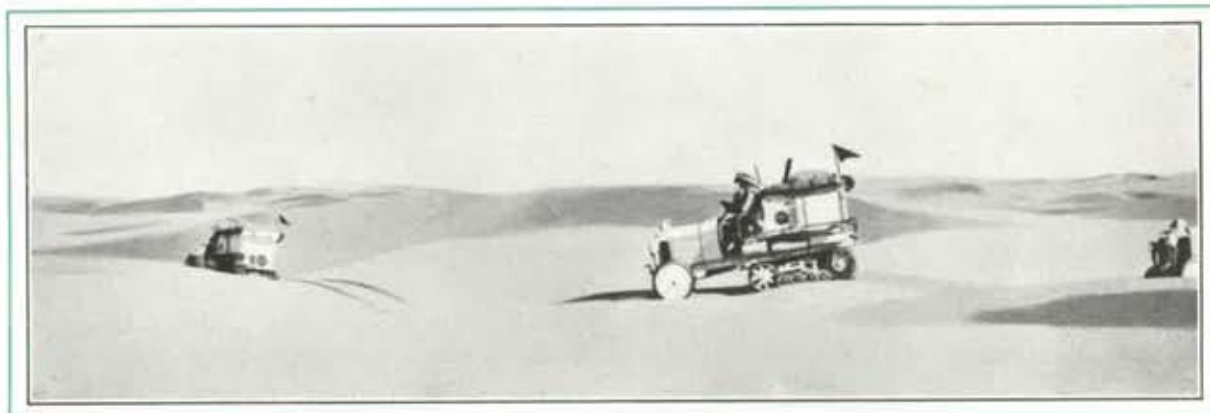
From October to December 1922, CITROËN-KÉGRESSE cars were sent to SOUTH ALGERIA and the region around TIMBUCTOO with a view to reconnoitring the country and preparing the crossing of the SAHARA.

At the end of 1922, the Expedition set out to attempt for the first time the opening up of a direct way of communication between NORTH AFRICA and the NIGER Valley. Mr. HAARDT, general manager of the Citroën Works, assisted by Mr. AUDOUIN-DUBREUIL, was in command of the expedition.

Five cars left TOUGGOURT on December 17th, and, after having covered 600 miles, reached IN-SALAH on the 21st.

They travelled across the HOGGAR and the TANEZROUFT or "Land of Unquenchable Thirst" without knowing of any beaten track or route followed previously by other expeditions or caravans; they reached the river NIGER at BOUREM on the 4th of January and followed the river down to TIMBUCTOO where they arrived on January 7th, having covered 2,000 miles in 22 days.

After a stay of one month in TIMBUCTOO, the Expedition left BOUREM on February 9th on its



Citroën-Kégresse Cars in the Inifel dunes during the first journey across the Sahara.



In the snow at Saint-Pierre de Chartreuse.

return journey and encountered at TADJMONT, 150 miles south of IN-SALAH, on February 26th, another expedition under the command of Mr. ANDRÉ CITROËN who had decided to come to meet the explorers to convey to them his congratulations personally.

At the same time, formal trials were held in Sweden and Norway and CITROËN-KÉGRESSE cars put up wonderful performances.

After the success achieved by the crossing of the SAHARA desert, numerous trials and experiments carried out with cars fitted with the KÉGRESSE - HINSTIN attachment afforded a further proof of their superior qualities and increased their popularity.

In 1923 and 1924, H. H. Prince KEMAL organised scientific expeditions with a caravan of CITROËN-EGYPT and the LI-view to archeological

Regular services of are run in certain parts

In the winter of KÉGRESSE car of the the BALLON D'ALSACE 3 CITROËN-KÉGRESSE and without being the purpose, started

south of the Oran district; the expedition was led by Mr. AUDOUIN-DUBREUIL and established, for the second time, a link between NORTH AFRICA and the NIGER VALLEY.

In addition to numerous achievements being carried out in all parts of the world, another Expedition, the CITROËN RAID THROUGH CENTRAL AFRICA, 2nd. G.-M. HAARDT —



Crossing a ford.

research.

CITROËN-KÉGRESSE cars of the Belgian Congo.

1923-1924, a CITROËN-snow model crossed and in February 1924, cars left the factories, specially tuned up for on their way to the



Early experiments with Citroën-Kégresse cars in Southern Algeria.

One of the Citroën-Kégresse cars in Prince Kemal's expedition.

AUDOUIN-DUBREUIL Mission, has also used a fleet of CITROËN-KÉGRESSE cars with very good results; the Expedition crossed the whole of Africa from Algeria to the Cape, pursuing on its way scientific researches of the greatest interest (November 1924-July 1925).

From the military standpoint the numerous uses to which this new form of transport has been put, such as cars for liaison and reconnoitring work, artillery tractors, tanks, infantry supply column lorries, armoured cars, ambulance cars, aeroplane and observation balloon tractors, afford ample proof of the interest taken in it by modern armies.

During the Satory Military trials in 1923, 1924 and 1925, the French War Office formally acknowledged the great advantages of the CITROËN-KÉGRESSE car, the only vehicle in the light tractor class to have been awarded a Government subsidy since the institution of trials of this nature in 1920.

These events have shown beyond all possible doubt the superiority of the CITROËN-KÉGRESSE car over all other motor vehicles. Sands, marshes, snow, alike fail to hinder their progress, and further achievements will doubtless be added to their brilliant record, which already shows that the field open to CITROËN-KÉGRESSE cars is unlimited.



The Paris-Arcachon run. A Citroën-Kégresse car with a caravan in tow.



Agriculture and the Citroën-Kégresse Car.



Citroën-Kégresse car handling agricultural implements.



Towing an aeroplane in the dunes.



Citroën-Kégresse car used for timber felling operations.



Towing barges.

Industrial uses.





Crossing a bog.



Touring in Algeria.



The Citroën-Kégresse in the snow.

The Haardt — Audouin-Dubreuil Expedition leaving Touggourt.



Camping in the Sahara Desert.



USES OF THE CITROËN-KÉGRESSE CARS

We indicate below the most common applications of this type of car to everyday uses, which prove the undisputed superiority of the KÉGRESSE-HINSTIN attachment over all other forms of propulsion.

New uses for this remarkable invention are continually being revealed and are a further testimony to the considerable progress realised in mechanical locomotion thanks to the KÉGRESSE-HINSTIN device.

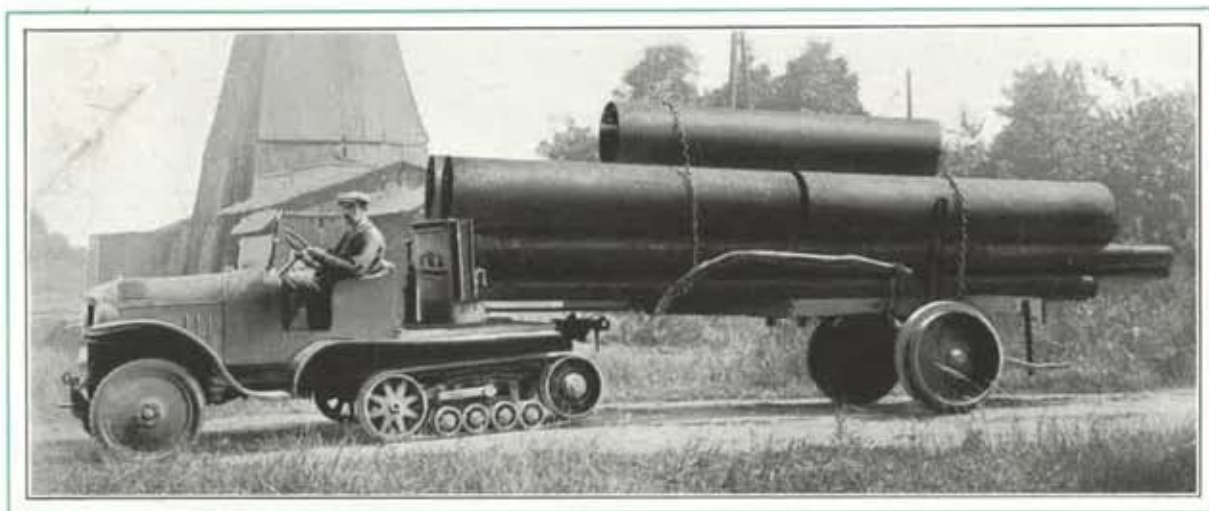
INDUSTRIAL AND COMMERCIAL USES

TRANSPORT AND HAULAGE. — A single tractor hauling three trailers gives the same service as three ordinary vehicles, while it means lower initial cost, lower consumption, a great economy of time and a saving of labour. The load handled by a CITROËN-KÉGRESSE will vary from 3 to 5 tons, according to gradients and the nature of the ground traversed.

Moreover, the "All Ground" tractor can travel over bad roads, on ground inaccessible to lorries and on snow covered roads.

The "Snow" model makes it possible to travel in snow bound countries, where all other mechanical locomotion is impossible.

USES IN THE FACTORIES. — CITROËN-KÉGRESSE tractors can be used with very



The Citroën-Kégresse car for industrial purposes.

good results for handling loads : for bringing and hauling stock and material to places difficult of access, for towing wagons in factory yards, and for shunting operations.

PUBLIC WORKS. — Cars equipped with the KÉGRESSE - HINSTIN device make it possible to bring raw materials to places inaccessible to any other vehicle and a saving of time and labour ensues while special and costly installations can be dispensed with.

In yards, their use resorted to for haulage only carried out mals, a cumbersome

MINES AND CITROËN-KÉGRESSE traction, the use of backs, while it makes all weather, on all

In this respect, the car has an extremely cation. Each parti-CITROËN-KÉGRESSE car should be dealt with separately so as to obtain the best results.



will be frequently work which can be slowly by draught ani-and costly method.

QUARRIES. — The tractor replaces animal which has many draw-it possible to work in kinds of ground.

CITROËN-KÉGRESSE wide and varied appli-cular use of the

Citroën-Kégresse car fitted as a small lorry.

FORESTRY. — The CITROËN-KÉGRESSE car can travel through wooded estates without any damage whatsoever to the trees, and haul across the forests nearly 3 m³ of timber. Over roads, it may be used for carrying material and workmen, and for towing a load varying from 3 to 5 tons, according to the gradient and the state of the road. Thanks to cars of this type, all the trouble entailed by the use of draught animals is done away with, overhead charges are greatly reduced and the work is done with greater rapidity.

HAULING BARGES. — The CITROËN-KÉGRESSE tractor replaces the slow and costly horse for haulage work; it is a flexible and sturdy vehicle, on which a special towing arrangement is fitted, so as to give the maximum power. Normal stages can be doubled. A quicker means of transport is thereby provided, which will relieve congested waterways. Special vehicles equipped with water-ballast tanks, and fitted with a pump operated by the engine, which



Citroën-Kégresse car hauling a trailer.



The Citroën-Kégresse car is eminently suitable for hauling barges.

can be used for filling the water tank and emptying the bilge of barges, have been put into service with very good results.

The use of these vehicles is more practical than that of electric traction, which entails heavy installation expenses and the good working of which depends on many factors.

The SOCIÉTÉ D'EXPLOITATION DES AUTO - CHENILLES has acquired from the CITROËN COMPANY the exclusive right to specialize in this kind of work.

VARIED USES. — From the industrial standpoint, CITROËN-KÉGRESSE cars have a very wide scope of few instances already

Fire appliances
Transport which has to ground will be greatly
Repair Departments
KÉGRESSE tractor for

A tractor fitted front can be used towing of tank cars growers. Their use rough study of the work to be carried out and the best methods to be adopted in its execution.

The CITROËN-KÉGRESSE tractor can also be used to haul a passenger or goods train on a 60 cm. gauge line. This means considerably reduced initial outlay for the line itself by doing away with the necessity for either points or turntables.



Municipal Authorities find Citroën-Kégresse tractors with tip-wagons and trailers very useful, especially in towns where the streets are narrow and steep.

action besides the mentioned.

— *Slaughter-houses* — negotiate every kind of facilitated. *Road* will adopt the CITROËN-towing materials.

with a pump in for the filling and employed by wine depends on a thoparticular kind of



Citroën-Kégresse car fitted with high-power fire extinguishing appliances.

Citroën-Kégresse fire-engine, fully equipped.

AGRICULTURAL USES

The farmer will find the CITROËN-KÉGRESSE a boon in many ways. Should he live at some distance the tractor will take him on to the land quickly and without fatigue, while after the day's work is over it will be there to take him back again ; the tractor can thus be garaged at home and proper attention given to it. This obviates a serious objection to mechanical cultivation with tractors of the conventional type, namely that they have to be left out in the open, exposed to all winds and weathers and so do not receive adequate attention.

The CITROËN-KÉGRESSE tractor can be used for hauling agricultural machinery such as reaping and binding machines, sugar beet lifters, rollers, harrows, drills, etc., whatever may be the nature of the land. Making 8 in furrows with a double coulter plough, about 2 ½ acres can be ploughed in 3 ½ hours with a fuel consumption of but one gallon per hour. The tractor is fitted with a special pulley so that it can be used in the yard to drive all the usual stationary machines. It can also be used for field haulage such as removal of crops, transport of manure, etc... Over roads it can haul from 3 to 5 tons according to the lie of the land and the condition of the roads.

At any moment the tractor can be taken straight off the land and used to go in to market or to deliver farm produce and livestock, which can thus be got to its destination without loss of time.

In a word the CITROËN-KÉGRESSE tractor combines in one vehicle : an agricultural tractor, a lorry for road transport and a fast car for the farmer's personal movements.

With its rubber endless bands and pneumatic tyres on the front wheels it can travel over any road, lane or track. For field work, and especially for ploughing, metal wheels, which greatly facilitate steering, take the place of the ordinary



The Citroën-Kégresse car as an agricultural tractor.

front wheels ; should the ground be very slippery chains or cramps are fitted to the rubber bands to improve their grip. A pilot disc acts as a guide when ploughing.

The same work can be done with the short or medium tractor.

It will be borne in mind that these are the only machines in the light tractor class to be awarded a 5.500 francs subsidy by the French War Office in 1923-1924.



Agricultural uses

TOURING, COLONIAL AND SPORTING USES

The CITROËN-KÉGRESSE car is not only very useful for military purposes, to agriculturists and to manufacturers, but has also a wide application as it proves very effective for travelling over all types of ground.

It is obvious that this type of car cannot be considered solely as a touring vehicle for normal road work, but it may, in numerous instances, facilitate excursions which only the use of saddle or pack-animals would otherwise make possible. Cars fitted with the KÉGRESSE-HINSTIN device will be specially useful for motor-touring in the mountains, and travelling over moving sand or marshes. Thanks to the CITROËN-KÉGRESSE car, sportsmen and hunting men will be able to proceed without fatigue to the meet, regardless of the nature of the ground to be traversed.

Tourists will be able to tow their camping outfit or caravan anywhere.

Explorers and settlers will find that the CITROËN-KÉGRESSE car alone can negotiate tracts of land covered with thick undergrowth, bad tracks, marshes and sand. Experiments have been made with these cars in places hitherto inaccessible, and the HAARDT - AUDOUIN-DUBREUIL Expedition of world-wide fame, has proved that even the desert was no obstacle for the CITROËN-KÉGRESSE car.

Since then, tourists have travelled across South Algeria and South Tunisia rapidly and in great comfort. Long journeys have been undertaken across the Lybian desert and in Persia.

The CITROËN Expedition through Central Africa, and G.-M. HAARDT - AUDOUIN-DUBREUIL Mission, November 1924-July 1925, lasted over eight months and CITROËN-KÉGRESSE cars have made it possible for the explorers to across Africa from North to South, and pursue scientific researches in Central Africa where no other type of vehicle had yet dared venture.

During the winter Mission started from Kotonou (Dahomey)

At the same time, undertook a journey across the Lybian oasis of Koufra, and information necessary be made of this distrodden by the foot

Great advantages are KÉGRESSE-HINSTIN de-touring in summer or

or colonial uses. In winter, the "Snow" model is very effective for taking devotees of winter sports to snow bound countries and regular services can be run to and from winter resorts.

From the sporting point of view, the KÉGRESSE-HINSTIN attachment will have a wide scope of practical application.



1924-1925 the Courtot Tunis to embark at via Lake Tchad.

Prince Kemal El Dine of over 5,500 miles desert south of the brought back all the to enable a map to trict hitherto un-of man.

found in the use of the vice, whether for motor-in winter, exploration

Crossing a trench.



Touring in the Alps.



In the bush.

In a number of places, CITROËN-KÉGRESSE cars operating special mowing machines are used for the upkeep of golf links and racecourses.

They are used in several aviation depots in France and abroad either for towing heavy aeroplanes or to give assistance in case of accident.

They are also used for towing airships out of their sheds and certain depots possess several "creeper track" cars, which replace gangs for the starting or landing of an airship, irrespective of her tonnage.

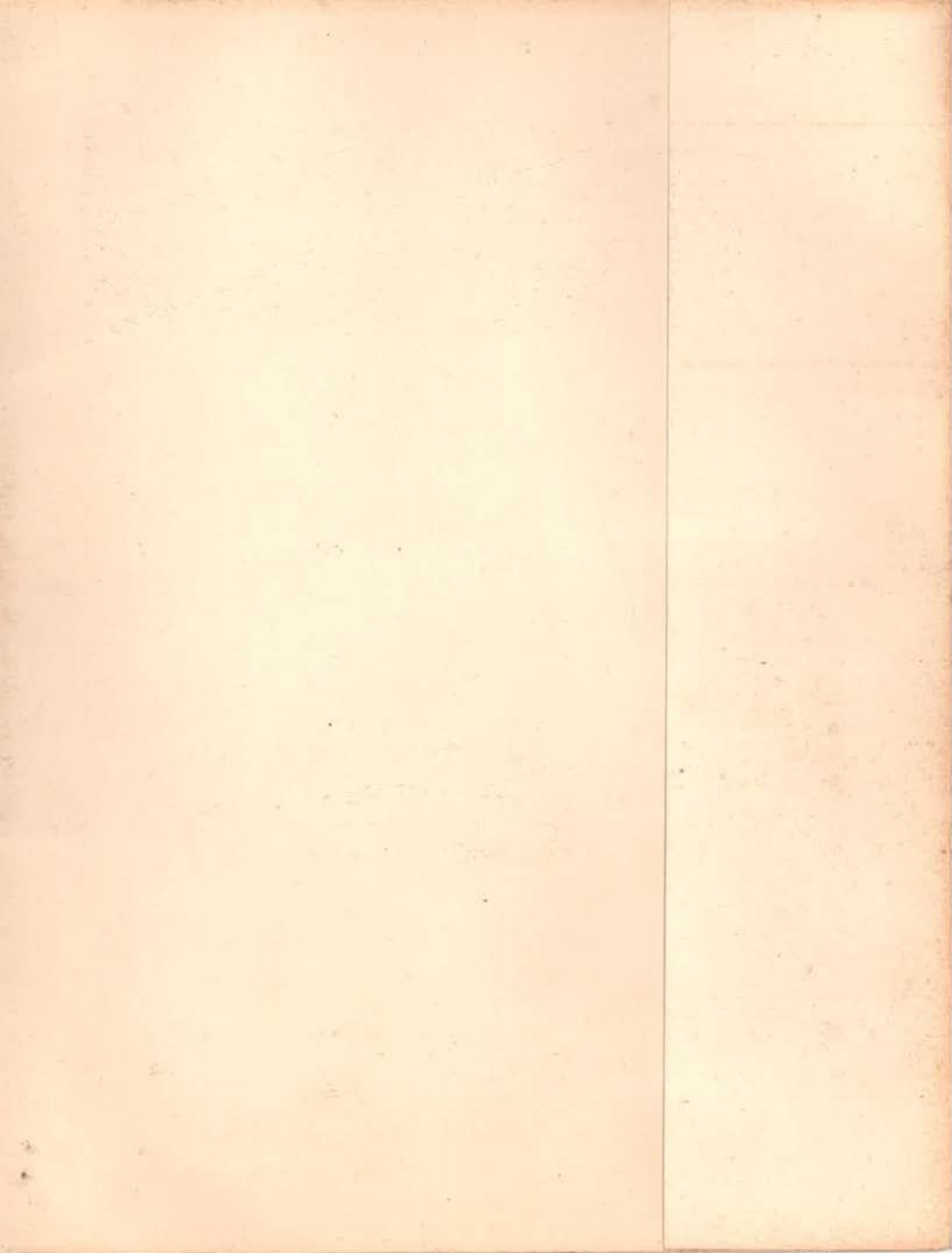
It should be noted that in France and certain foreign countries, CITROËN-KÉGRESSE cars are used with aeroplanes by the Army Medical Corps for transporting wounded so that they may be looked after without delay.

With regard to sport and travel, it may safely be said that this is the only vehicle which can be used where roads are bad or non-existent.

Sandy deserts and ice-bound plains are alike within the sphere of action of the CITROËN KÉGRESSE car.



Citroën-Kégresse car fitted for racecourse upkeep.



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