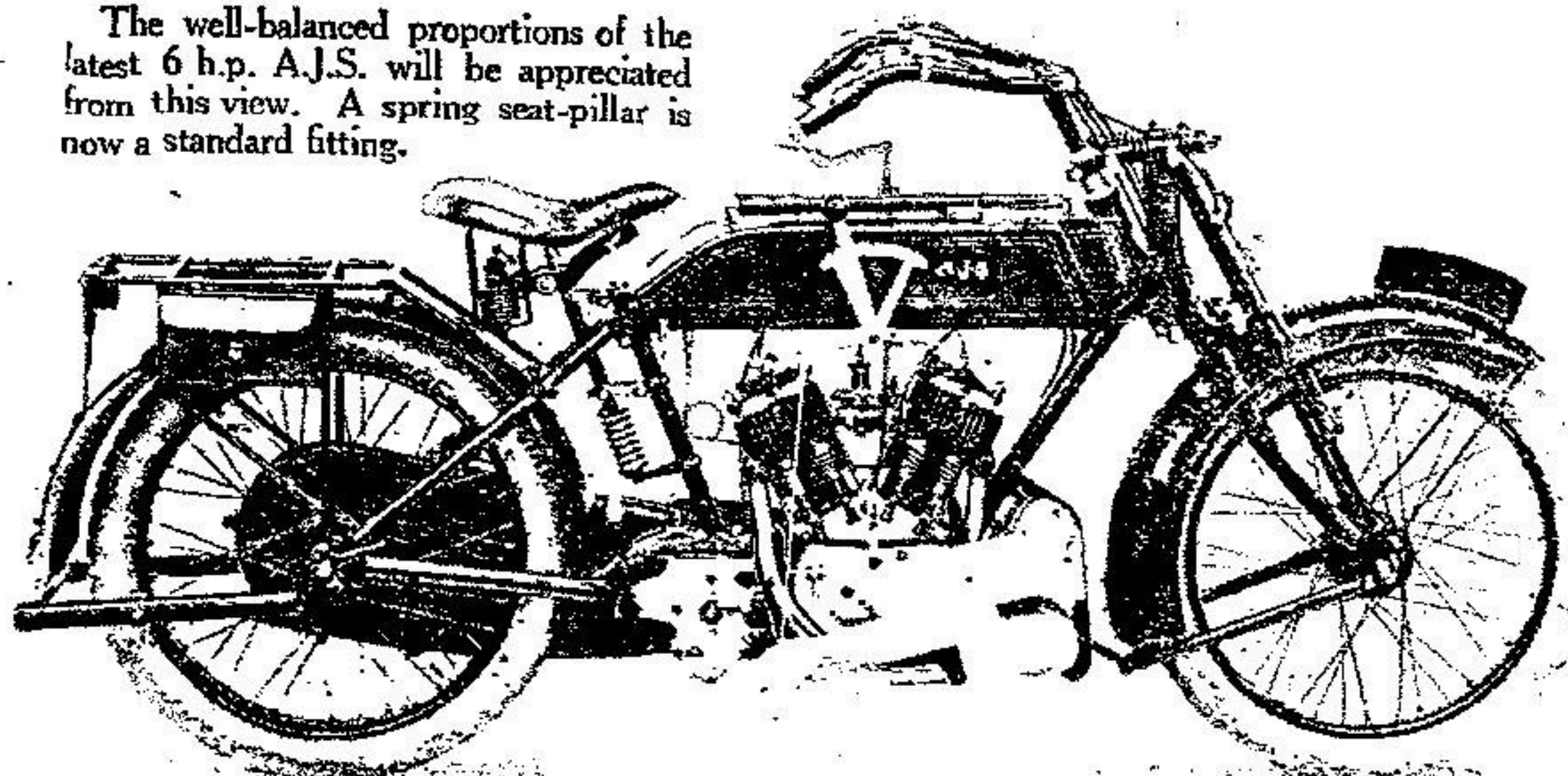


The Olympia Show.—

The well-balanced proportions of the latest 6 h.p. A.J.S. will be appreciated from this view. A spring seat-pillar is now a standard fitting.

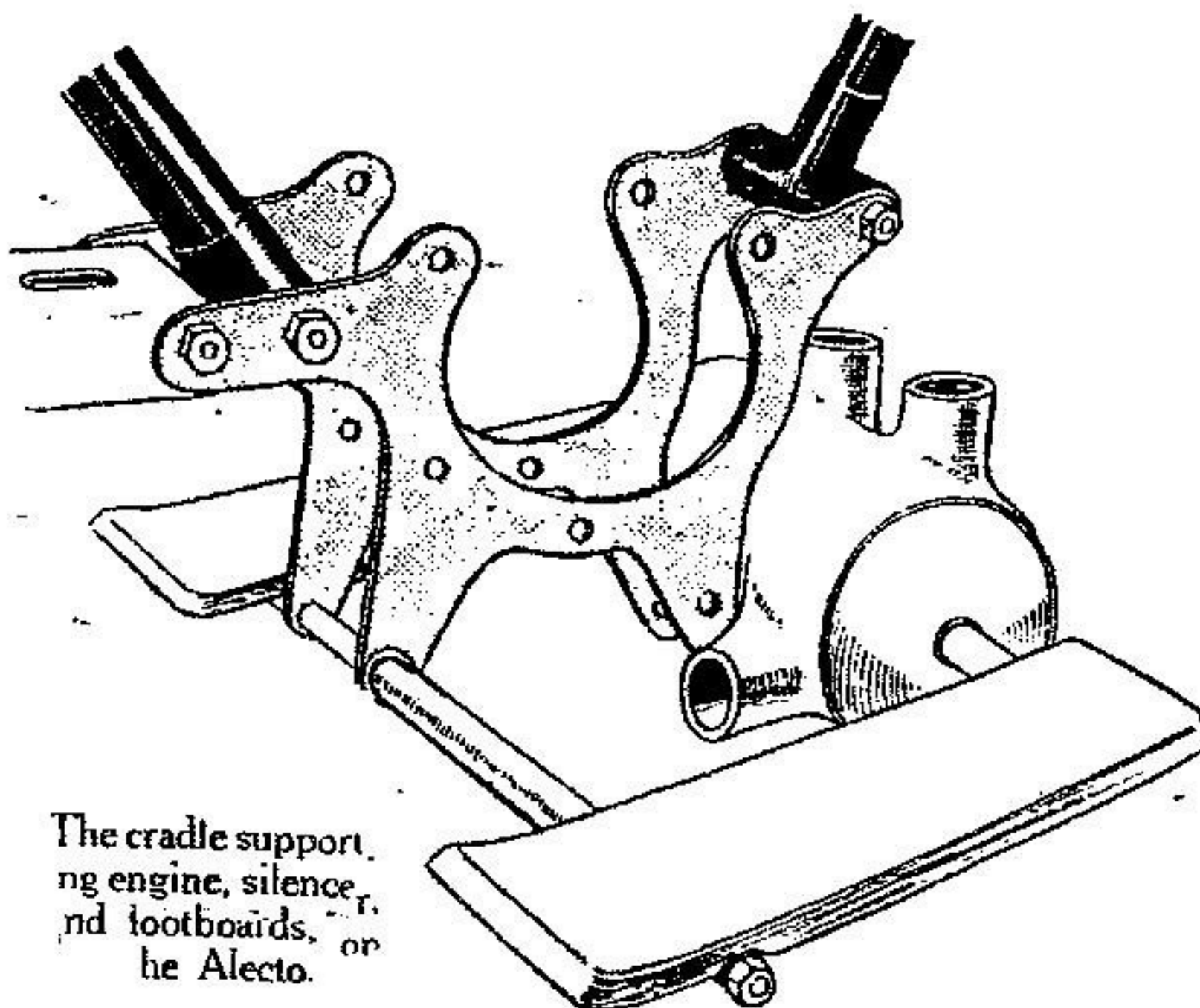


A.J.S., No. 31.

6 h.p. V twin four-stroke MODEL: 74×81 mm. (749 c.c.); side-by-side valves; Amac carburetter; Thomson-Bennett chain-driven magneto; three-speed sliding gear; chain drive; 700×80 mm. Dunlop tyres.

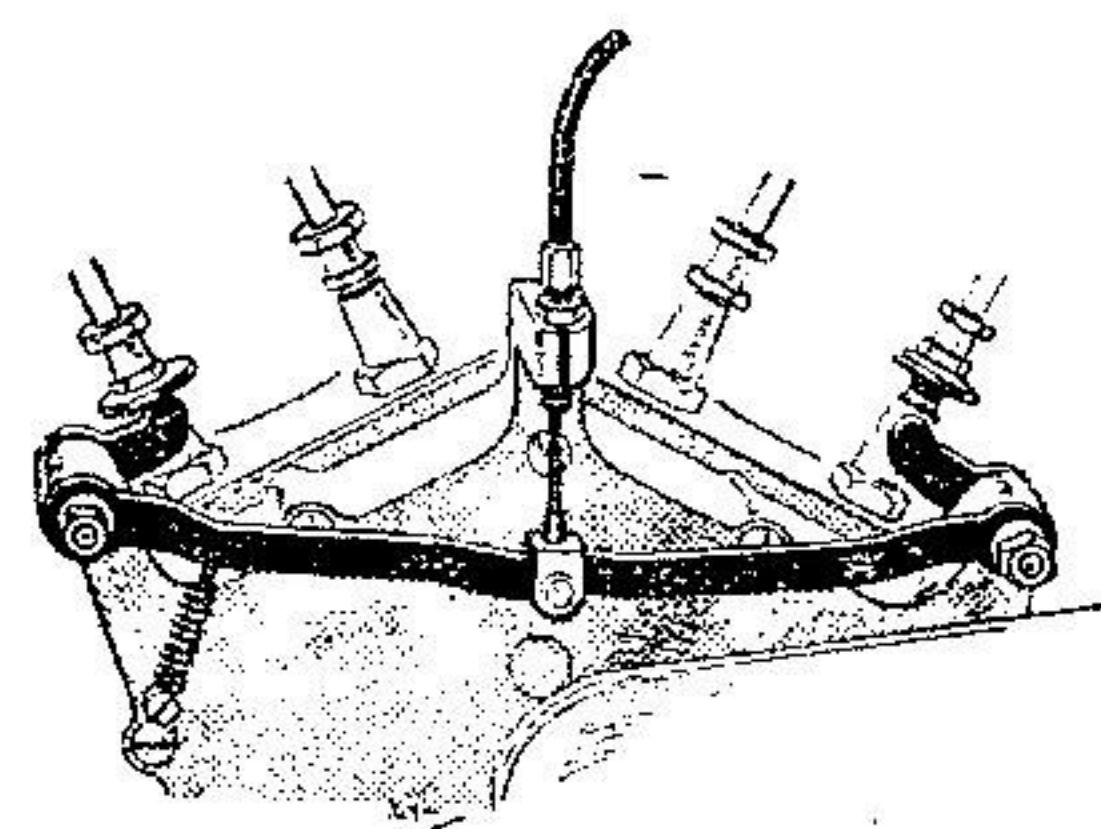
A. J. STEVENS AND CO. (1914), LTD., Penn Road, Wolverhampton.—One type only of A.J.S. is shown on this stand, which is the 6 h.p. sidecar outfit, one of the most practical and popular machines of its kind on the British market. It is full of interesting points. The careful student will note the width of the saddle-tank situated above the top tube of the frame, rendering it easy to clean. The width of the mudguards will be commended, whilst a very practical form of spring seat-pillar, in addition to the comfortable saddle fitted, absorbs all road shocks. The extra hand lever attached to one side of the back stand is another practical feature which enables the rider to put enormous leverage on to the stand and to raise the whole of the machine with the minimum amount of effort. All these models are fitted with the Amac single lever carburetter, concerning the working of which the designer is most enthusiastic. The footboards are rubber covered, with deep studs effectually absorbing any vibration that may be felt in the feet. The only variation in types is the fitting of electric light in the case of one model shown, which is equipped with a Lucas dynamo, driven by a Whittle belt neatly enclosed in a

case, off the engine shaft. The dynamo is eccentrically mounted in its housing, and if one of the holding-down bolts is loosened the whole dynamo may be twisted, and, by this means, any slack in



The cradle supporting engine, silencer, and footboards, on the Alecto.

the belt may be taken up. The switch controlling the lights is fitted to the side of the tank. No one can examine the A.J.S. machines exhibited without remarking upon their practical points and excellent finish throughout.

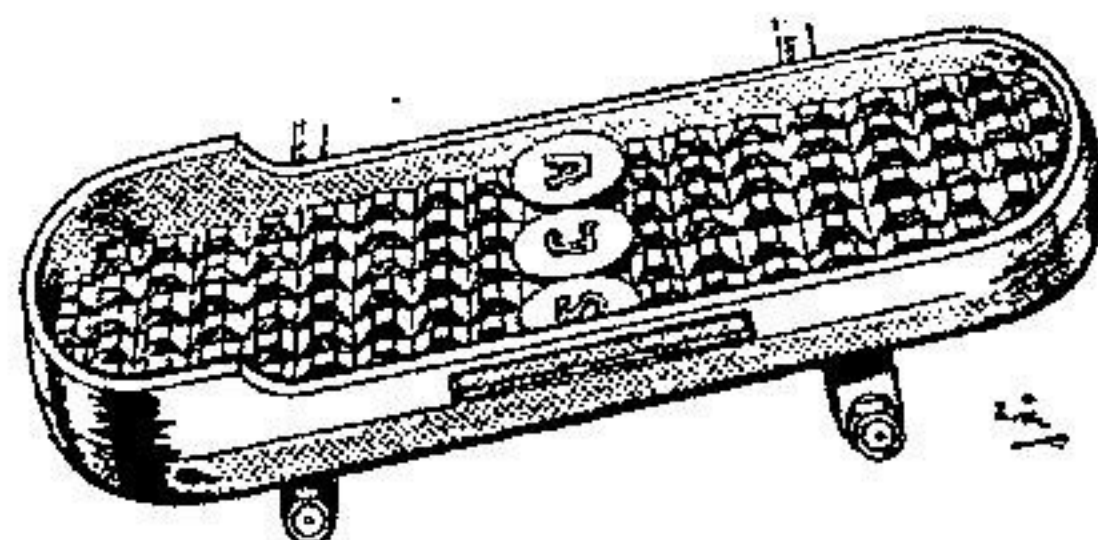


The centrally operated exhaust valve mechanism on the A.J.S.

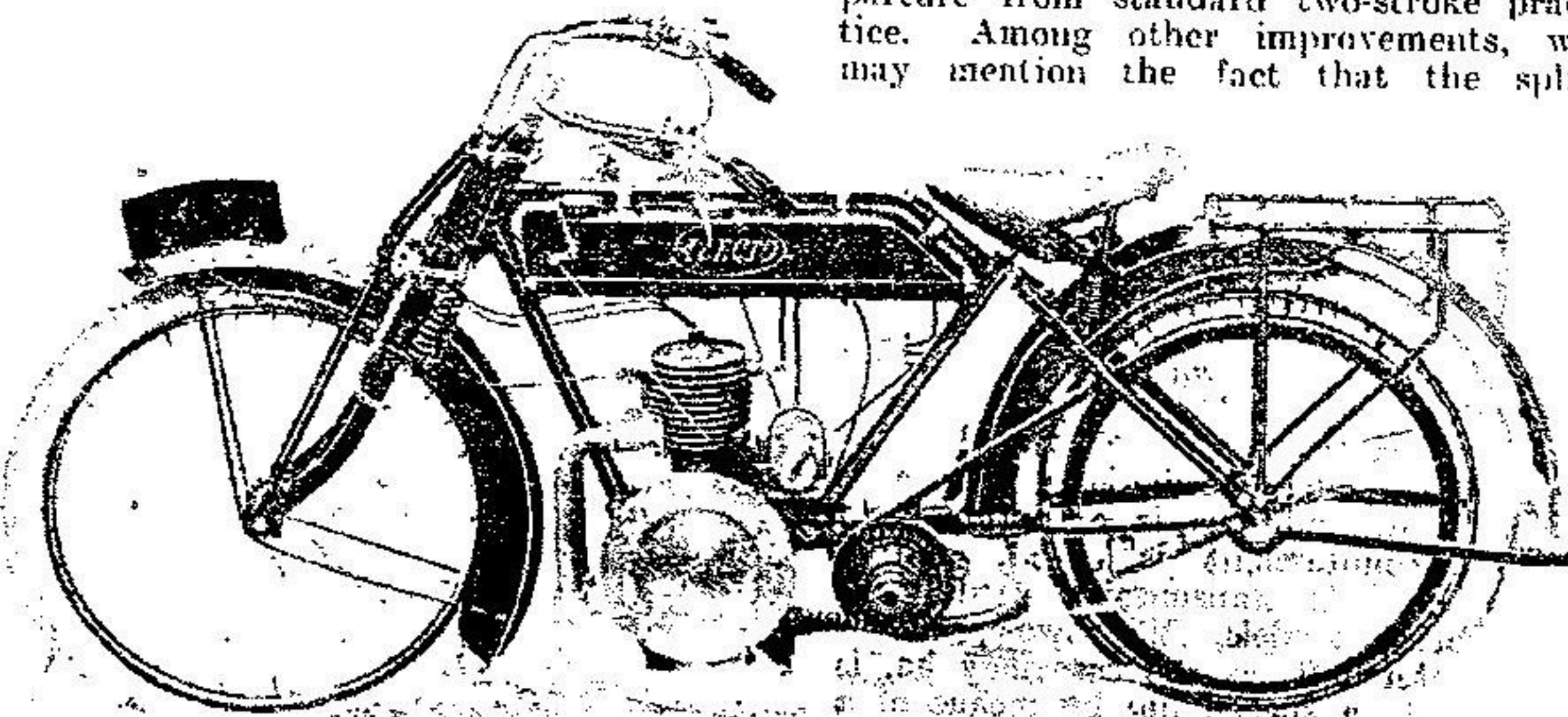
ALECTO, No. 15.

3½ h.p. two-stroke MODEL: 76×76 mm. (345 c.c.); Amac carburetter; C.A.V. magneto, chain driven; two-speed Burman sliding gear; chain-cum-belt drive; 26×2¼ in. Dunlop tyres.

CASHMORE BROS., LTD., Hildreth Street, Balham, S.W.12.—Two solo motor bicycles are to be seen on this stand. The Alecto is a two-stroke which possesses several original features and many interesting points. Among these we may mention the twin system of exhaust pipes entering a large silencer, and the compression release connected up to the exhaust pipe so as to eliminate any objectionable noise. It is interesting to note that the silencer has three times the capacity of the cylinder; consequently the Alecto should be among the quietest of two-strokes. The latest model is now fitted with a handle-bar controlled magneto. Another special feature of this machine is the size of the radiating fins on the cylinder, which should render the engine very cool running. The piston is of an aluminium alloy known as Magnalium, possessing two rings, a compression ring and a scraper ring. This is one of the new firms which has developed since the war, and the fact probably accounts for the designers having incorporated the novel features, to which we have referred, which mark a departure from standard two-stroke practice. Among other improvements, we may mention the fact that the split



Extra deep rubber studs are a feature of the A.J.S. footboards.



One of the newcomers, the 3½ h.p. Alecto, fitted with an engine of 350 c.c.

Passenger Machines of 1920.

car lugs are made integral with the frame, and the passenger attachment is thus firmly secured at four points. A roomy sidecar body, which is extremely well upholstered, is carried on four C springs. The chassis is of strong duplex construction, and the wheel is surrounded by a tubular framework in which the axle is supported at both ends.

THE 6 H.P. A.J.S.

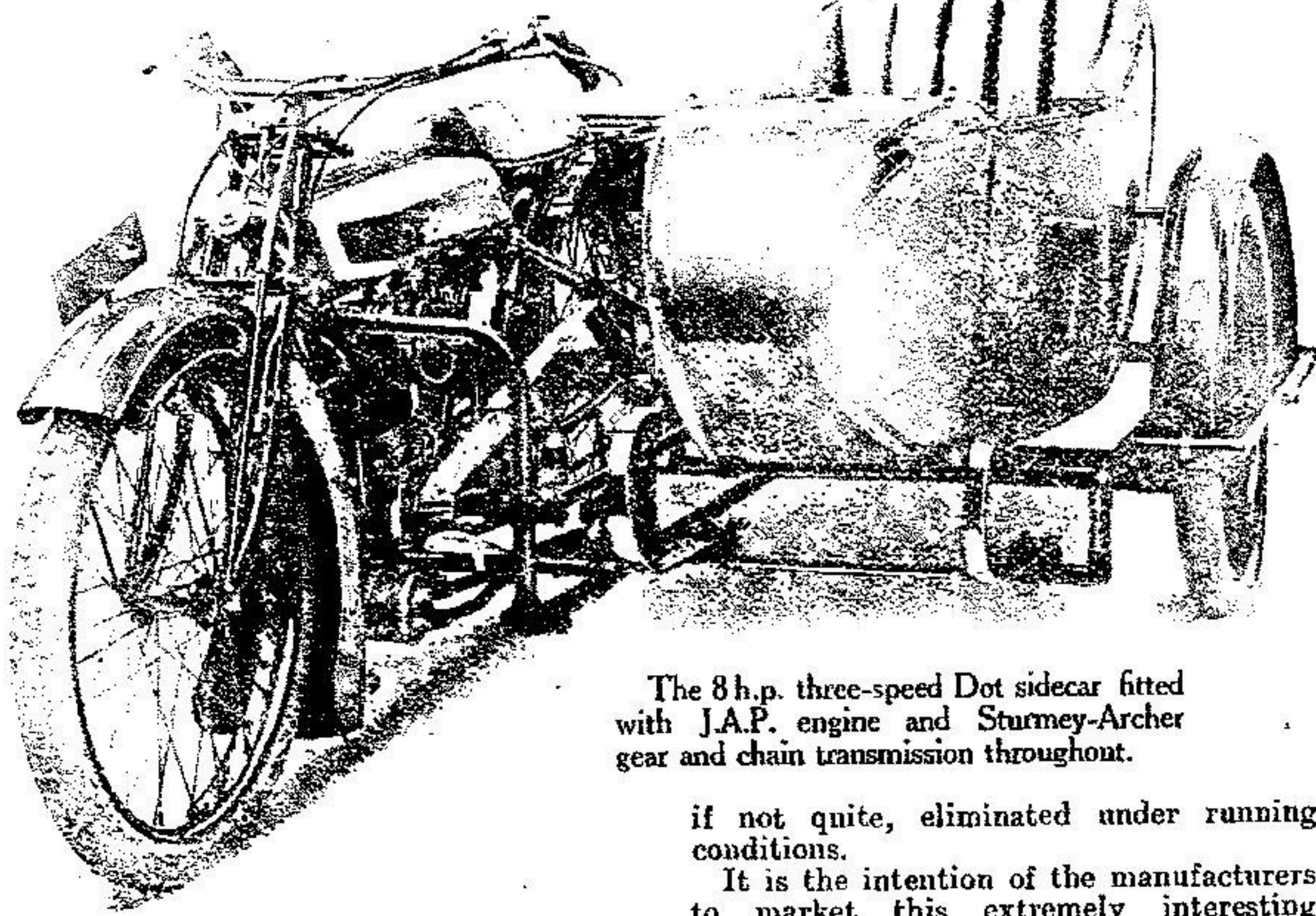
There is no doubt that among the "class" machines of 1919, the A.J.S. is one of the most important. It has been an exceedingly popular machine, and, since it was entirely redesigned early in the year, but few alterations will be found in the 1920 model.

Having detachable heads, the cylinders are 74x87 mm. (748 c.c.)—a size which before the war was most popular on account of its economy. On this account it is perhaps surprising that there are so few survivors; many of the makers hitherto fitting this size are now offering 8 h.p. machines.

A.J.S. machines are noted for their quiet running, their large mudguards, quickly detachable wheels, and the good qualities of the sidecar, which is fitted with a glass screen and hinged dash as standard equipment. The interchangeable and quickly detachable wheels are shod with 700x80 mm. tyres, a spare being carried at the rear of the sidecar body, which also has a neat luggage platform sprung with it—a most desirable feature. A sprung seat-pillar is fitted, and an important feature is the lever on the rear stand by which the raising of the machine is rendered quite an easy matter.

Not only in finish, but in the practical nature of its detail mechanism, the A.J.S. reflects ripe experience and understanding of the motor cyclists' requirements.

This, no doubt, is the outcome of the fact that the principals of the firm are ardent riders, who have never failed to avail themselves of the opportunity of testing their machines in the most strenuous trials.



The 8 h.p. three-speed Dot sidecar fitted with J.A.P. engine and Sturmey-Archer gear and chain transmission throughout.

DUNELT BIG SINGLE TWO-STROKE.

The introduction of a 500 c.c. single-cylinder two-stroke engine by a large firm of steel manufacturers and engineers is a matter of great interest, especially to those who maintain that the two-stroke engine will eventually take as prominent a position among sidecar machines as with lightweight solo motor cycles. The machine to which we refer is the Dunelt, described in last week's issue, and which will be exhibited at Olympia on the stand of Messrs. Dunford and Elliott (Sheffield), Ltd.

By the use of a truncated piston, the designers of the Dunelt have succeeded in producing a large two-stroke engine

if not quite, eliminated under running conditions.

It is the intention of the manufacturers to market this extremely interesting machine at a price very little above the present-day price of the average lightweight.

THE G.L. 6 H.P. MACHINE.

A French motor cycle built largely of British components and conforming to British ideas of conventionalities, is the G.L., which was awarded a silver medal in the recent Six Days Trials. This machine will be imported by Messrs. Vivian Hardie and Lane, of Woodstock Street, W.1, and is manufactured by M. Georges Levy, of Argenteuil.

The G.L. is distinctive in appearance, and will make a strong appeal to riders on account of the neatness and refinement of its design. The engine fitted is a 6 h.p. J.A.P., which drives through a Sturmey-Archer three-speed gear box by means of chains. All wheels are detachable and interchangeable, and no tools are required to remove them. A spring saddle-pillar is one of the several features in its design, while a band brake on the engine-shaft is distinctly novel. The sidecar fitted is also designed by M. Georges Levy, and is extremely light and pleasing to the eye.

A 4 H.P. VERUS.

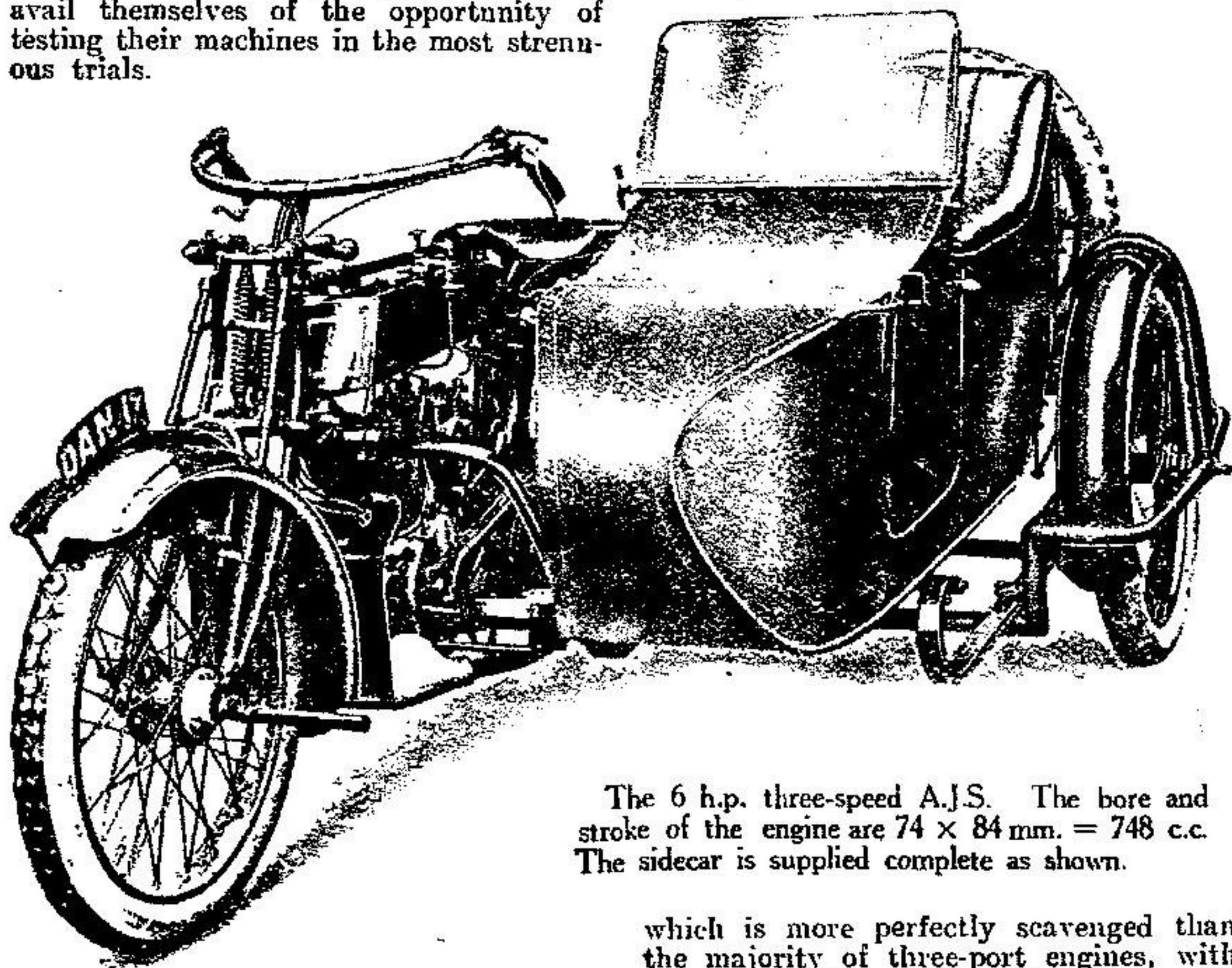
The makers of the Verus lightweight motor cycles will produce a single-cylinder dual purpose machine engined with a 4 h.p. Blackburne engine and fitted with a three-speed gear box.

THE P. AND M. SINGLE-CYLINDER MACHINE.

A machine which did good service in the R.A.F. as a sidecar mount, the 3½ h.p. P. and M., will appeal to the owner who appreciates a quiet running engine. The 1920 model, which was fully described in our issue for September 11th, has not undergone any startling alterations as regards design, but there are several improvements which help to keep the machine thoroughly up-to-date. The tank now slopes slightly at the rear, the kick starter is rendered more efficient and is placed further back, and a newly designed expanding brake has been added.

The 6 h.p. three-speed A.J.S. The bore and stroke of the engine are 74 x 84 mm. = 748 c.c. The sidecar is supplied complete as shown.

which is more perfectly scavenged than the majority of three-port engines, with the result that four-stroking is almost,



STAND 31

A.J.S.

—the incomparable.

The merit of the A.J.S. is not confined to any particular part or feature—it is of all round superiority.

It is the outcome of ambition, enthusiasm and scientific expert knowledge—the culmination of a desire to produce the Passenger Outfit—incomparable.

And that we have attained our object is proved by the universal recognition and acknowledgment of A.J.S. superiority, and the remarkably high percentage of awards gained in Open Competitions.

The A.J.S. is made throughout at our own Works under the strictest supervision during manufacture and erection, and its correct design, mechanical perfection, and embodiment of every modern convenience and improvement, make it a masterpiece of BRITISH engineering skill and thoroughness.

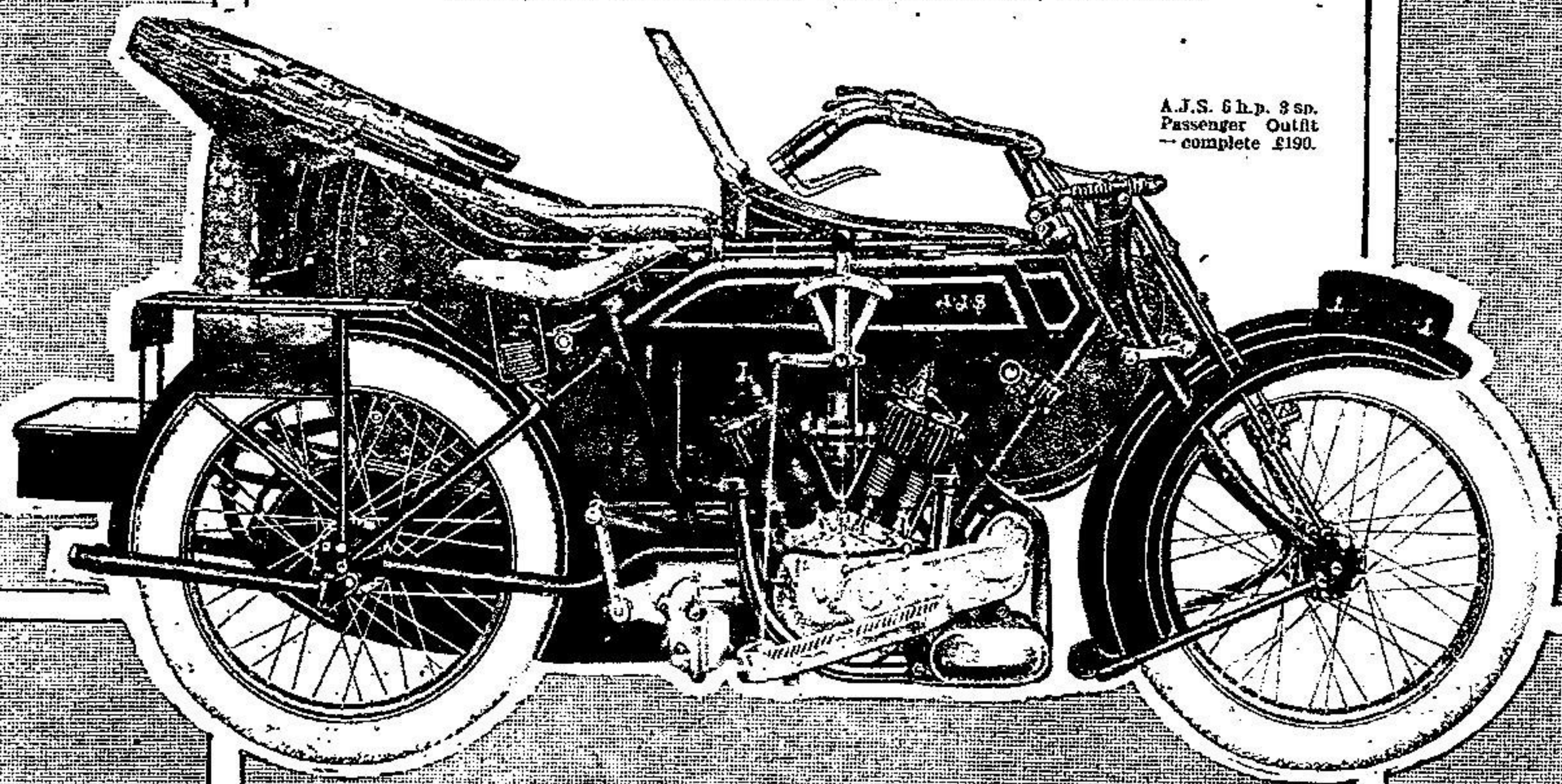
You can examine the A.J.S. at your leisure at Stand No. 31 at the Olympia Cycle and Motor Cycle Show—be sure and do so.

*Fullst information and latest catalogue however
may always be obtained on application to*

**A. J. STEVENS & CO. (1914) LIMITED,
GRAISELEY HOUSE, WOLVERHAMPTON.**

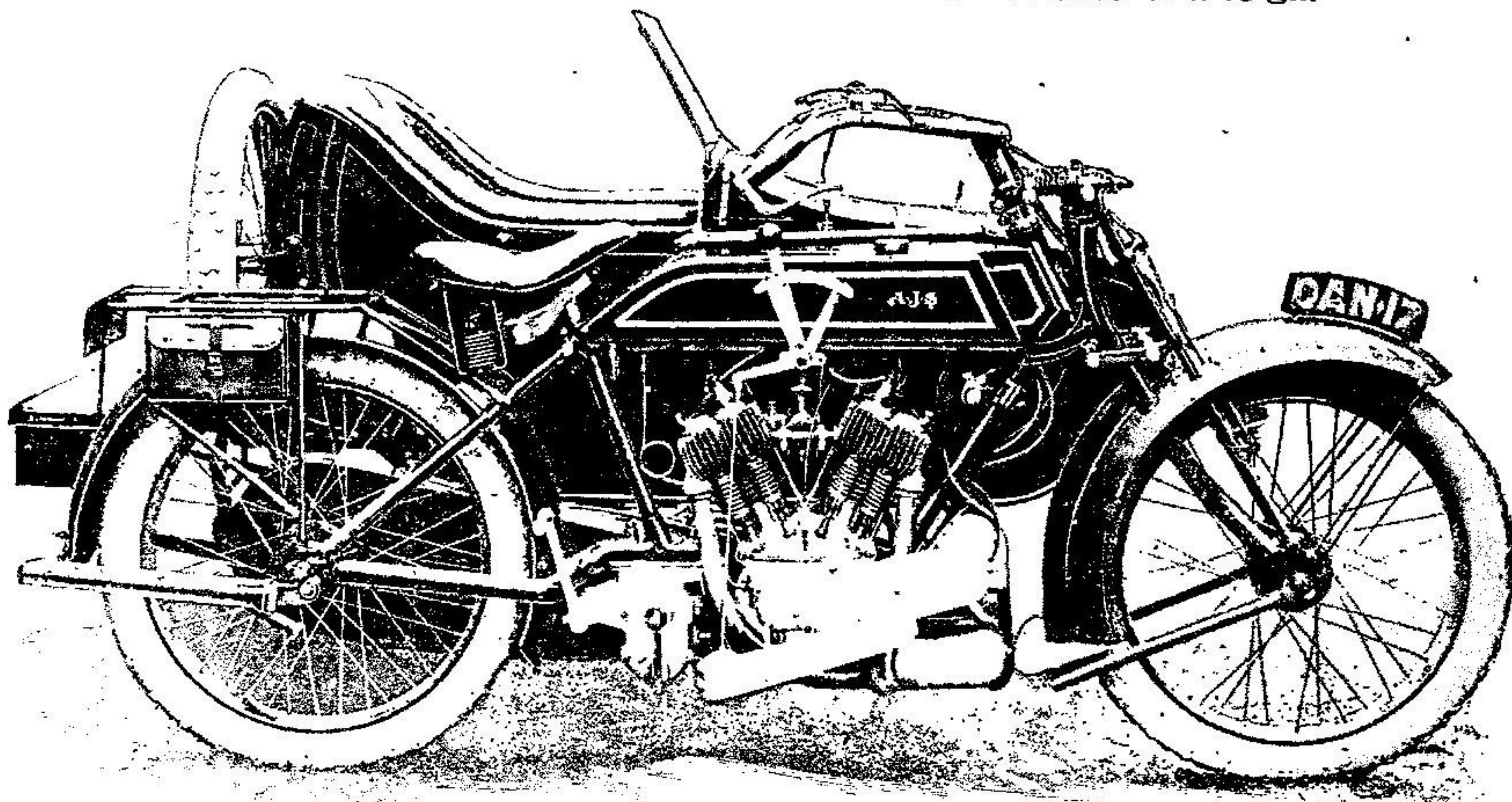
London Agents: H. TAYLOR & Co. Ltd., Store St., Tott. Ct. Rd.

A.J.S. 6 h.p. 3 sp.
Passenger Outfit
—complete £190.



THE PEACE MODEL A.J.S.

A 5-6 h.p. Sidecar Outfit with Several New Features of Design.

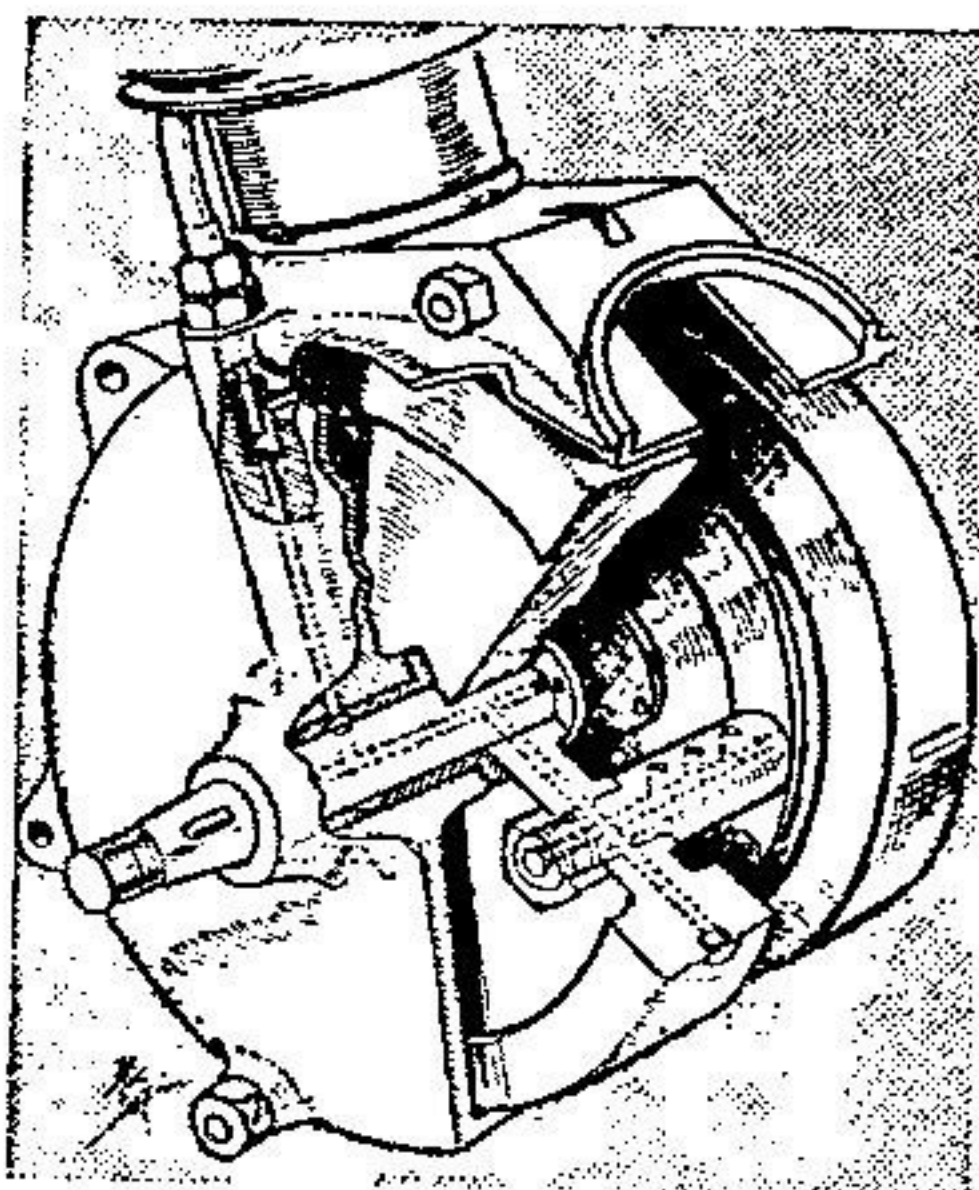


The 1919 A.J.S. 5-6 h.p. outfit. Many improvements have been effected both to the bicycle and sidecar.

It was first announced that the 1919 A.J.S. would be the military model "improved in minor details"; but the sum total of these alterations makes the machine as much a new design as most show models at past Olympias.

The engine, in the main, is the same as that fitted in the military model, with the exception that Messrs. A. J. Stevens have altered the cylinder design, which now embodies detachable heads, a feature of earlier A.J.S. machines, but not of the military model.

A pair of long holding-down bolts and a bridge piece as previously are used to keep the head in position, and, as in the military model, the bore and stroke are 74 x 87 mm. respectively, the total capacity being 748 c.c.



A.J.S. lubrication system, showing drilled oilways leading to the main bearings

Several other alterations are revealed upon closer examination of the engine and its component parts. The cam wheels and their shafts are now made separately, which is the result of many experiments undertaken to produce a silent timing gear. The exhaust valve lifting mechanism has been improved, and consists of two short shafts supported in bosses on the crank case, having fingers on the inner ends in contact with the underside of special discs on the exhaust tappet rods. On the outer ends of these short shafts are long levers interconnected by a stirrup in the more or less conventional way. The Bowden wire adjustment member is carried on a boss in the centre of the crank case.

A third alteration is in the angle at which the exhaust pipes leave the valve chests. They more closely follow the angle of the cylinders, and are fixed by means of screwed unions.

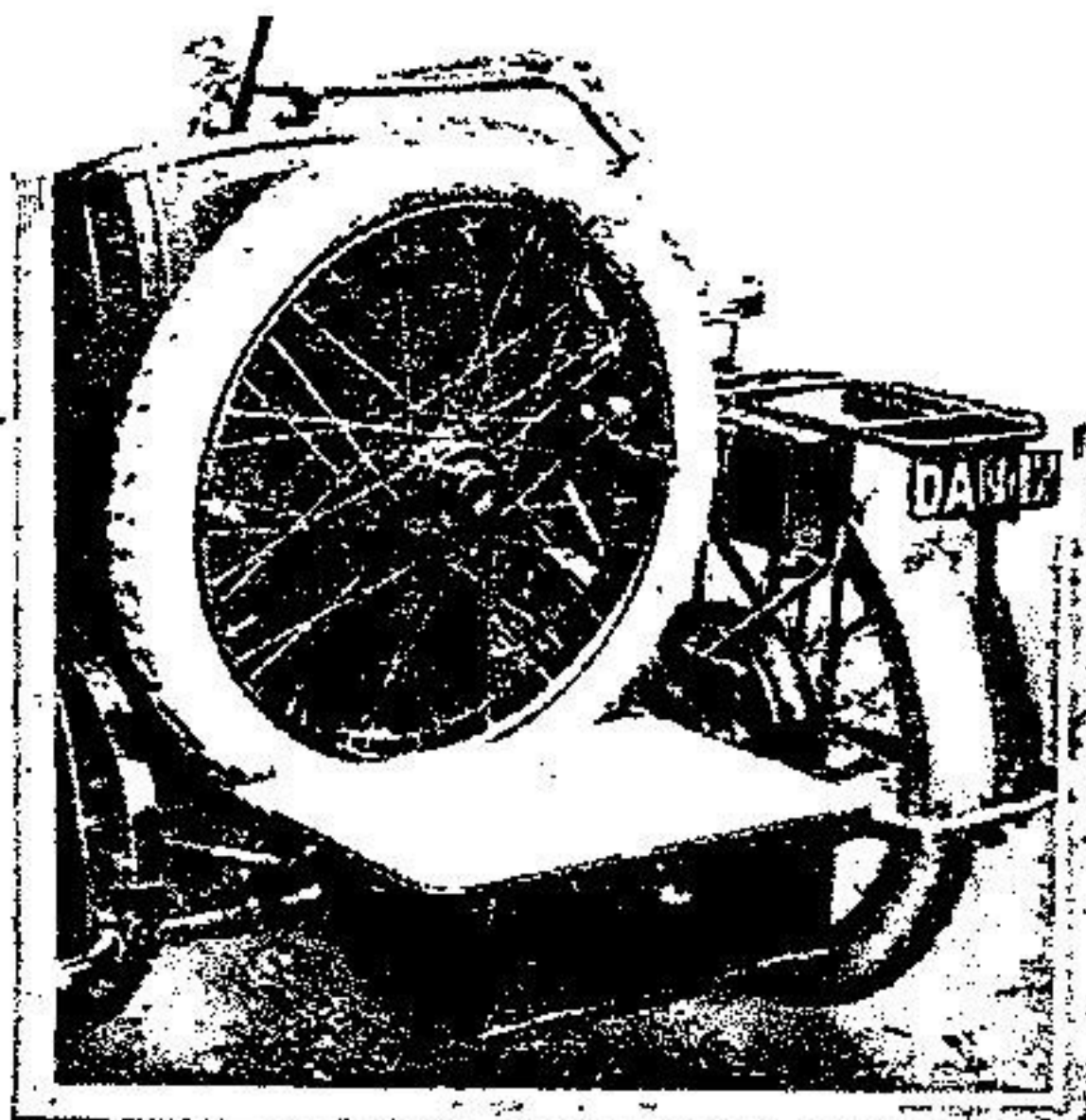
Parallel valve springs are now used instead of the taper type, hitherto standard A.J.S. practice.

Two alterations in the engine equipment which are immediately apparent are the changed positions of the magneto and of the silencer. The former is now in front of the engine and inclined, being carried on a saddle platform resting on two extensions of the forward engine plates. The platform is fixed to the engine plate extensions by means of four bolts, the holes in the plates being slotted, for the purpose of magneto chain adjustment.

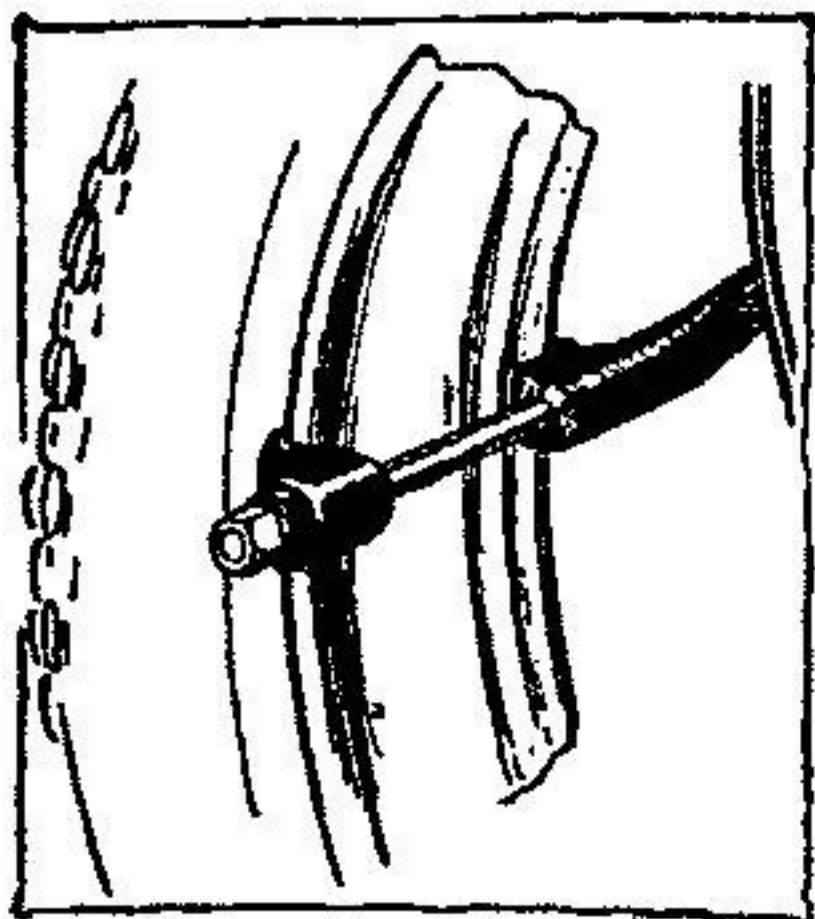
The silencer is a new pattern. It is exceptionally large and constructed of aluminium. It is carried beneath the magneto platform, and forms a support for a neat sheet metal magneto guard.

An Amac carburetter and Thomson-Bennett magneto are standard.

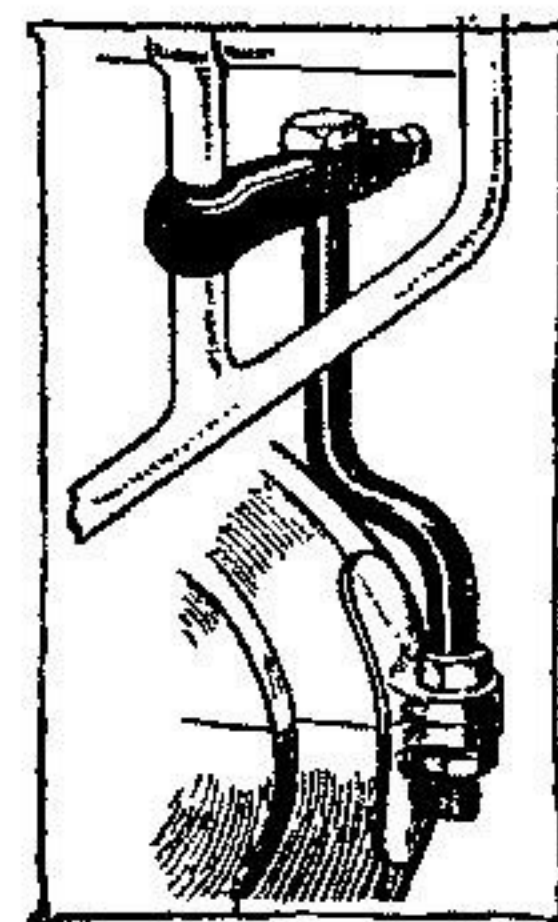
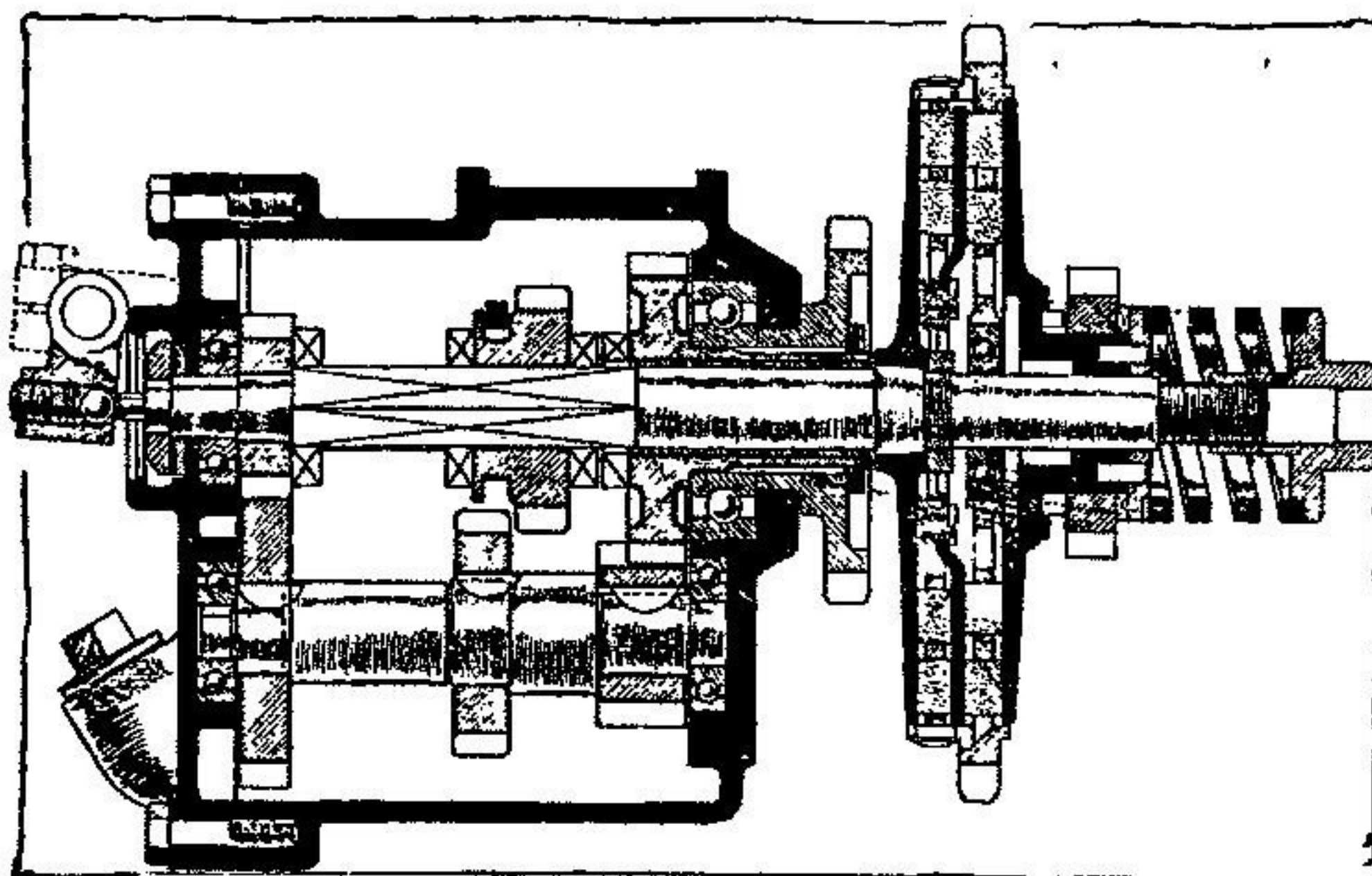
A.J.S. designers do not rely entirely upon the splash system for the lubrication of the engine. The oil is delivered to the crank case through a semi-automatic lubricator, which is located on the tank. On the plunger being depressed, a spring slowly forces the oil into the usual crank case feed pipe, but it does not pass through a sight feed. After passing the union on the crank case, the oil enters a small chamber; part of the oil leaks from this reservoir into the crank case, but the major portion passes down an oil-way to the main bearing on the driving side. The bush of the main bearing is drilled, and the hole com-



A combined luggage grid and locker of ample dimensions is fitted, and the method of holding the spare wheel has been improved



(Left) The method of carrying the spare wheel on the back of the sidecar. The rim is gripped at the sides by neat clamps. (Centre) The A.J.S. gear box, showing



the built-up layshaft and multi-plate cork insert clutch. (Right) The chain case support from the carrier.

communicates with a deep groove surrounding the journal, which is always full of oil. The hole in the journal is connected with a passage through the fly-wheel to the crank pin. On leaving the crank pin the oil descends through the fly-wheel to the main bearing on the timing side.

The Gear Box.

Most of the main features of the gear box are retained. It is of the sliding gear type and several improvements have been embodied, including a lay shaft of the built-up type. The drawings given here clearly indicate the salient parts of the unit. It will be seen that an exceedingly big leverage is obtained on the clutch operating mechanism by means of a long lever connected to the end of a shaft which works in a substantial bearing; the other end of the shaft having a short arm for depressing the plunger rod. The clutch is of the multi-plate type, with two plates having cork inserts.

Although differing from the pre-war models in general appearance, a similar design of frame with sloping top tube is used. This, however, is completely hidden by the saddle tank, which covers the tube and follows a horizontal line on the top. The tank is supported on platforms on the lower tube, and is

now enamelled black, with a broad gilt line for decoration, which lends a very handsome appearance to the machine.

Interchangeable quickly detachable wheels, of the well-known A.J.S. type, shod with 700x80 mm. tyres, are fitted, while a spare wheel is accommodated on the rear panel of the sidecar. The method of fixing this wheel is exceedingly neat. Two pairs of small clips are fixed on arms which extend from the sides of the body, and grip the rim of the wheel. By loosening two nuts the wheel is quickly removed, but when in position it is held rigidly.

A feature of the sidecar is the luggage carrier, which is supported on the body and therefore sprung. It is of triangulated design, and constructed of pressed steel, with a wooden platform covered in sheet rubber. Beneath the platform there is a commodious locker.

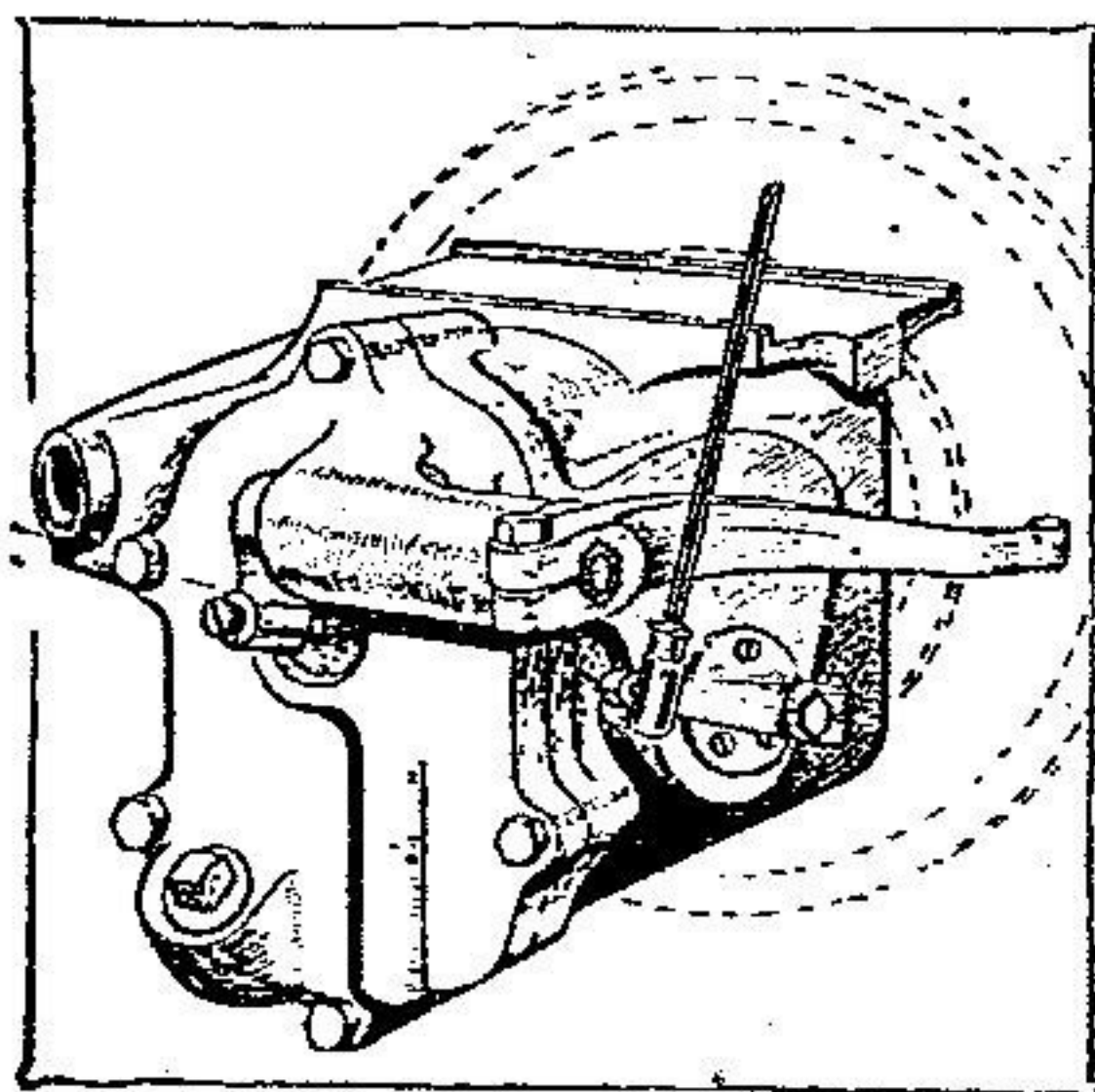
The sidecar, the panels of which are of sheet steel, is particularly handsome

and capacious. It is fitted with a hinged dash, carrying the screen, which it brings well to the rear.

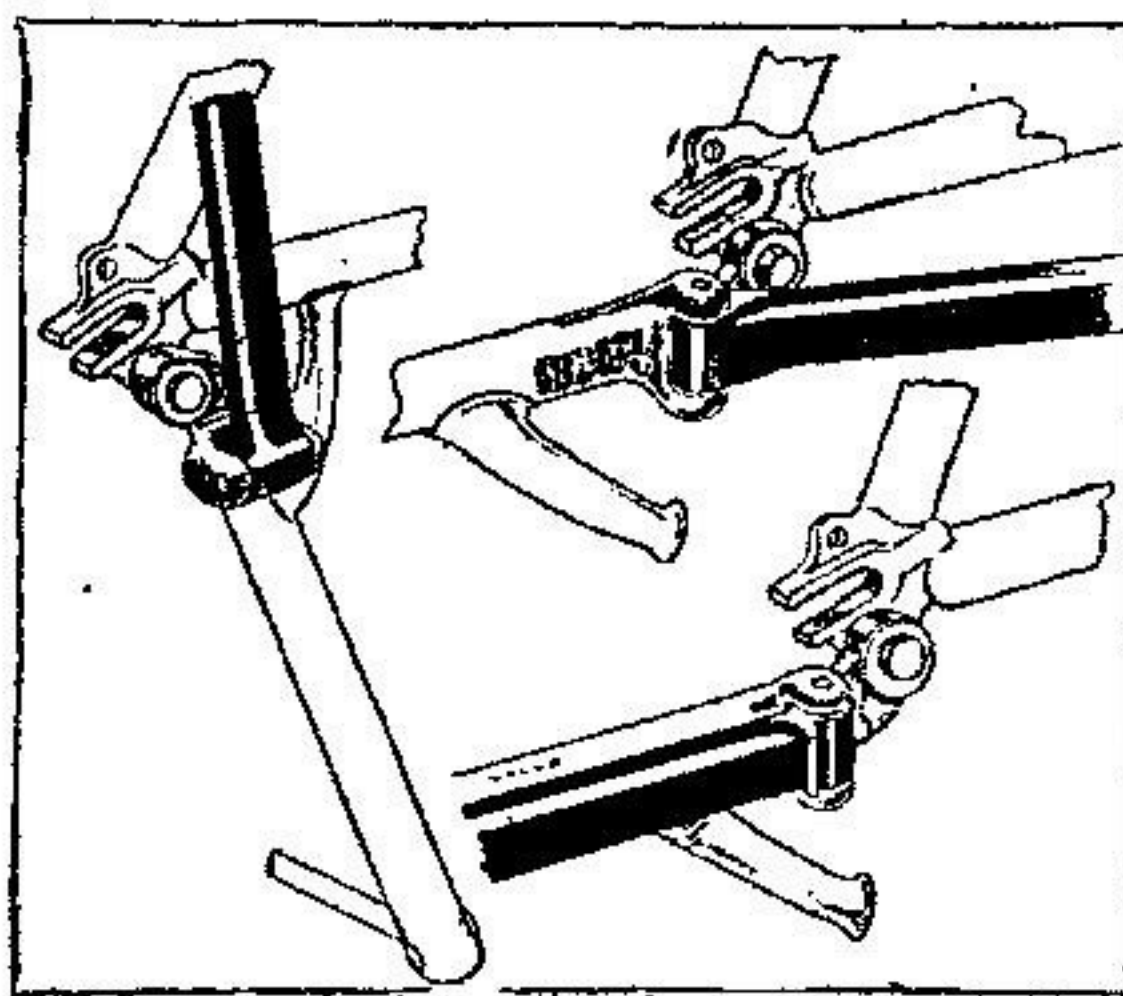
Other improvements include the enamelling of the handle-bar in lieu of plating, while the control wires are taken through the bar, which removes a point of complaint frequently heard against all machines with the many Bowden wires clipped to the bar.

Probably one of the most interesting features of the new model is the rear stand, which is a successful attempt to reduce the strain upon the rider in raising the machine on to the stand.

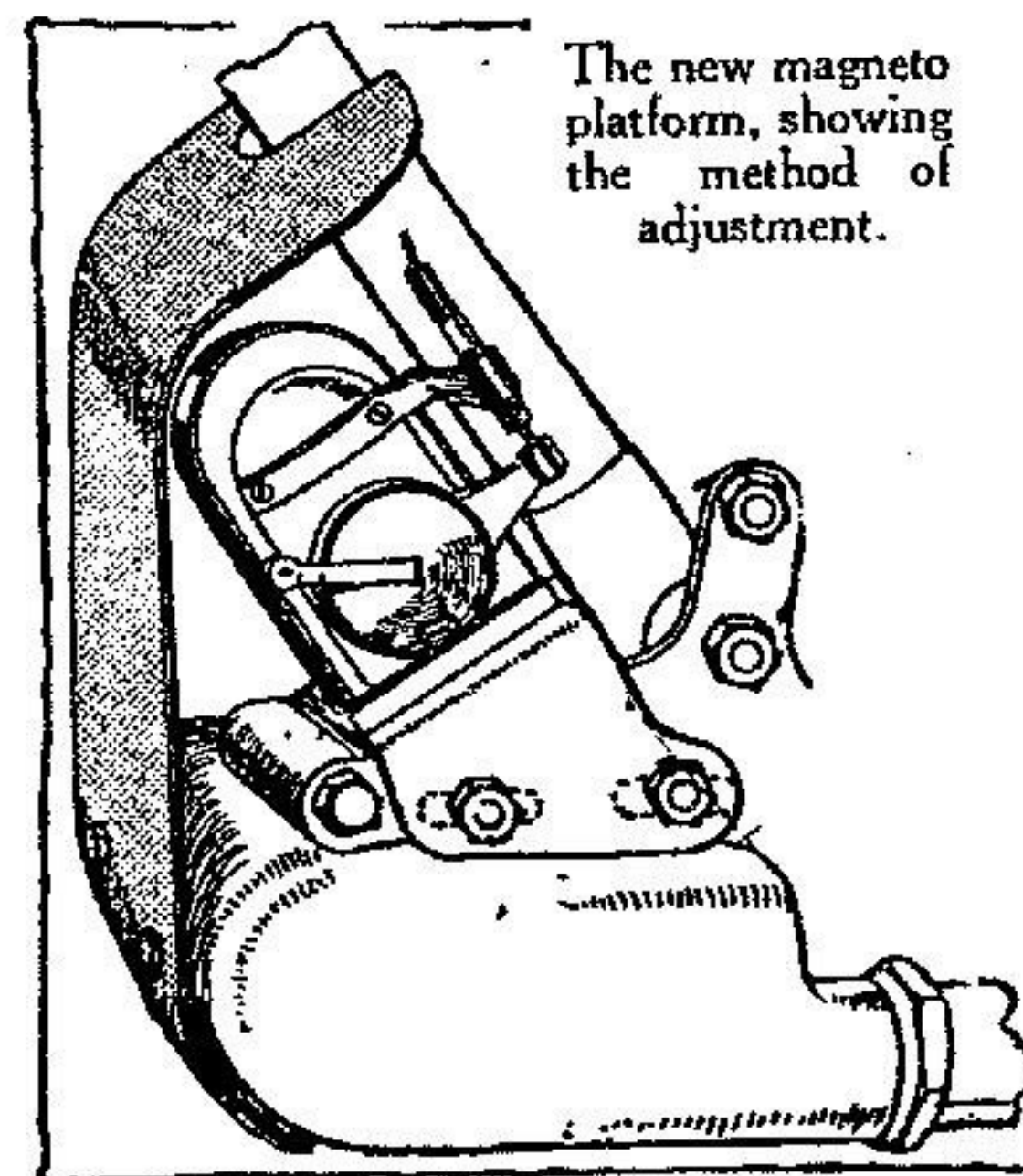
This device is extremely simple, and consists of an oval section lever hinged to the side of the stand member near its inner end. When not in use this lever lies along the stand tube to which it is clipped. When it is desired to raise the machine on to the stand, the lever is swung round towards the engine, a stop providing the correct angle; then, with the stand on the ground, the lever is pulled upwards, and the machine raised with comparative ease. Readers will agree that Messrs. A. J. Stevens are to be commended for giving this matter, so often referred to in *The Motor Cycle*, the attention it deserves, as it was practically an impossibility for the average man to raise a big twin sidecar machine on to the stand unaided.



The clutch operating lever is exceptionally long providing ease of manipulation.

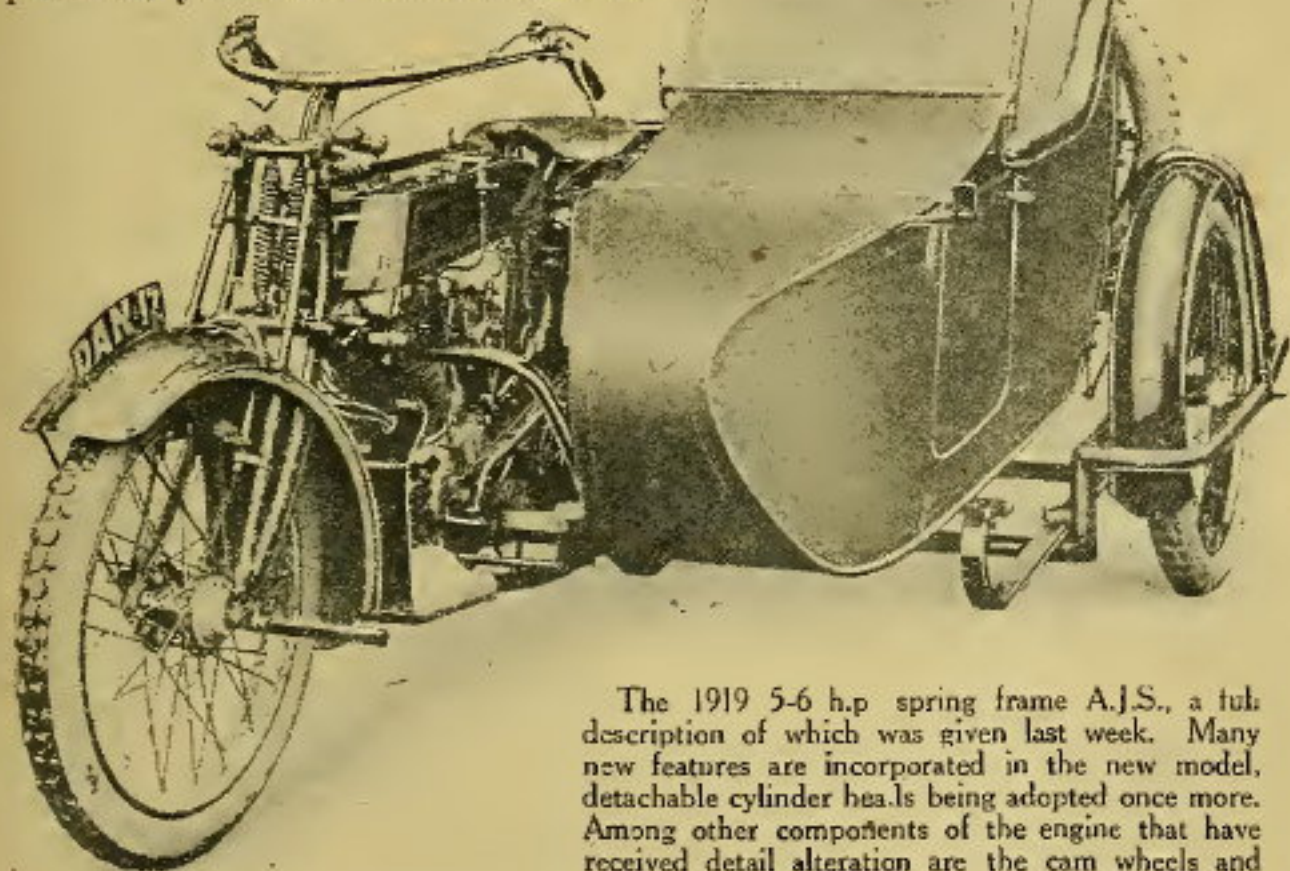


The patent stand lever by which the difficulty of raising the rear part of the machine is removed.



The new magneto platform, showing the method of adjustment.

on it, which goes to show that you have had it some time. As soon as you found that the machine was not as represented, you should have returned it

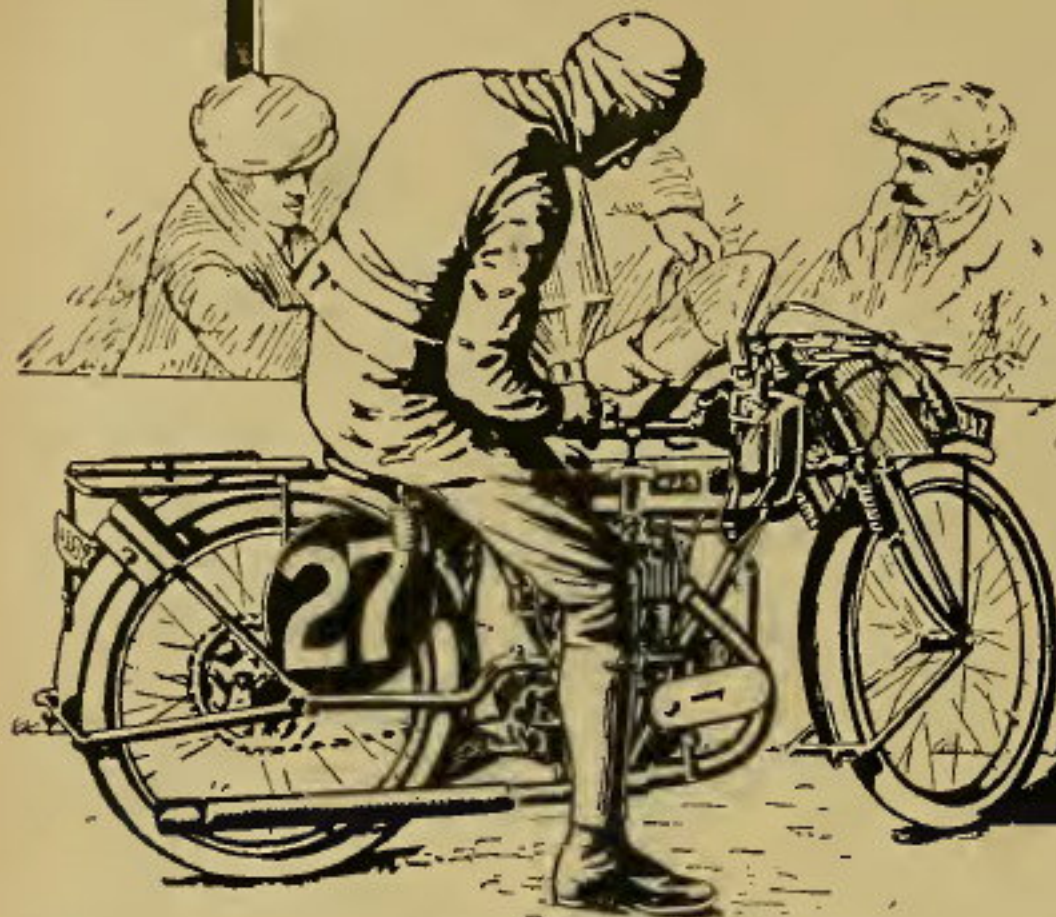


The 1919 5-6 h.p. spring frame A.J.S., a full description of which was given last week. Many new features are incorporated in the new model, detachable cylinder heads being adopted once more. Among other components of the engine that have received detail alteration are the cam wheels and their shafts, exhaust valve lifter mechanism, exhaust pipe angle, and the valve springs.

A.J.S.

Replenishing

in the 1914 Junior T.T. Race!



Only replenishing stops, no involuntary stoppages that day — no tinkering by the way, but "at it" all the time, and in the end—1st, 2nd, 4th, and 6th positions!

You read in that performance a reliability unequalled — a mechanical perfection unexcelled.

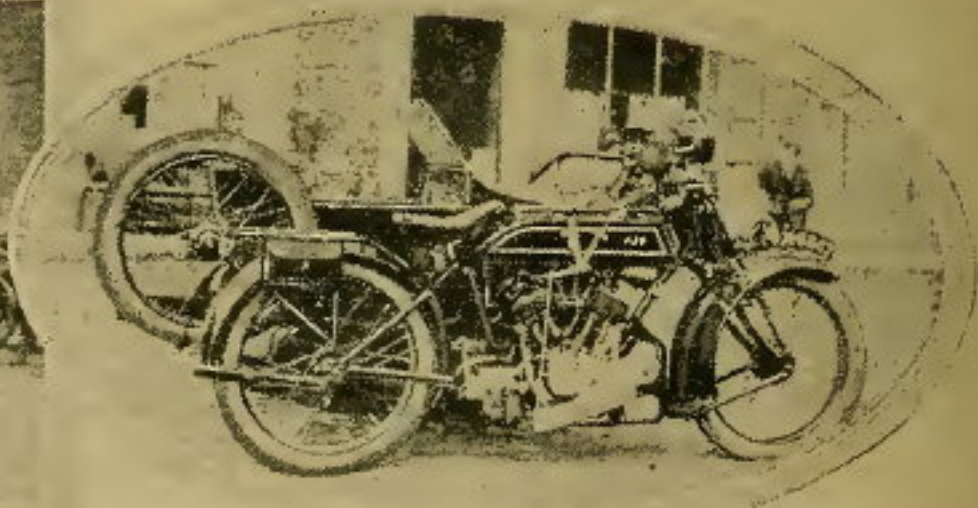
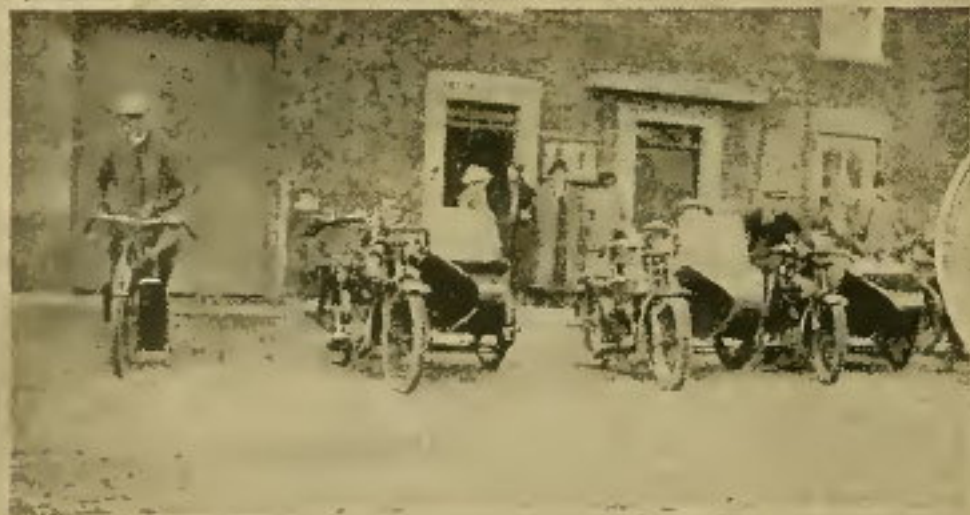
No involuntary stops, that's the point—and applied to YOU on Tour it means that feeling of absolute confidence so essential to complete enjoyment even when "you're miles away from anywhere"—if you ride an A.J.S.

The A.J.S. Engine is made entirely at our own Works, distinguished for power, flexibility, silence and absence of vibration, and stands to-day a masterpiece of BRITISH engineering skill and thoroughness.

The A.J.S. incorporates 3-speed Countershaft Gear, Hand-controlled Clutch, Kick-starter, Patent Gear Change, All-enclosed Chain Transmission, Internal Expanding Rear Brake, A.J.S. Patent Detachable Interchangeable Wheels, etc. But let us send you our preliminary List with fuller information.

A. J. Stevens & Co. (1914), Ltd., Wolverhampton.

London Agents: H. Tay'or & Co., Ltd., Store St. Tott. Ct. Rd.



A fair number of members of the Newcastle and District Motor Club turned up on Good Friday for the opening run to Allendale. Powerful sidecar outfits predominated, one of the smartest being a new A.J.S. (on right) owned by the trials secretary.



J. D. Campbell and his passenger, New Zealand motor cyclists, on an A.J.S.



A dustproof envelope covering a picnic basket on the sprung carrier of an A.J.S. sidecar.



The new Lucas Magdyno ignition and lighting unit on an A.J.S. machine.

JULY 3rd, 1919.

THE
MOTORCYCLE



F. Stevens (6 h.p. A.J.S. sidecar) entering the Llangollen control.



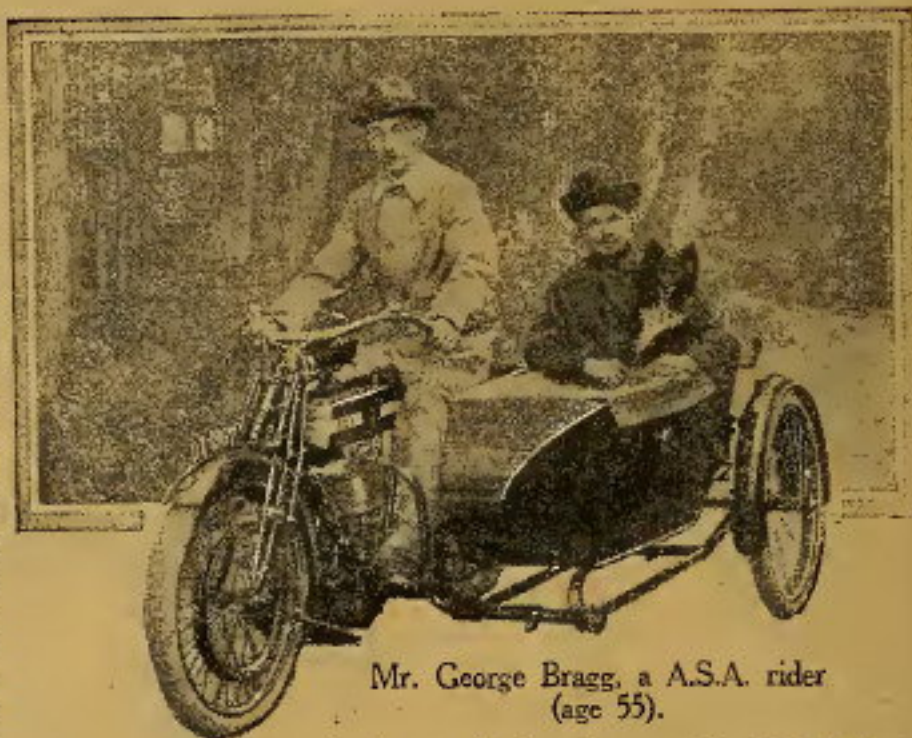
Glasgow Western M.C.C. slow hill-climb at Cult Brae. J. Henderson, 4 h.p. A.J.S. and sidecar, starting the climb.

NO AGE LIMIT.

Collection of Letters from Riders of Mature Years.

Mr. George J. Bragg, of Ipswich, is only fifty-five, and, therefore, a comparatively young man. There are many riders between fifty and sixty, but there are also a large number of hesitating would-be motor cyclists about this age who consider that they are too old to commence. Mr. Bragg has just taken up the pastime, and his remarks may assist others to come to a decision. He writes:

"I am in my fifty-fifth year, and I am fully aware I am not the oldest motor cyclist on the road. It is quite surprising how soon one can get efficient in driving at my age; I had



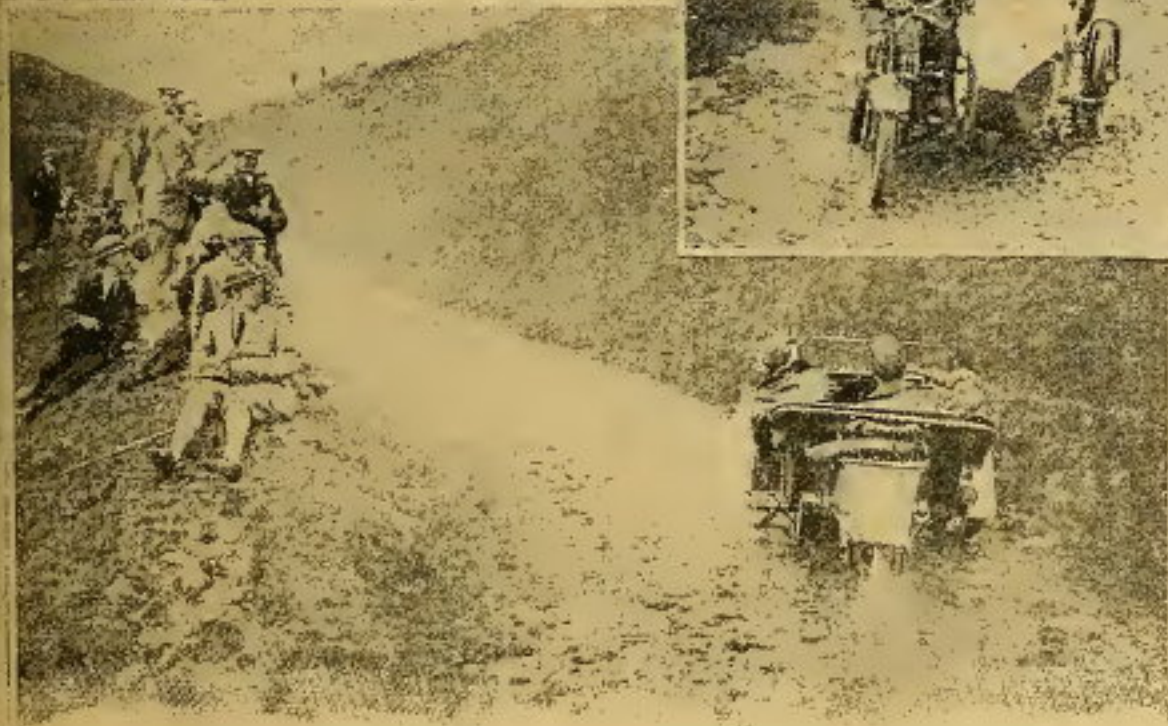
Mr. George Bragg, a A.S.A. rider
(age 55).

private workshop for passing his leisure time in motor cycle engineering.



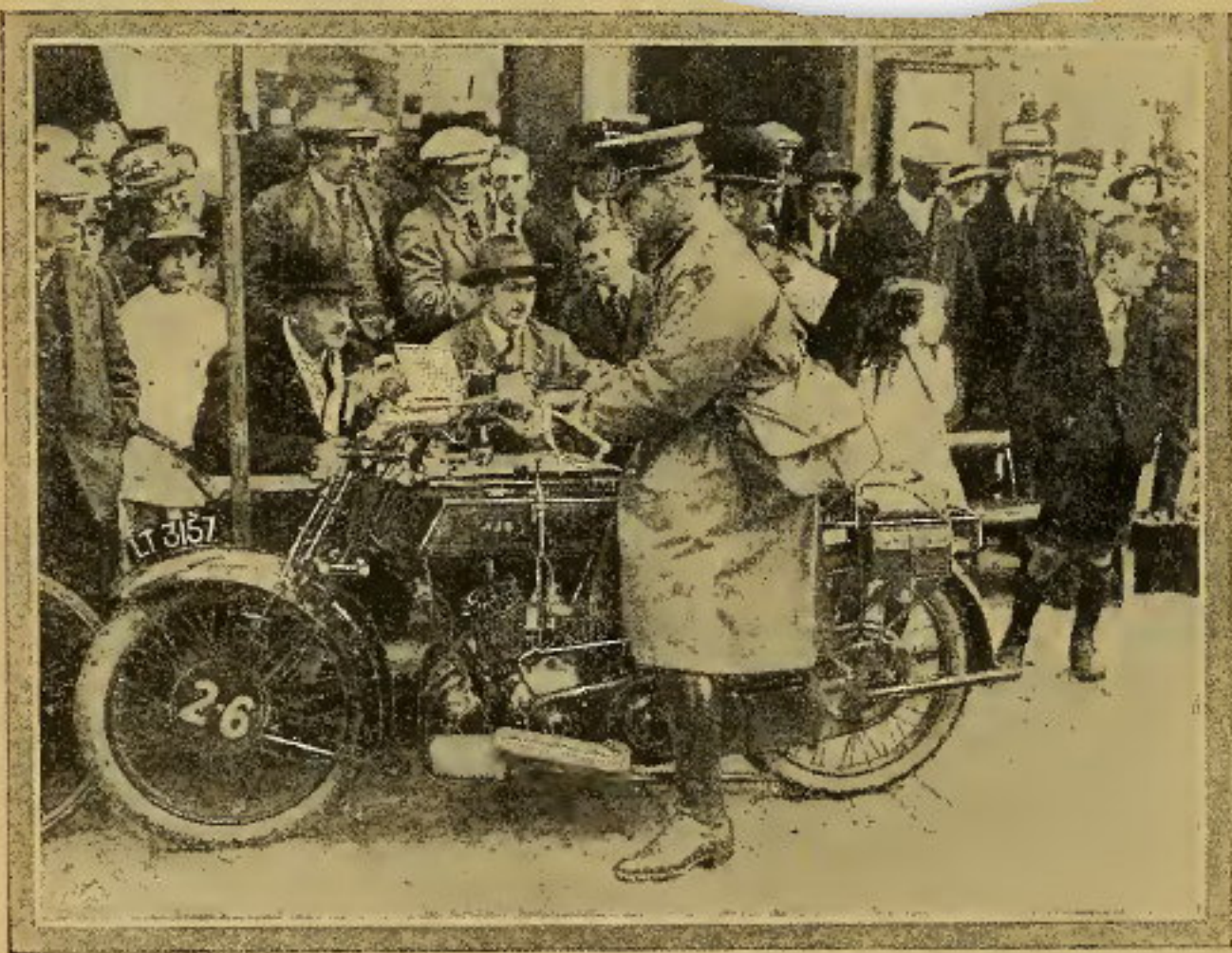
Glasgow M.C.C. open twelve hours reliability trial on Saturday last. Mrs. Bell (6 h.p. A.J.S.), only lady competitor, checking in at Dunoon. She was one of the four competitors to finish and made a very good performance.

ged up immediately after the second Wills (6 h.p. Rover), Milne (4½ h.p. A.), Jameson (2½ h.p. Diamond), and son (4 h.p. Douglas) all made excellent imbs, but, undoubtedly, the thrill of the morning was put up by Fairley (4½ h.p. B.S.A.), who was behind time, and stormed the first corner at tremendous speed. Thereafter he skidded broadside about ten yards, turned a complete circle, and fell.



A. Downie (6 h.p. A.J.S. sidecar) and Alan Hill (8 h.p. Morgan) on the notorious hairpin bends of Amulree. Note the very loose and rough surface.

HILLS.		Marks lost.
COCKBRIDGE—		
D. S. Milne (4½ B.S.A.)	...	1
Hutchison (4 Douglas sc.)	...	1
J. R. Alexander (7-9 Indian sc.)	...	1
Mrs. Bell (6 A.J.S. sc.)	...	1
Cassie (4 Douglas)	...	1
Wray (5-6 Clyno)	...	1
DEVIL'S ELBOW—		
D. S. Alexander (8 Enfield sc.)	...	1
Fairley (4½ B.S.A.)	...	1
About half are out for gold medals.		



His first trial. Captain Jeffreys (6 h.p. A.J.S.), who had heard so much of the Scottish Trials, although he had not competed in any event before, elected to make a tour of Scotland under the auspices of the Edinburgh M.C.

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JULY 31st, 1919.

MOTORCYCLE

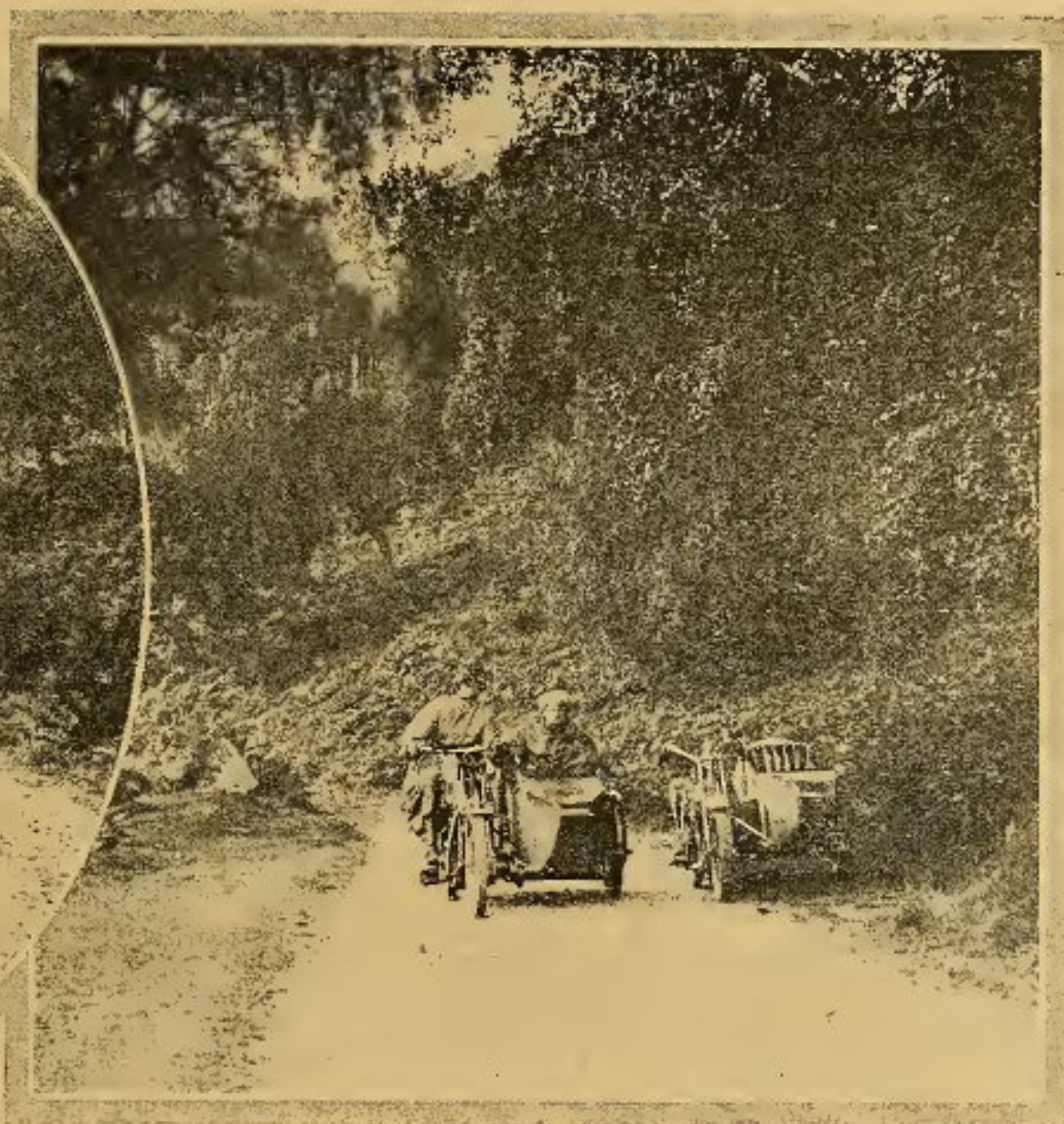


E. W. Choldcroft (4 h.p. A.J.S.) at the summit of Aultnaharie, agreed to be the most severe climb

JULY 31st, 1919.

THE MOTOR CYCLE

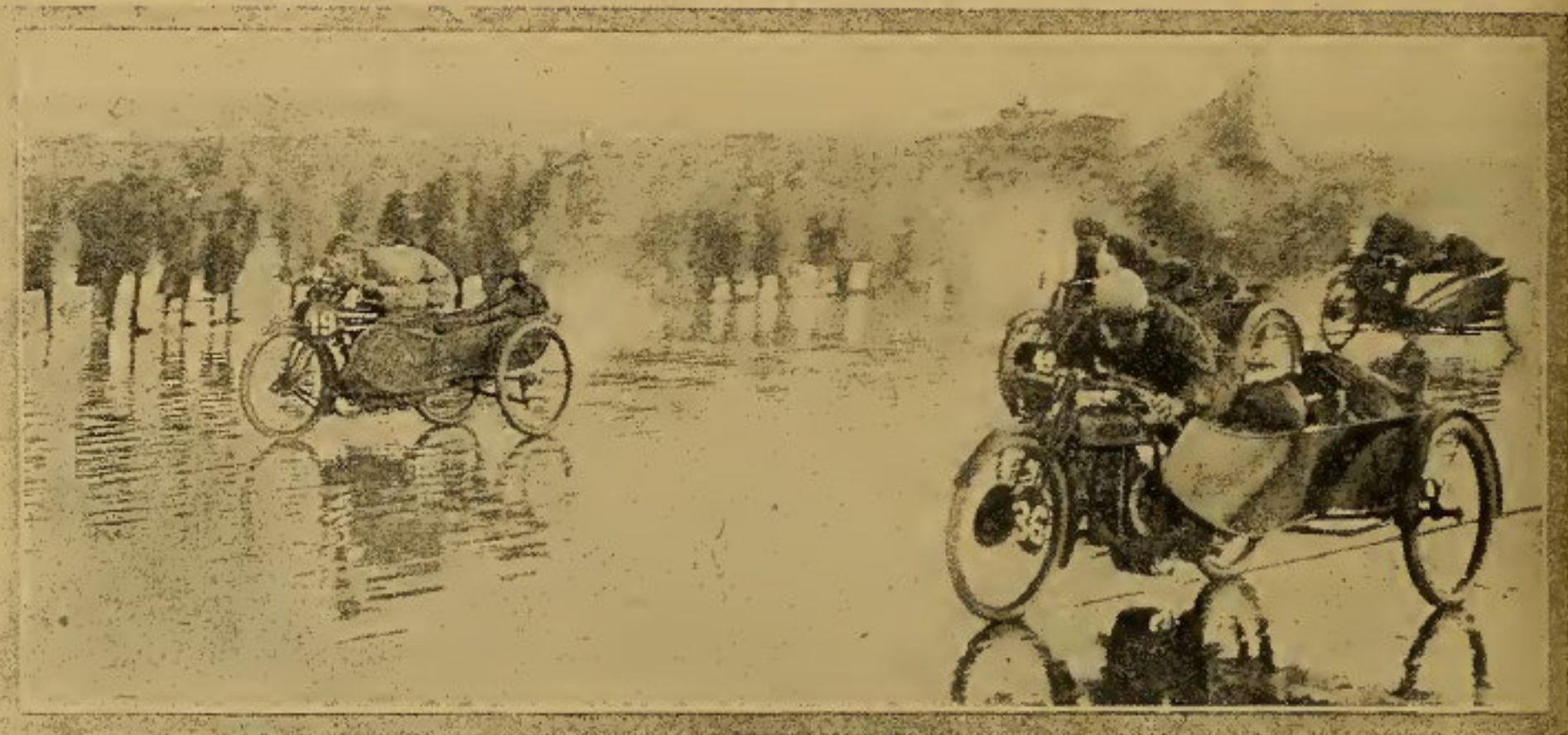
121



In the glens between the rain storms. Vivian Olsson (4 h.p. Douglas) near Contin, and Mrs. Bell (6 h.p. A.J.S. sidecar) nearing Inverness, after four days' hard riding.

WESTON-SUPER-MARE SPEED TRIALS.

Motor Cycle Racing under Difficulties; Successful Meeting in Spite of Bad Weather.



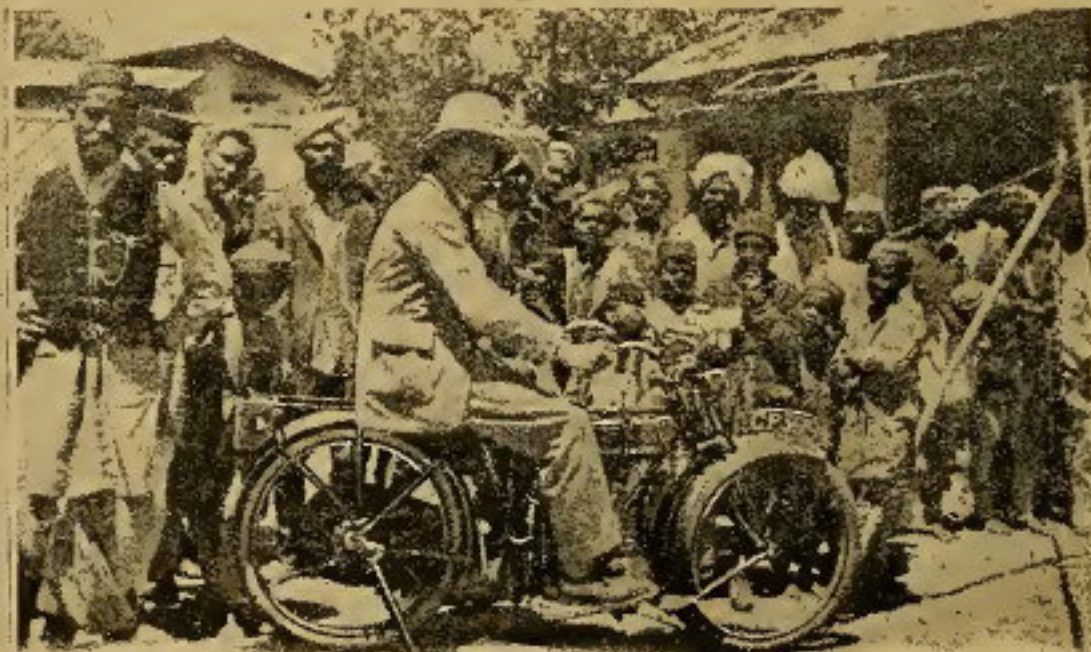
The start of the sidecar class. The two foremost competitors are riders of an A.J.S. and a Douglas.



ON THE 1 IN 4 GRADIENT OF SUTTON BANK

Geoffrey S. Boston, at the recent York M.C.C. open hill-climb listens to the engine beat in his very lively $2\frac{3}{4}$ h.p. A.J.S. before changing gear

815



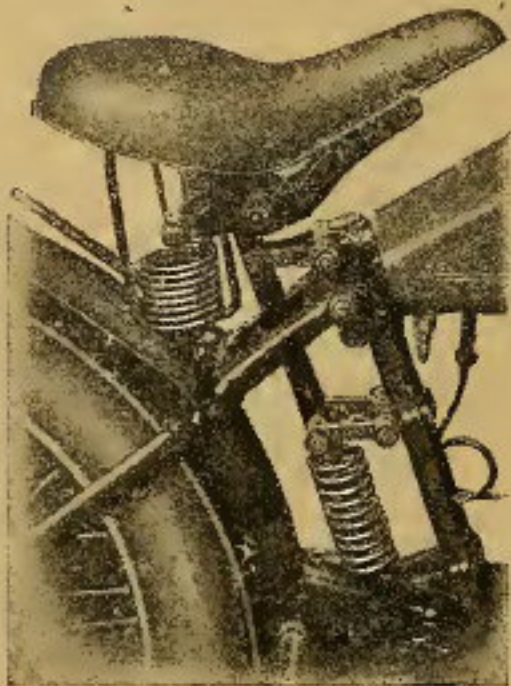
Extraordinary interest is usually shown by the Indian population generally in the motor cycle, and in the large towns there is a big market for a cheap machine. The photograph of the 2 $\frac{1}{2}$ h.p. A.J.S. was taken at the hill station, Raniket (United Provinces), 6,400 feet above sea level.



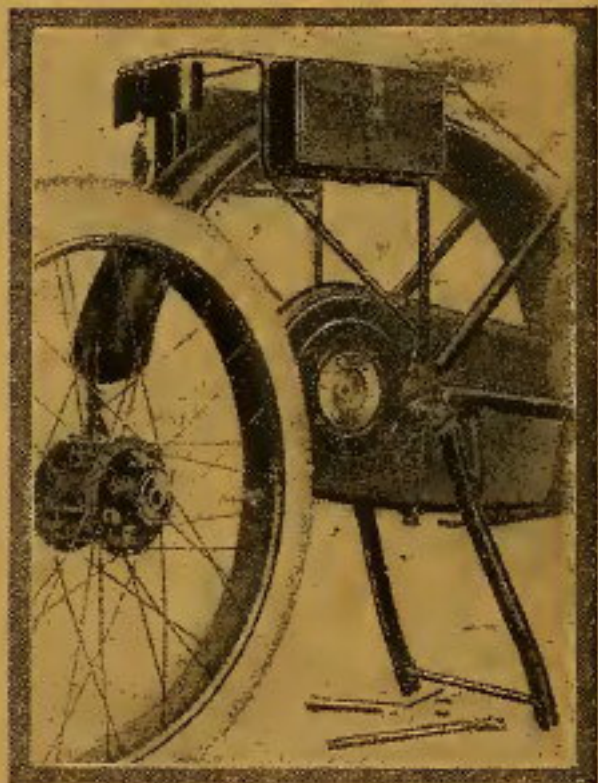
O. Wade, who gave a good performance on his 2 $\frac{1}{2}$ h.p. A.J.S.



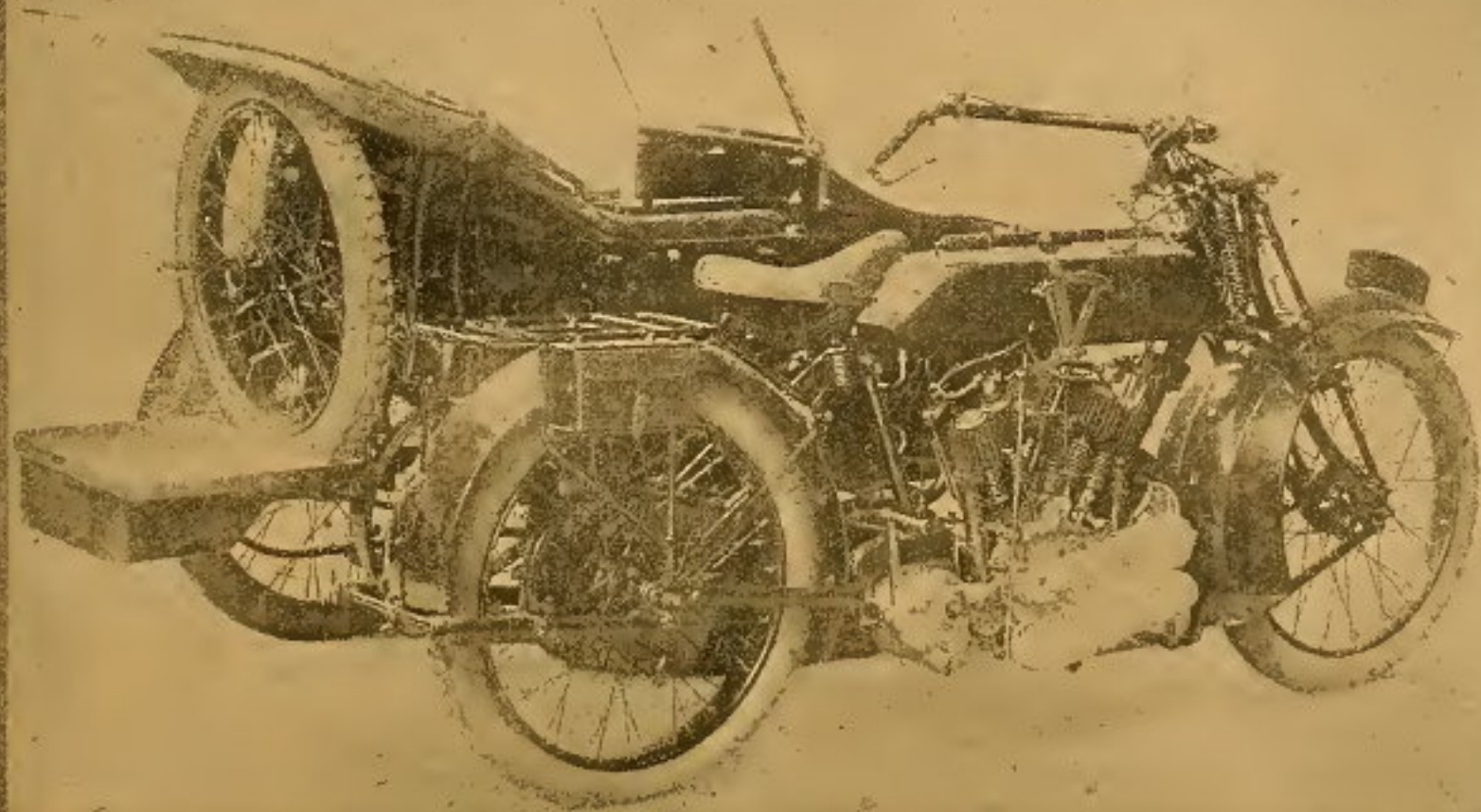
H. Poole (4 A.J.S.) and N. Svanso (8 Morgan) on Pen-y-Ball.



A spring seat-pillar on the 1920 A.J.S.
model, now a standard feature.



All wheels on the A.J.S. combination
are quickly detachable and inter-
changeable.

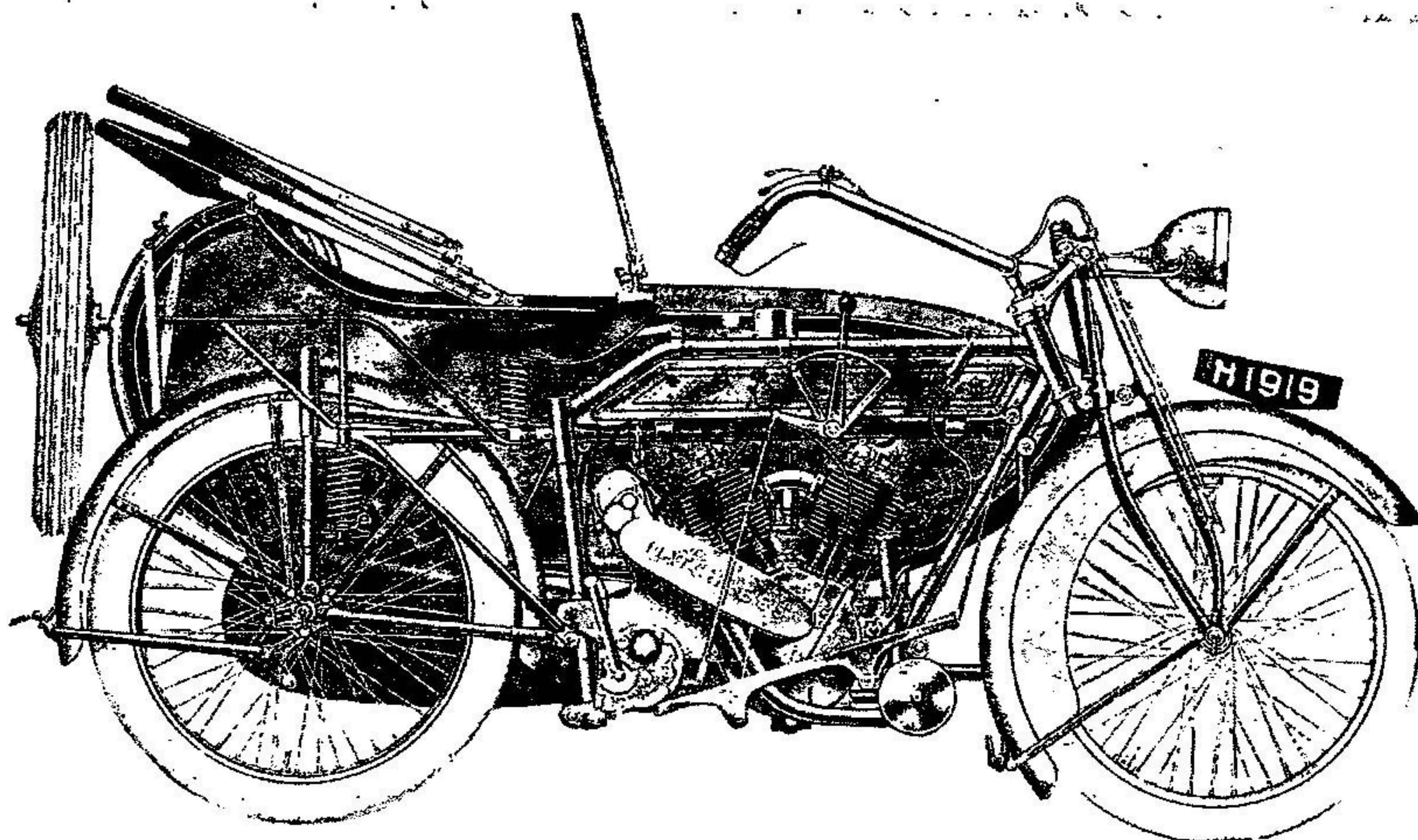


The instantly detachable wheels, removable cylinder heads and saddle tank are distinctive features of the A.J.S.

EE7

Matchless

THE PERFECT PASSENGER MOTORCYCLE



Provisional Price.

Motor Cycle and Sidecar, with Screen and Tools	£154.
Spare Wheel and Tyre	£6.
Fully equipped with Electric Lighting Outfit, Hood, Horn, and Speedometer	£185.

Demonstration Models will shortly be available for inspection in most important centres, and it will be advisable for all intending purchasers to place their orders early to ensure delivery in time for next Season's riding.

H. COLLIER & SONS, LTD., 44-45, Plumstead Road, Plumstead, London, S.E.18.

Telephone—
Woolwich 17 and 18.

Works:—Burrage Grove and Maxey Road, Plumstead.

Telegrams—
"Matchless, Woolwich"

In answering this advertisement it is desirable to mention "The Motor Cycle."

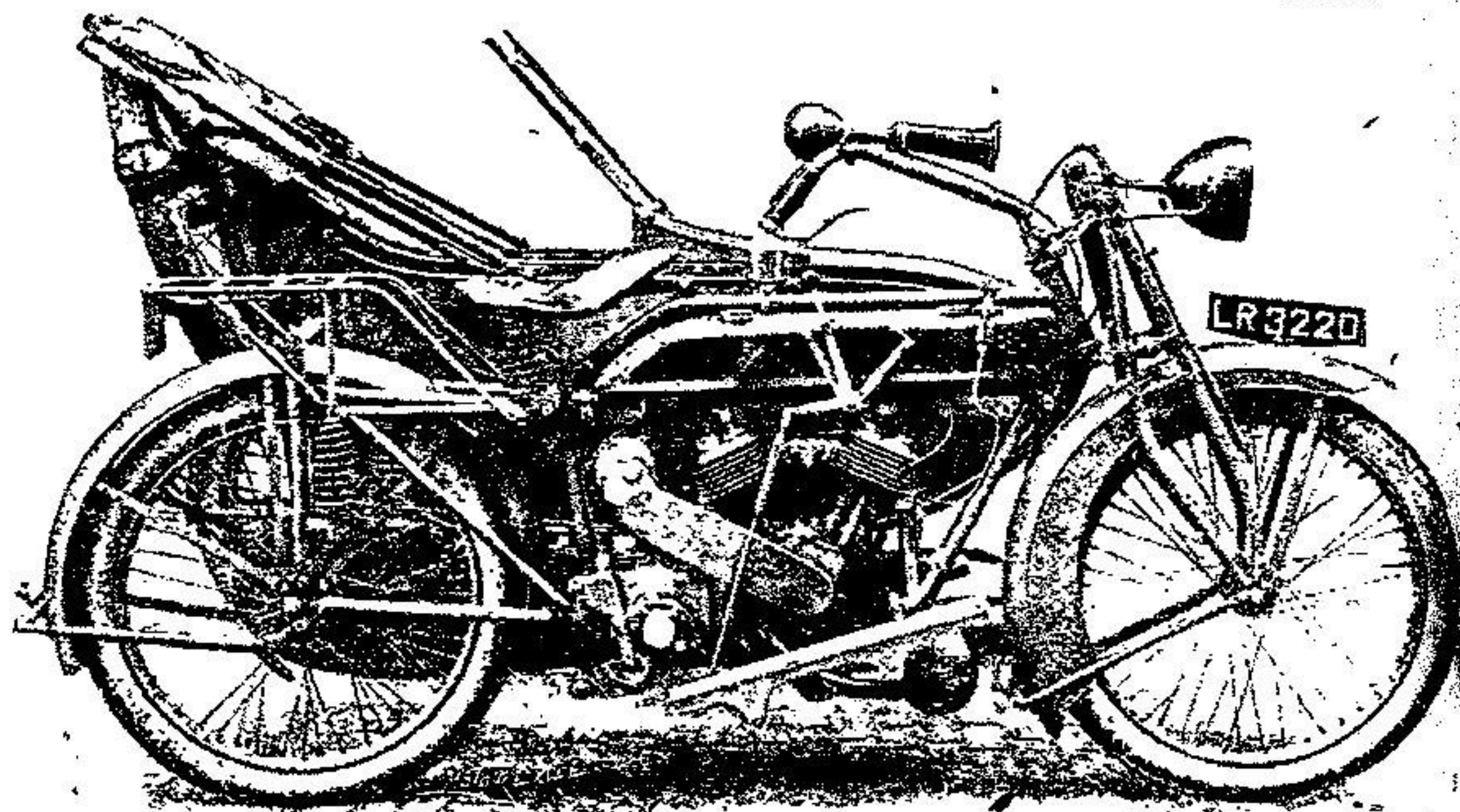
THE 1920 MATCHLESS.

Coil Spring Suspension, Kick-starter and Automatically Operated Exhaust Valve Lifter.

OUR last experience with a Matchless sidecar outfit was in the spring of 1918, when a military model, of the type ordered by the Russian Government, was placed at our disposal by Messrs. Collier and Sons, Ltd., Plumstead Road, Woolwich. The 1920 outfit is a very different proposition, and though it has still a "war finish" and a sidecar body which is not standard, it is a vastly superior affair. It possesses three very notable innovations—the spring frame, the kick starter-operated exhaust lift, and a single-lever carburetter, all very important features in motor cycle construction. It is the first motor cycle we have driven, since 1903 which has not had an exhaust lifter on the handle-bar. The engine is controlled by the throttle spark alone, and the exhaust valves are raised for starting by means of a cam on the inner side of the kick starter quadrant, which, on the pedal being depressed, comes in contact with a trip on the exhaust lifter arm, which is hinged on a bolt at the base of the gear box. The valves remain raised during one-third of the quadrant's travel, the trip then slips off the cam, and the valves are dropped just at the correct moment. Also the engine may be stopped by depressing the pedal.

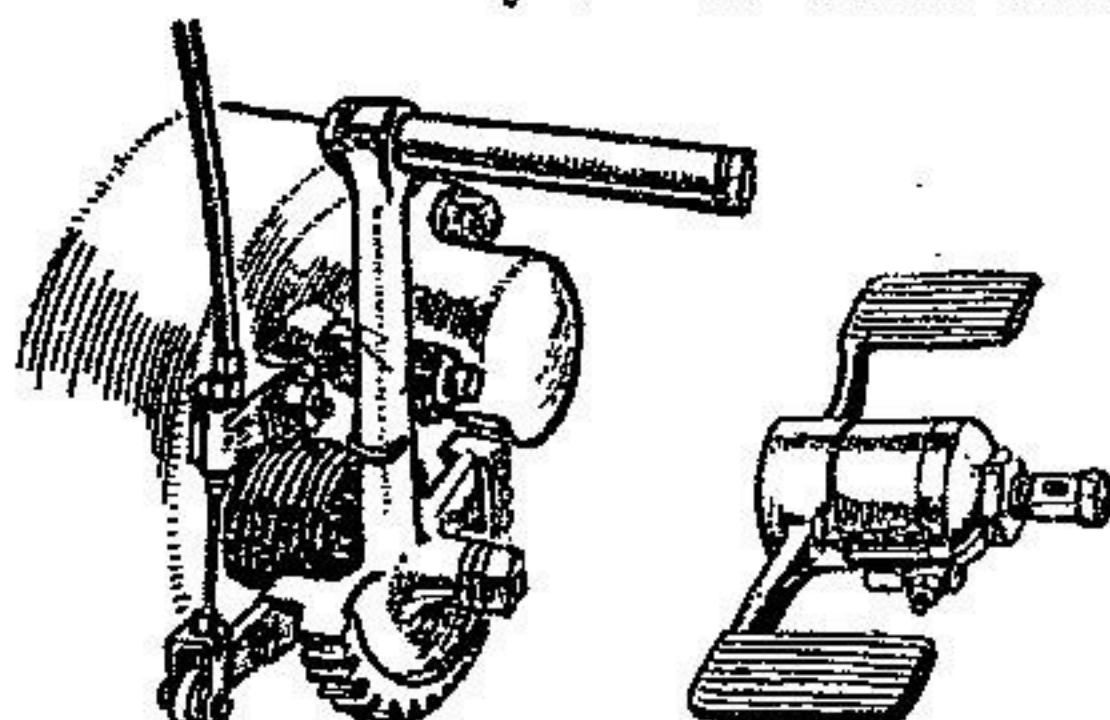
The 8 h.p. J.A.P. engine only departs from standard in one special feature, and that is the leading of an oil pipe directly from the J.A.P. automatic oiling system to the clutch bearing. The Claudel-Hobson single-lever carburetter renders the engine delightfully flexible and gives ample power. There is an item in the construction of the frame which is worthy of mention. The saddle tube is extended below the level of the bottom bracket and terminates in a lug from which runs a short stay to steady the forward chain case, while the other side of the lug serves to hold one of the six sidecar connections.

As regards the springing of the frame, this is particularly well carried out. To explain it briefly, the sprung portion forms practically a triangle, and, what is most important, it includes the luggage carrier, while the unsprung portion forms practically a rectangle, the base form-



The spring frame Matchless fitted with 8 h.p. J.A.P. engine.

ing the chain stays, which are hinged at their forward ends. The rear vertical members are hinged top and bottom, and are braced by a tube across their



(Left) The kick-starter showing the automatic exhaust valve lifting mechanism. (Right) The clutch pedal.

top ends, the inner one of which terminates in a joint for the rear diagonal sidecar stay. Vertical coil springs take the road shocks between the sprung and unsprung portions of the frame. Every joint in the spring frame is provided with lubricators situated at convenient points, and the tubes are drilled to conduct the oil directly to the bearings.

Control, as previously stated, is carried out mainly by the throttle, which, with the front brake lever, are the only two on the handle-bar. There is a spark lever on the tank. The clutch is actuated by a rocking pedal, which is peculiar to Matchless motor cycles, while the excellent internal-expanding brake is controlled by two pedals conveniently placed one on each of the two spacious and comfortable footboards. In our opinion, it would be very much better to separate these two pedals, and arrange for the rear side one to withdraw the clutch. The clutch is smooth in action and requires no effort, and, being indestructible, can be freely used.

A very comfortable 175 Brooks saddle is fitted, the forward end of which is linked to the top tube, while the rear end is suspended on coil springs, the lower ends of which are attached to the frame.

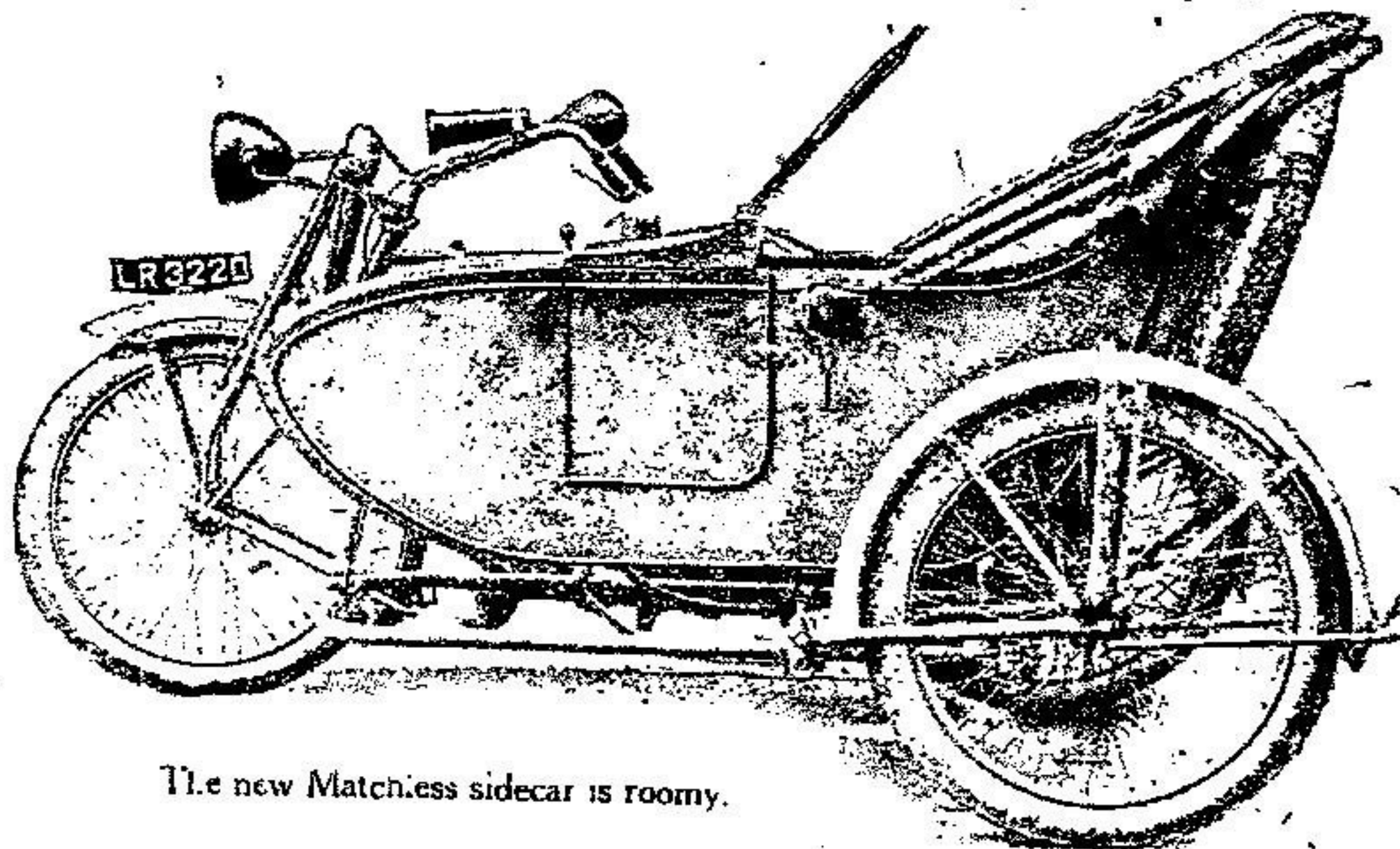
It is almost unnecessary to say that the sidecar wheel is also sprung, and that a coil spring is employed. The wheel is carried in horizontal forks hinged at both ends; while lubricators are supplied to all moving parts.

The front forks follow Messrs. Collier and Sons' usual design, but are improved by the fitting of adjusting nuts for taking up any side-play which may develop through wear.

A Lucas combined magneto and dynamo is fitted, and we can say from experience that it works excellently in its dual capacity. We took the machine for its first drive in the dark, and the lamps gave a splendid light. The controlling switch, however, is not very conveniently placed. It is quite easy to reach, but is attached to the inside of the tank in just the position where the rider's knees grip.

On the whole, however, we are immensely pleased with the latest Matchless production, which is the result of the labours of two practical motor cyclists.

We hope to say more about our road experiences with this superb outfit at an early date; but the short drive in the dark to which we have referred gave us an excellent idea of its springing, flexibility, and speed.



The new Matchless sidecar is roomy.

The Olympia Show.—

Plain bronze bearings are used throughout, this type being favoured by the makers in consideration of the replacement of spare parts and simplicity in manufacture. The lubrication is of the conventional type, suction feed to the oil grooves in the cylinder walls lubricating the latter, the small end, and the piston, whilst the big end and crankshaft bearings are fed by the usual splash feed. A C.A.V. magneto is mounted on a plate cast integral with the crank case, and is driven through an intermediate pinion, from the low gear driven pinion. Another feature of this machine is the new pattern spring frame—the manufacturer's patent. The rear knock-out axle is secured on either side to sleeves, which reciprocate in the two side tubes forming the main frame of the machine. Between the closed ends of these sleeves and the head of the tube are two springs, the weaker but longer one providing a lively movement for the smaller road shocks, whilst the shorter one of greater strength takes the maximum shocks in order to prevent the complete contraction of the longer spring. A small recoil spring is located at the bottom of

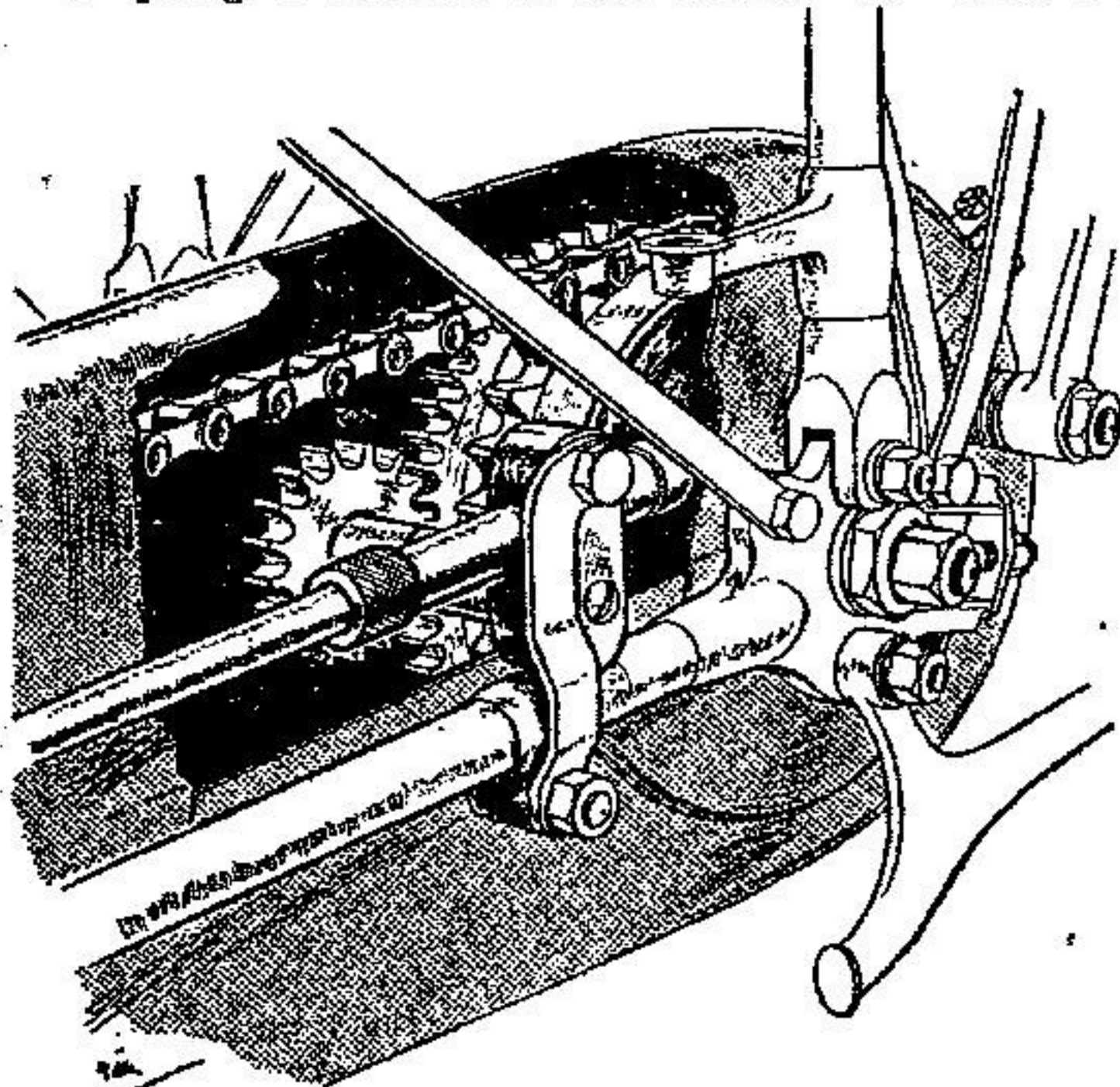
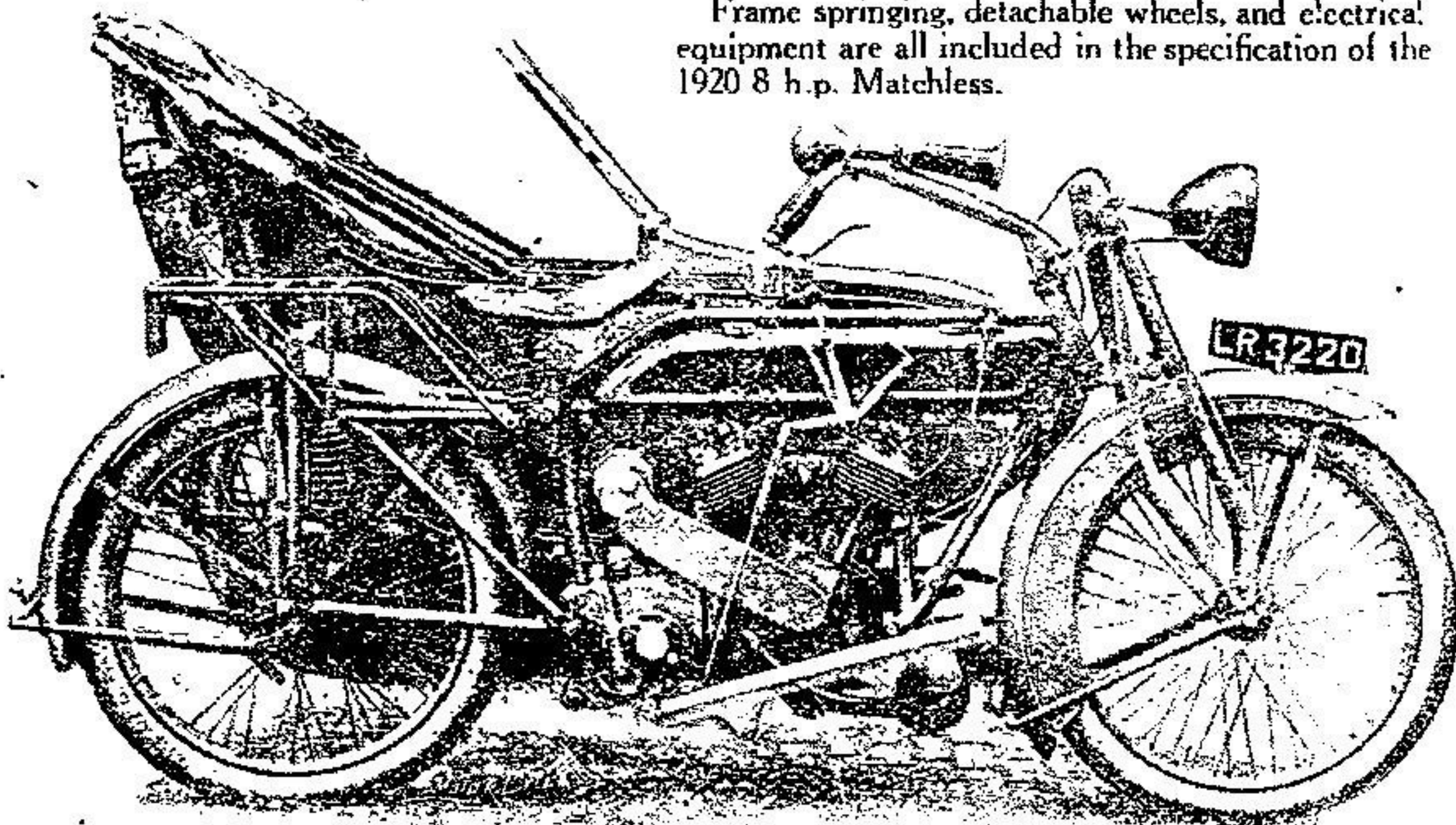
grease. The rear wheel may be withdrawn without interfering with the brake block or any other fitting. A drop-out axle is also employed on the front wheel, which is sprung by a Brampton Biflex fork. Two brakes are furnished, one on the front wheel rim and the other, which is foot-operated, on the rear belt rim. A standard Amac carburetter is fitted, and fed from the oval tank, which has a capacity of one gallon three pints of petrol and three pints of oil. The price of this mount, which, although equipped with toolbags, is not provided with tools or accessories, is £60.

MATCHLESS, No. 48.

8 h.p. V twin MODEL: J.A.P.; 85.5×85 mm. (976 c.c.); side-by-side valves; Amac carburetter; Lucas chain-driven Magdyno; spring frame; three-speed sliding gear; chain drive; 28×3in. Clincher tyres.

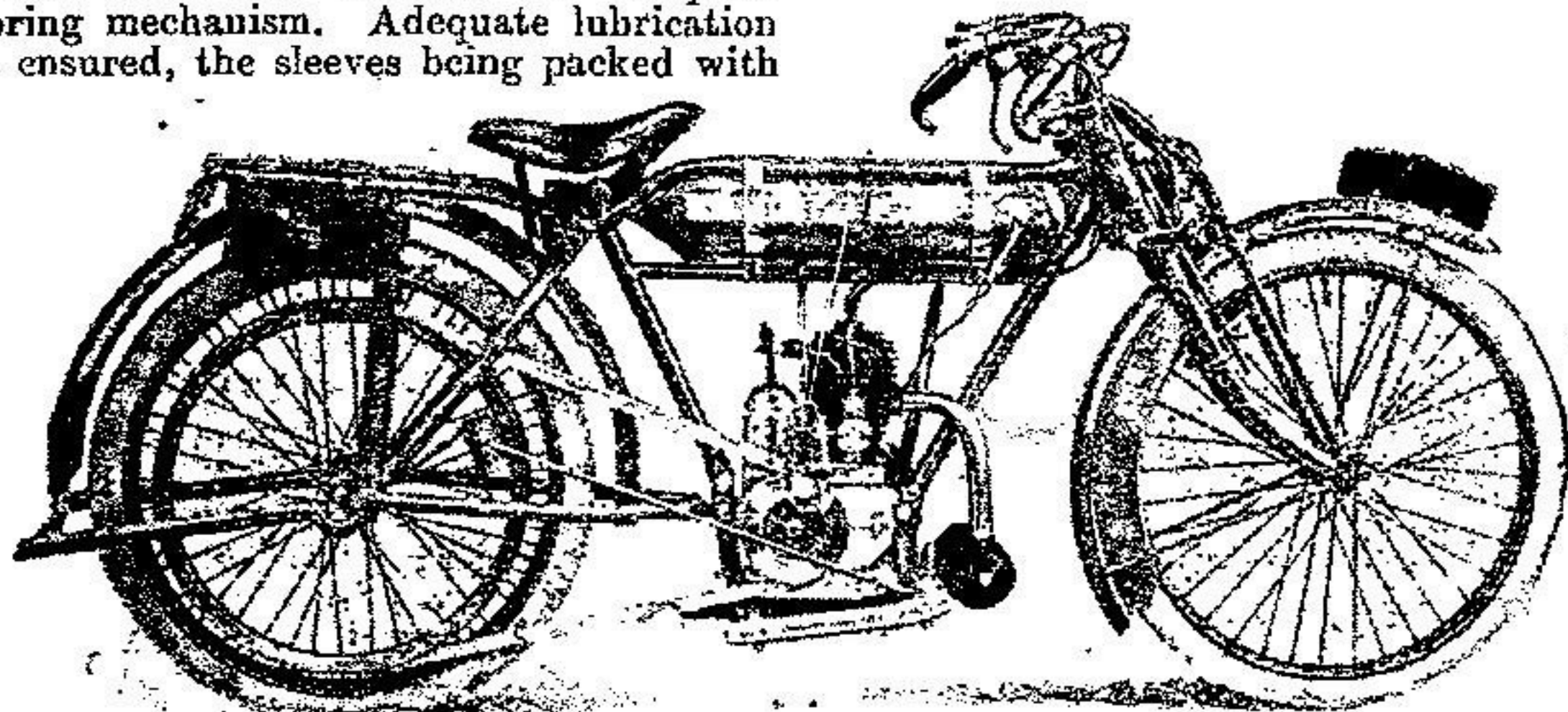
H. COLLIER AND SONS, 44, Plumstead Road, Plumstead, S.E.18.—Described in detail in the issue of July 17th, 1919, the 8 h.p. Matchless sidecar outfit has undergone very

Frame springing, detachable wheels, and electrical equipment are all included in the specification of the 1920 8 h.p. Matchless.



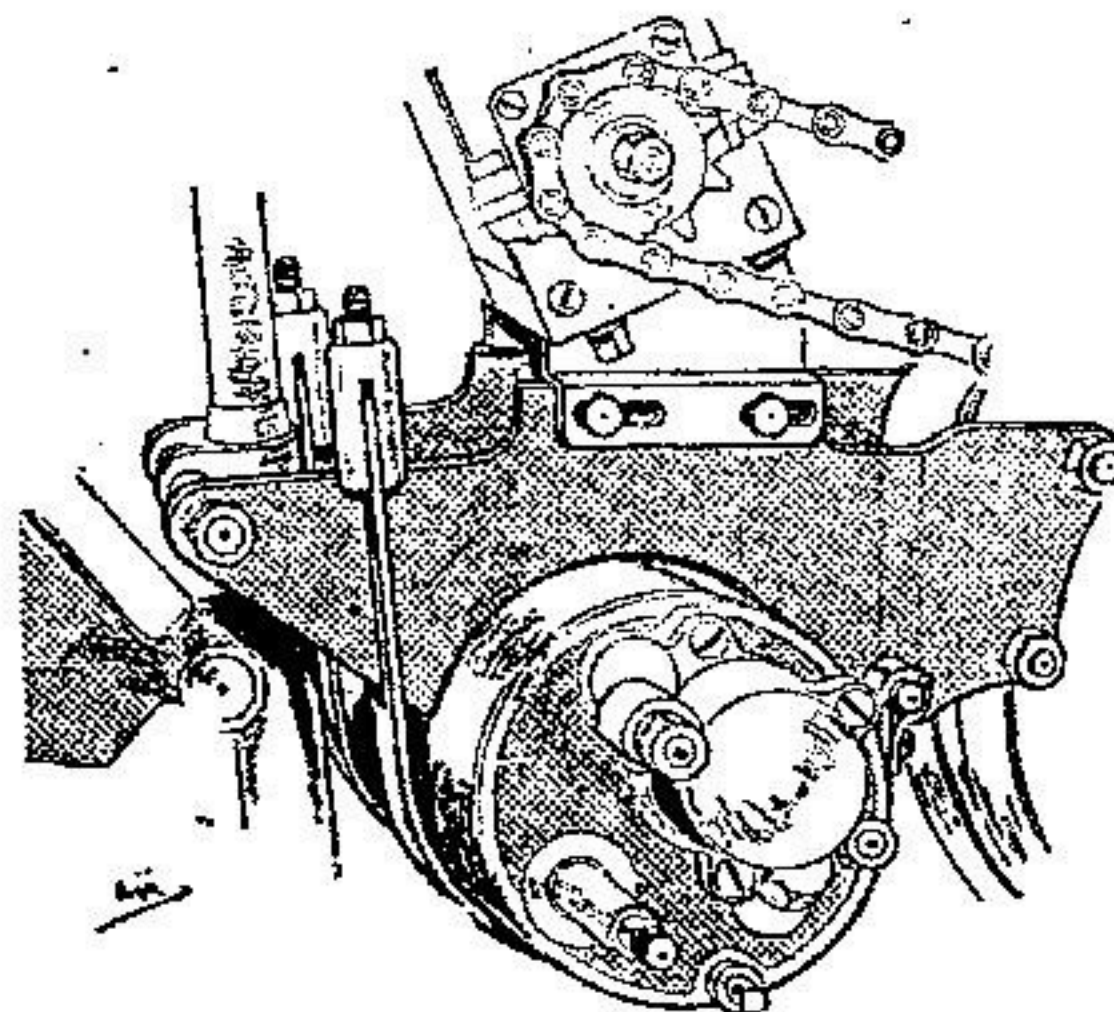
A commendable feature on the Matchless is that the speedometer drive is enclosed within the rear chain case.

the tube, and is held in position by a cap, through which a rod, brazed at the top of the frame member, is passed, and is provided with a nut and washer which locks and encloses the complete spring mechanism. Adequate lubrication is ensured, the sleeves being packed with



The 3 h.p. spring frame Paragon, which has the gear combined with the crank case.

little alteration. It is, as its makers have aimed that it should be, the last word in sidecar outfit construction. Excellently sprung fore and aft, the machine is extremely comfortable, and the makers have succeeded in obtaining the maximum amount of ease both for the rider and for the passenger. Two slight modifications have been incorporated in



Chain adjustment on the Matchless is easily effected, the gear box being mounted in a tunnel with an eccentric sprocket.

the latest model. The magneto is now carried on a bracket sliding on the top of the engine cradle, which also holds the gear box, so that if the attachment bolts are loosened any slack in the magneto chain may be easily taken up. Another point which is well worthy of examination is the method of driving the Watford speedometer. The driving sprocket of the instrument is attached inside the chain sprocket, and it and the driven pinion are situated inside the oiltight chain case. This ensures the speedometer drive working under the best conditions, since, being entirely protected from the elements, it should last almost indefinitely. The novel method of holding the gear box is also well worthy of mention. The case is round, and is held in steel straps. In the event of it being found necessary to tighten the engine chain, the whole gear box may be moved round to a slight degree after loosening the straps. Messrs. Collier and Sons were the first British firm to interconnect kick

A HEAVY TWIN AS A SOLO MOUNT.

Some Personal Experiences with a "Victory" 8 h.p. Matchless.

ALTHOUGH there are hundreds of heavy twin sidecar outfits on the road at the present time, it is comparatively seldom that one comes across a heavy 1,000 c.c. twin, primarily designed for sidecar work, that is in daily use as a solo mount.

At the end of 1918 a lucky chance enabled the writer to pick up a practically new Victory model Matchless combination at a moderate price, which bargain was eagerly snapped up, and this somewhat extra-heavy motor cycle, built originally for machine-gun service in Russia, has since been ridden solo over 1,500 miles.

During this distance not a single mechanical failure has been experienced, and, with the exception of three or four punctures, all has gone well.

The sensation of bestriding such a heavy machine, fitted with 700 mm. x 80 mm. Hutchinsons (not blown up brick-hard), must be experienced to be realised.

Easy to Ride.

When once in the saddle, the motion from 4 m.p.h. to 50 m.p.h. is quite perfect, and, were it not that this particular machine is much under-geared for solo work, this latter speed could be easily bettered by 20% without detriment to one's personal comfort.

The gear ratios are approximately 5 to 1, $7\frac{1}{2}$ to 1, and 12 to 1, so that it will be seen the 1,000 c.c. J.A.P. would, if necessary, lug the machine up a mountain side on the low gear; and it is comforting to think that the machine will climb anything, provided the back wheel can get a grip.

The steering and general balance are excellent, and these do not appear to be affected by either speed or road surface.

Of late the roads (!) within a thirty miles radius of London have been thoroughly explored: the condition of these "tracks" must be personally tested to be fully appreciated.

Heavy to Push.

The road between Acton and Uxbridge, and for five miles beyond the latter town, easily wins the first prize, it being impossible to remain on the saddle for stretches of one hundred yards at a time. These bits had to be traversed by pushing the Matchless (and luggage): no light task.

However, good, and even excellent, roads are still to be found, especially in the Midlands; and on these the entire absence of vibration and rattle makes the heavy machine a real joy to handle, and does away with any sensation of fatigue, even after the longest journeys.

Of recent long distance trips, a run from Coventry to Eastbourne (162 miles), *via* Oxford, Reading, and Horsham, in six hours is a good example. This journey was undertaken on a Saturday afternoon "against time," as it was impossible to start before 2.30 p.m., and only two stops were made for replenishments *en route* (Wallingford and Horsham).

Average Speeds.

Though a high average speed is possible on a machine of this description, perhaps the speediest trip was from Warwick to Banbury in the early morning, a distance of nineteen miles, which was covered in under the half-hour. This particular road is excellent, and but for a couple of cows, nothing impeded the speed which at times was a trifle alarming.

As a matter of fact, the pace was maintained as far as High Wycombe (a further sixty-five miles), which was reached in 1h. 40m. from Banbury.

The comparatively low top gear considerably assists the average speed on long trips, and enables a sidecar to be towed without much difference in maximum speeds, except, of course, on steep hills which, solo, the machine would naturally romp up on top.

The highest speeds so far registered by the Stewart speedometer have been 52 m.p.h. (solo) and 44 m.p.h. with the sidecar; but, to prove that a good average can be maintained with full load, a run of 102 miles, between Stamford and London, was accomplished with a fourteen-

stone and rather frightened passenger in four hours exactly, and this with a pile of Easter holiday luggage.

M.P.G.

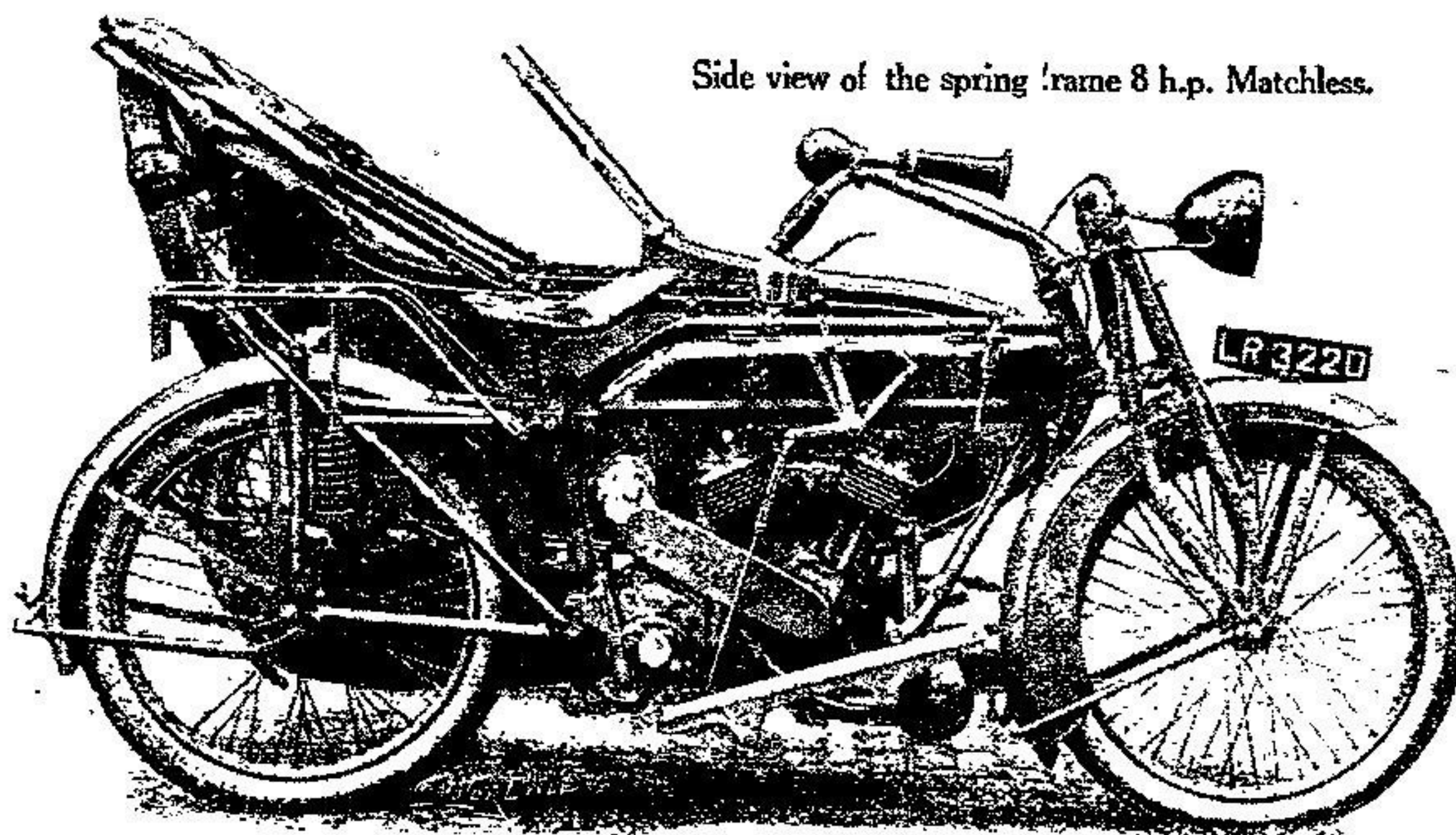
The petrol consumption works out at about 55 m.p.g. solo, and in the neighbourhood of 40 m.p.g. with a sidecar, though this could be improved considerably if the writer was willing to sacrifice the remarkably slow running quality of the carburetter for the sake of adding a mile or two extra to the gallon.

To sum up, for an enthusiastic rider the heavy twin for solo work scores every time, but naturally does not recommend itself to any but the somewhat muscular motor cyclist. For this type of rider nothing could be better than the big Matchless. The sensation of overtaking and sweeping past another machine, on a hill especially, is one of the most satisfactory of motor cycling experiences, and is partly responsible for the writer having become an ardent advocate of the big twin for solo work.

B.

The 8 h.p. Matchless, which the owner used as a solo mount for 1,500 miles.





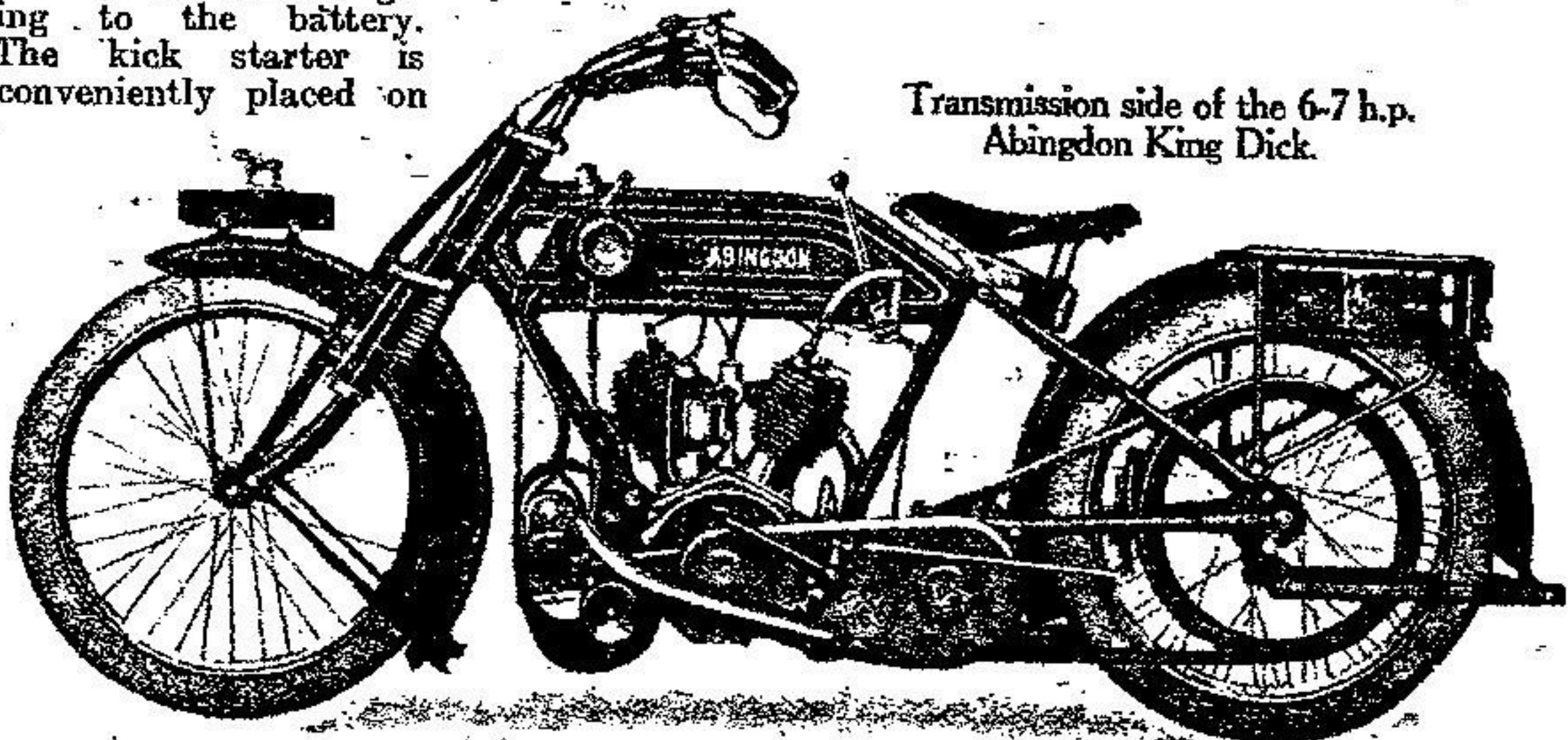
Side view of the spring frame 8 h.p. Matchless.

movement to the rear wheel. The wheel fork is pivoted at its inner end, and a loop having lugs at its lower ends for carrying the springs passes over the wheel. This aids in giving lateral rigidity. The sidecar wheel is sprung in a somewhat similar manner, and the two are linked together. An 8 h.p. J.A.P. engine (85.5 x 85 mm., 976 c.c.) supplies the power, and enclosed all-chain transmission is used, passing through a three-speed gear box. A spare wheel is carried on the back of the sidecar. The method of mounting the saddle by pivoting the front on the top tube and supporting the rear on springs gives a low position.

INDIAN POWERPLUS.

America has for many years been famous for big twins (largely due to the Indian) which, while often used for solo riding, are pre-eminently suitable for passenger work. The engine of the Powerplus Indian has a bore and stroke of 79.3 x 100.8 mm. (997.6 c.c.), and has been improved by the fitting of larger valves. The mainshaft and big end are equipped with roller bearings. The Indian spring frame, which has been in successful use for seven years, is retained, as is the twist grip control so popular on the other side of the Atlantic. In common with other American models the

Indian has the advantage of large wheels and tyres. This model is electrically equipped, and is provided with an ammeter on the top tube (where the speedometer also is situated), which indicates the amount of current going to the battery. The kick starter is conveniently placed on



Transmission side of the 6-7 h.p. Abingdon King Dick.

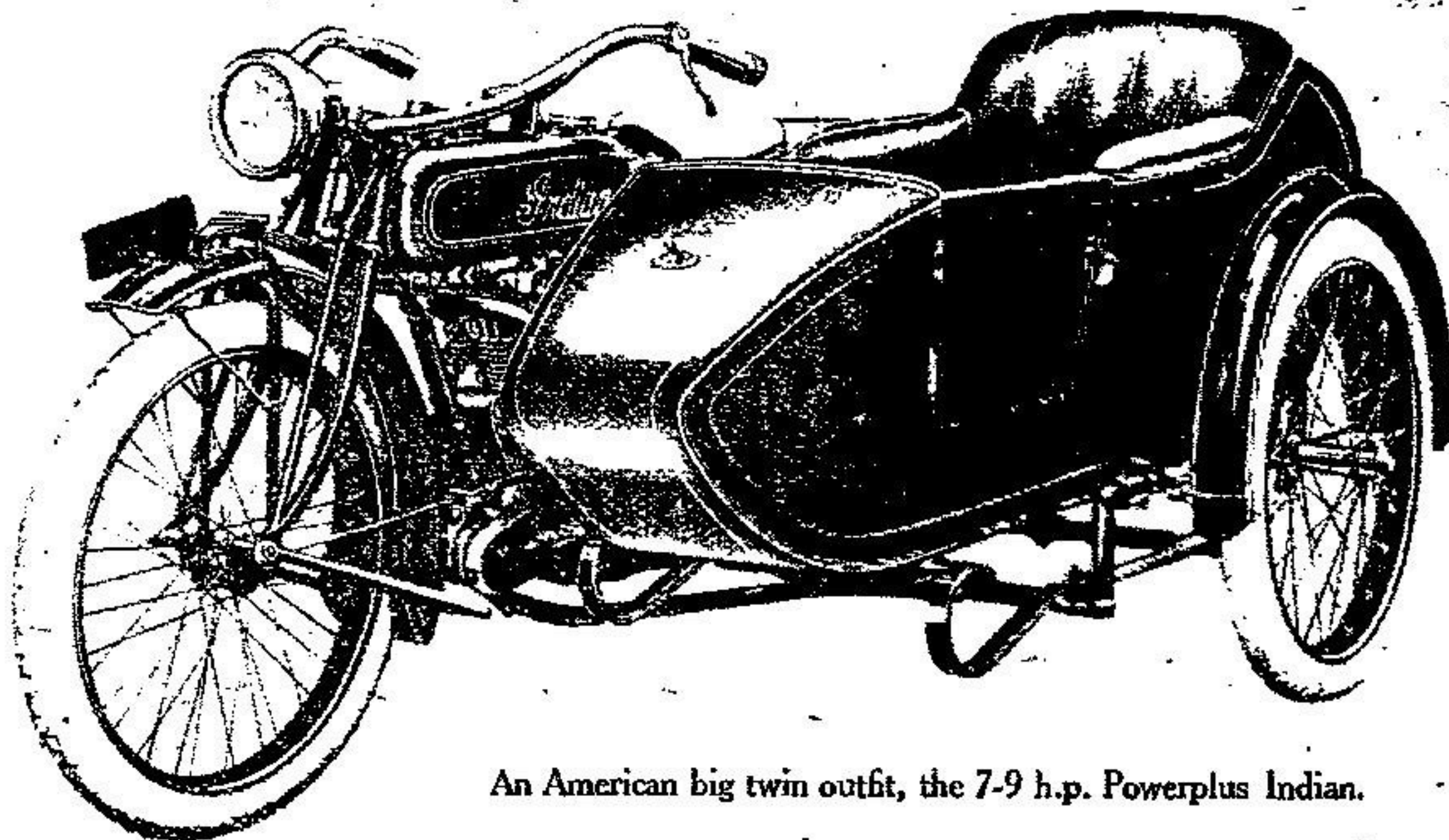
the right side of the machine. For the coming year the sidecar has been redesigned; it is roomy and comfortable, and has, moreover, in the rear a large receptacle capable of carrying petrol and

substantial three-speed gear box is fitted, and the frame used is of graceful design. The same quality which has characterised King Dick spanners for so many years is evident throughout the construction of this machine.

Ease of operation has been constantly kept in view in the design of this machine. A comfortable riding position is assured by keeping the saddle well within the wheelbase. Beside the tank is a long gear control lever, which makes for easy changing, while enormous leverage is provided by the conveniently placed pedal of the rear brake. An all-chain model also will be marketed.

LEA-FRANCIS.

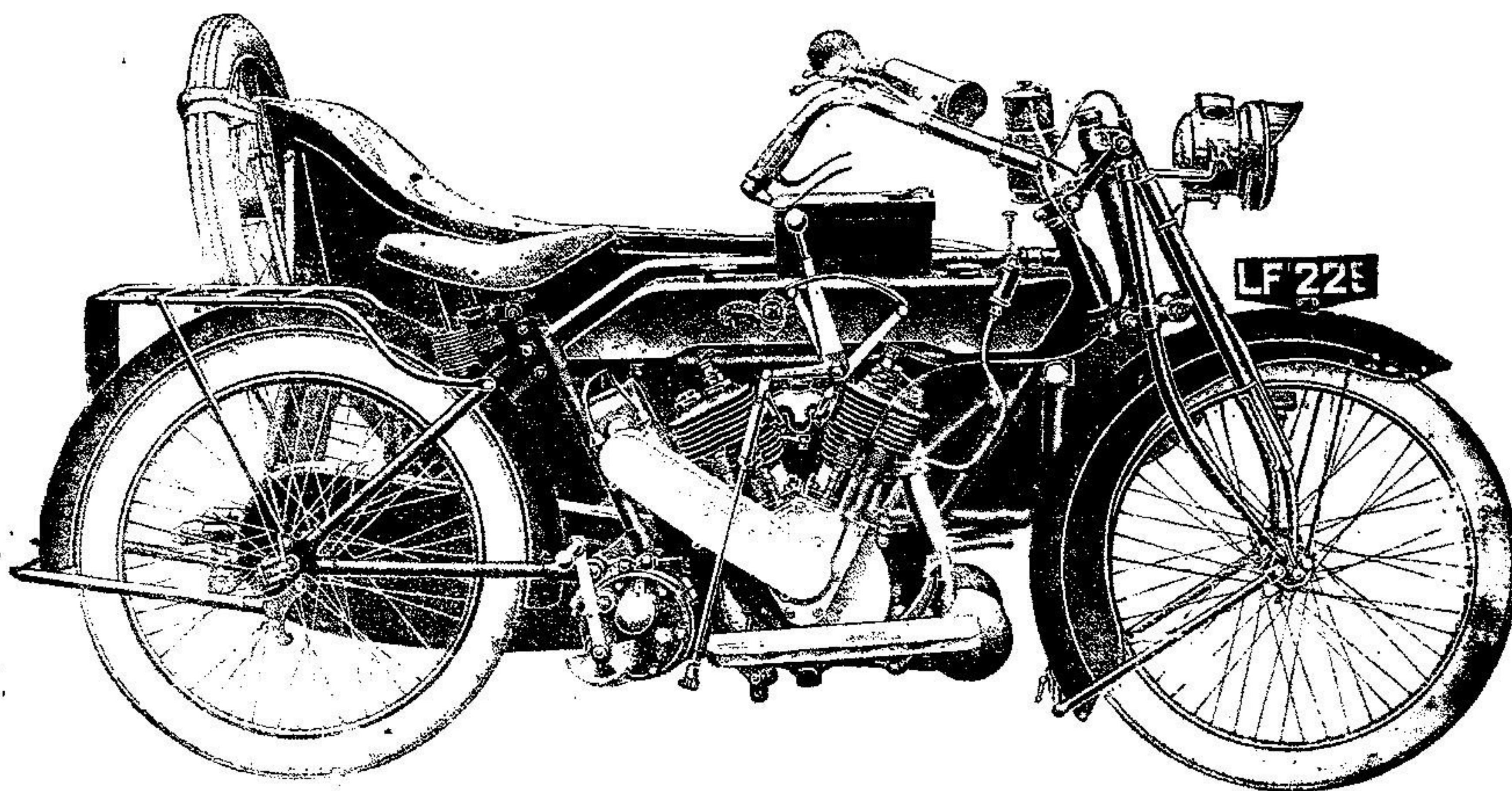
The Lea-Francis is not fitted with a large engine, and yet it is frequently used as a sidecar machine with much satisfaction; moreover, it is one of those machines which took a high place from the start. The engine is a J.A.P. 3½ h.p. twin (70 x 64.5 mm. = 496 c.c.) The transmission is by enclosed chains, through a two-speed gear box, the chain guards being well carried out, and the machine is remarkable for its quiet running among



An American big twin outfit, the 7-9 h.p. Powerplus Indian.

THE
VICTORY MODEL

Matchless
THE PERFECT PASSENGER MOTORCYCLE



Make it YOURS for 1919!

*Write to-day for a copy of our Folder
containing full details, prices, etc.,
post free on request to Dept. S.*

**H. COLLIER & SONS, LTD.,
PLUMSTEAD, S.E.18.**

RECORDS—FROM THE INSIDE.

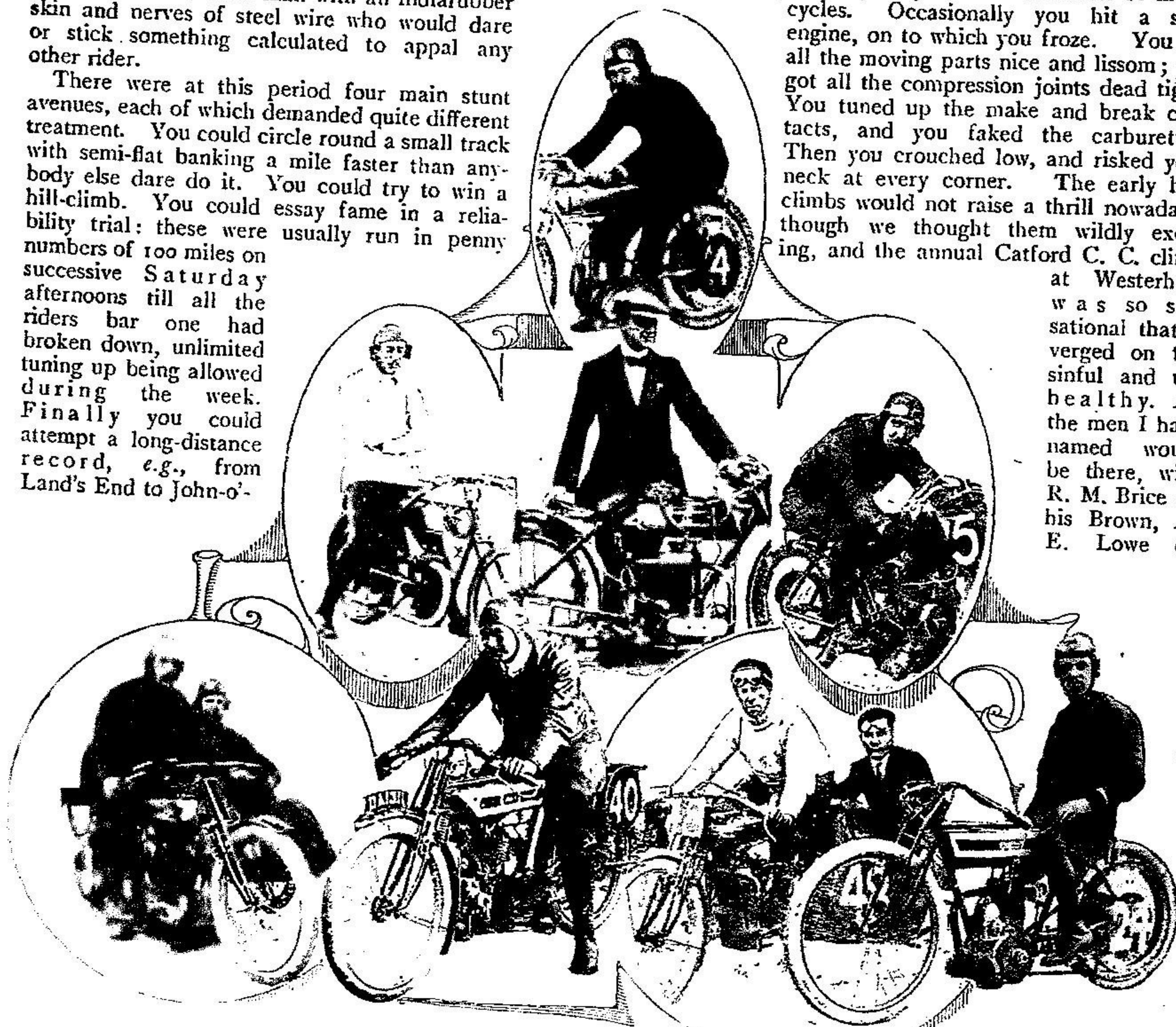
By VETERAN.

A GREAT change has come over the motor cycle industry during the last few years. When first I knew it, and indeed for many a long year afterwards, there was hardly a theoretical engineer engaged in it. The few engineers we boasted were of the practical craftsman type. They were incapable of designing an engine, but they knew how to make one if somebody else provided the drawings; and on occasion they knew how to fake one, too. So in the earliest days if a firm or an individual contemplated a record-making or record-breaking stunt in the interests of profit or glory, the position was that we had a Continental engine—French, Dutch, or Belgian—Minerva, Kelecom, or Peugeot; and we had to make it do something which the standard patterns could not do, or find some freak man with an indiarubber skin and nerves of steel wire who would dare or stick something calculated to appal any other rider.

There were at this period four main stunt avenues, each of which demanded quite different treatment. You could circle round a small track with semi-flat banking a mile faster than anybody else dare do it. You could try to win a hill-climb. You could essay fame in a reliability trial: these were usually run in penny numbers of 100 miles on successive Saturday afternoons till all the riders bar one had broken down, unlimited tuning up being allowed during the week. Finally you could attempt a long-distance record, e.g., from Land's End to John-o'-

Groat's, which then occupied about three days. The track records at Canning Town, the Crystal Palace, and on the flat grass tracks used for cycle sports were terrific affairs, with Harry Martin, the brothers Chase, and the Colliers kings at the game. Personal recklessness was everything here. Half a dozen of these boys would take machines capable of 50 m.p.h. to a suburban sports meeting in a cricket field, and scrap round a small circle of wet turf marked out by wooden posts and ropes. Tuning had little to do with it. It was simply a question of which man was willing to take most risks. On the gently banked cinder tracks tuning was of some account, but was amateurish, compared to the wiles of a G. E. Stanley. You handled so many engines per year in your job as an assembler of motor cycles. Occasionally you hit a spot engine, on to which you froze. You got all the moving parts nice and lissom; you got all the compression joints dead tight. You tuned up the make and break contacts, and you faked the carburetter. Then you crouched low, and risked your neck at every corner. The early hill-climbs would not raise a thrill nowadays, though we thought them wildly exciting, and the annual Catford C. C. climb

at Westerham was so sensational that it verged on the sinful and unhealthy. All the men I have named would be there, with R. M. Brice on his Brown, A. E. Lowe or



(Top) Harry Martin (Martin-Jap), Class A1, under 275 c.c., flying km., flying mile and hour records. (Centre) Left to right, N. D. Slatter (Alcyon), Class A, under 250 c.c., one hour; H. C. Newman (Ivy-Precision), who put up sidecar records in 1913; C. R. Collier (Matchless), Class E, under 1,000 c.c., flying mile. (Bottom) F. W. Barnes (Zenith), Class 1, under 1,000 c.c., with sidecar, flying mile; T. B. Haddock (A.J.S.), Class F, under 350 c.c., with sidecar, one hour; G. E. Stanley (Singer), Classes C (500 c.c.) and D (750 c.c.), one hour. (See table on page 354.)



CUTTING THE HOLLY.

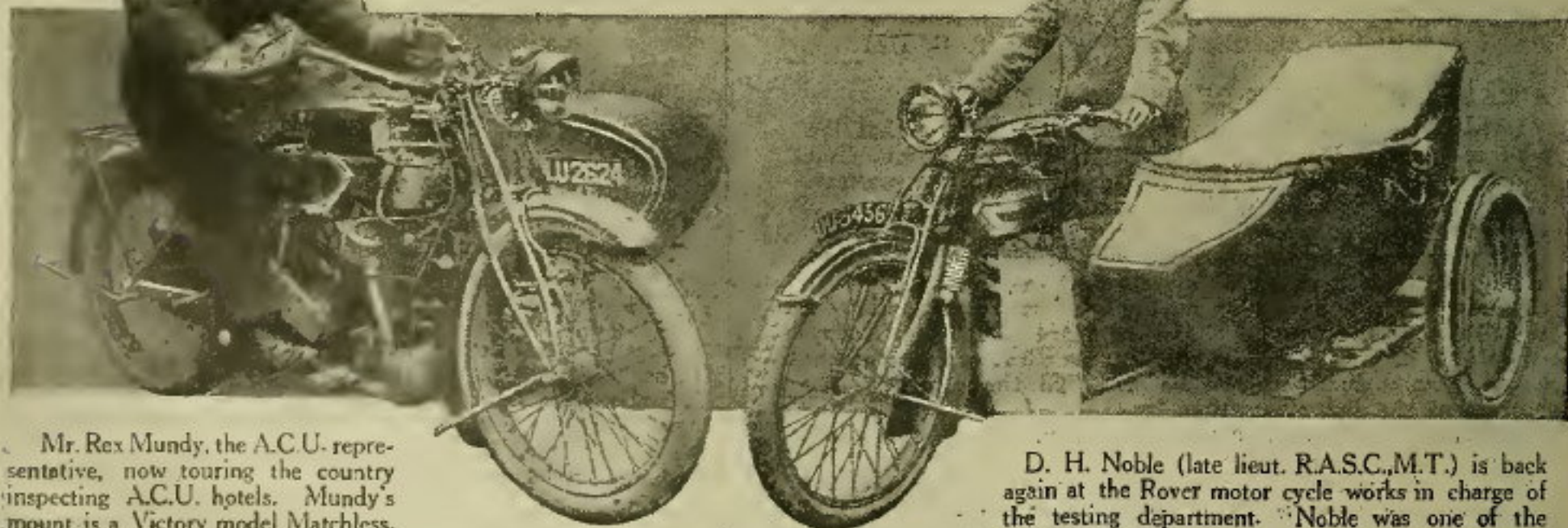
A Matchless outfit which proved useful in obtaining the Christmas decorations.

why do they fit gauges which read up to, in some cases, 400 lb. per sq. in., when the normal pressure eventually settles down to 40-60 lb. per sq. in., and in some cases less?

I respectfully suggest that he get facts and then write them. And to be able to write facts one must have considerably more general experience than I gather from the tone of his letter he has.

DAN.

London.



Mr. Rex Mundy, the A.C.U. representative, now touring the country inspecting A.C.U. hotels. Mundy's mount is a Victory model Matchless.

D. H. Noble (late lieut. R.A.S.C., M.T.) is back again at the Rover motor cycle works in charge of the testing department. Noble was one of the Rover competition team.

B46

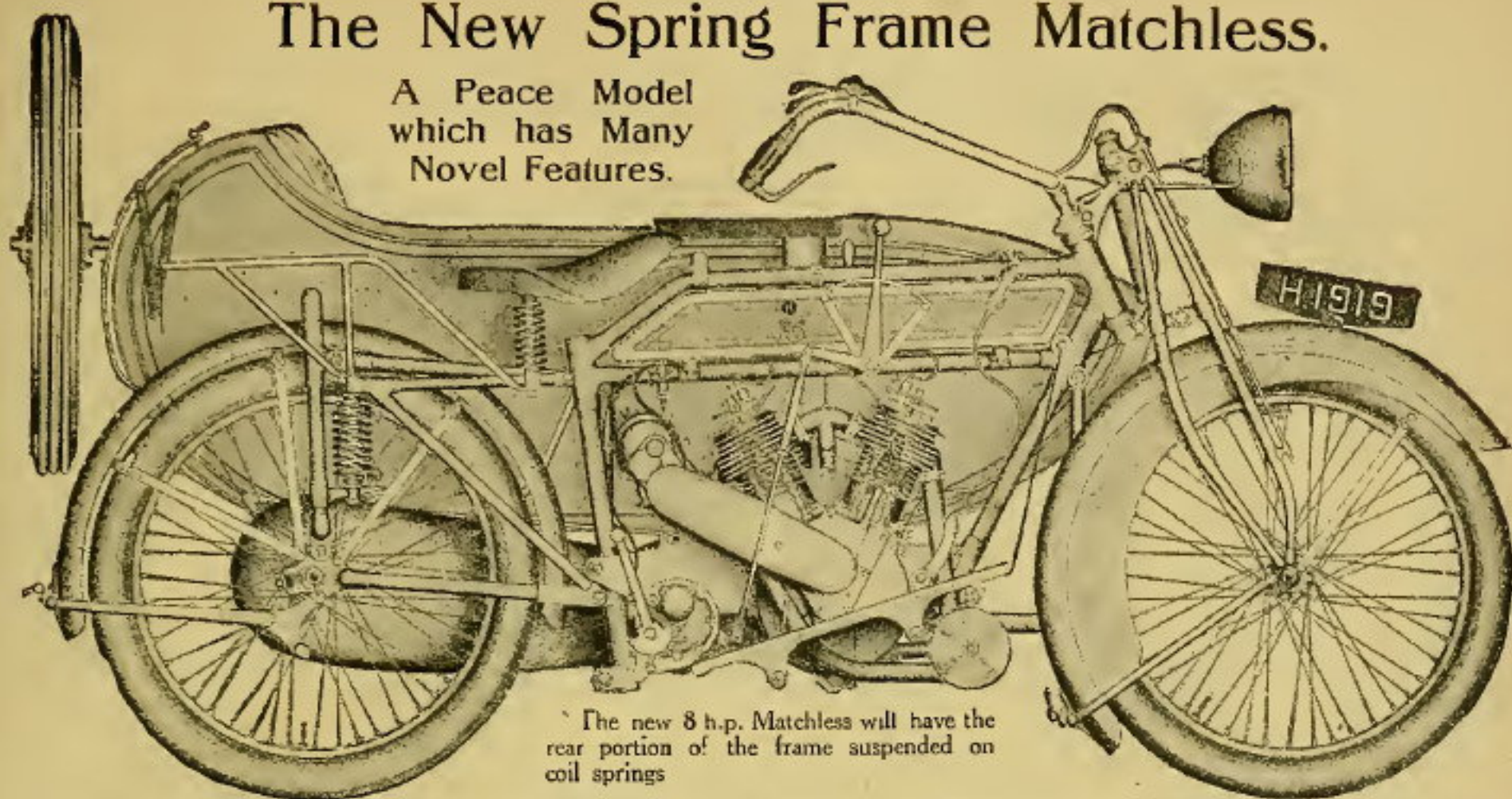


SIDECARRING IN HERTFORDSHIRE.

A ford across the river Ver, whence is derived Verulamium, the old Latin name of St. Albans. The outfit is an 8 h.p. Matchless.

The New Spring Frame Matchless.

A Peace Model
which has Many
Novel Features.



The new 8 h.p. Matchless will have the rear portion of the frame suspended on coil springs

SINCE early in 1915 Messrs. H. Collier and Sons have been experimenting with spring frames for motor cycles, and no doubt, but for the war, a spring frame Matchless would have been offered to the public in 1916. In 1915 we described a flat twin Matchless which embodied a spring frame with coil springs, and the new Model H, as the Peace model is called, has a springing device which is a modified design of that fitted to the flat twin, and gives an excep-

tionally large movement to the rear wheel. As will be seen from the accompanying illustration, the springing system differs in many respects from others embodying coil springs, which are carried at the outer corners of two triangular members rigid with the frame. The wheel fork is pivoted at its inner end, and a substantial loop passes vertically over the wheel, having at its lower end lugs for carrying the springs.

We shall shortly describe this new

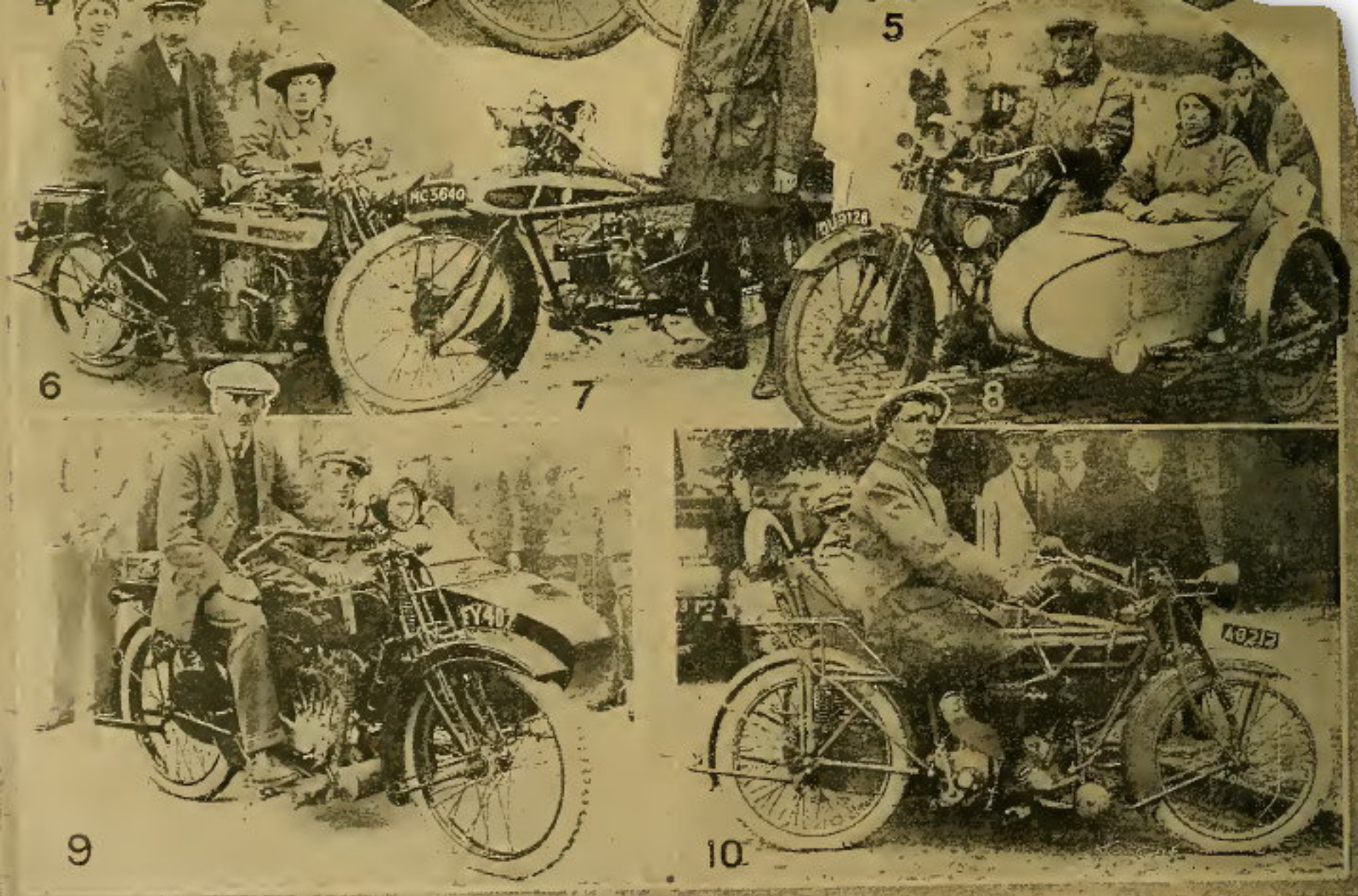
model more fully; in the meantime it suffices to say that the design embodies more features not apparent from the photograph. One of these is an ingenious arrangement of linking both driving and sidecar wheels. This synchronises the movements of both wheels, and prevents the driving wheel from leaning when turning corners.

Other features include an automatic exhaust valve lifter connected to the starting pedal, and interchangeable wheels.



A Matchless sidecar in a picturesque Hereford village. On motoring past these old-world cottages the inevitable remark on their quaintness is always forthcoming, but their internal arrangements are, in the majority of cases, none too impressive.

B2



SOME OF THE NEW MODELS IN THE LONDON-EDINBURGH RUN.

(1) 5 h.p. Brough. (2) 3 h.p. A.B.C. (3) 2½ h.p. Clyno. (4) The new spring frame 8 h.p. Chater-Lea. (5) A spring frame lightweight—the Hobart. (6) A 3½ h.p. spring frame Douglas. (7) The flat twin Wooler. (8) The new "Model 77" Rex single. (9) One of the new 8 h.p. Clynos. (10) An 8 h.p. spring frame Matchless.



Rex Mundy (8 h.p. Matchless sidecar) and Mr. and Mrs. Gordon Fletcher (4 h.p. Douglas sidecar), who competed in both the London-Edinburgh run and the Liverpool M.C. trial in North Wales—a strenuous week end.



The winner of the sidecar class in the stopping and re-starting test—an 8 h.p. Victory Matchless.

1,768 Miles in Twelve Days.

Photographing the Scottish
Six Days Trial on a Victory
Model Matchless.

BY "THE MOTOR CYCLE" STAFF
PHOTOGRAPHER.

PHOTOGRAPHING the Scottish Six Days always means ten or twelve days of hard riding, and, after following the 1913 and 1914 events on a solo machine, I decided that a sidecar is better to accommodate the heavy paraphernalia which it is necessary to carry in order to obtain a good selection of photographs representative of the riders, the machines, and the course.

This year the event, for me, was a very rushed affair. I was away on holidays at the time the Editor decided that my fingers should press the button. I was recalled from the coast by wire, and had thirty-six hours in which thoroughly to overhaul



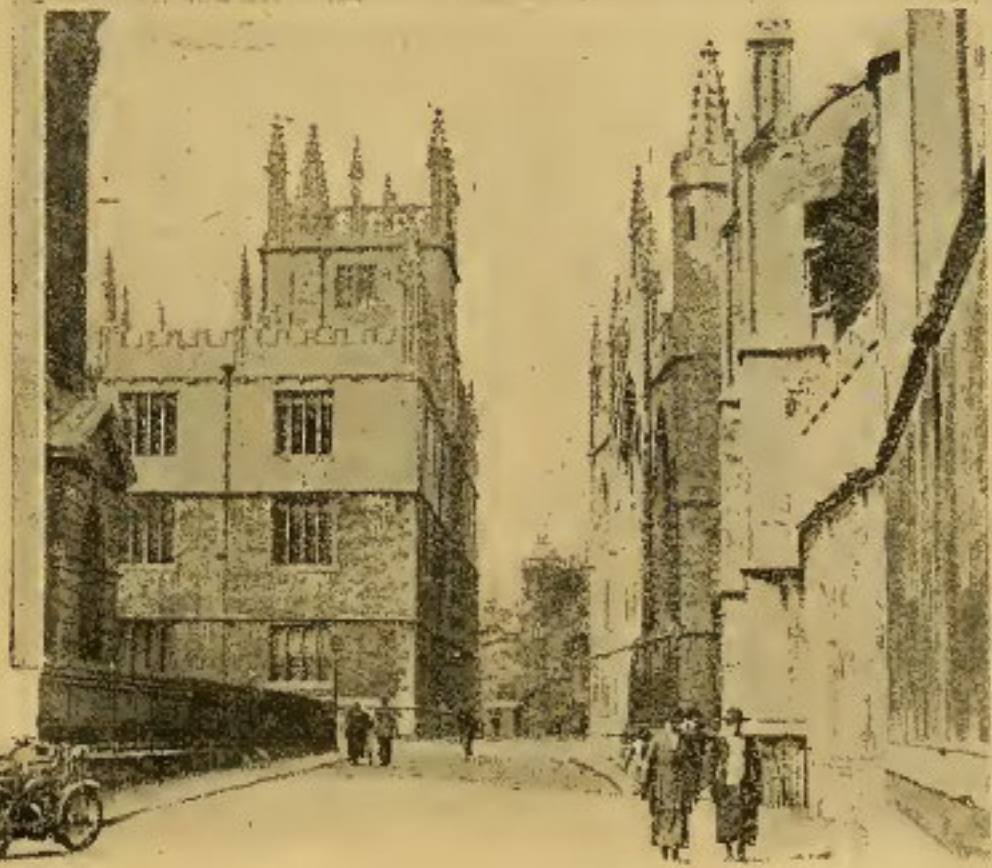
The Motor Cycle photographer aboard his 8 h.p. Matchless outfit.

from my destination. The actual running time was sixteen hours—25 m.p.h. average.

During the trial, with one exception, the machine gave no trouble, and climbed every hill but Aultna-

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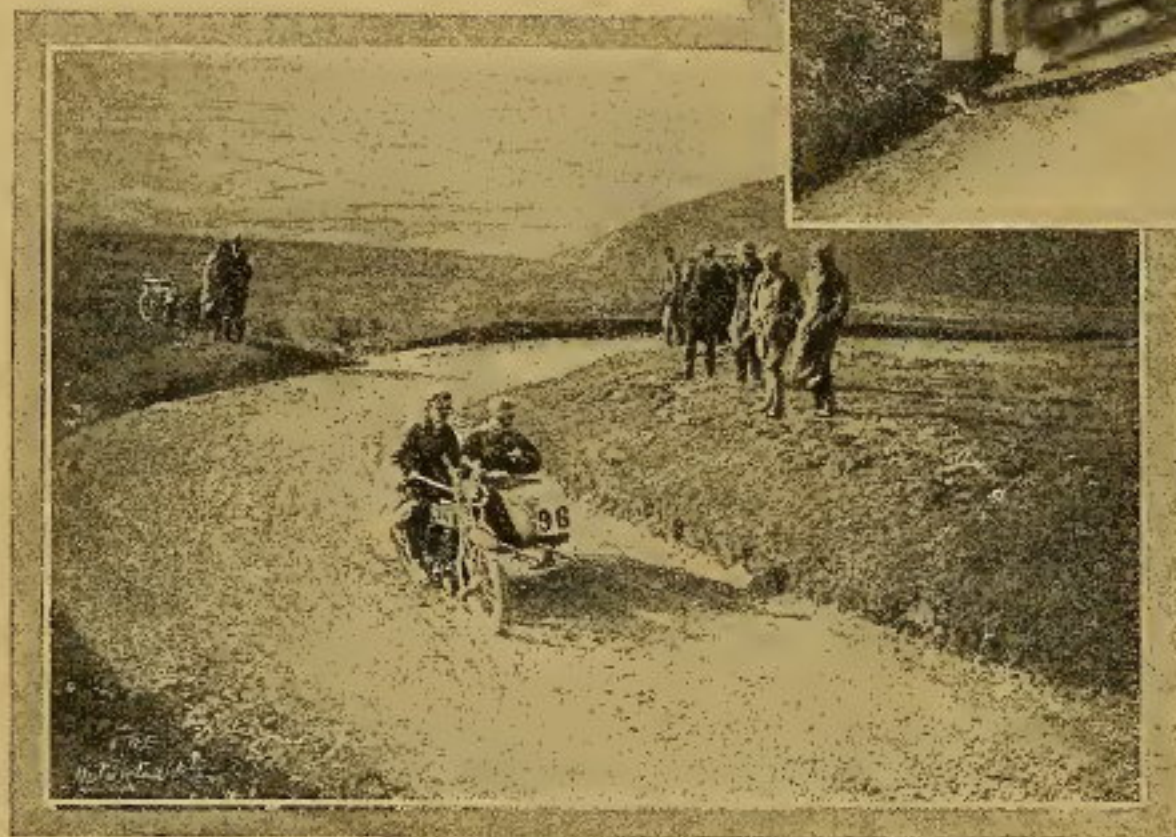


A Matchless outfit in All Souls' Lane, Oxford, the college of that name being on the right. In the middle distance is the famous Bodleian Library.

The A.C.U. Six Days Trial.—

The Triumphs seem to have plenty of power in hand. The sidecar outfits are fitted with 28in. wheels and a new front brake. The cleanliness of the engines is also very noticeable.

Apart from Tuesday morning's misplaced arrow, something went wrong in the neighbourhood of Rhayader, where quite a number of car owners and motor cyclists alongside the reservoir patiently awaited the competitors who never arrived. It was never intended that the competitors should do more than skirt the head of the Elan Valley.

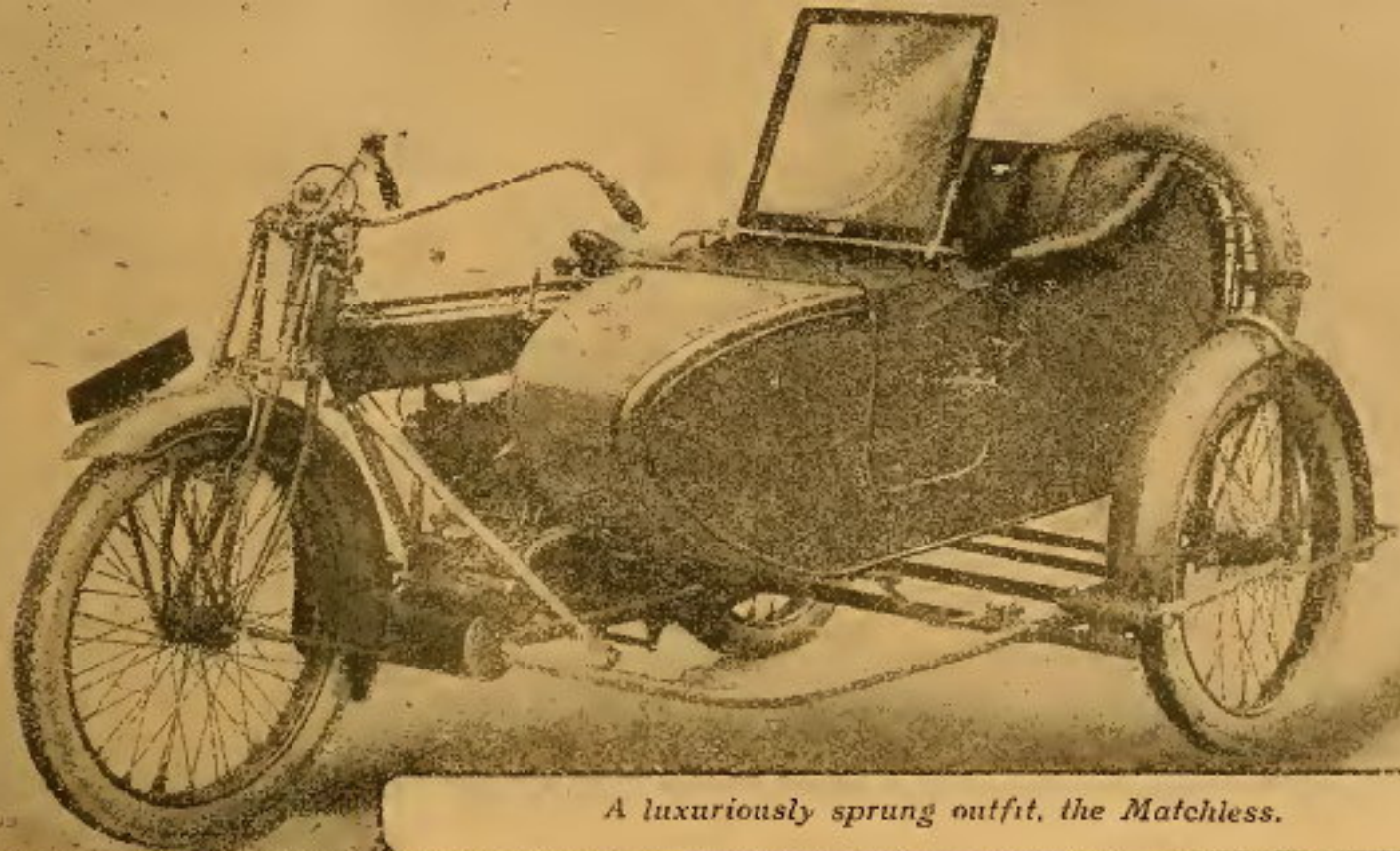


WEDNESDAY'S RUN OF 152½ MILES.

Llandrindod, Rhayader, St. Harmon Tylwch, Llanidloes, Stay-a-Little, Llanbryn-mair, Cemmaes Road Station Dinas Mawddwy, Bwlch-y-Groes, Bala (lunch control), Bala, Llanwddyn, Cann Office, Llanfair Caereinion, Newtown, Dolfor, Beguildy, Knighton, Bleddfa, Llandrindod.

In comparison with the two previous days' runs, Wednesday's trip, with the exception of Bwlch-y-Groes and the notorious Hirnant Pass, was voted comparatively easy. That was the consensus of opinion of the competitors; but we must say that the rough going in parts, the myriads of hairpin bends, coupled with the two steep ascents aforementioned, have made a lasting impression on our memory—and a temporary impression

On Panne Hill during the first part of the consistent driving test on the first day of the trial. (Right) France's representative, the 5-6 G.L. sidecar, driven by F. Thorp (Left) C. R. Collier's 8 Matchless.



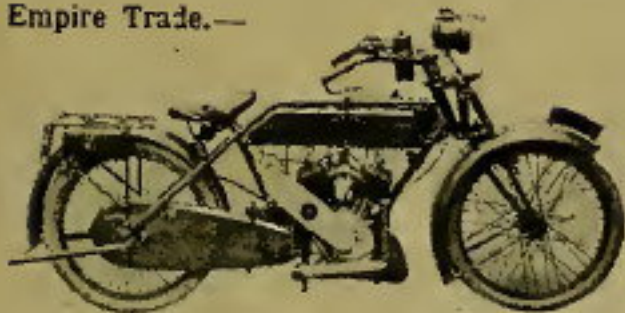
A luxuriously sprung outfit, the Matchless.

JANUARY 2nd, 1919.

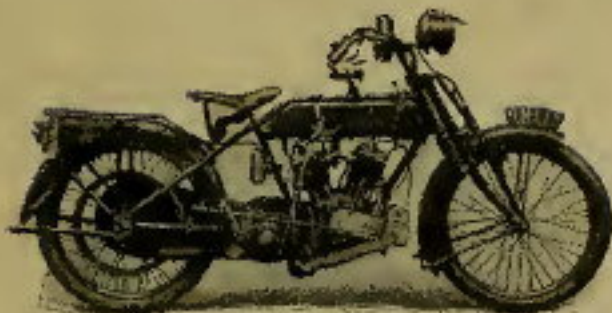
MOTOR CYCLE

19

Empire Trade.—



8 h.p. Sunbeam



8 h.p. New Imperial.



8 h.p. Matchless.

THE

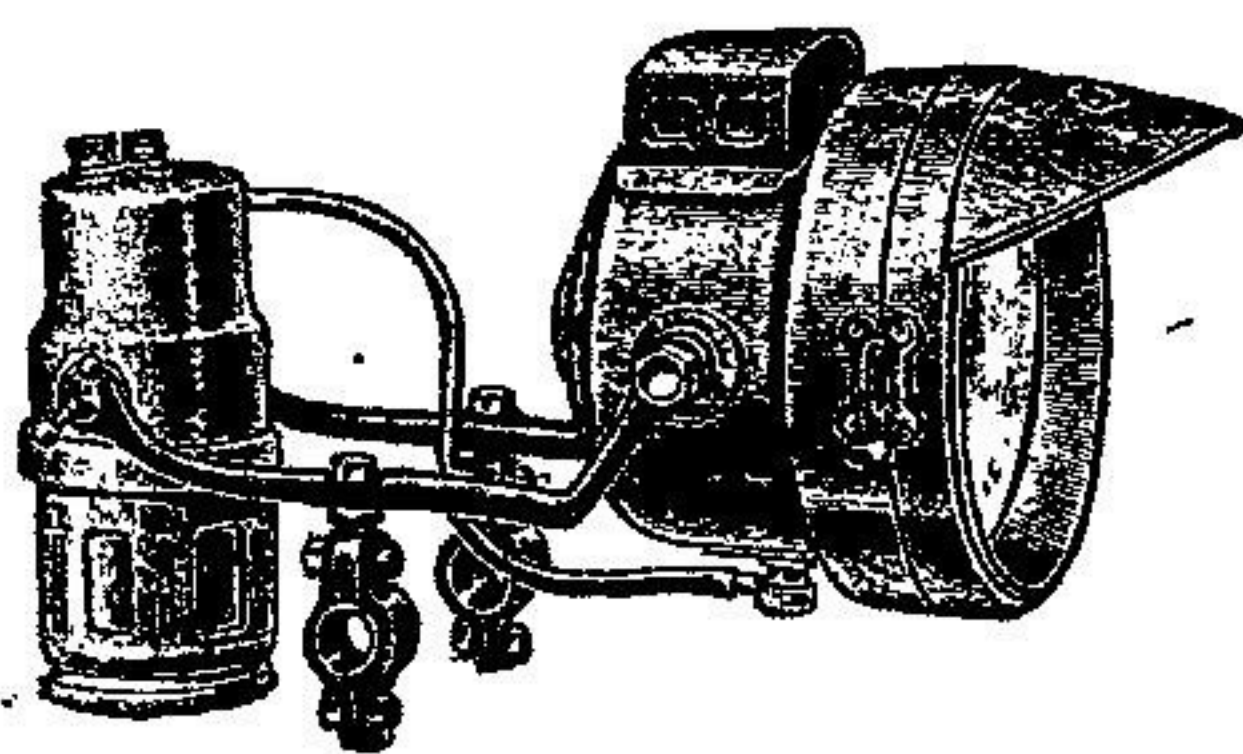


"SPEEDS"
THE DASH
BACK TO H.D.Q.

Get
Our
Motor
Cycle
ELECTRIC
SETS
on your
postwar
program
- they
will be
"IT"



*This
is the
standard
model
as fitted*

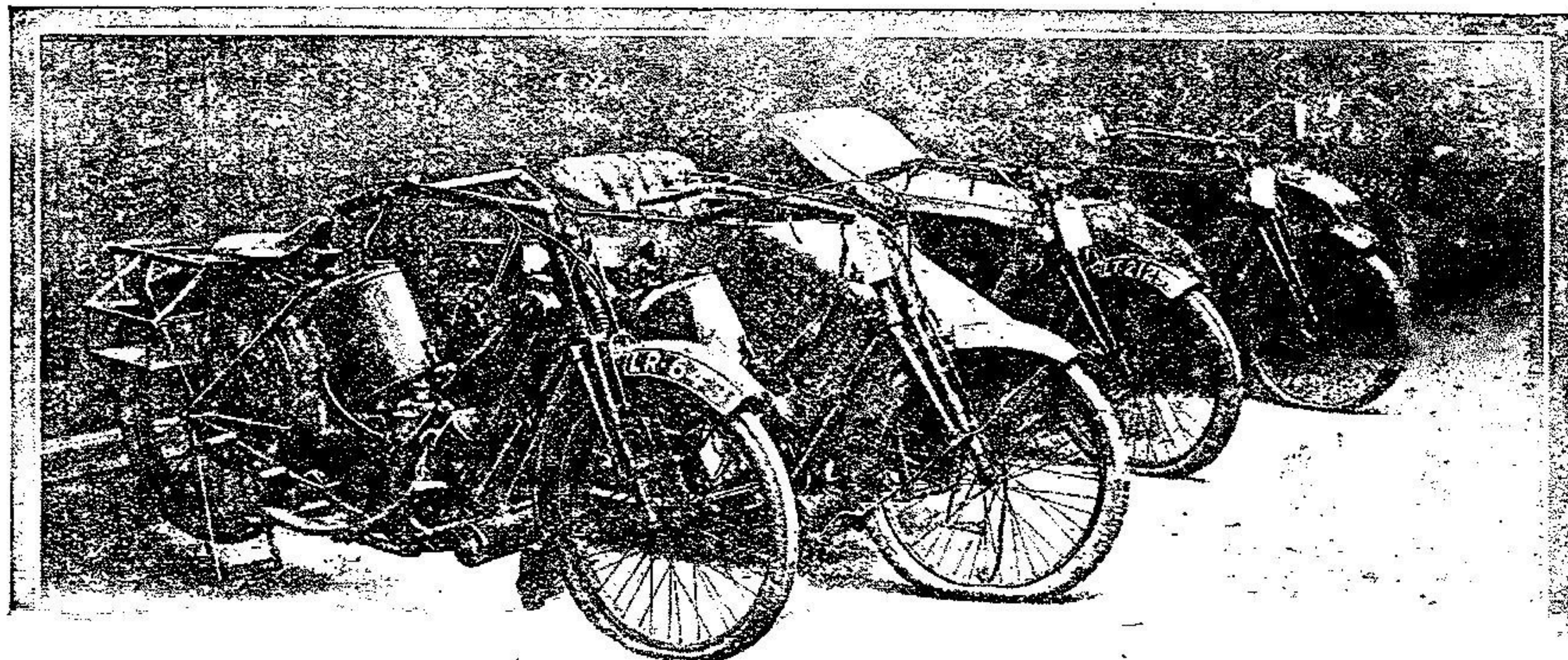


No. 127. H.B.
price
£2-16-0 per set.

*to W↑D
Motor
Cycles for
Despatch
Riders.*

W.D. Surplus Stock under the Hammer.

Last Week's Sale of Government Motor Cycles.



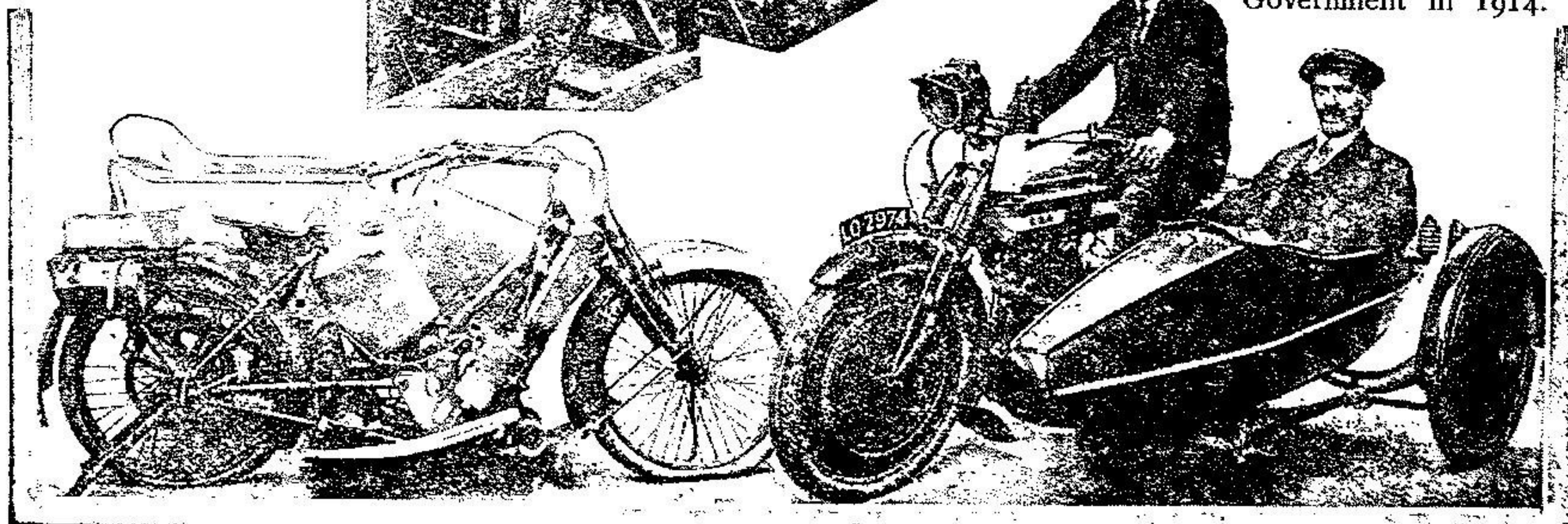
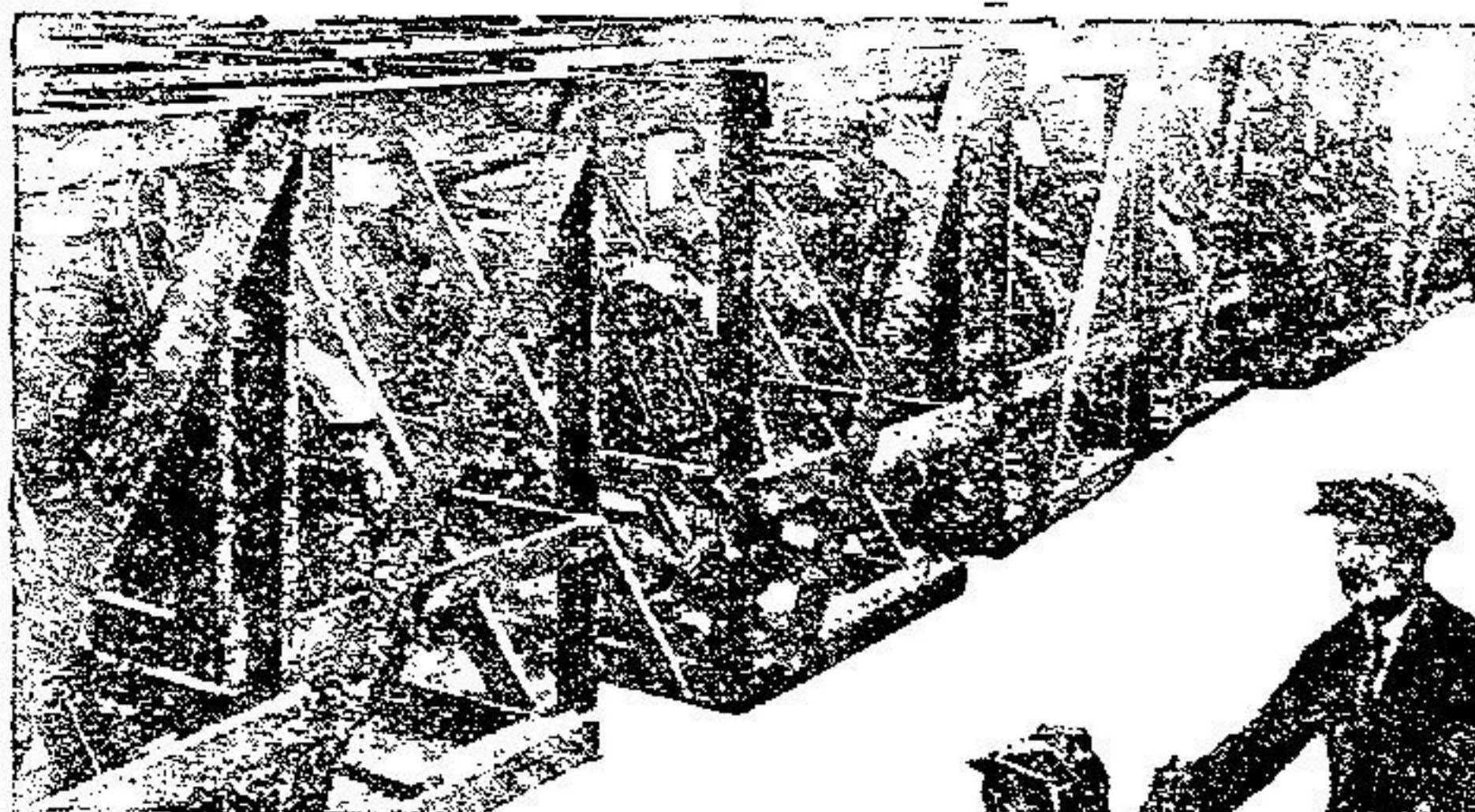
Some of the Scotts. These machines fetched quite good prices

THE first sale of Government motor cycles took place at Aldridges on the afternoon of the 22nd inst. Altogether nineteen machines were sold, consisting of Rudge-Whitworths, Zeniths, Rovers, and Scotts. There was a large number of bidders, consisting chiefly of dealers, but a number of young officers in khaki were conspicuous in the crowd.

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(Top) A batch of Ridges and Rovers which had been renovated in Government repair shops. (Left) A mutilated Scott, which was nevertheless sold for a good price. (Right) A privately-owned 4½ h.p. B.S.A. sidecar, which found a buyer at £74.

THE WASTAGE OF WAR.



Unfit Army motor cycles, the majority of which will require a great amount of work expended on them before they are fit for the road. The machines were left in the state shown, the tarpaulins inadequate to protect them from wind and weather.

HUNDREDS of war-worn and discarded motor cycles, fit and unfit, are lying on Kempton Park Racecourse more or less exposed to the weather, illustrating the terrible wastage of material, labour, and money which war inevitably forces upon a people.

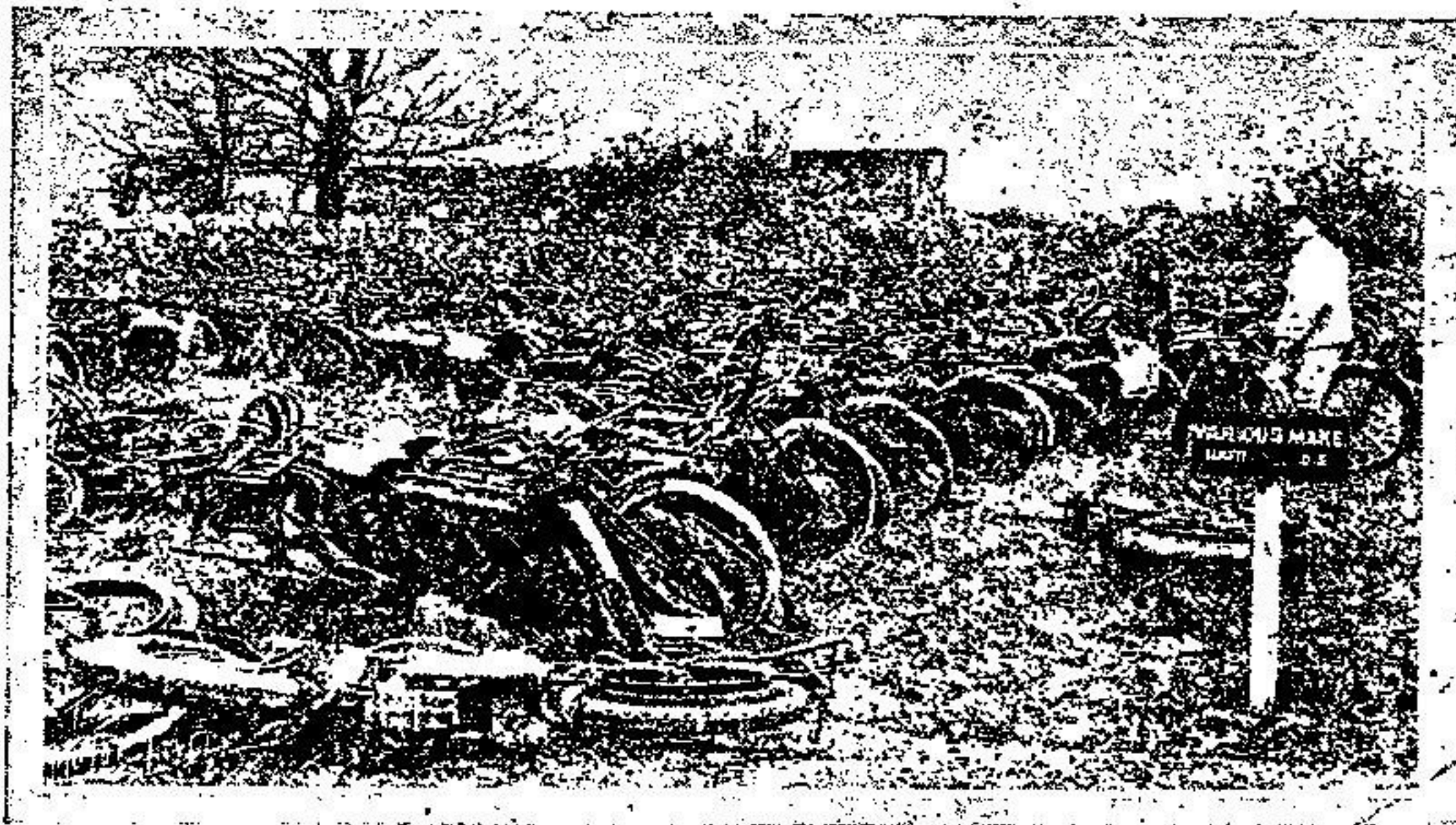
We have already written on the subject of war-worn motor cycles. An article, which appeared on June 14th, 1917, illustrated by photographs, showed hundreds of these machines; both their numbers and appalling condition called forth severe comments from many of our readers. Since the date of our article the Catford depot, which we mentioned, has been evacuated, and the Kempton Park depot, where there are still numerous machines, is in process of evacuation.

Now that the war is over, we frequently receive letters from readers asking for details as to the disposal of these remnants of the Great Conflict, and it is the object of this article to inform motor cyclists as to the actual position of affairs.

During the war Kempton Park Racecourse has been the distributing centre for army vehicles, as to this depot all new lorries, cars, and motor cycles were

sent direct from the manufacturers, thence to the mobilisation centre at Bulford, and from there direct to the various units Overseas. Kempton Park also received all the unfit vehicles, and lorries packed with damaged motor cycles are still arriving. As they arrive the machines are classified according to make and condition. Two-thirds of the number are usually fit for repair, and of these many—mostly of non-standard

makes—are placed in the motor cycle sales park. Non-standard makes are those which are neither Douglasses, Triumphs, P. and M.'s, nor Clynos, but such types as Sunbeams, A.J.S.'s, Ridges, Rovers, and other motor cycles made by well-known manufacturers which have been on home service. It is generally known that the army employs as few makes as possible so as to simplify the problem



Scrap and badly damaged machines, some of which are quite beyond repair

of spare parts. The classification of the machines referred to is only effected after they have been inspected by a board of officer experts.

New motor cycles in crates, ready for distribution, are placed under cover in open-sided sheds, and are not too well protected from the weather, as it can be seen that the outside machines are exposed to driving

The Wastage of War.—

rain or snow, and, even though grease is liberally applied to the bright parts, some evidences of rust are apparent. Machines which have been repaired in the army workshops are placed in crates and covered

magnetos at ridiculously low prices, but, despite careful enquiries, we have been quite unable to obtain any confirmation of this; in fact, we have been definitely informed that up to the present time none have been sold.

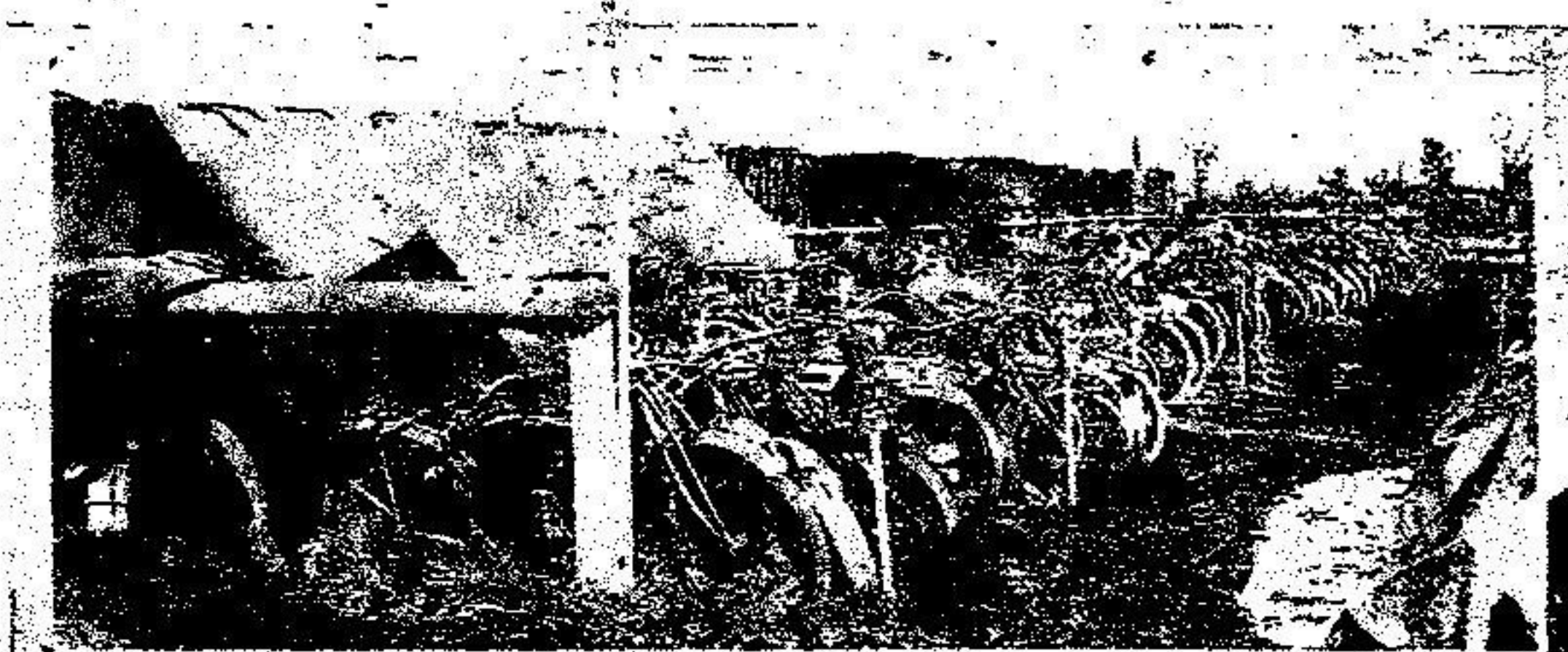


A panoramic view of the army machines under tarpaulin.

with tarpaulins. Motor cycles awaiting repair are in an open field, and as many as possible are placed under tarpaulins, but a vast number of unfits are without any protection whatever. It is the sight of this huge number of motor bicycles left day and night, winter and summer, exposed to all the vagaries of an English climate, that has led to so much criticism, and in defence of this it is argued, and not without reason, that most of them have been rescued from the battlefields of Flanders and elsewhere, where they have been exposed to rains other than

The sales park consists mostly of makes other than army standard. On the outside thereof there are crates of machines which have been rebuilt or repaired by the army, and when the war was on these would have been used for home service. In the centre of the park are the unfit machines, mostly denuded of saddles and magnetos, classified according to makes. The first notice reads: "A Rover, unfit H.S., no more to be placed here," and the other notices are of a similar nature.

The disposal of army motor cycles is in the hands of the Surplus Government Property Disposal Board, 6, St. James's Square, London, S.W.1, and on enquiry there we learned that, pending the formation of a definite scheme for the disposal of army vehicles, the Board has temporarily suspended operations. Previously, anyone



(Top) Motor cycles ready for sale and classified according to make. In the rear are new and rejuvenated machines in crates.

(Bottom) New and uncrated motor cycles. The great majority of these are Triumphs



and besides those of heaven. They have often been literally buried in the ground, and so a month or two's extra exposure will do them no further harm. Unfit motor cycles, as they are called, are those which have suffered severe accidents, have been run over and ditched, or have been hit and severely damaged by shell or machine-gun fire. We saw several interesting cases of the latter during our visit.

From time to time rumours have reached us that derelict army motor cycles have been sold minus

could apply to the Board, get a pass, and go down to Kempton Park to inspect the vehicles. Any reasonable examination was permitted, but, of course, no dismantling of any part could be allowed. We give a list of some of the machines in the sales park: 24 fit Ridges, 86 fit Zeniths, and numerous unfit machines, of which we may mention 17 Sunbeams, 96 Scott s.c. combinations, 36 Scott solo machines, 99 Zeniths, 23 Premiers, and 33 Rovers.

The Wastage of War.—

The question is—when will the Government move? The market is excellent now; second-hand prices are higher than they ever will be again, and, despite arguments to the contrary, the goods are depreciating. A few months hence, when new motor cycles will be available, second-hand prices may drop, so no useful purpose can be served by further delay. There was an auction sale of certain Kempton Park motor vehicles last week, but no motor cycles were included, and why this was the case no one apparently can give a satisfactory answer. It is quite time something was done. It seems clear that the R.A.S.C. has done its best. During the latter part of the war it has had to struggle along with men of low category; it has asked for the material with which to build sheds, but none was granted, as all that which was available was needed for the R.A.F.

The Disposal Board is alive to what is required, but can get no answer from the Ministry of Supply, and so it seems that this body is really to blame.

It has been suggested that it would be to the interest both of the general public and the trade if the manufacturers were to buy these machines, restore them to new condition, and sell them under a guarantee, and we understand that the manufacturers have been approached, but have not made an offer which the Board could accept. The whole question, therefore, remains in abeyance. The matter is an urgent one, as the motor cycles are bought from funds supplied by the taxpayer, and he rightly demands that they should be disposed of in the most advantageous manner.

PAST AND FUTURE.

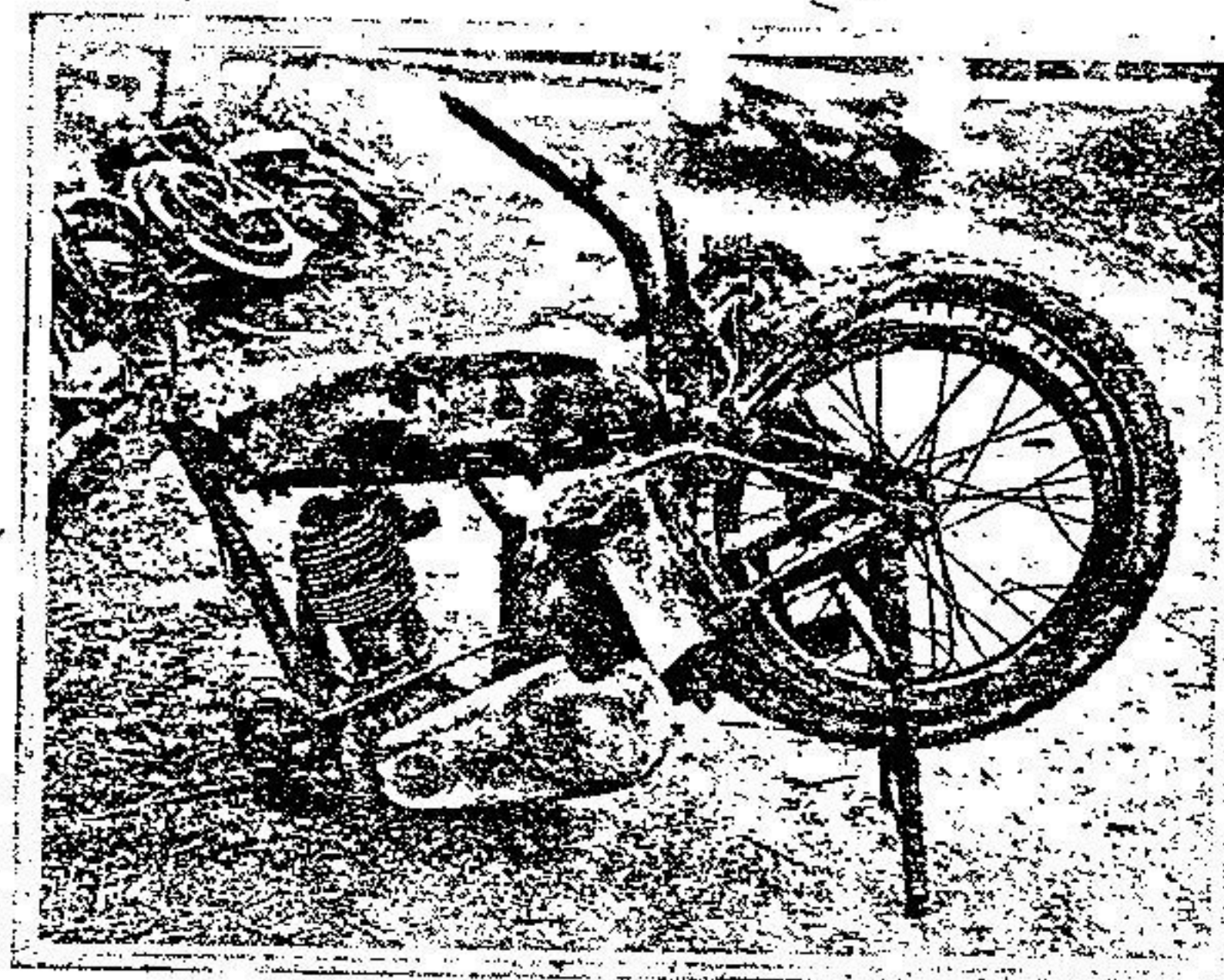
ARE manufacturers awake to the coming condition of things? Are any of the firms who are really in a position to produce the right vehicle by the thousand making any preparations to do so? The cycle car has not proved a success in the past simply because it has lacked the support of those influential firms who might have made a success of it. It was left to little experimentalists in back street factories, and in the one or two instances where mechanical success crowned the efforts of reputable firms, financial success was impossible owing to the bad name the vehicle had won at the hands of others. Light, flat-twin engines are now being made which render the cycle car more practical than ever before, and in itself it is a practical type of vehicle, demanding only commonsense methods and proved and well-tried principles. There is no need for new departures, absolute simplicity and proper weight distribution being the two fundamental points. Who is to be the first to take this gigantic market of the machine for the multitude?

CHINOOK.

The motor cycle manufacturer and rider, too, have a right to be considered. If the machines were released at once before the manufacturer is in a position to supply, many riders would be able to obtain machines who otherwise would have to wait. This would not interfere with the sales of manufacturers, for at the moment there are few who have machines for sale, and it will be some time before they are abreast of their orders. If, however, the Government machines are allowed to lie idle until the manufacturers are able to produce in quantity it is quite possible that the trade in new machines will be damaged. Moreover, the prices obtained will be much less than if the machines are sold without any further delay. At the present moment second-hand prices are high, but this will not continue indefinitely.

There is in our opinion one class of rider who should have special consideration, viz., the man who enlisted as a D.R. early in the war and sold his machine at a reasonable valuation to the Government. It seems to us a mere matter of justice that such a man should have an opportunity of replacing the

machine which was devoted to the service of the country at a similar price, instead of having to pay out a much larger sum of money to obtain an equally sound machine. This does not mean that we think that the Government should give away its property at prices far below their actual value—the difference having to be made up by the taxpayer—but only that the class of rider to whom we refer should receive the consideration which is obviously his due. He must not expect a bargain, but a fair machine at a fair price.

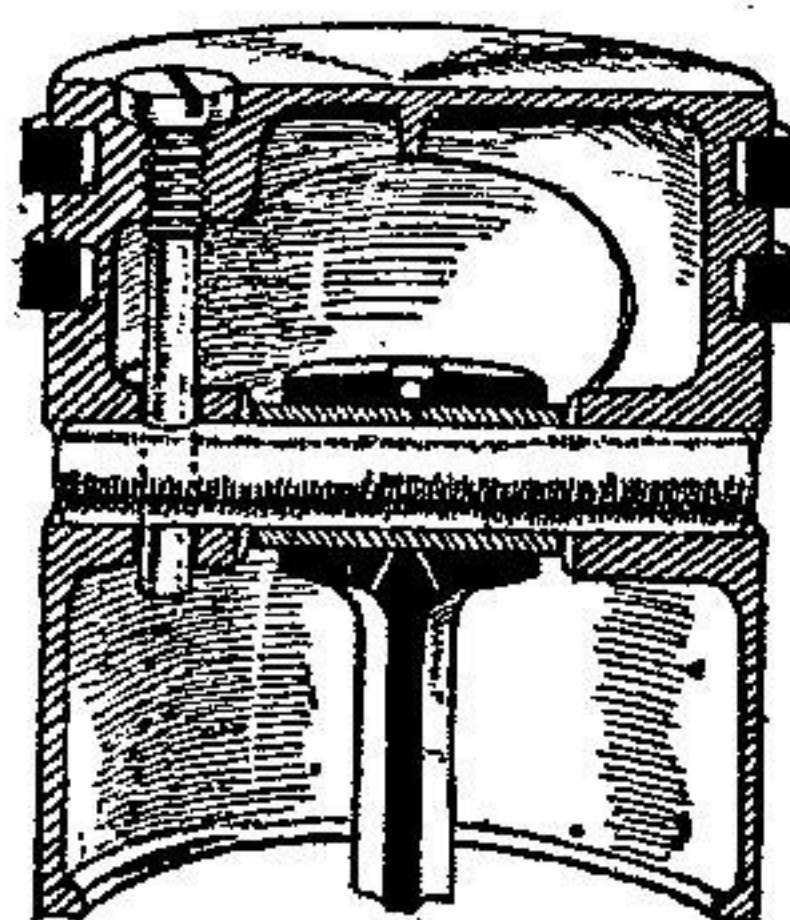


A shell-battered motor cycle which might well form one of the exhibits in the projected National War Museum.

ANOTHER GUDGEON FIXING DEVICE.

MANY and varied have been the methods devised to secure the gudgeon in pistons and prevent endwise movement which would be liable to cause scoring of the cylinder walls. The makers of

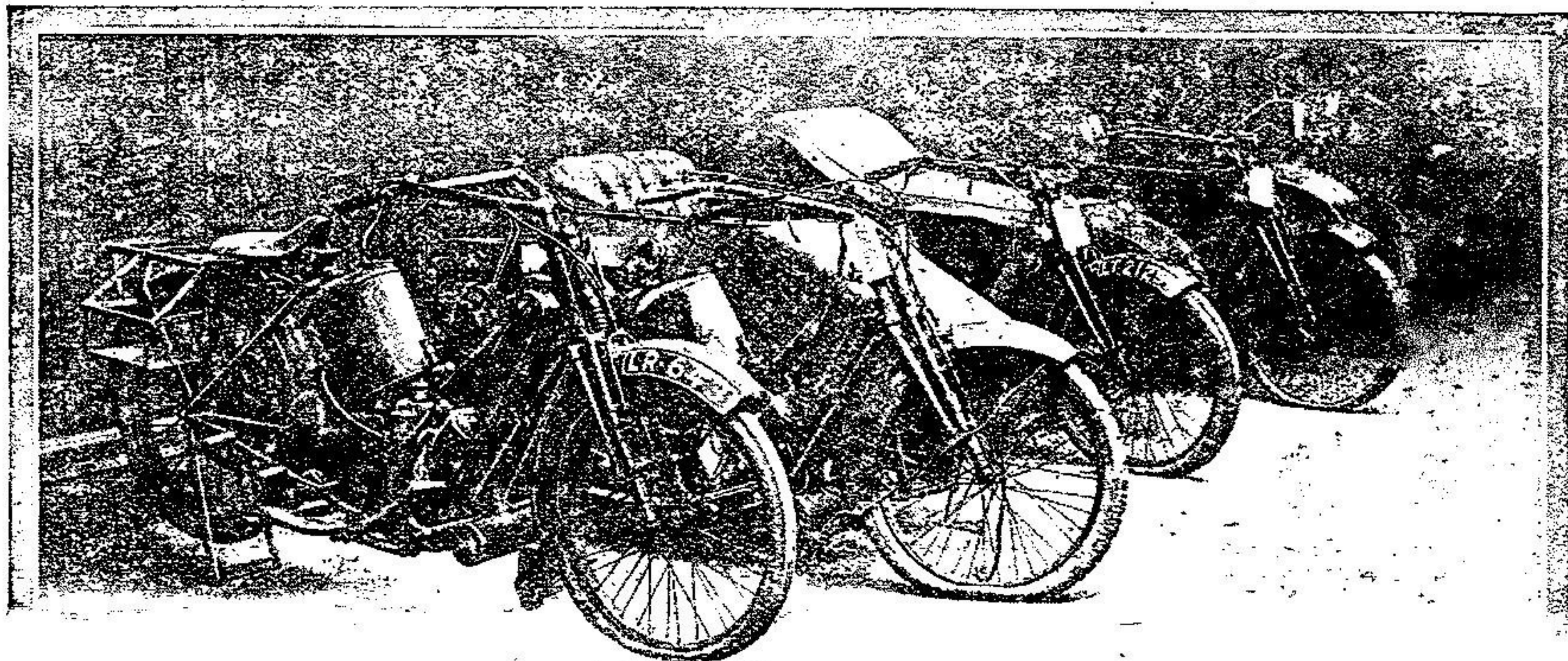
the Vermorel car have an idea which is rather unorthodox, and consists, as shown, in passing a locking pin through the gudgeon boss and pin from the top of the piston crown, into which it is screwed. This method appears to be both simple and reliable, but we should anticipate difficulty in extracting the locking pin after any considerable exposure to the heat of the combustion chamber.



The Vermorel gudgeon pin fixing.

W.D. Surplus Stock under the Hammer.

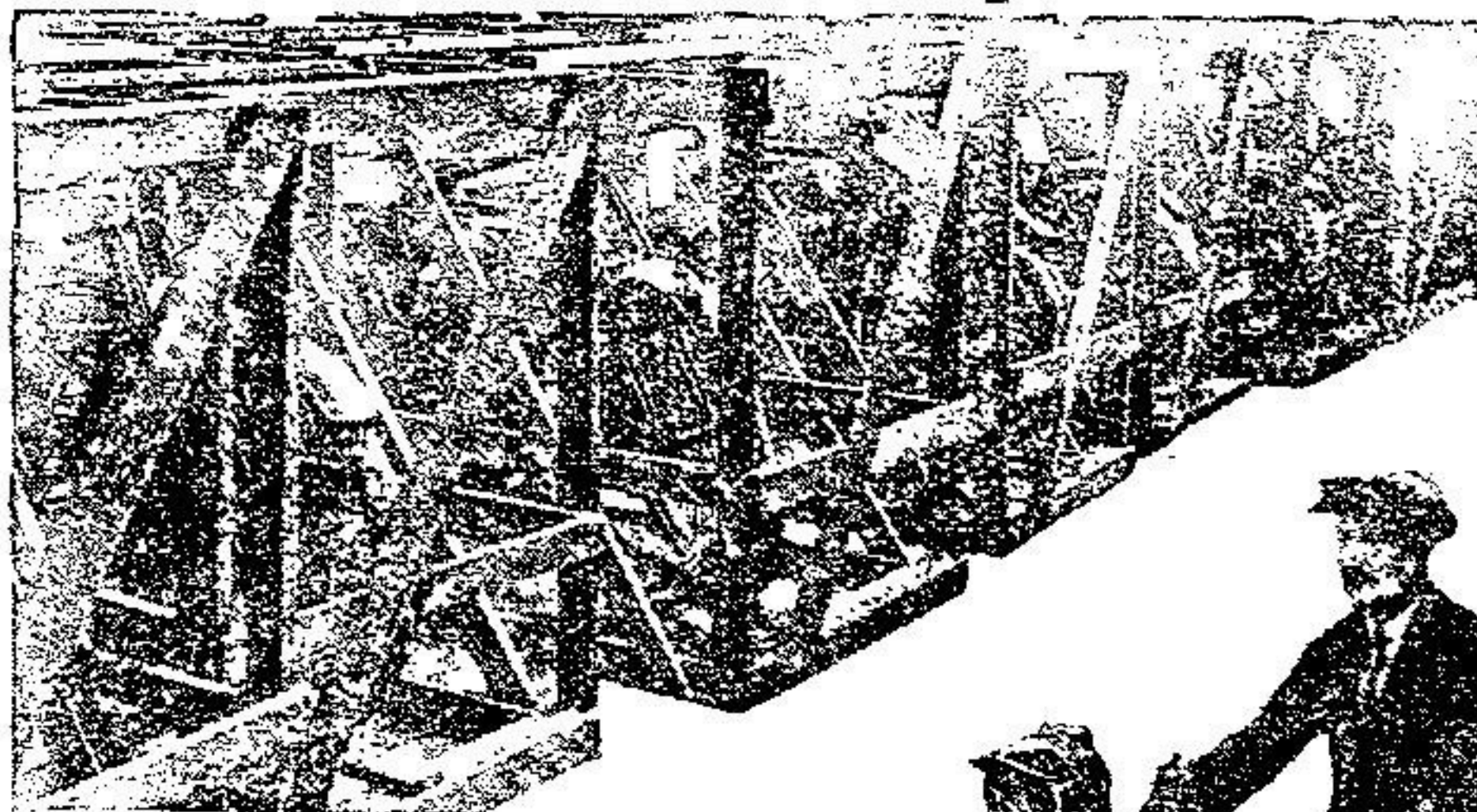
Last Week's Sale of Government Motor Cycles.



Some of the Scotts. These machines fetched quite good prices

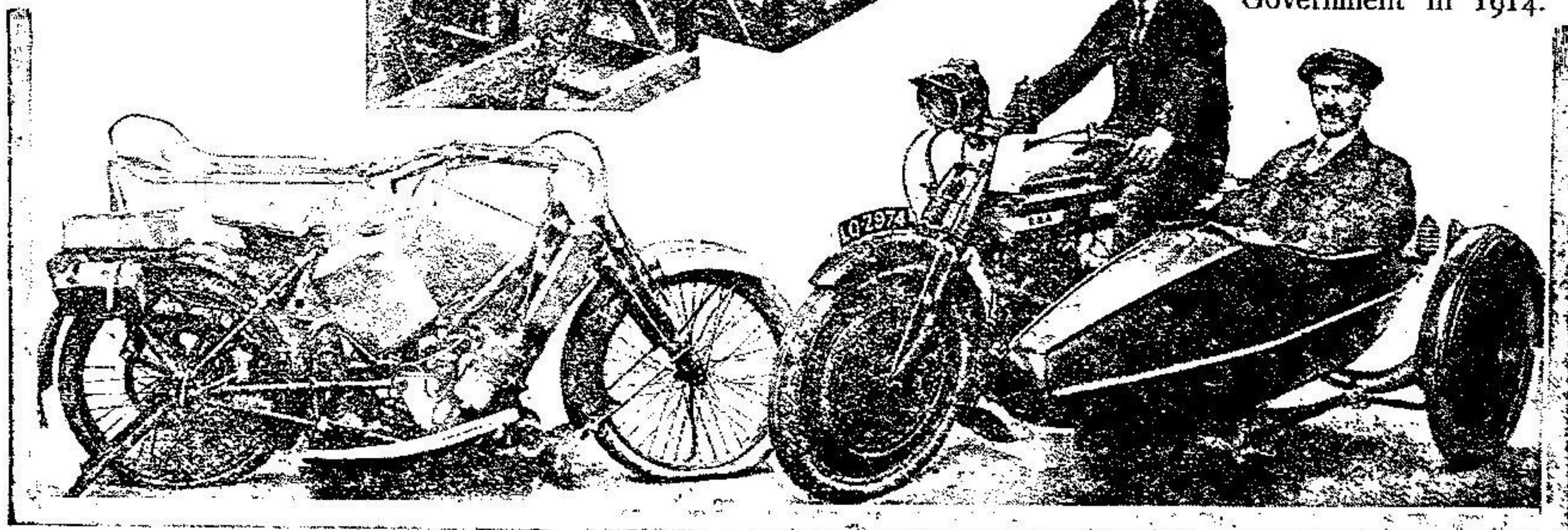
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"SOME BARGAINS."

The Treatment accorded ex-Army Machines between the Port and the "Unfit" Park.



THE CHANGING SEASONS. Ex-Army motor cycles at Kempton Park. Since our recent exposure of the rapid deterioration of these disused machines many have been sold by auction, and the remainder are being removed to repairing depots.

DISUSED Army machines are now under much discussion, and probably many of the impetuous brigade of would-be riders are already visualising their cheap mounts.

Now that D.O.R.A. is moribund it will be permissible to give the readers of *The Motor Cycle* some idea of the treatment meted out to unserviceable machines in their passage through the various collecting and repair depots of the Mechanical Transport, and thus warn many unsuspecting souls of the condition in which they may expect to find most unrepaired Overseas machines.

The motor cycles are despatched from the port of arrival in open trucks, packed cheek by jowl, fifteen to twenty at a time, and, as a result of this, the jolting of the journey and shunting, etc., they present an almost inextricable mass to the men whose duty it is to transfer them on to the familiar 3 ton lorry; this process is not usually effected without sundry ruthless and sudden removals of such projections as handlebars, oil pump handles, foot-rests, and carriers; indeed, it is remarkable how efficaciously "streamlining" may be carried out by means of a viciously-applied "ammunition" boot!

The machines are next dumped (literally!) in an "unfit vehicles" park by a receiving staff, who examine and classify the machines, and also remove the valuable "portable property," such as magnetos, carburetters, and saddles.

It may be that familiarity breeds contempt, or maybe sheer discomfort in handling rusty, jagged, broken-backed crocks (often under the bitterest atmospheric conditions), which is the cause of much damage, for

if at all refractory or awkward it is no uncommon thing for machines to be flung bodily from the lorries to the ground.

Undoubtedly much of the abuse and man-handling is due to the inefficiency of the arrangements for dealing with motor cycles in quantities, and the men who have no better lifting or transporting tackle than their hands are scarcely to be blamed.

The damage done to machines between the actual moment of becoming unserviceable until the time of entry into the repair shops is not to be conceived by those who have not actually seen and dealt with a consignment of two or three thousand crocks, and it is safe to say that the ordinary amateur with a *penchant* for tinkering who buys a damaged army machine will find his purchase dear at any price.

I do not wish readers to take an unduly pessimistic view of my remarks, but I can state definitely that the majority of machines returned from Overseas during the last two years of the war and repaired in R.A.S.C. workshops have required from £20 to £30 worth of replacement parts, and called for repairs quite beyond the scope of the private riders' capabilities.

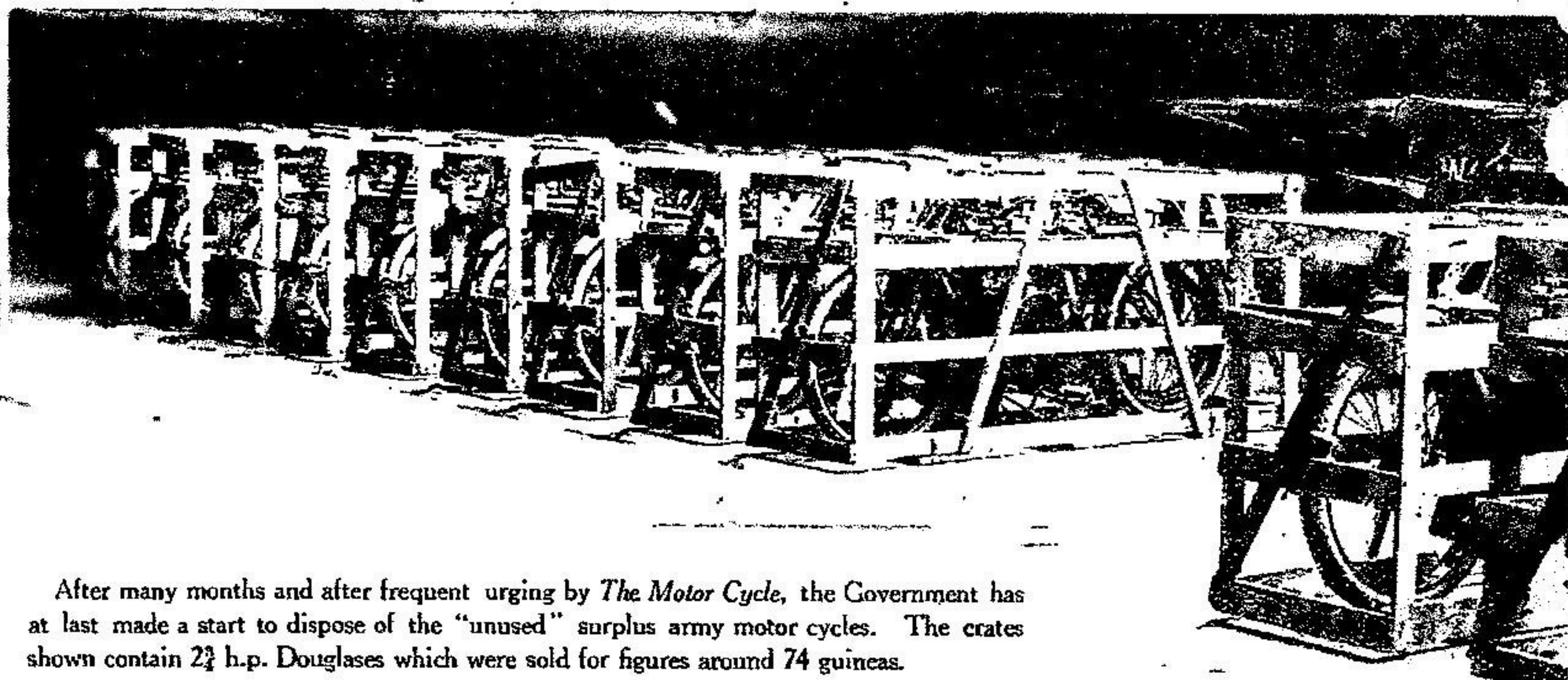
Home-service machines naturally are not so often broken up, but one must remember that they are mostly hacks, and are often used and exposed in a manner no self-respecting motor cyclist would tolerate.

Any machines overhauled by the army and sold in that state would be really excellent value at £10 to £15 below maker's price, as the standard A.S.C. workshops, at any rate, are to turn out machines practically as new—the only danger being the latent possibility of frame breakage.

WHARFEDALE.

THE FIRST GOVERNMENT AUCTION SALE.

Unused Machines in Neglected Condition realise High Prices.



After many months and after frequent urging by *The Motor Cycle*, the Government has at last made a start to dispose of the "unused" surplus army motor cycles. The crates shown contain 2½ h.p. Douglases which were sold for figures around 74 guineas.

ON Saturday, at the Royal Agricultural Hall, Islington, under the direction of the Surplus Government Property Disposal Board, some 300 motor cycles and sidecars were offered by auction by Messrs. Goddard and Smith.

So well had the sale been announced that buyers, and would-be buyers, came from all parts of the country in search of bargains. In fact, a queue some 300 yards long had formed before the opening time; once inside the hall, the long procession of people passed the remains of an aeroplane engine exhibit, went through the main hall, with its collection of lorries, and arrived at the Gilbey Hall, where the motor cycles to be sold were arranged.

It had been hoped that the machines offered would be of better quality than those previously put before a none too enthusiastic public, and also that this sale might mark the decline of the fallacious and exorbitant price reached hitherto. Neither of these hopes was gratified, and there were a great number of machines of the type now referred to as Kempton Park models.

"New" Machines Unrideable.

It is true that, within crates, in the centre of the hall were rows of Douglas 2½ and 4 h.p. machines which had never been issued to troops, but on either flank was a hopeless collection of rusty, incomplete motor cycles in the last stages of decay and filth. Even the machines which had not been issued were, in the majority of cases, unrideable, since the tyres had decayed until ominous cracks showed round the walls.

Naturally, one cannot expect used machines to be in really good condition, for Army work is strenuous and the riders, often careless, always busy. One does expect, however, that new machines, still in their crates, should be serviceable, and that the prices to be paid shall represent their value.

The taxpayer part of the motor cyclist will rejoice exceedingly at the high prices, but the real motor cyclist portion of him will grieve.

Passing round the machines one had a good idea of their state. For instance, No. 3, a Triumph, had no belt, no carburetter, no magneto, no front wheel, no rear tyre, no leather on the seat, a much bent gear lever, and no footrests. Yet, for this contraption, in a rusty condition, twenty-one guineas were paid. For another Triumph with both wheels, but wonderfully rusted, without carburetter or magneto, the sort of thing, in fact, that no man would have had before the war, no fewer than forty guineas were expended. Prices for the first collection averaged about £19.

Neither the B.S.A.'s nor the Scotts were in better condition, while some of the Douglases had just come from an unown field and brought the grass with them.

A Matchless and sidecar fetched sixty-one guineas, and really was a bargain according to that day's prices; but even on this machine the Service "scrounger" had done his worst. Some Indians belonging to the Canadians had their magnetos and carburetters, but apparently this made but little difference to the price.

Some Enfield ammunition carriers in bad condition, but not absolute wreckage, fetched from seventy to sixty-six guineas, and the buyer would have to spend some £20 on repairs, and perhaps £30 for a sidecar.

After the lunch interval the unused machines came up, and the crowd became much denser. The price of eighty-two guineas for a 2½ h.p. Douglas, however, was too much for the majority, and was greeted with loud and derisive cheering. Thereafter things settled down, similar machines bringing seventy-four guineas to the taxpayer, until lot No. 133—another 2½ h.p. Douglas—brought the price to seventy-two guineas.

After lot 148 the price fell a little, but

at 156 it went back to seventy-one guineas amid groans and hoots and whistles.

Thereafter the seventy guinea line was held, until the last few machines went at seventy-one guineas.

After the 2½ h.p. came the 4 h.p. and sidecar Douglases, and prolonged and surprised whistles greeted the opening price of 125 guineas, beaten by the next machine, for which 130 was the figure. Thereafter each combination went at 125 guineas.

One or two lots caused heated arguments, and once the auctioneer had words with a derisive spectator, to the intense joy of the gathering.

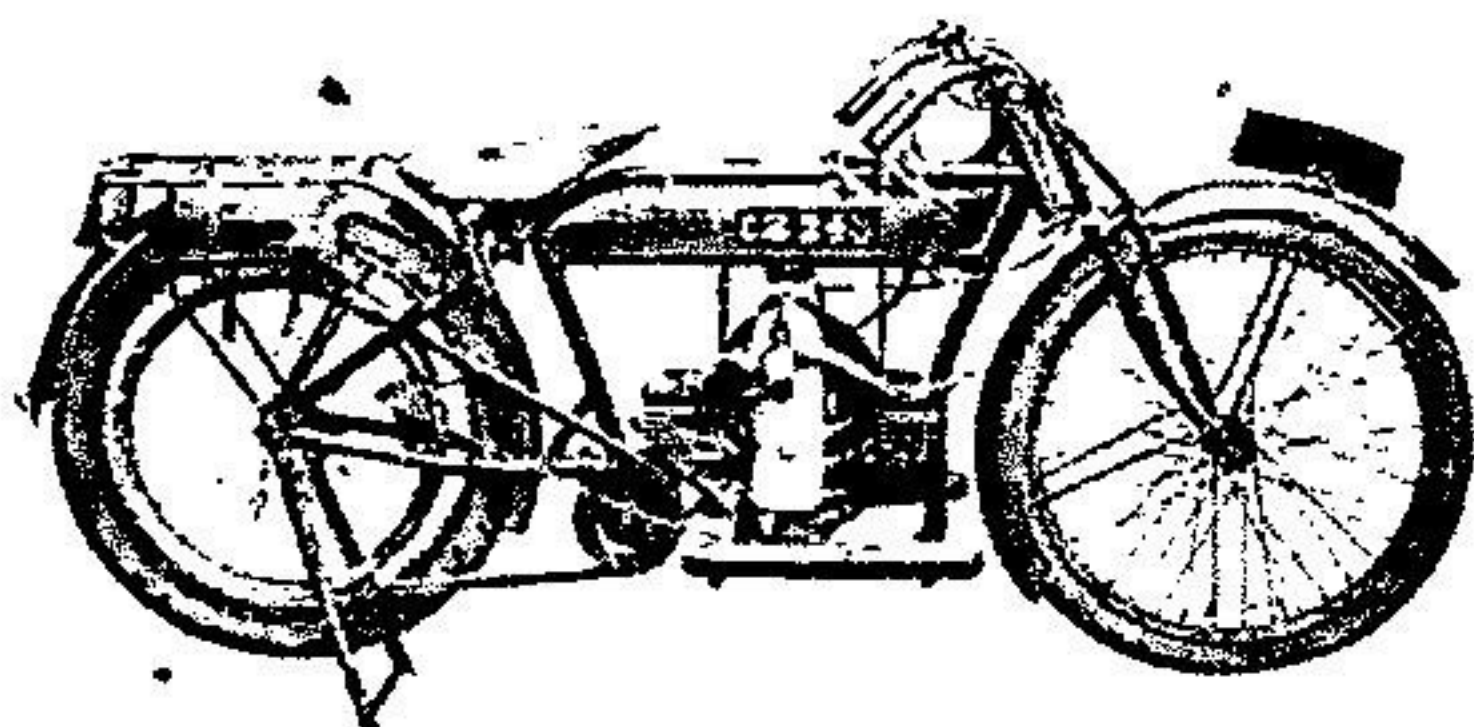
Dissatisfied Bidders.

Following the better machines the third batch, consisting of Douglas wreckage, provided little excitement, and a large portion of the crowd went home. Prices for 2½ h.p. Douglases in very bad condition ranged from eleven and a half to nineteen and a half guineas.

The rostrum was a raised platform on which was the auctioneer flanked by the military. In front were seats for some 300 people, around stood a huge crowd; and in the future it would be well if the auctioneer were provided with a megaphone. Actually at fifty yards' range it was impossible to hear a word or to know which machine was being sold. Naturally, this made a hot and tired crowd very restive, and for the first half-hour of the afternoon it looked as though trouble was brewing. Derisive cat calls, whistles, and shouts of "Fetch a megaphone," "Will the auctioneer speak up?" and "What number are you selling?" completely drowned speech even at shorter range, while the people on the fringes of the crowd pushed and struggled to the discomfort of all.

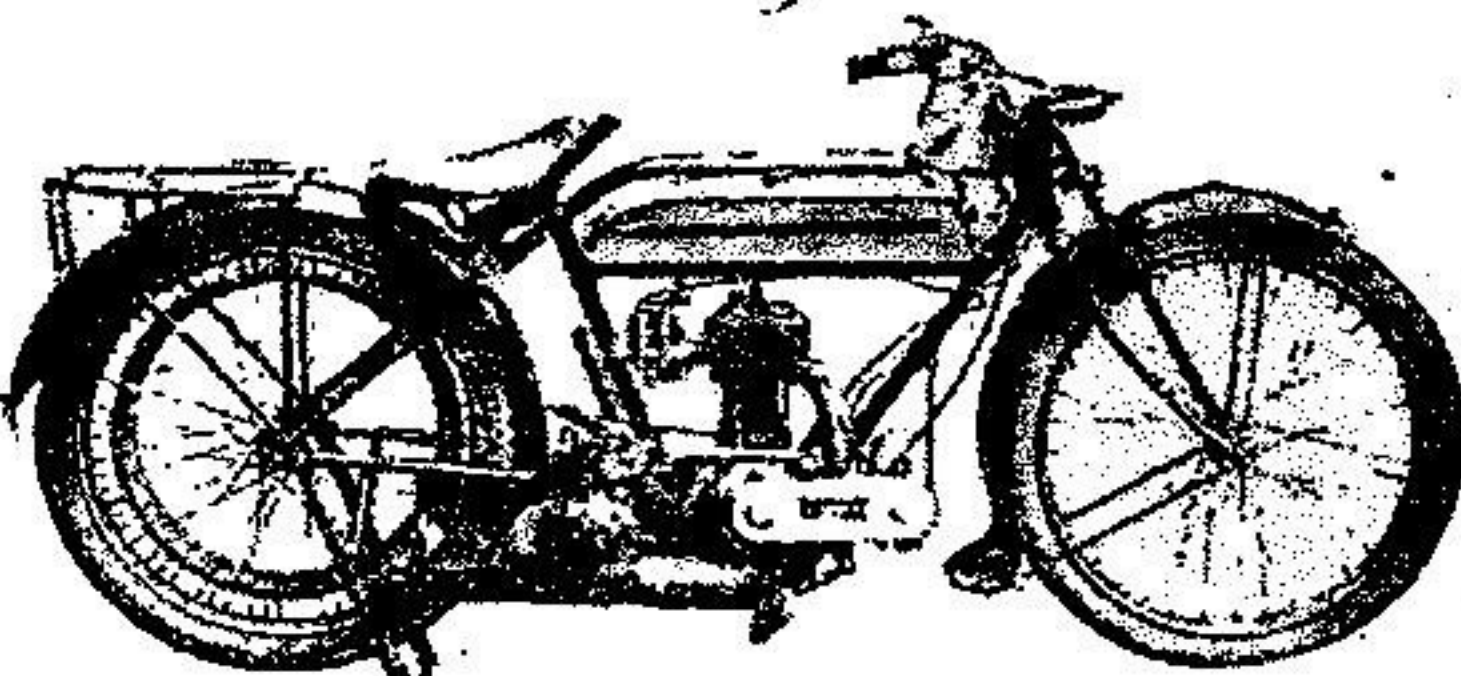
It is all very well to sell motor cycles at high prices, but surely it would be better to arrange that all might hear the figures even if only as a lesson.

A Sale of Canadian Army Motor Cycles.



A 2 1/2 h.p. Douglas sold for 50 guineas

More Surplus
War Material
disposed of at
High Prices.

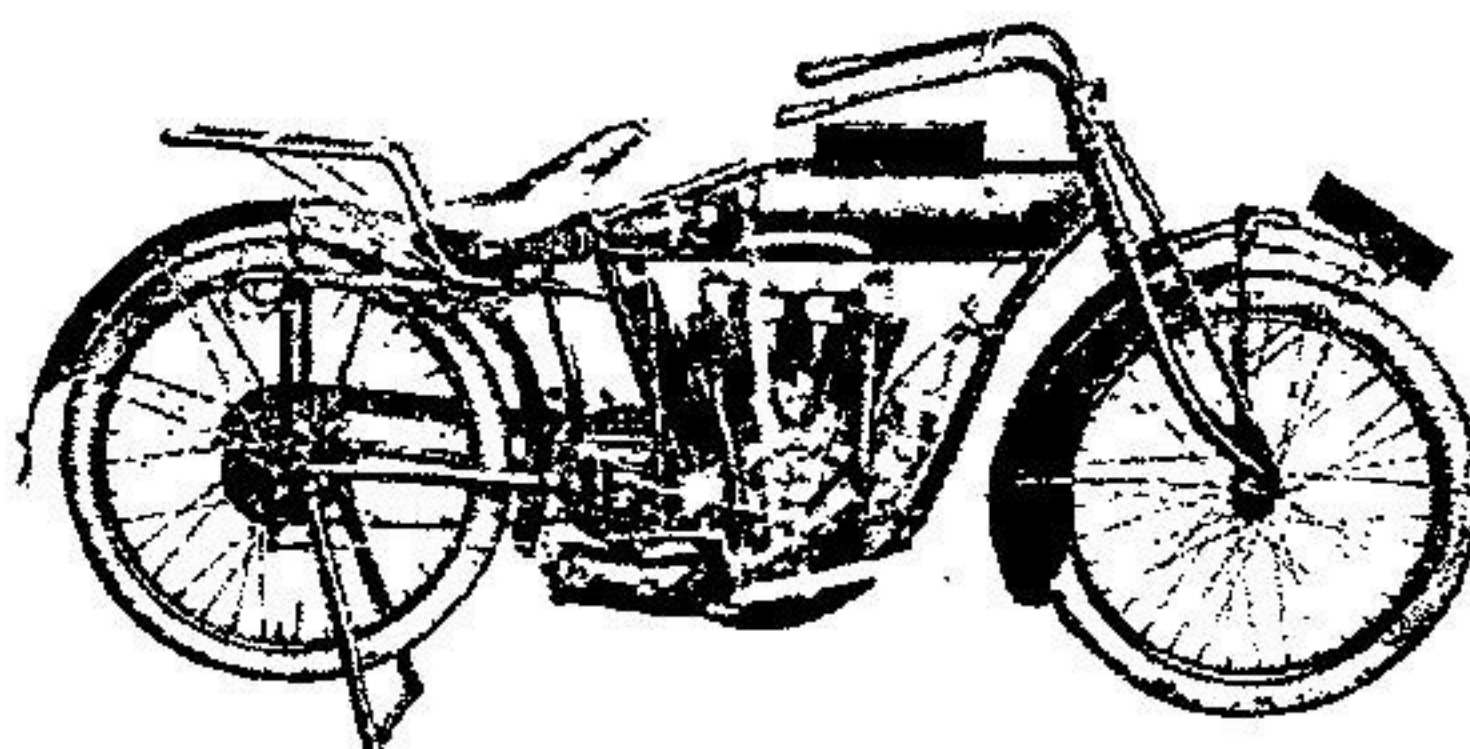


A 4 h.p. Triumph, which realised 69 guineas.

A BATCH of thirteen 1916 model 7 h.p. twin-cylinder Indian motor cycles was offered for sale at a sale of Canadian Army motor cycles which took place on the 5th inst. at the British Motor Cab Company's depot, 1, Brixton Road, London, S.W.9. The auctioneers were Messrs. Geering and Colyer, of Ashford, Kent.

The auction began at 11 a.m., and was well attended, about 300 people being present, which, once more, illustrates the interest of the public and the demand for motor cycles at the present time.

The Indians in question had recently been repainted a dark green, and presented a distinctly smart appearance, and were in fairly good condition, though the engines in some cases required the fitting of a few small parts. The auctioneer, in answer to a question, forcibly replied that he would give no guarantee for any of these machines—a remark which caused much amusement. The very last thing one might expect would be a guarantee for a disused Army machine.



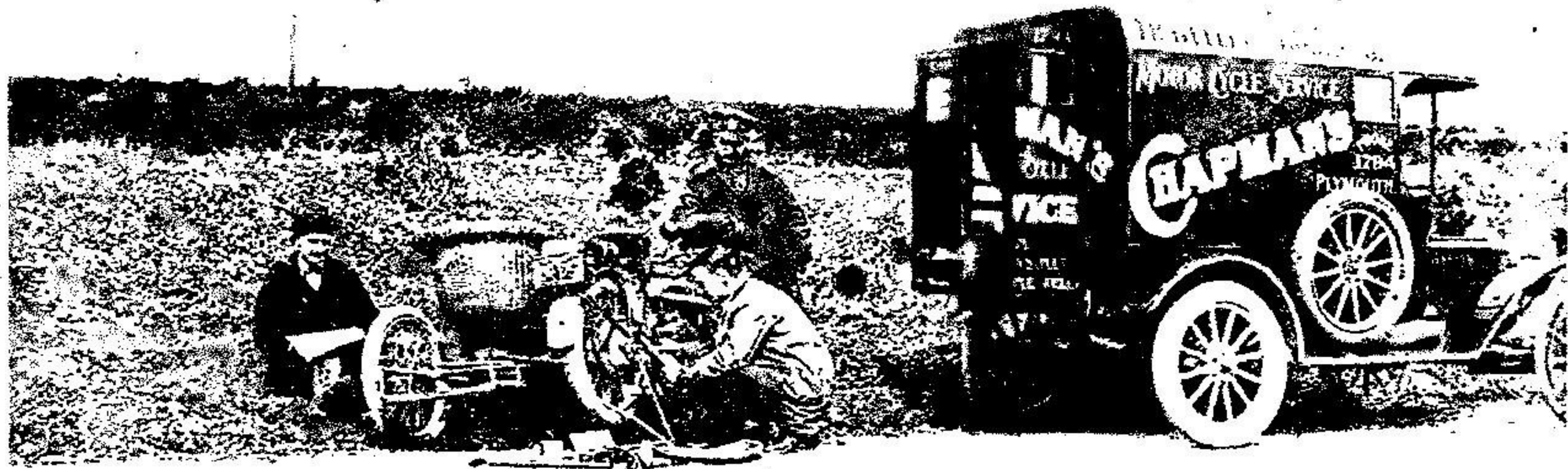
One of the thirteen 1916 model 7 h.p. Indians sold at an average price of 58 guineas.

The average price paid for these motor cycles was 58 gns., and the highest price 100 gns. Four Triumph motor cycles were next offered for sale, the average sum of 62 gns. being realised. These machines were of the 1915 4 h.p. Army pattern. The condition of the engines in some cases was rather bad, and one mount, which fetched 60 gns., had the carburetter missing, as well as the

controls, front fork spring, and the sparking plug. The highest bidder paid 69 gns. for one of these machines.

Two Douglases, one 4 h.p. 1915 model, and one 2 1/2 h.p. model, were next put up for auction. The 4 h.p. mount, which had lost its clutch, chain wheels, exhaust pipe, silencer, plugs, and saddle, was bought for 56 gns. The other, in better condition, realised 50 gns.

The bidding was slow at first, but with the help of a clever and witty auctioneer, improved later to a firm competition, and on the whole the machines realised more than their full value.

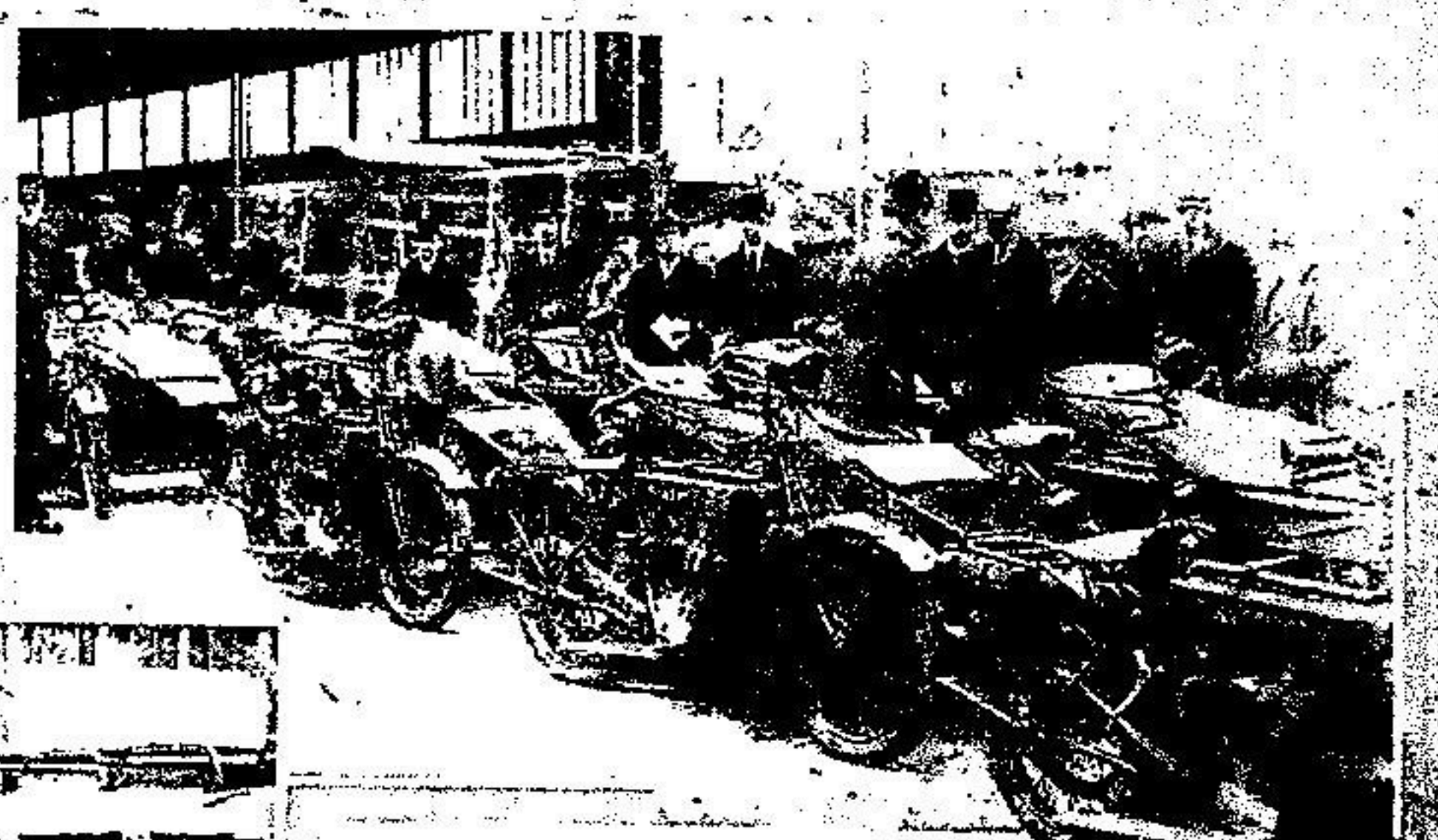


A travelling workshop catering for motor cyclists in the Plymouth district. These motor vans have been in service for the aid of car owners for a long time, but up to the present very few garage owners have been sufficiently enterprising to cater specially for stranded motor cyclists.

Motor Cycles from £16 to £150.

Another Auction Sale of Used Machines.

HIGH prices were again the rule at a sale of privately-owned and U.S.A. Army motor vehicles held by the Auction Department of the Grahame-White Co. at Hendon on the 29th ult. Among the privately-owned vehicles were a few motor cycles. Sandwiched in among the cars was a $3\frac{1}{2}$ h.p. 1913 Premier with a Supreme coach-built sidecar, two-speed countershaft gear, just overhauled and newly painted, which went for the very high price of £60.



(Left) The auction in progress. Keen interest was manifested in the Enfields. (Right) An American soldier explaining various points of the machines to interested spectators.



The next motor cycle on the list was a 1911 single-cylinder Kerry, of very ancient appearance and with automatic inlet valve. This brought £16, while a 1911 7-9 h.p. two-speed Indian, minus a silencer, rather a racing-looking mount, was sold for £19 and appeared to be cheap. The next motor cycle put up was described as a 1911 $2\frac{1}{4}$ h.p. Calthorpe. This had a 2 h.p. Precision power unit with a Dixie magneto, and appeared to be a 1914 model. Although the rear brake was missing, this was sold at £20.

A Mixed Lot.

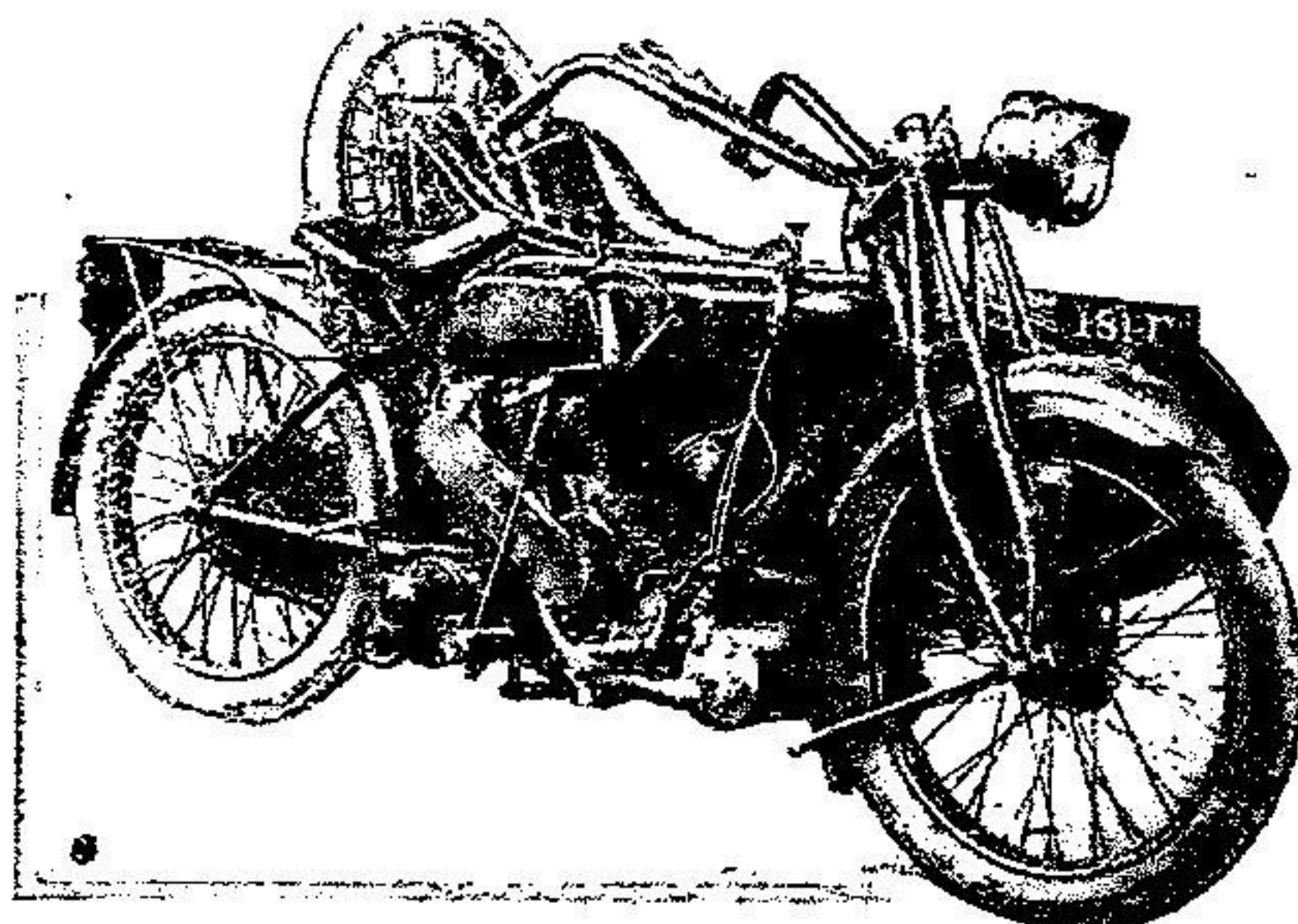
Among the U.S.A. Army motor vehicles were a number of motor cycles in excellent condition, though there were a few exceptions. One of these was a New Imperial motor cycle and sidecar with gear box removed, forks twisted, footrests bent, and was generally in poor condition, which was sold for £44, while a similar machine with sidecar wheel buckled, front forks twisted, and many parts missing was sold for £57. Properly regarded as among the scrap was a Matchless motor bicycle and sidecar, the front cylinder of which was missing and the piston broken, which fetched £80. Next followed four Douglasses and sidecars which went for £90 each, and then came seven Royal Enfield motor cycles and sidecars, which were eagerly snapped up. The first, after the bidding had started at a fairly low figure, was knocked down at £135, while for the next the bidding started at £100, and it was sold for £110. The highest priced Enfield fetched £150.

The last of the machines to be put up for auction were ten Enfield sidecar combinations, which fetched from £115 to £125, one of the most expensive being without a chain.

While at the sale we met H. F. Edwards, formerly a member of the M.C.C. Committee, who bought two Enfield combinations at £120 each. He was discharged from the Army last autumn, after having had long service with the M.T., and having been blown off his motor cycle by a shell.

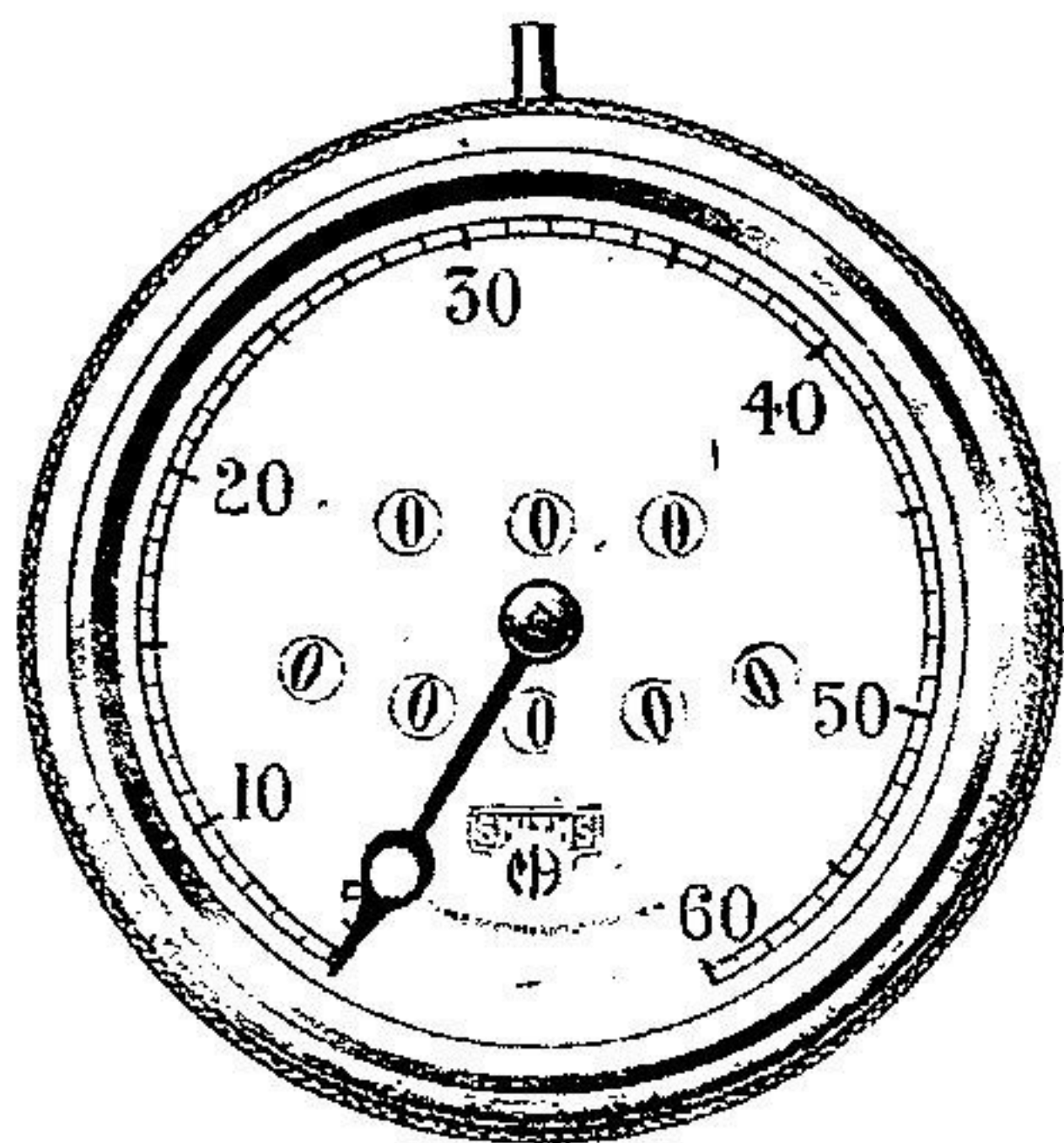
THE POLICE AND REGULATIONS.

THERE is a great deal of police persecution at the present time against motorists of all classes. Motor cyclists are being prosecuted, not only for exceeding the speed limit, for having dirty number plates, irregular lights, and other causes, but for not having two independent brakes. The police seem quite at a loss to interpret the regulations correctly, and think that the only system allowed is when there is a front wheel brake and a rear wheel brake. Any motor cyclist whose mount conforms to the regulations, and yet has been summoned, is asked to communicate with the Secretary of the Auto Cycle Union, 83, Pall Mall, London, S.W.1.



A Matchless outfit with broken cylinder that sold for £80.

The Post-war SMITH'S Motor Cycle Speedometer

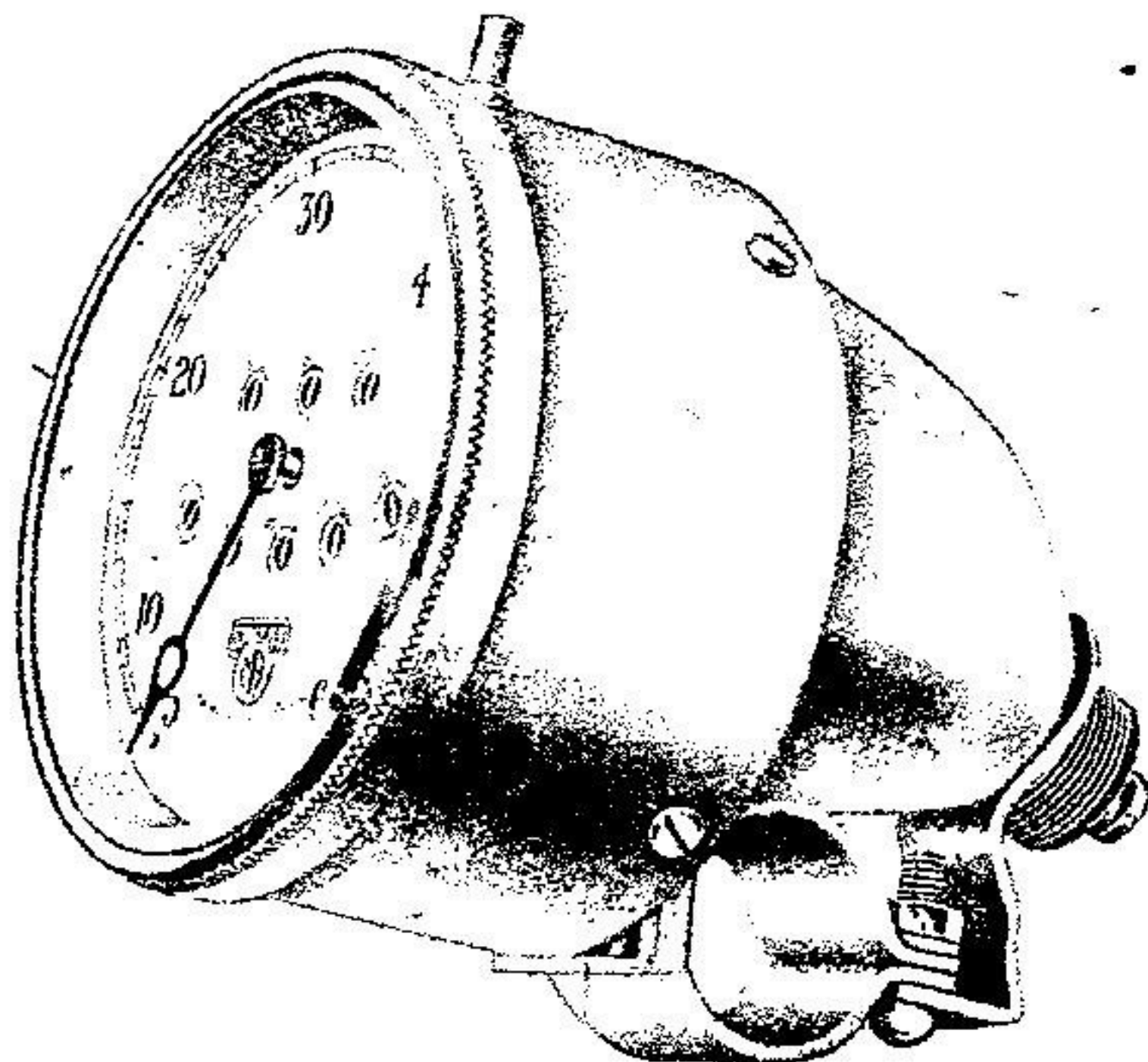


TO Motor Cycle Manufacturers for standardization—to the Motor Cycle Owner for installation on his mount—we are now offering a newly-designed Motor Cycle Speedometer which we claim to be the most perfect, the most reliable, and the most durable instrument ever put on the market. It is a tremendous advance on our pre-war model.

Smith's Motor Cycle Speedometer has been tried and tested under the severest possible conditions—conditions under which no other Speedometer could survive—and every detail in the construction and mechanism of the instrument has been proved to be thoroughly dependable. It is built to withstand the excessive vibration and road shocks to which motor cycles are subjected. It is absolutely steady at all speeds, and makes an accurate record of speed, no matter at what rate the cycle is travelling.

Smith's Motor Cycle Speedometer indicates speed up to 60 miles an hour; the total mileage records 10,000 miles, with a decimal figure showing tenths of miles. The trip records up to 100 miles, and also has a decimal figure, so that accurate readings can be taken for long or short distances. As will be seen from the illustration, this new model is of a refined and dignified appearance, whilst the dial gives a perfectly clear reading, both of speed and mileage.

A high standard of excellence, both in design and efficiency, is reached to a remarkable degree in the **Smith's Motor Cycle Speedometer**, and it is sure to meet with the entire approval of all motor cyclists.



Price (complete with drive) £4 10 0

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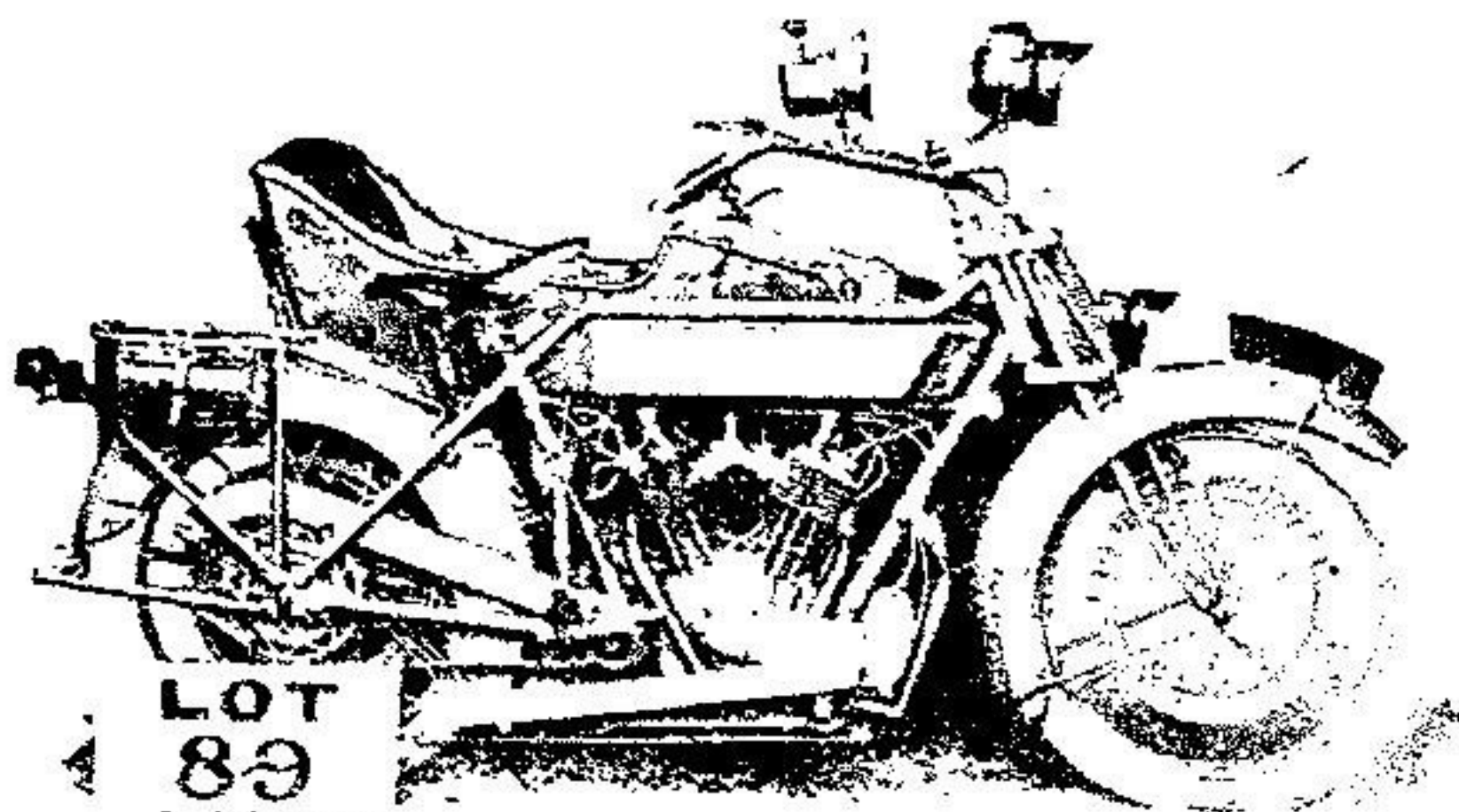


SALE OF U.S.A. ARMY MOTOR CYCLES.

Sidecar Outfits bought by Dealers at Figures Higher than the Catalogue Price.

A SALE of motor cycles used by the United States Army in this country was held by the Grahame-White Co., Ltd. (Auction Department), at the London Aerodrome, Hendon, London, N.W., last week, on instructions received from the U.S. Liquidation Commission. Altogether there were twenty-three motor cycles, and the prices fetched were remarkably good. The organisation of the sale was particularly well carried out, and the Grahame-White Co. deserve congratulation.

The sale opened with the disposal of a number of lorries and a few touring cars, and the first motor cycle to be put up was Lot 74. So far as motor cycles were concerned, the catalogue needed considerable alteration, because it was first announced that there would be nine Harley-Davidsons for sale, but 4 h.p. Douglases and sidecars took their place, and there were no motor cycles of American manufacture for disposal. The Douglases were in fairly good condition and vastly superior to the motor cycles sold by the Government Disposal Board at the recent sales we have attended. Nearly all were fitted with lamps, there were few parts missing, and, though there were signs that the machines had been used from a year to eighteen months, as the catalogue stated, they were in fair order.



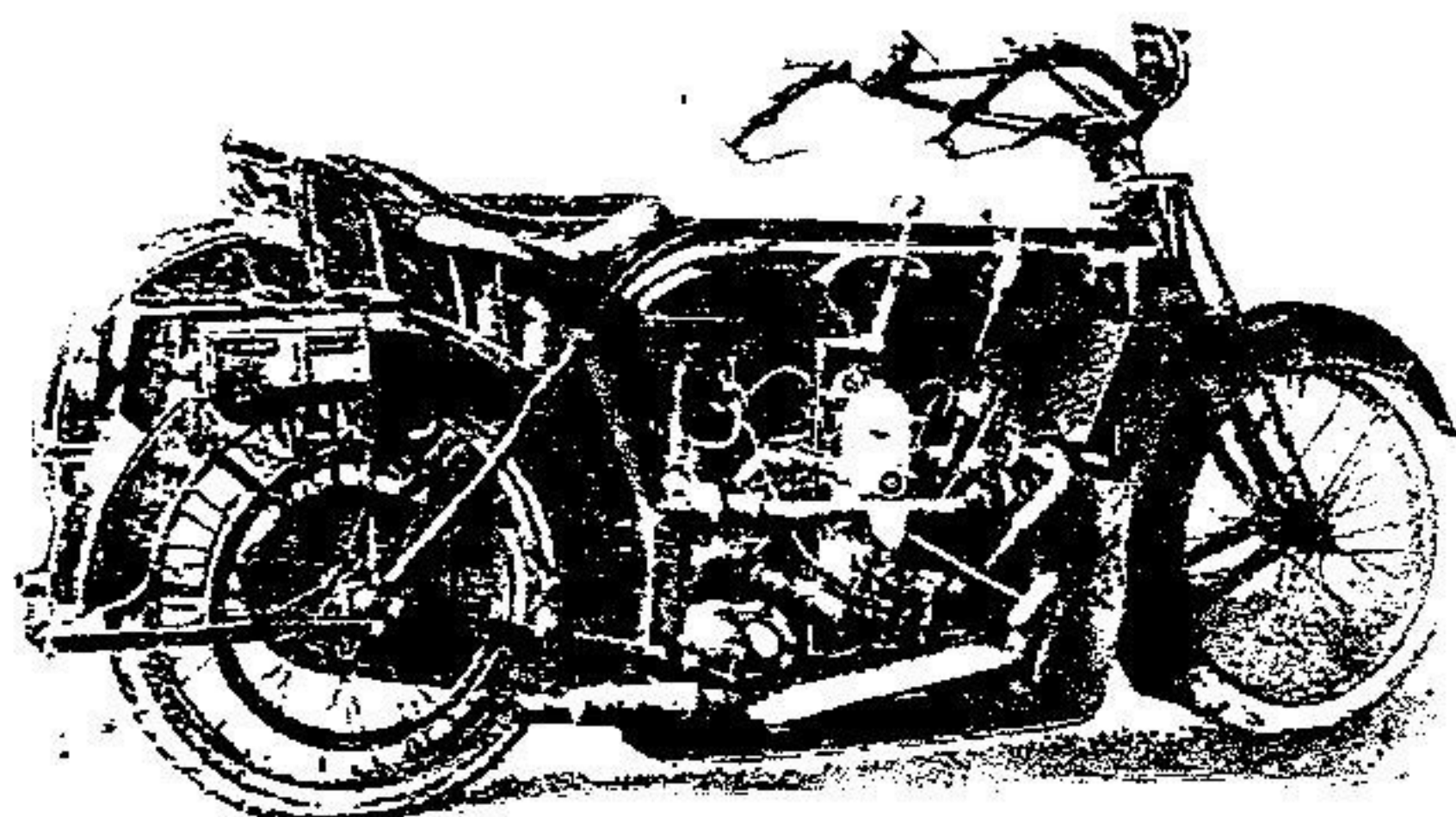
One of the nine new Enfield outfits that were disposed of at good prices. It made £145.

Bidding for the first Douglas started at £50, and it was eventually knocked down at £70. Probably because the buyer did not turn up promptly it was put up for auction again, and the next time fetched £65. Of the fourteen Douglases sold, six fetched £65 each, six were sold for £70 each, one was sold for £75, while the last on the list fetched £77 10s.

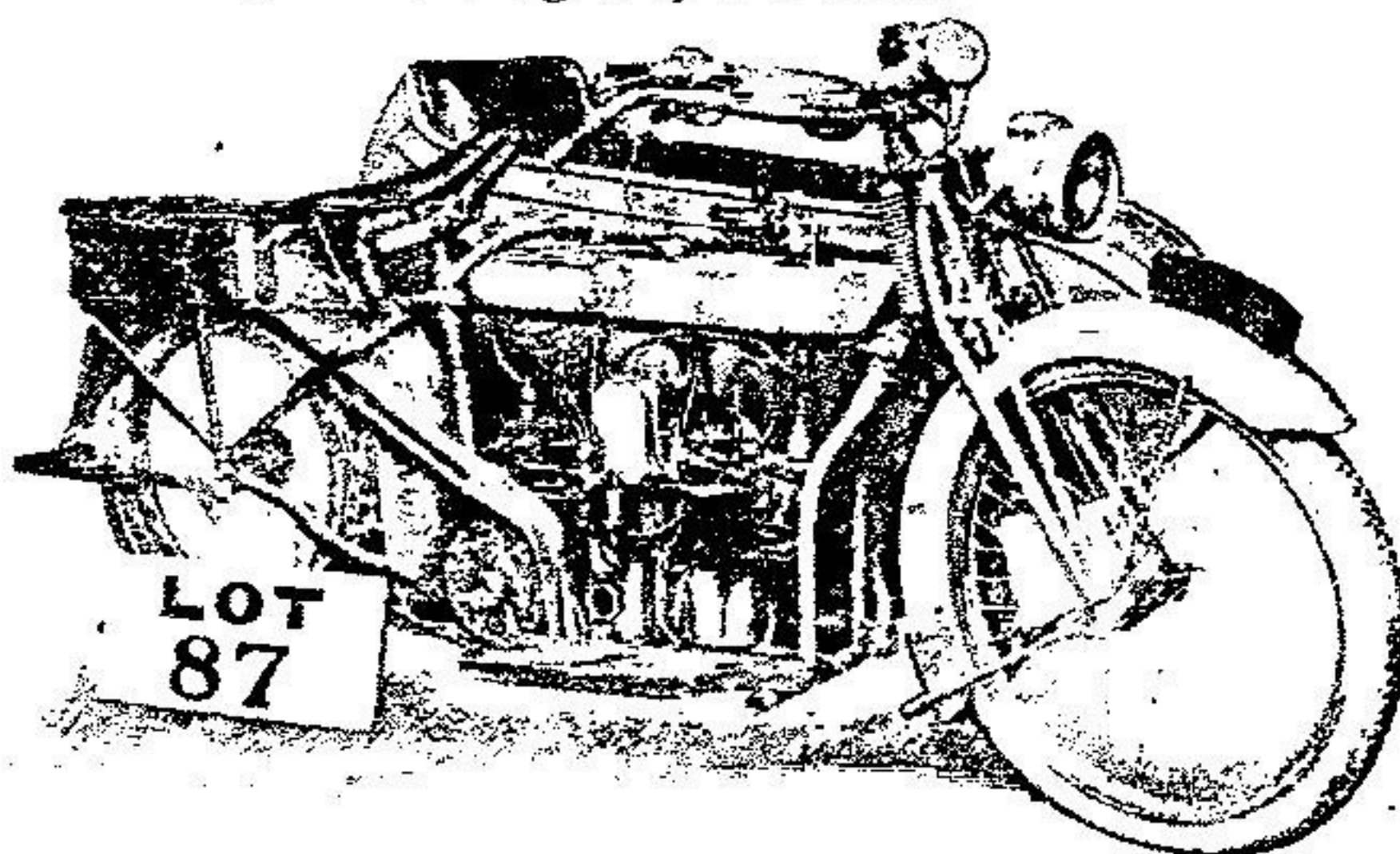
In the afternoon a number of 6 h.p. Royal Enfields, brand new and as taken out of their crates, were put up for auction. They were well fitted up, with luggage carriers attached to the sidecar bodies, and many had D.A. cylinders fitted. The bidding started at £100, and the first machine was knocked down for £145, the purchaser being heartily cheered. Six more outfits fetched the same figure, and three were sold for £147 10s. each.

Good Prices for Flat Twins.

A 6 h.p. water-cooled Humber and sidecar was sold for £95, while a 4 h.p. Douglas and sidecar which had been in use for about a year and was fitted with new tyres fetched £85. Another 4 h.p. Douglas and sidecar was sold for £80, while the last motor cycle on the list, a second-hand 6 h.p. Enfield and sidecar in fair condition, was sold for £110. Many of the new Enfields were bought by the trade.



A water-cooled 6 h.p. Humber outfit which made £95.



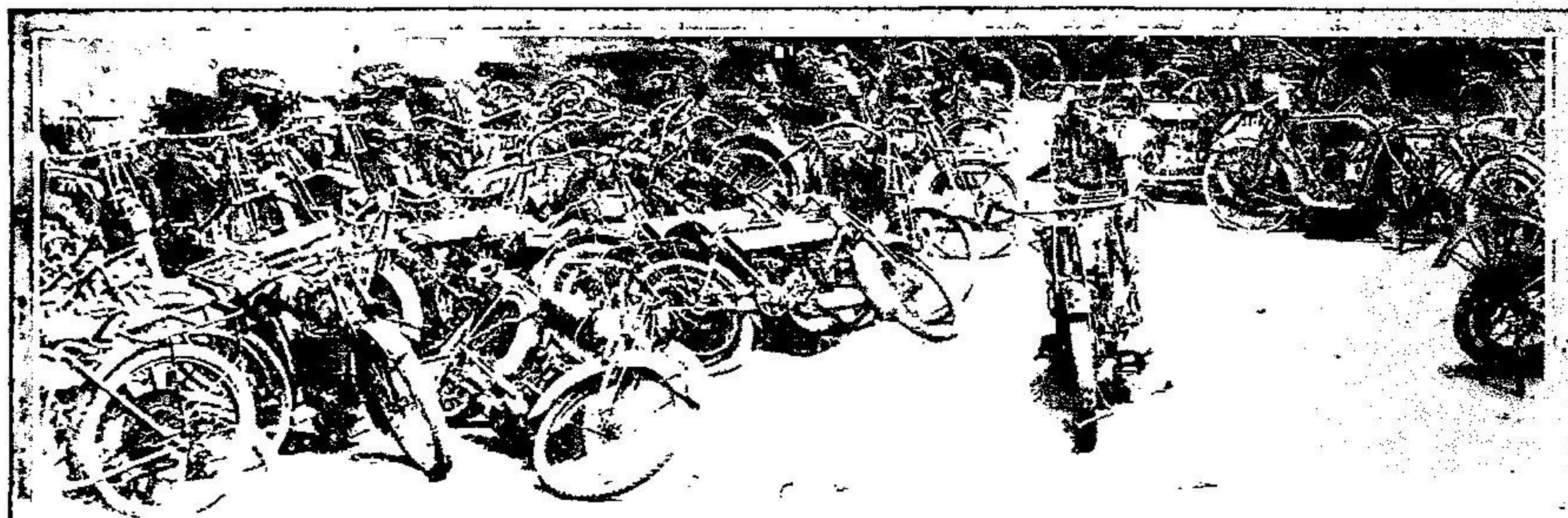
A 4 h.p. Douglas sidecar sold for £77 10s.

SELLING THE SIDECAR.

SOME rather amusing hints to agents on selling a sidecar were given in an American paper recently. "When you begin to talk motor cycle to Mr. Man-with-the-money, it's about time to say something about sidecars to the Lady-who-married-Him," is a useful hint in a country where motor cycles are used chiefly as solo mounts. The writer of the hints suggests that it is not wise to leave the sidecar proposition to be explained by the "hubby." "If the

job of making a sidecar enthusiast out of the missus is left to him, he may not deliver the goods. Mr. Man-with-the-money may try to explain matters, but maybe he's not a good explainer—even if he is married. Suppose he is not married? The only thing to do in that case is to watch where he goes on Wednesday and Sunday nights with his hair all slicked up and cologne on his coat lapel—then slip your sidecar letter under the girl's front door."

SALE OF 200 ARMY MOTOR CYCLES.



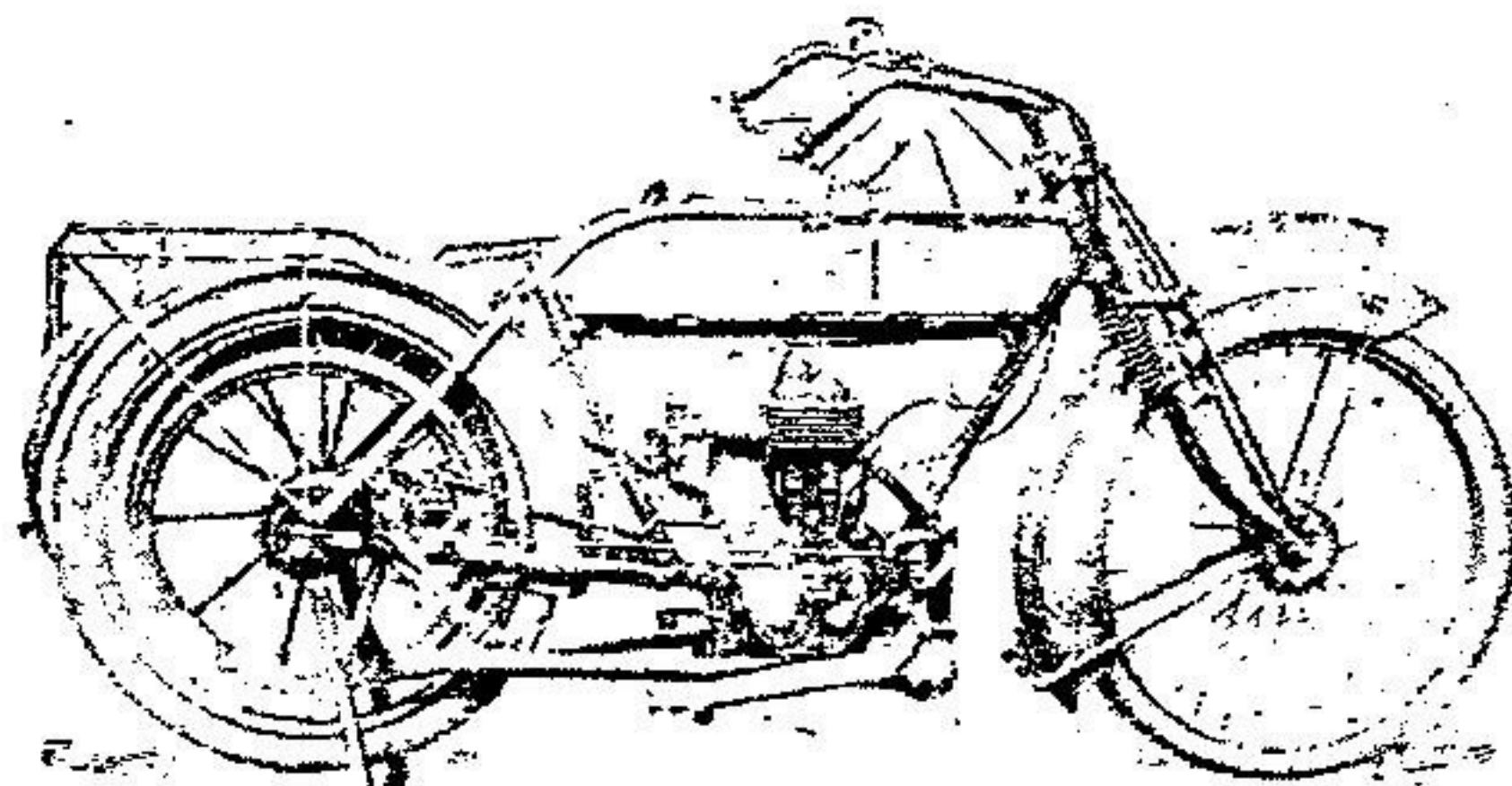
A RECORD sale of surplus Army motor cycles, over 200 in number, was held by Aldridges (Messrs. W. and S. Freeman), St. Martin's Lane, London, W.C.2, at the Gilbey Hall, Barford Street entrance, adjoining the Royal Agricultural Hall, Islington, beginning at 10.30 on Friday morning last. The sale continued right through the day without a break, and was not concluded until 6.30 in the evening. Two auctioneers conducted the proceedings in turn from a car in the centre of the hall.

All the motor cycles sold were of makes not standard with the Government, and consisted of Scott, Zenith, Humber, Lea-Francis, Indian, Matchless, Chater-Lea, Ariel, N.U.T., New Hudson, L.M.C., Griffon, Rex, Calthorpe, N.S.U., Motosacoche, Bat, James, Premier, Rover, Rudge, A.J.S., Campion, Regal, Excelsior, Royal Enfield, Singer, and Bradbury.

The first batch of machines consisted of twenty Scott motor cycles and sidecars, which ranged from 22 guineas to 41 guineas. The machine sold at the last named price had flat tyres, no filler cap to the petrol tank, the top of the radiator dented, and the front mudguard patched. Most of the machines were suffering badly from rust and neglect, and many had important parts missing. A Zenith which fetched 35 guineas had the back mudguard worn through, a badly worn gear lever, and was, generally speaking, in very far from first-class condition. The highest priced Zenith fetched 36 guineas. One, sold at 16½ guineas, was in a terrible state. The magneto chain case and magneto platform had been bent nearly at right angles, the front forks were twisted, and there was no front wheel. Its companion, which sold for 17½ guineas, had no back wheel, and was in a deplorable condition.

Of the Humbers sold, the highest price was 27 guineas, while the highest priced Lea-Francis went at 30 guineas. One of these popular machines, sold for 16½ guineas, had no carburetter, no saddle, and no gear box. An Indian motor cycle and sidecar was sold for 70 guineas—the highest price reached.

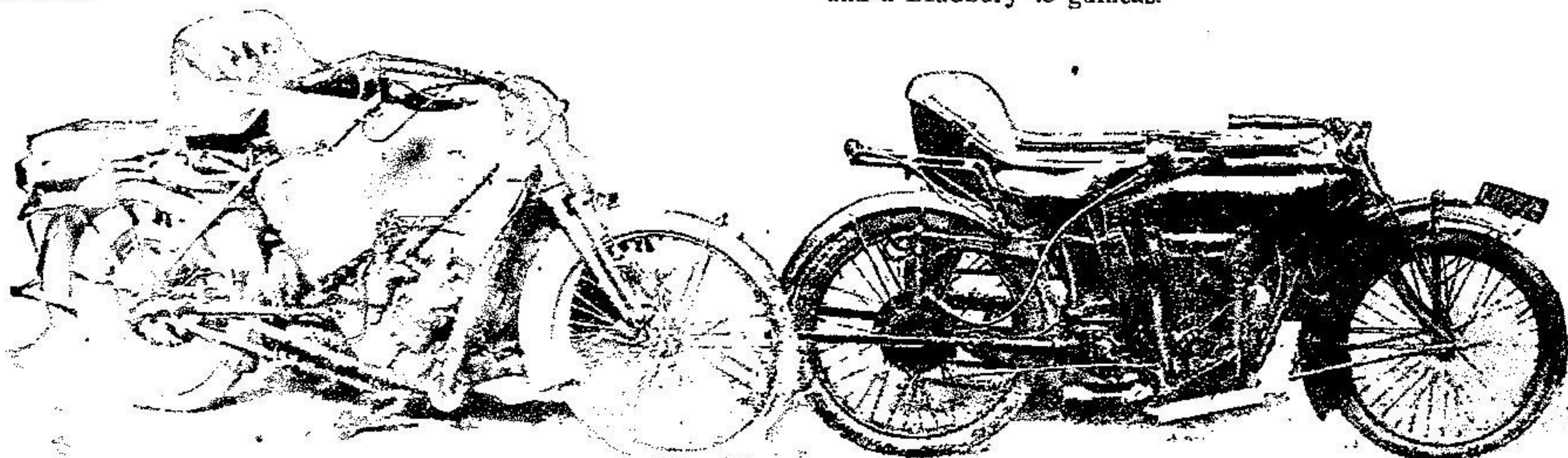
The final batch of motor cycles, 148 in number, all commanded good prices, and even discarded frames of such makes as Matchless, Ariel, etc., were sold at quite a respectable figure. The highest priced Ariel fetched 34 guineas, the best N.U.T. £28 8s. The New Hudsons ranged from £9 19s. 6d. to £36 15s. A Griffon motor cycle frame went for £5. Even the two German N.S.U.'s went by no



Lot 21. A 3½ h.p. New Hudson in very poor condition.

means at bargain prices, fetching 16 guineas and £8 18s. 6d. The single Motosacoche went for £22 7s., and the best Bat for £21. Next followed a large batch of Scotts, and for these the best price was £32 11s.

As regards high prices, two of the many Premiers went for 30 guineas and two for 32 guineas, while some of the Rovers fetched 21 guineas, 24 guineas, 28 guineas, and 30 guineas. One of the A.J.S.'s was sold for the exceptionally good figure of 47 guineas, and an Enfield made 32 guineas. A Singer motor cycle fetched 25 guineas, a Rudge 26 guineas, and a Bradbury 45 guineas.



A Scott and an Indian which sold for 22 and 70 guineas respectively.

THE MOTOR SCOOTER.

PROPELLED PLATFORMS OR MINIATURE MOTOR CYCLES?

DAILY press scribes threaten us with an invasion of American motor scooters. Some would have us believe that they will eventually supplant the lightweight motor cycle as a utility machine: but we do not think that, while reliable and proved lightweights abound, the British public will follow the lead of Sir Henry Norman and Admiral Hall to the extent the lay press seems to think.

There is no doubt that the above-mentioned personages have been instrumental in focussing interest on the Auto-ped, to quote its proper name, the Motor Scooter being an appellation given to it by *The Motor Cycle*, when it first made its appearance in this country.

There may or may not be room in the field of motoring for machines of this type; of course, they are only fit for "pottering" about, but, like all novelties, they attract. Their success as a commercial proposition is another matter, and will depend upon their price, their mechanical efficiency, and their suitability for present day roads.

Why Stand?

The drawback of the "Scooter" in its present form is the fact that the rider is called upon to stand on its platform, and the majority may find it extremely fatiguing even for short distances. A question which naturally arises is "Why stand?" and, although we have asked this question many times, no satisfactory answer has been forthcoming.



Incidentally, the daily press once again shows itself ready to give credit to a foreigner when the credit is due at home. The scooter is a British idea—and an old one at that. The Max led in 1907, and appeared at the Stanley Show of that year. It was built for its inventor by Messrs. Douglas Brothers, of Bristol, and the engine was a $2\frac{1}{2}$ h.p. J.A.P. It reappeared at the 1908 show, and one model had a folding saddle.

The Max was not the only machine of its type to be staged at the shows; the Moto-Frip, designed by a Mrs. Kent, was exhibited at the 1911 Olympia. This was a miniature tricycle fitted with a $1\frac{1}{4}$ h.p. Moto-Rêve engine, one cylinder of the little twin having been removed.

In 1912 we published a cartoon in which the artist suggested a scooter "T.T.," and in 1916 we illustrated a motor scooter patented by Mr. J. Maina, of Brixton, which closely resembled the Auto-ped.

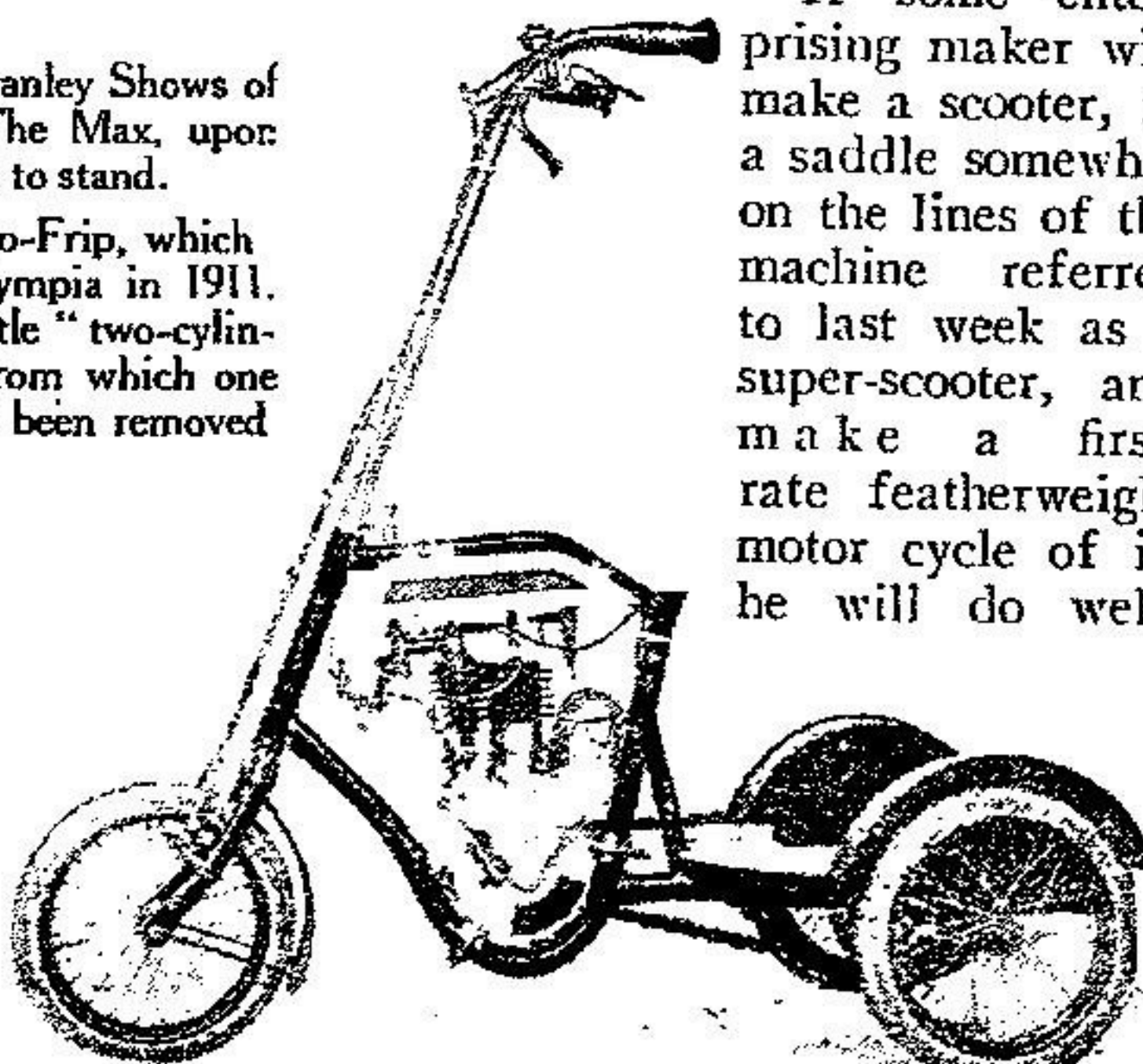
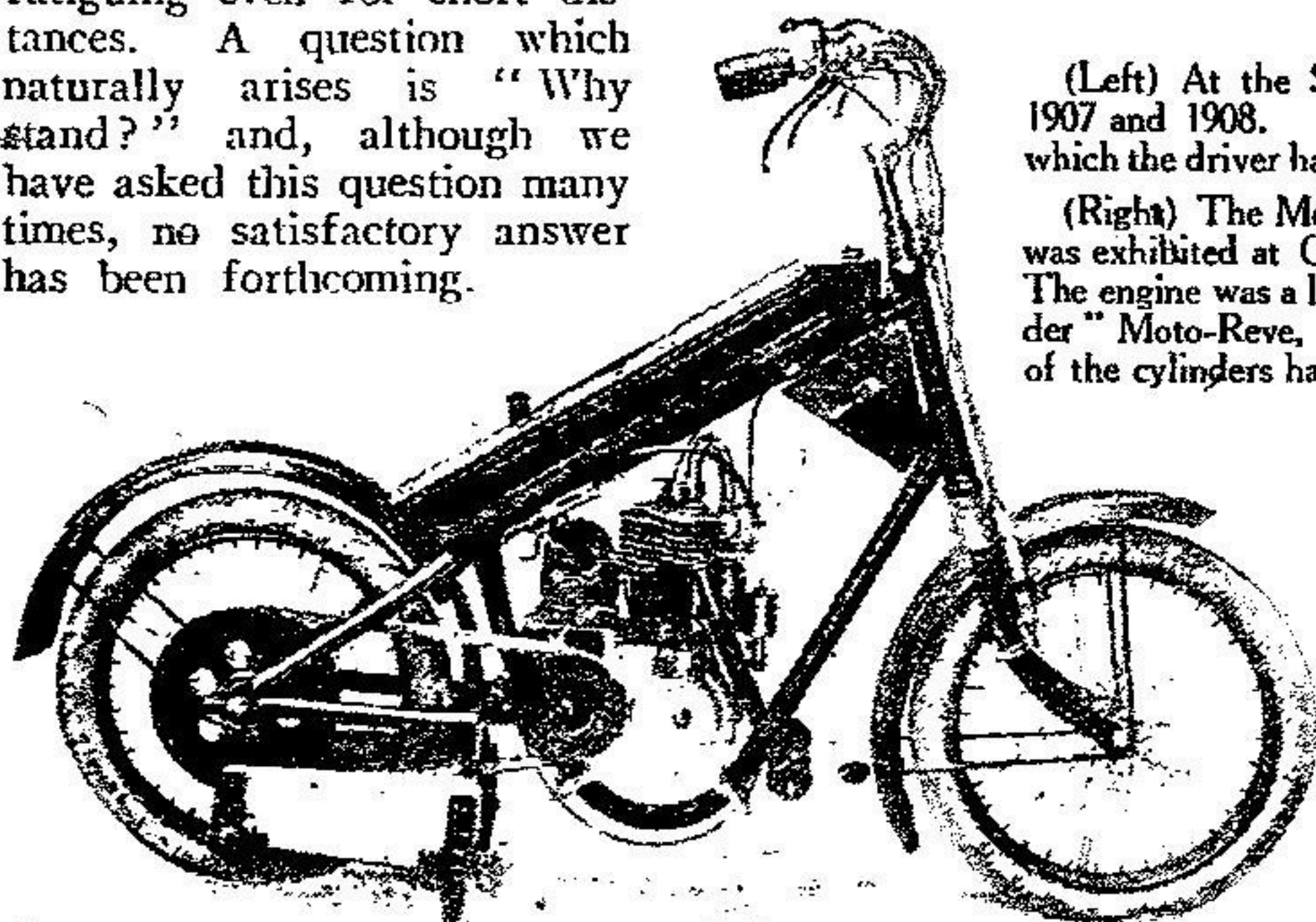
In the meantime America has also produced other designs and machines, one of which, the Mon-auto, provided a seat, but, as will be seen from the illustration on the next page, the riding position was somewhat cramped. In addition, American papers just to hand show the latest specification of a machine on similar lines, but designed to utilise an auto-wheel and a bucket seat.

If some enterprising maker will make a scooter, fit a saddle somewhat on the lines of the machine referred to last week as a super-scooter, and make a first-rate featherweight motor cycle of it, he will do well.

The Auto-ped (motor scooter) used by sun bathers on the sands at Long Beach, U.S.A., in 1916.

(Left) At the Stanley Shows of 1907 and 1908. The Max, upon which the driver had to stand.

(Right) The Moto-Frip, which was exhibited at Olympia in 1911. The engine was a little "two-cylinder" Moto-Reve, from which one of the cylinders had been removed



The Motor Scooter.—

In the two-stroke engine he has the simplest form of power unit. There is much greater promise of success in this than in the scooter, pure and simple.

It is amusing that the "motor scooter" is now hailed as a new invention. Old readers of this journal know differently, as it was illustrated in *The Motor Cycle* over a dozen years ago. It is said that the Auto-ped has achieved great success in America, but confirmation of this point is lacking, and for the past two years the U.S. journals have scarcely referred to it. However, the success of an article in America is no reason why Great Britain should take it up.

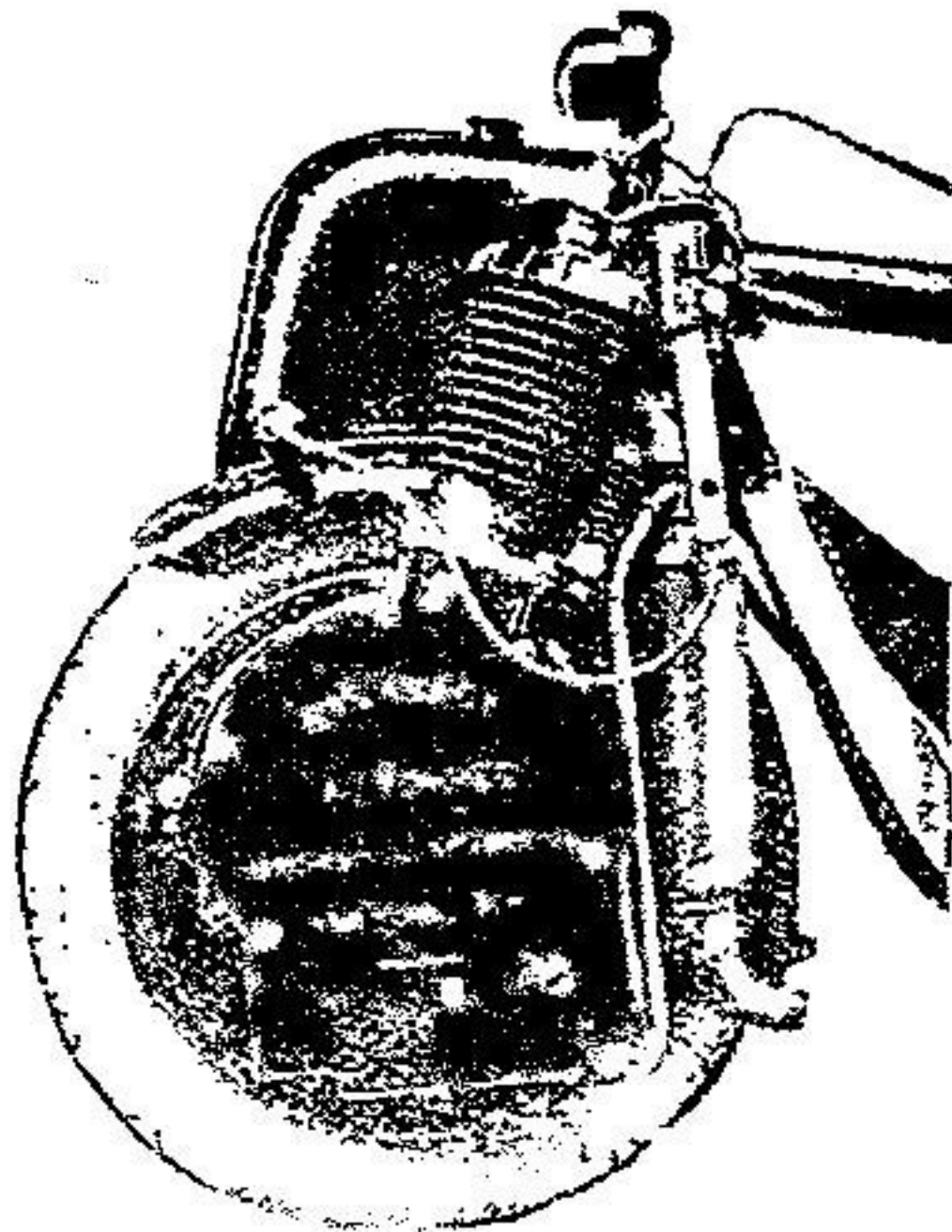
The *Daily Mirror* prophesies that "Brighton, Southend, Clacton-on-Sea, and other holiday resorts will have to be enlarged to accommodate London's population of seven odd millions who will scoot there on Friday nights. And on Monday mornings these millions of breathless people will scoot back to work, invading London from the North, South, East, and West—vast dust-covered hordes of holiday makers."



The Motor Skate, a French invention of 1911, which had a diminutive V twin engine. The petrol tank and the ignition batteries were carried in the "rider's" belt.

were devoted to the lightweight motor cycle it would serve the public better. It would be interesting to read the reports of these writers after they have attempted a long journey standing on a scooter. It is not in this kind of motor-ing, however, that the scooter may score, but as a utility runabout machine for short distances between home and the office, or shopping centre.

If there is anything in the scooter idea, we have every confidence that the British motor cycle



The engine of the Auto-ped scooter. It was this type that Sir Henry Norman used recently in the streets of London.

industry will get its full share of the trade in it. Already several makers are keenly interested, and at least one British machine has been undergoing road tests for some time.

According to the designer, who, incidentally, is a staid thinking man, the little machine is capable of quite satisfactory speeds on country roads and will climb ordinary hills. Notwithstanding, we cannot think that the British public will be content for long to stand up, when by developing the scooter one stage further it can be made a comfortable and serviceable featherweight motor cycle, capable of moderate touring.

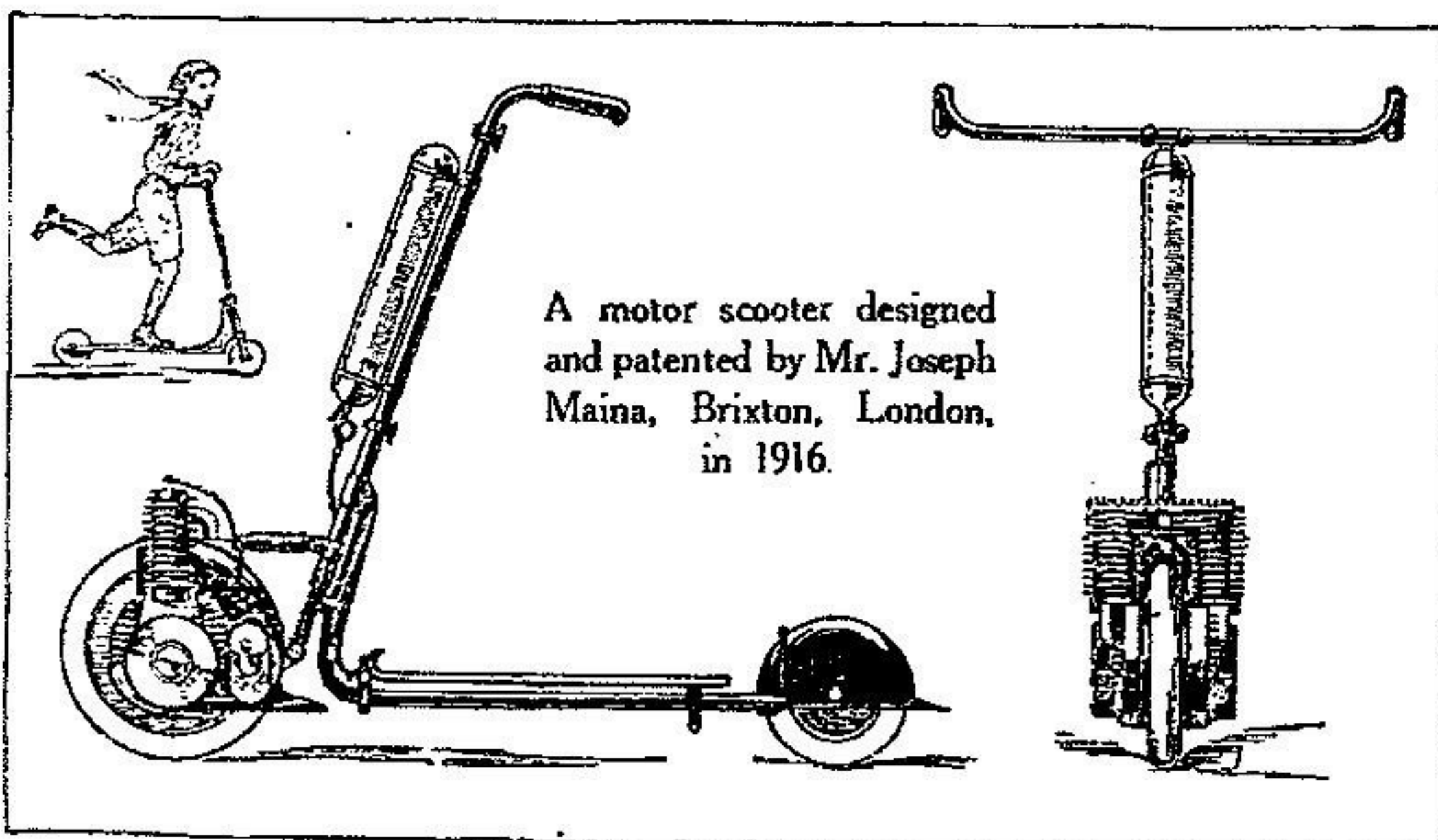
Naturally we welcome any addition to the scope of the motor-driven bicycle, and we are watching developments closely, but again we are constrained to ask "Why stand?"

As the Auto-ped is so constructed that it is very difficult from the exterior to understand "why the wheels go round," very few are acquainted with the inner mysteries of the mechanism.

As will be seen from the illustration on this page, the power unit is attached on the left side of the front wheel, whence the drive is conveyed through a dry plate clutch from a small pinion on the crankshaft to an internally-toothed drum secured to the front wheel itself.

The flywheel is located on the right side of the wheel, and embodies a flywheel type magneto.

The Gibson Mon - auto, an American 50 lb. £20 proposition.



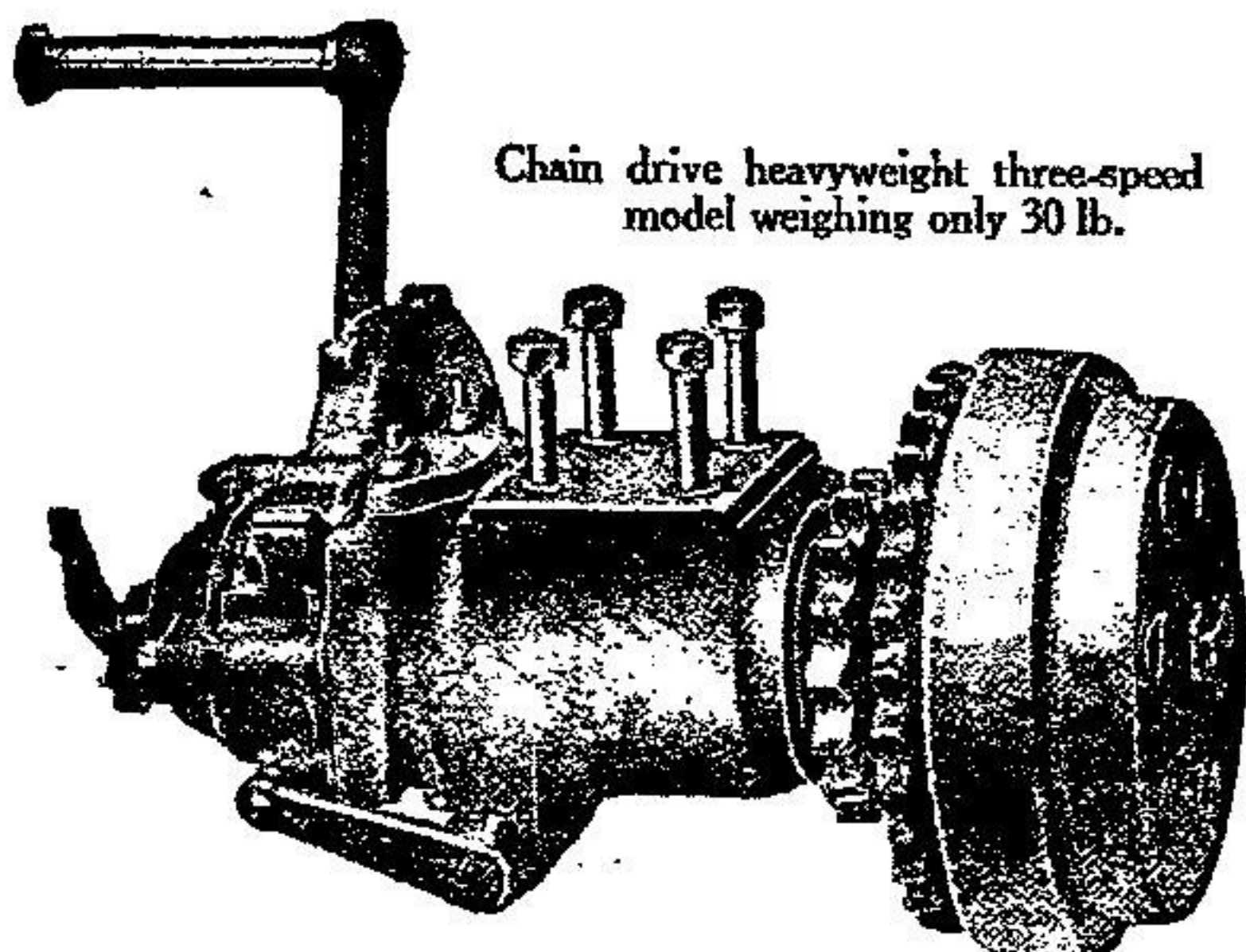
A motor scooter designed and patented by Mr. Joseph Maina, Brixton, London, in 1916.

The single-cylinder has a bore and stroke of 56 and 63 mm. respectively. Petrol reaches the automatic carburetter by gravity from a tank carried above the front wheel mudguard.

Tyres 15in. x 2¼in. are fitted. The internal expanding brake is operated, as is the disengagement of the clutch, by pulling the steering pillar backward and downward.

BURMAN GEAR ASSEMBLIES.

Two Little Known but Well Tried Gear Boxes.



Chain drive heavyweight three-speed model weighing only 30 lb.

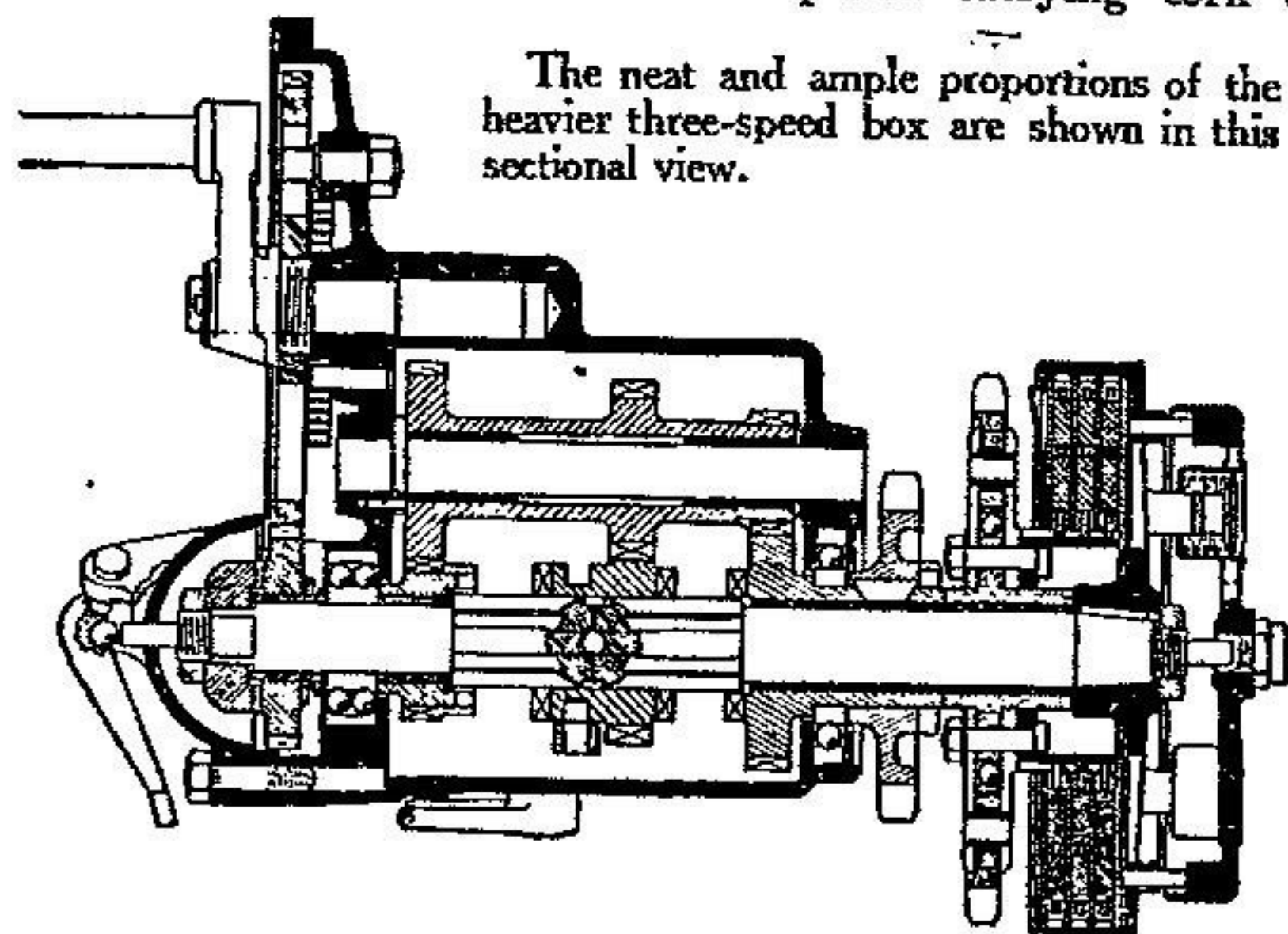
REALLY substantial gear assemblies are few and far between at the present time, so that motor cycle manufacturers as a whole will welcome the appearance on the open market of the Burman gear units, made by Messrs. Burman and Son, Ltd., Ryland Road, Birmingham. These are by no means new propositions. Before the war the small gear box was very popular with several makers of lightweight motor cycles, and during hostilities the larger one has been supplied in considerable quantities to the makers of the 8 h.p. New Imperial, on which machine it has given every satisfaction. Unfortunately, at present, the output is somewhat restricted, and Messrs. Burman are not able to cope with the existing orders, a state of affairs it is hoped will not obtain for long.

The two principal models are a two-speed and clutch lightweight box with kick-starter, and a three-speed box with clutch kick-starter and shock-absorber for machines of 4 h.p. and over.

The Lightweight Model.

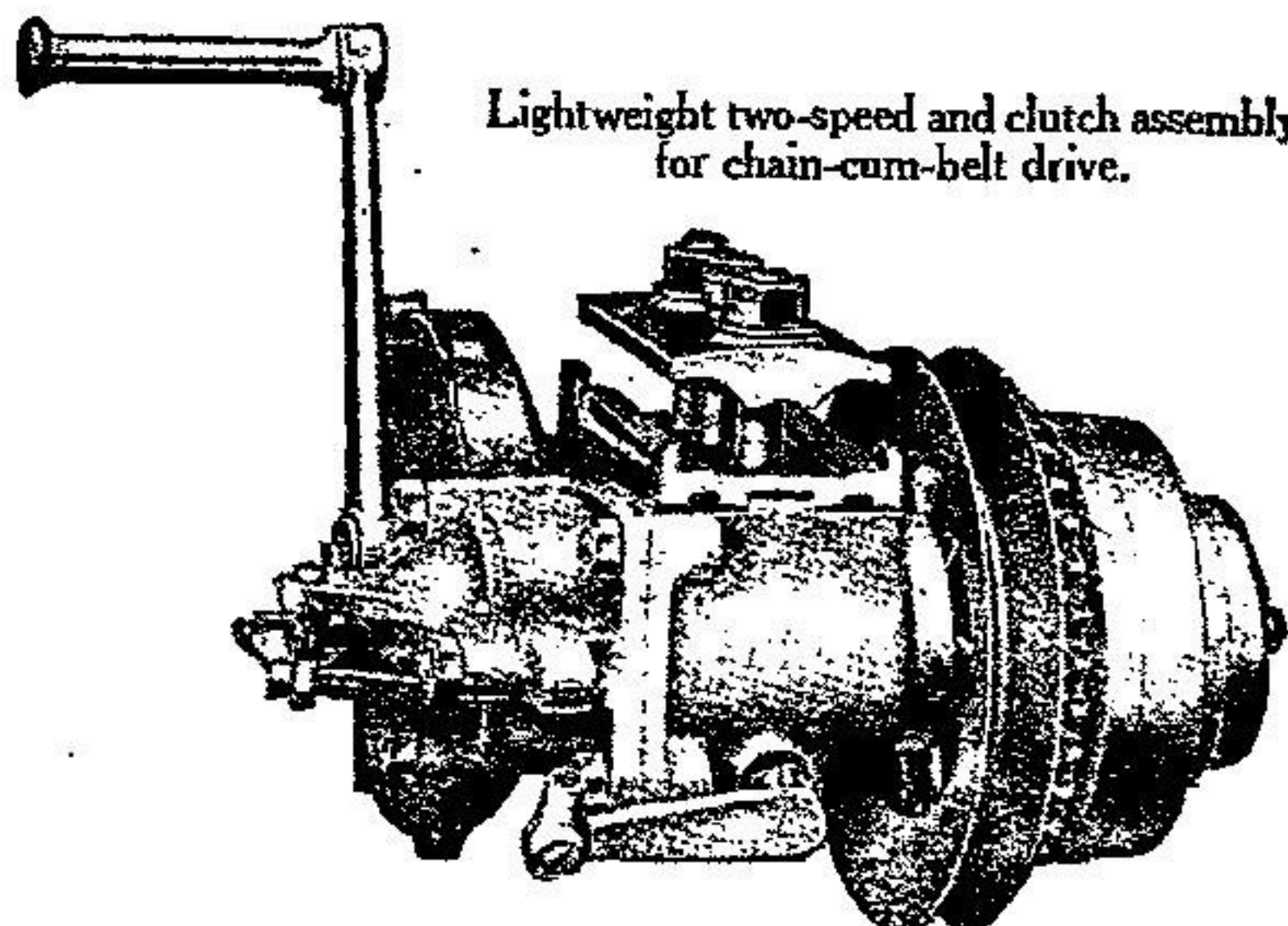
For machines up to 4 h.p. the smaller unit is an attractive proposition. It provides two ratios (1.0 and 1.85), a large sized clutch, and fool-proof kick-starter. As in the larger box, all the gears and shafts are made of the well-known Kayser Ellison steel adequately heat treated. Both lay gears are on a common sleeve internally bushed to run on the solid layshaft, which is securely anchored at both ends. Ball bearings, however, are provided for the hollow main shaft which supports the two gears, and is splined for the double sliding dogs. One of the bearings is designed to take the end thrust when the clutch is operated, the operating rod passing through the shaft.

There are several features which point to much thought in designing the clutch. This unit, which is on the end of the main shaft, consists of three plates carrying cork or



The neat and ample proportions of the heavier three-speed box are shown in this sectional view.

Ferodo inserts interposed between plain steel plates, against which they are held by the pressure of five light spiral springs disposed round the circular aluminium clutch cover, the pressure being transmitted by a number of small pins to the edge of the outside steel plate. As a big frictional surface is employed, combined with light springs, the clutch operation is extremely easy and smooth.

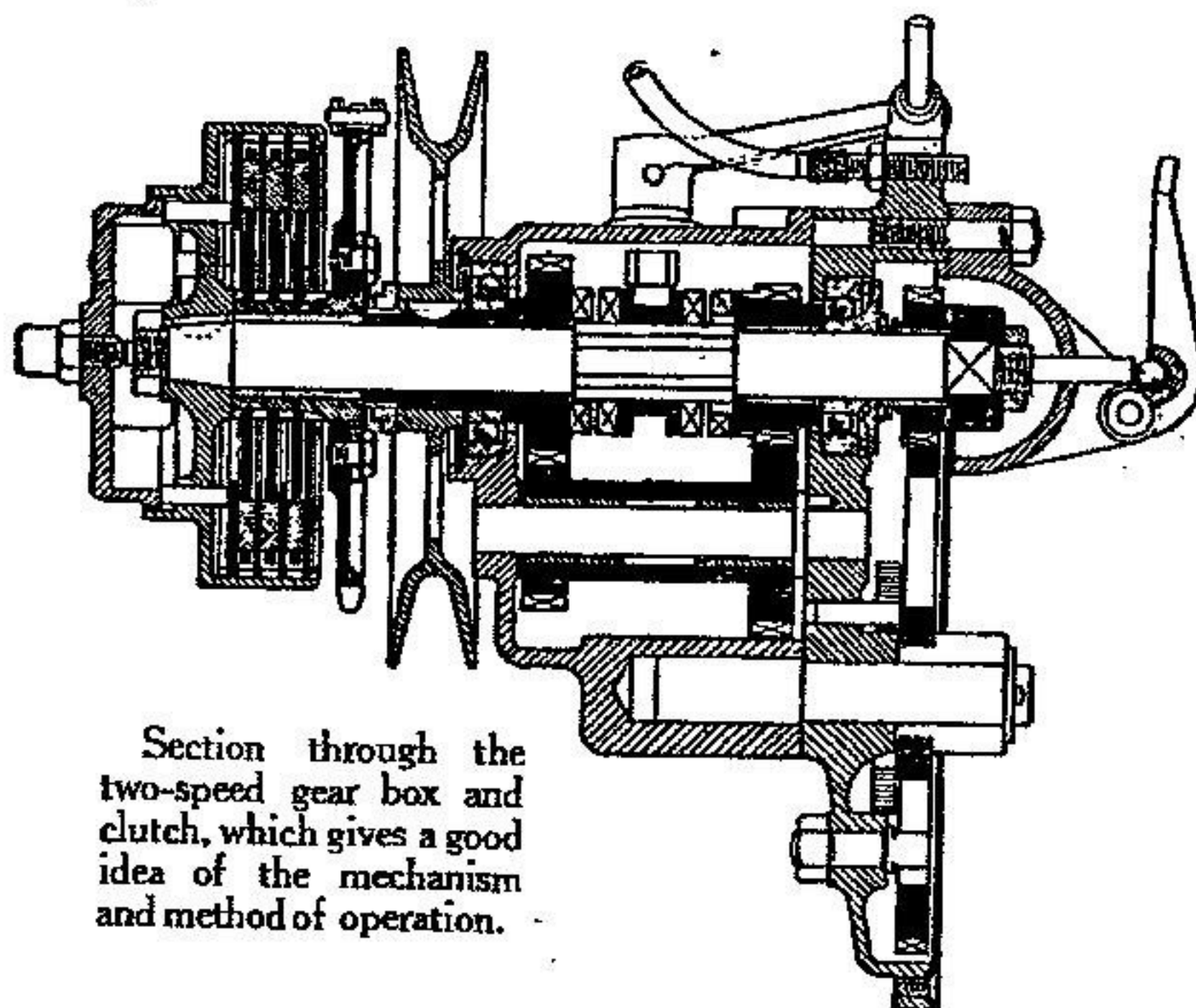


Lightweight two-speed and clutch assembly for chain-cum-belt drive.

Another excellent feature is the novel shock-absorbing arrangement. The chain sprocket is drilled with a number of holes into which thick rubber bushes are forced. Through these are fitted steel pegs, the ends of which terminate in metal discs on either side of the chain wheel; these in turn are attached to the flanges on the main shaft.

A Larger Model.

The three-speed box suitable for machines of from 4 to 8 h.p. is very similar to the smaller one in all respects except that the sliding dogs on the mainshaft have another pinion integral with them, which engages a corresponding gear on the layshaft, providing the middle speed and giving altogether ratios of 1.0, 1.89, and 2.82. Naturally, the clutch is proportionally larger, having two concentric rings of inserts instead of one—one on each plate. The kick-starter



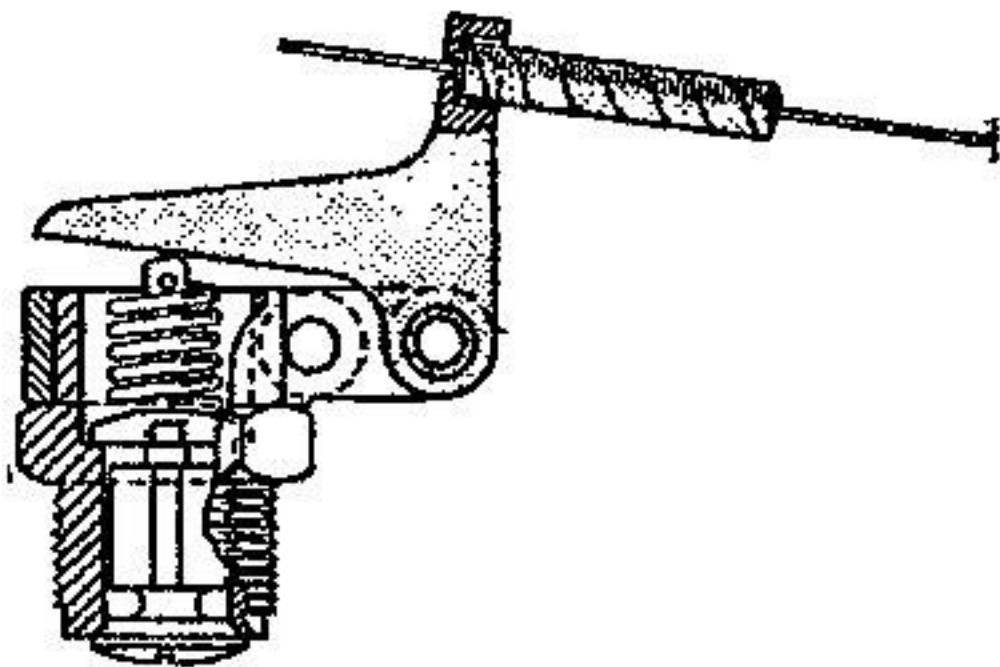
Section through the two-speed gear box and clutch, which gives a good idea of the mechanism and method of operation.

is of similar design on each box, and consists of a good strong lever connected to a toothed quadrant, which engages with a gear wheel having ratchet teeth on its side. These latter engage in turn with a ratchet on the gearshaft, which is held up to it by a light coil spring. The lever itself is retained in position by a strong clock spring, which, together with the quadrant, is enclosed by a neat metal cover.

Mechanical Propulsion for Pedal Cycles.—

magneto side plates at the rear. By removing the front connection the tank may be swivelled around those on the magneto to afford accessibility for any adjustments which may be found necessary.

The engine is of the conventional three port type of two-stroke, and has a cylinder with a bore and stroke of 51 mm. (104 c.c. capacity). The piston has



The compression release which is automatically operated with the clutch.

two rings, one at the top and another at the bottom, the former being a larger ring than the latter.

The connecting rod is of phosphor bronze, and the crankshaft is of the single-sided variety carried in a long bearing. Outside the crank case, which is of aluminium, the shaft carries a spur gear wheel and flywheel. This spur wheel is the first of a train of three, the second of which drives the revolving clutch, and the third the magneto.

On the opposite end of the clutch member a sprocket or pulley is affixed (for chain or belt drives will be optional), from which the drive is taken down to a sprocket or pulley fixed to the hub of the cycle.

To fix the unit to any bicycle is quite a simple matter. The engine is carried on two longitudinal tubes, along which it may be slid and so adjusted. The two tubes are supported at their inner end by a split lug, which clips the saddle

tube. Two stays are used to carry the weight of the unit on the hub spindle ends. These are pivoted at their tops on the aluminium baseplate, and at the lower ends adjusting slots are embodied to enable the driving chain to be adjusted.

Ignition is provided by a miniature Runbaken magneto designed specially for this unit, which was illustrated and described in our issue for June 3rd last. It is a splendidly made little unit of exceedingly low weight; in fact, all the separate parts of the Simplex are good, and it does not strike one that quality has been sacrificed for cheapness.

The Clutch.

The clutch is a very neat little unit somewhat resembling a motor cycle wheel hub. It is mounted on a fixed spindle, and carried on ball bearings of the cup and cone type, which are adjustable from one end. Briefly, the clutch unit consists of a rotating outer shell carrying the spur wheel by which it is driven, and an inner sleeve embodying the sprocket or pulley for the final drive. The clutch plates are connected alternately to the inner and outer members and are pressed against each other by a number of coil springs. Disengagement is secured by a push rod passing through the centre of the spindle, which is slotted for a cross member operating against a sleeve which compresses the coil springs.

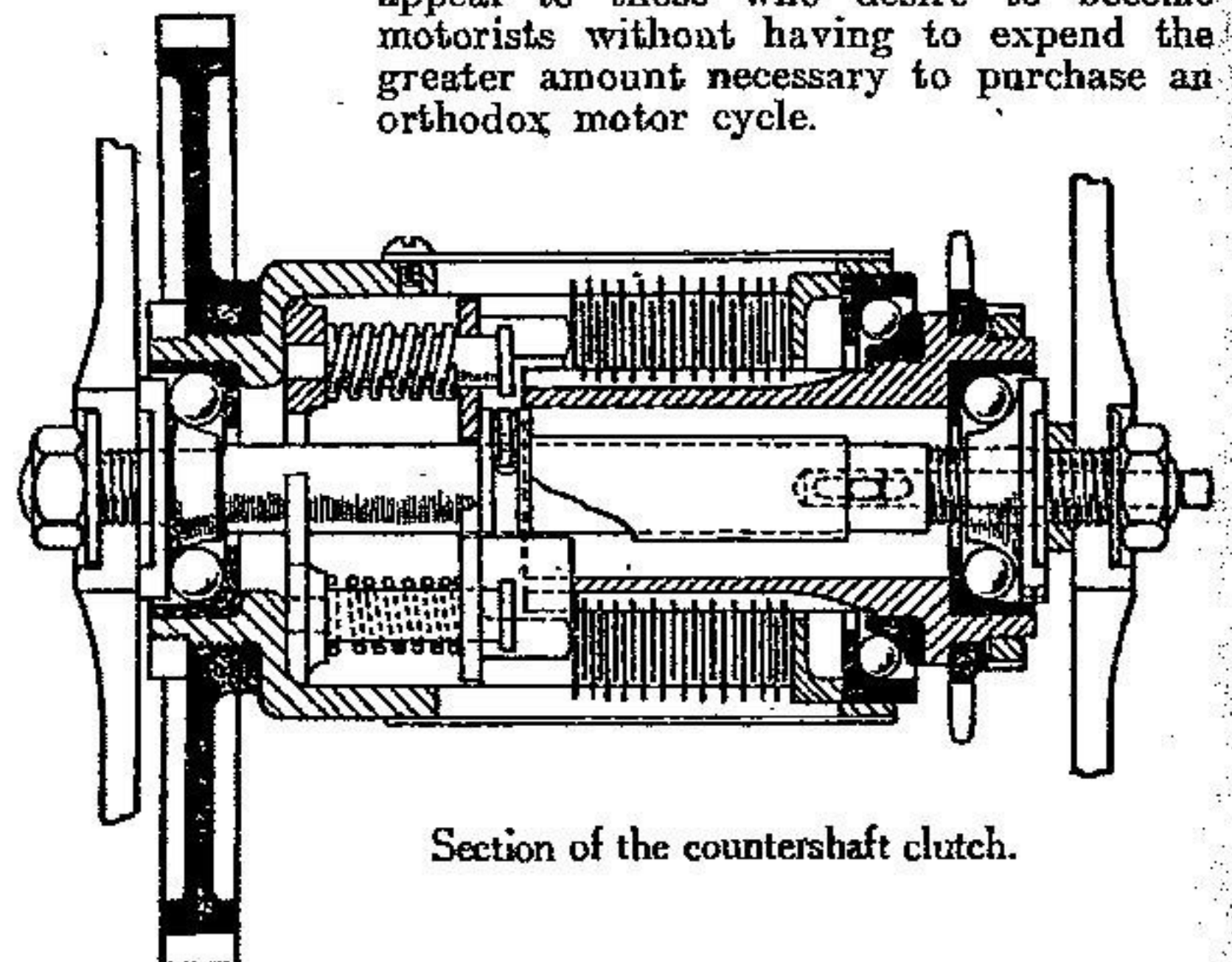
When in engagement the clutch unit revolves on the two main bearings, but when out of engagement the outer shell rotates on the inner member.

Lubrication is by means of the petrol system, a measure be-

ing supplied which holds the correct allowance of oil to be added to a tank of petrol. The capacity of the tank is half a gallon, which the makers state is sufficient for eighty miles; but even better results than this have been obtained, and the consumption may be said to be 200 m.p.g.

Interchangeability of Parts.

At present only the single-speed model will be marketed by Messrs. Henry Garner, Ltd., the sole distributors for the British Isles. This decision was reached partly on account of the fact that with the two-speed model which has been undergoing road tests it has not been found necessary to use the second ratio on any main road hill, the little engine being sufficiently powerful to negotiate such hills without pedalling assistance. The shelving of the two-speed unit, too, will facilitate production, and arrangements are well in hand for an output of one hundred per week. Deliveries will commence next month, and the parts of every machine turned out will be interchangeable. The price of the unit is £23, at which price it will make a strong appeal to those who desire to become motorists without having to expend the greater amount necessary to purchase an orthodox motor cycle.



Section of the countershaft clutch.

An Adjustable Sidecar Seat.

Coachbuilt Body with Ample Luggage Capacity; Designed for Occasional Use as Two-seater if required.

COMFORT for the sidecar passenger is not always so complete as showroom assurances would have us believe, and the fatigue experienced on long journeys may very largely be due to the impossibility of getting the necessary

change of position in the usual sidecar seat.

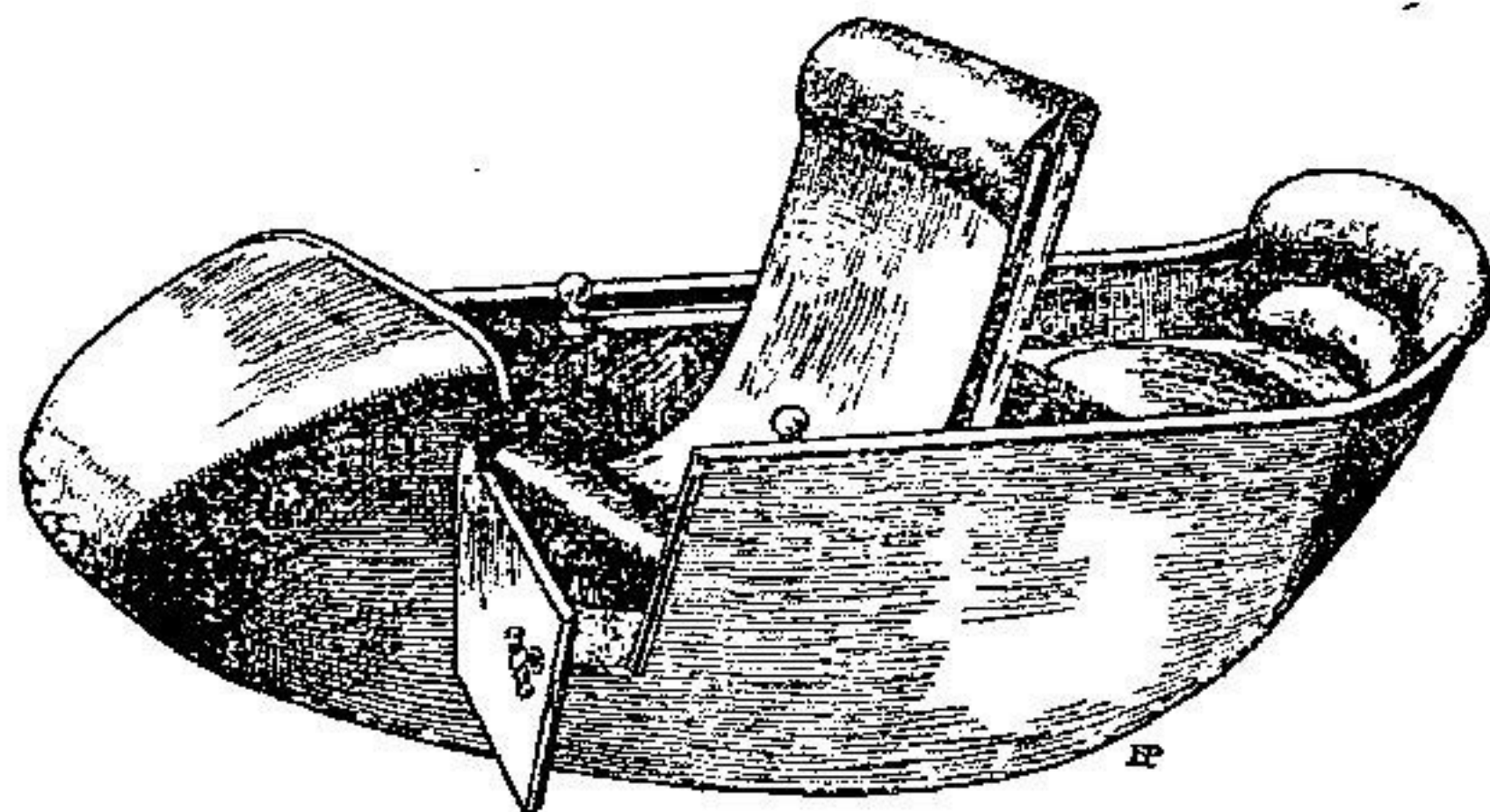
To obviate this, and, further, to secure adequate luggage accommodation or to provide for an occasional extra passenger, a sidecar body with a patented form of movable seat has been designed by Mr. B. Graham Wood, of 44, Clive Place, Penarth, South Wales. The adjustability of the riding position is the chief point of the design, and this is achieved by adopting the hammock style of suspension on deck chair lines, incorporating a leather-cloth seat, partly cushioned and sprung at the top.

The angle of the seat is altered quite easily by the passenger with-

out rising, the back being tilted by self-locking handles at the sides, working in racks. In the forward position an additional passenger can easily be accommodated in the rear of the body, while if the seat is lowered to get the full reclining attitude, a regulation suit case may still be carried at the rear without inconvenience.

The body is being made in one standardised model only, but a light single-seater may be introduced at a later date. The larger body is no heavier than that of the average touring sidecar, and a further desirable feature is that, owing to the adjustment of the seat, the centre of gravity of the body and passengers is kept in proper relation to the sidecar wheel, whether one person, one person with luggage, or two persons are carried.

In the illustration the back rest is shown in its most upright position, but it is usually lowered to a more luxurious angle.



Wood's patent sidecar body with adjustable seat.



STAND 178
OLYMPIA



Specialities



Accessories



STAND 178
OLYMPIA



H.A.H.
COMPLETE ELECTRIC LIGHTING SETS

(See Catalogue 42)

NOVELTIES

FOR THE MOTOR CYCLIST.

GENUINE HELLESEN DRY BATTERIES

Sole Selling Agent for
For United Kingdom and India
(See Catalogue 43)

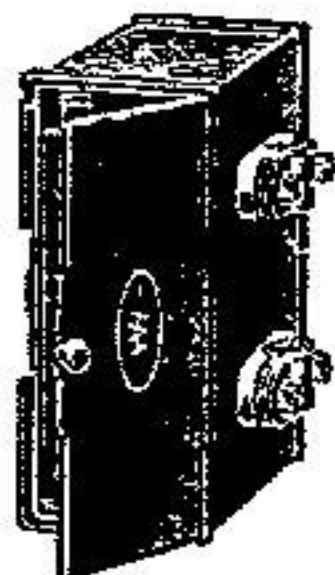


Fig. 386 11/-

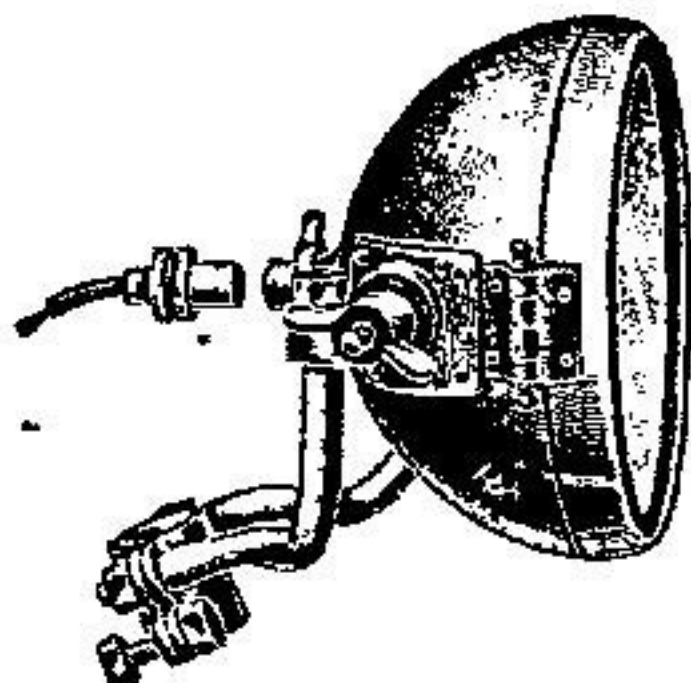


Fig. 807 50/-



"FLASH," 4 1/2 volt 14/7

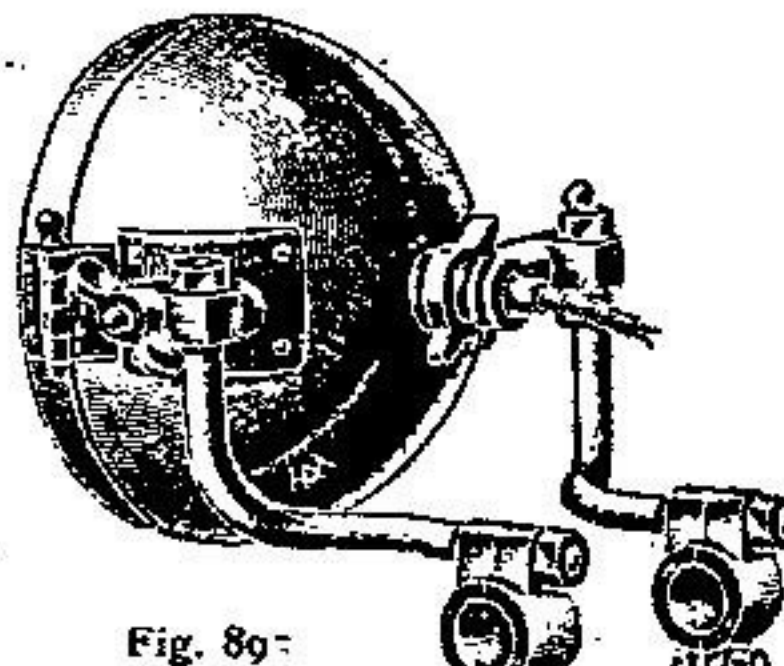


Fig. 807 60/-

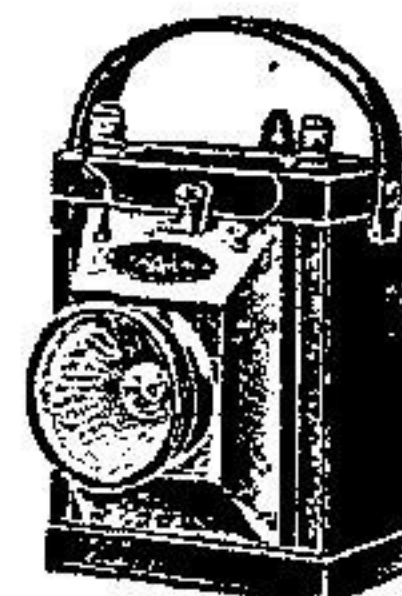


Fig. 1040 26/- complete



Fig. 455 6d per tin.

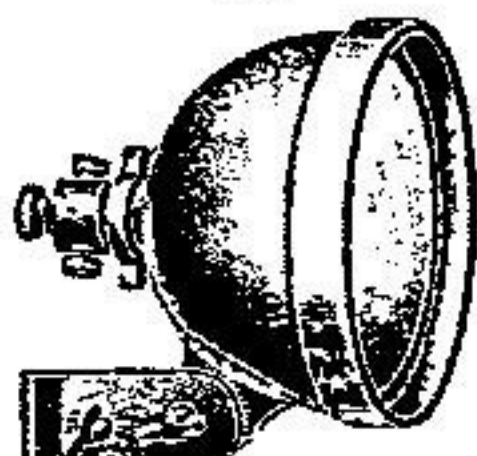


Fig. 880 26/6



H.A.H. Accumulators

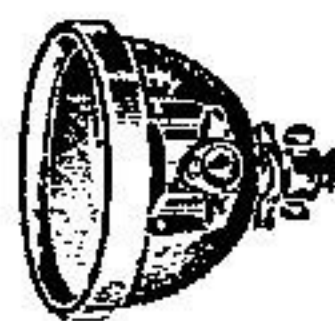
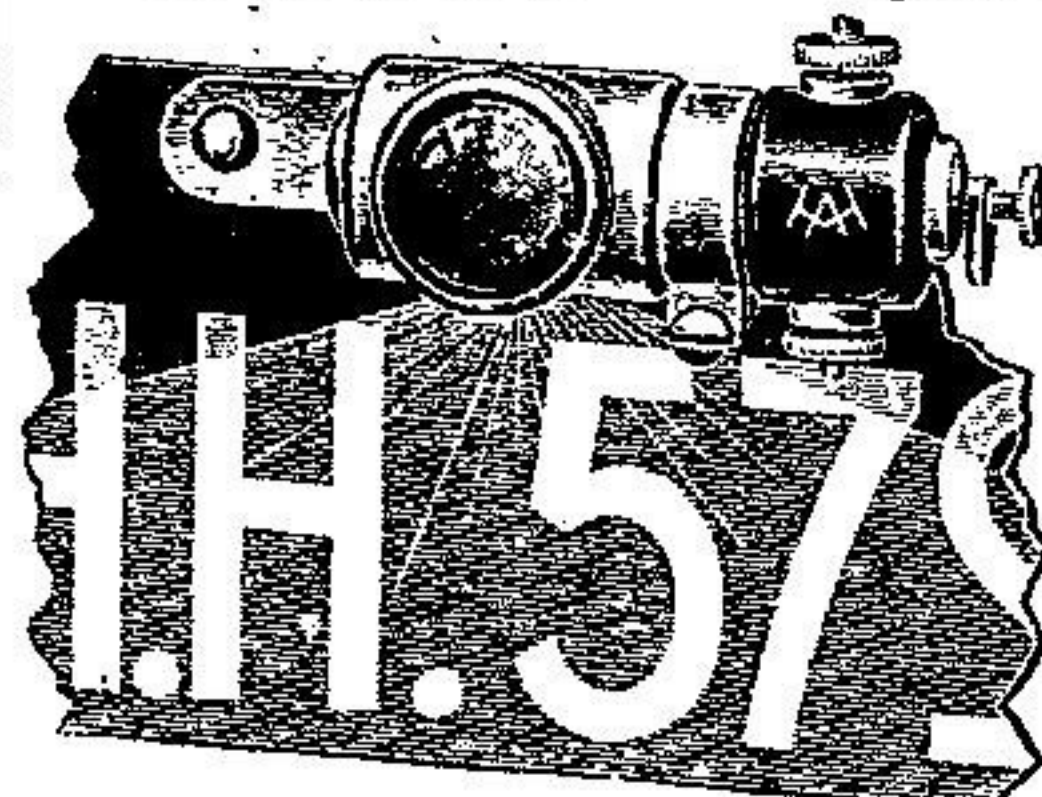


Fig. 845 18/6



Fig. 390 6/6



SPECIALITIES **NOVELTIES**
H.A.H. Complete Electric Lighting Sets
Genuine Helleesen Dry Batteries.
STAND 178 OLYMPIA
GALLERY.

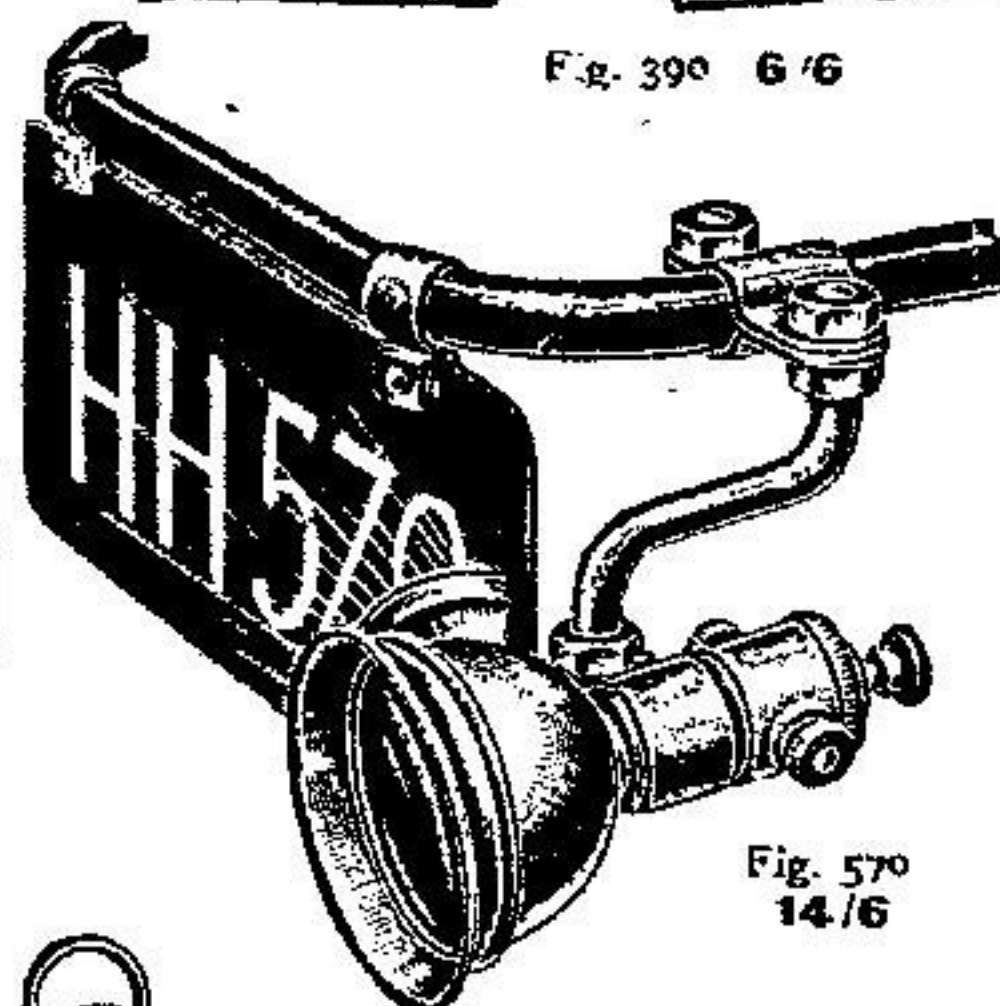


Fig. 570 14/6



Fig. 370 1/6

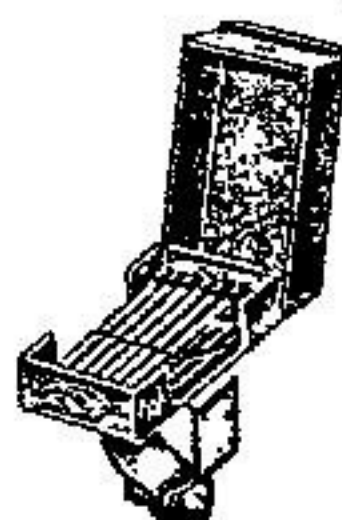


Fig. 572 18/6

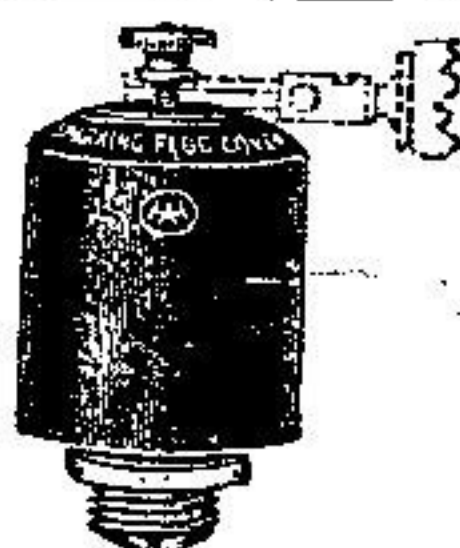


Fig. 245 6d



Fig. 573 9/6



Fig. 150 12/-

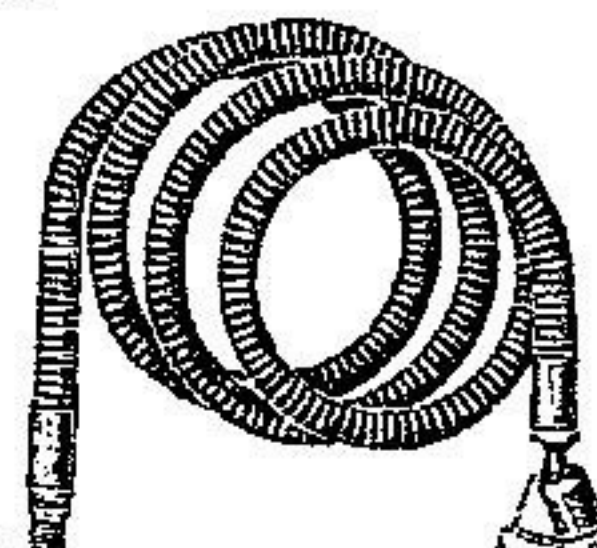


Fig. 380 1/6

TYPES OF GENUINE HELLESEN

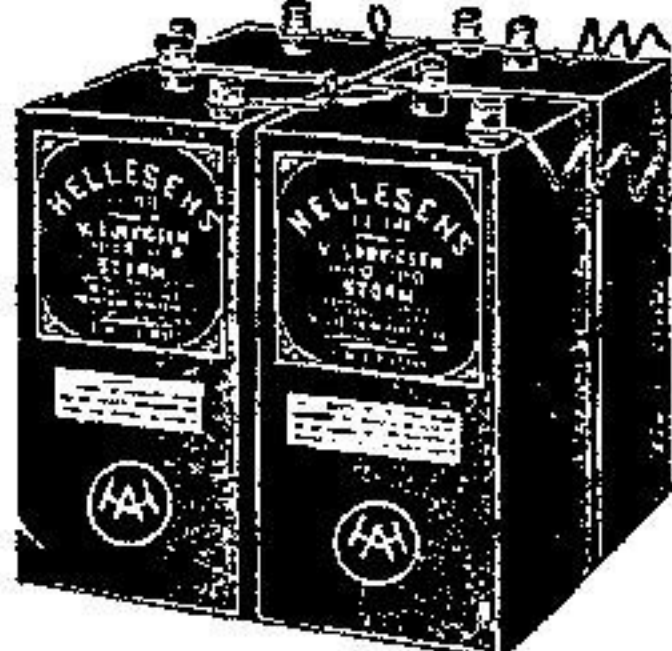
DRY CELLS AND BATTERIES.



"FLARE,"
2 volt 9/9



"FLIGHT," 4 1/2 volt
14/7



"STORMSET," 6 volt 71/4



"VICTOR," 6 volt
16/8



"FLAME," 4 1/2 volt
13/2



CARRIAGE
EXTRA
on all the above.

Fig. 428 3/6

Telephone:
BANK 8114/5.

Present Address: 115-117, CANNON ST., LONDON, E.C.4.

A. H. HUNT,

Telegrams:
"KEYAGE
CANNON,
LONDON."



Fig. 410, 2/-



IMPORTANT NOTE.—Change of Address after Xmas, 1919,
H.A.H. WORKS, TUNSTALL ROAD, CROYDON,
Telephone: CROYDON 2225 & 2226.
ENGLAND. Telegrams: "KEYAGE, CROYDON."



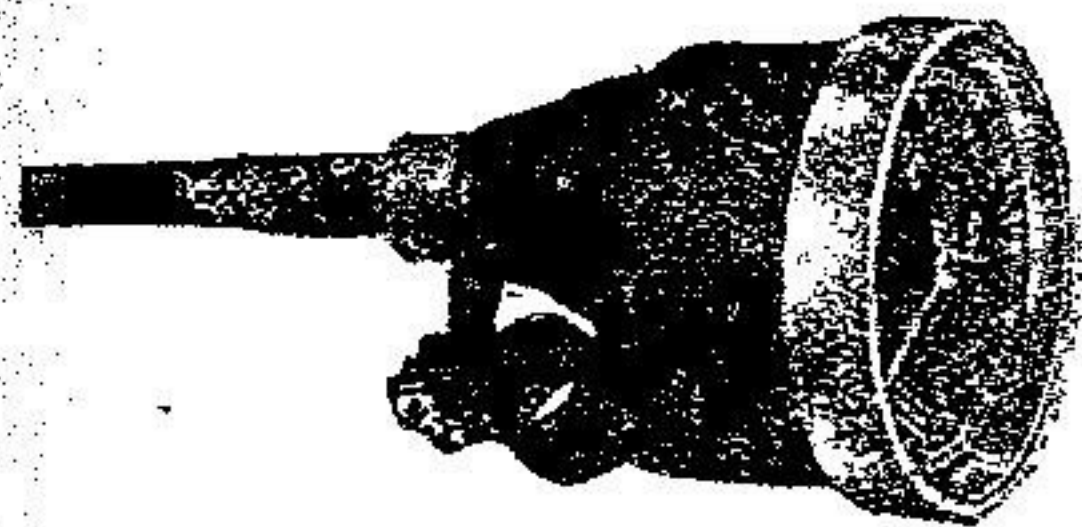
In answering this advertisement it is desirable to mention "The Motor Cycle."

SECTION 10.—SPEEDOMETERS.—Watford, Cowey, Bonniksen, Jones, Stewart, and Smith.

Stand No. 210.

North and Sons, Ltd., 14, Soho Square, London, W. 1.

ONLY two models of the well-known Watford speedometers are on exhibit at the makers' stand. Model 42 is a black finish, nickel-plated bezel speedometer, priced at £5 5s. The dial is black with white figures and indicates speeds up to 60 m.p.h., the total mileage counter running up to 10,000, when it repeats. A quickly reset trip counter up



The Watford.

to 100 miles, showing tenths, is incorporated with this model. Model 40, priced at £4 15s., corresponds in all details to the former, with the exception of the trip counter, which is not supplied with this model.

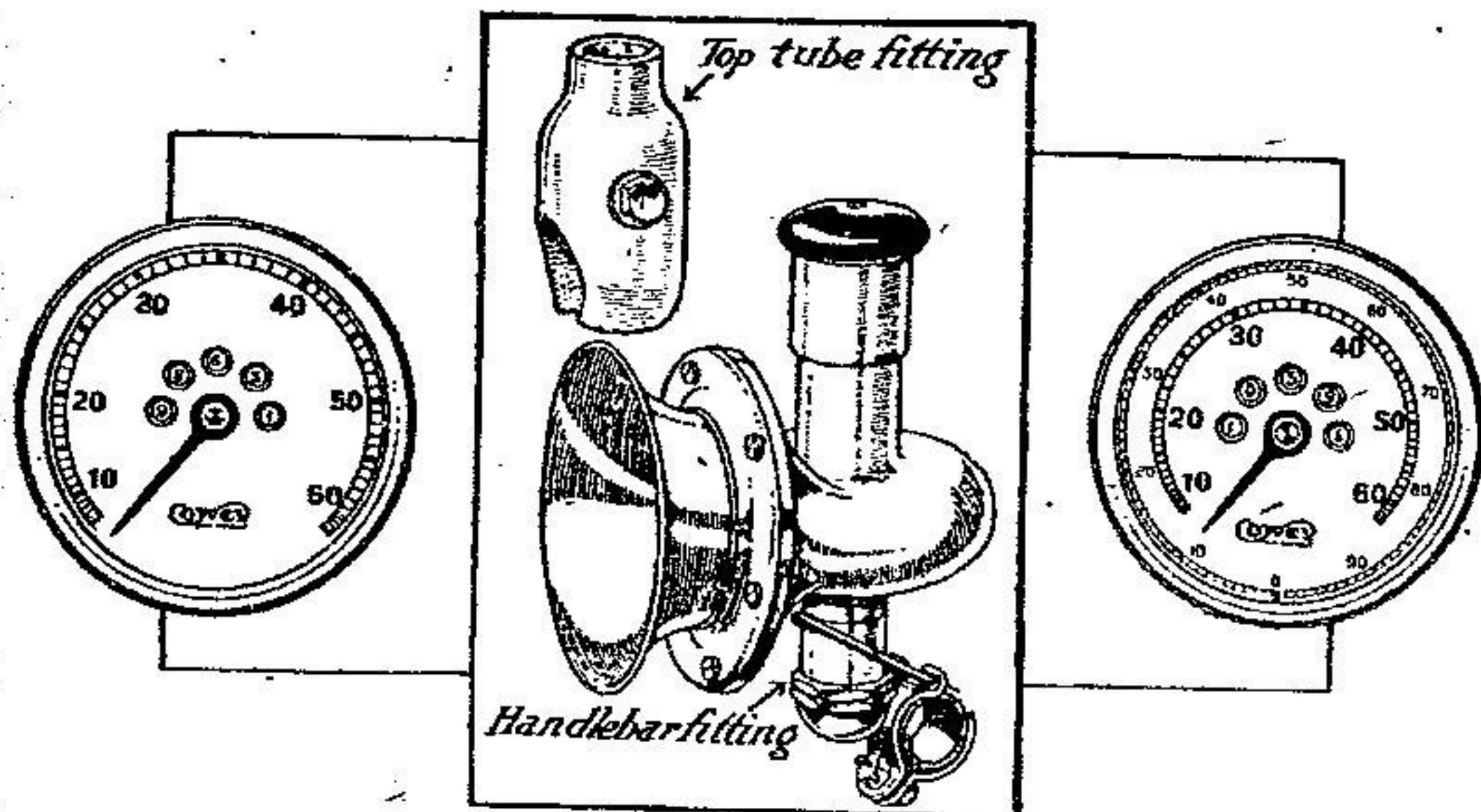
Stand No. 196.

Cowey Engineering Co., Ltd., Archer Works, Kew Gardens, Surrey.

VARIOUS models of Cowey speedometers and mechanical horns are on exhibition at Stand No. 196. Model B speedometer, finished in nickel or black according to taste, indicates speeds from 5 to 65 m.p.h., and is priced at £4 15s. Model B.T. is identical with model B, but has the addition of a trip counter. This model is priced at £5 5s. Speedometers calibrated to 80 m.p.h. may be obtained for 10s. extra.

One model only of Cowey mechanical horns for motorcycles is on view; the model B, finished in nickel or black, and fitted with top tube or handlebar bracket as preferred. It gives a particularly loud and piercing note, and is priced at £3.

The Cowey Speedometers, and Mechanical Horn.



Stand No. 175.

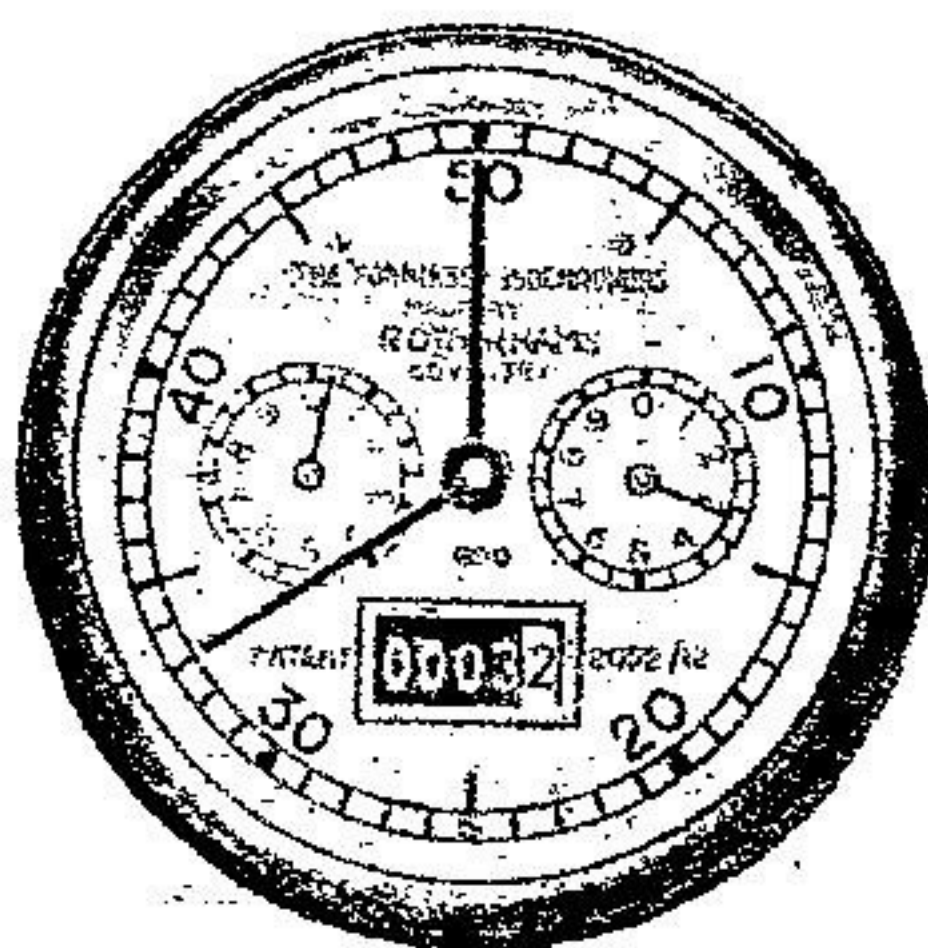
Markt and Co. (London), Ltd., 98-100, Clerkenwell Road, London, E.C. 1.

THE Jones speedometer (now under the control of the Johns-Manville Co.) is little altered from the original pattern, the only difference being a circular form of scale instead of the old Jones short arc. The speedometer reads up to 60 m.p.h. with total and trip mileage, but is without the old maximum-hand feature. There is no change to record in the Veeder cyclometer, save in price. The star wheel and striker type of motorcycle cyclometer is now 20s., and the Harley-Davidson model 32s. 6d. The gear-driven instrument with axle fitting is 35s.

Other items of interest are the Long mechanical motorcycle horns and the Delta electric lamp with top-tube battery. There is a large variety of wrenches, including the Mossberg revolving dome and Sterling rotary axle dome type.

Stand No. 184.

Rotherham and Sons, Ltd., Coventry.



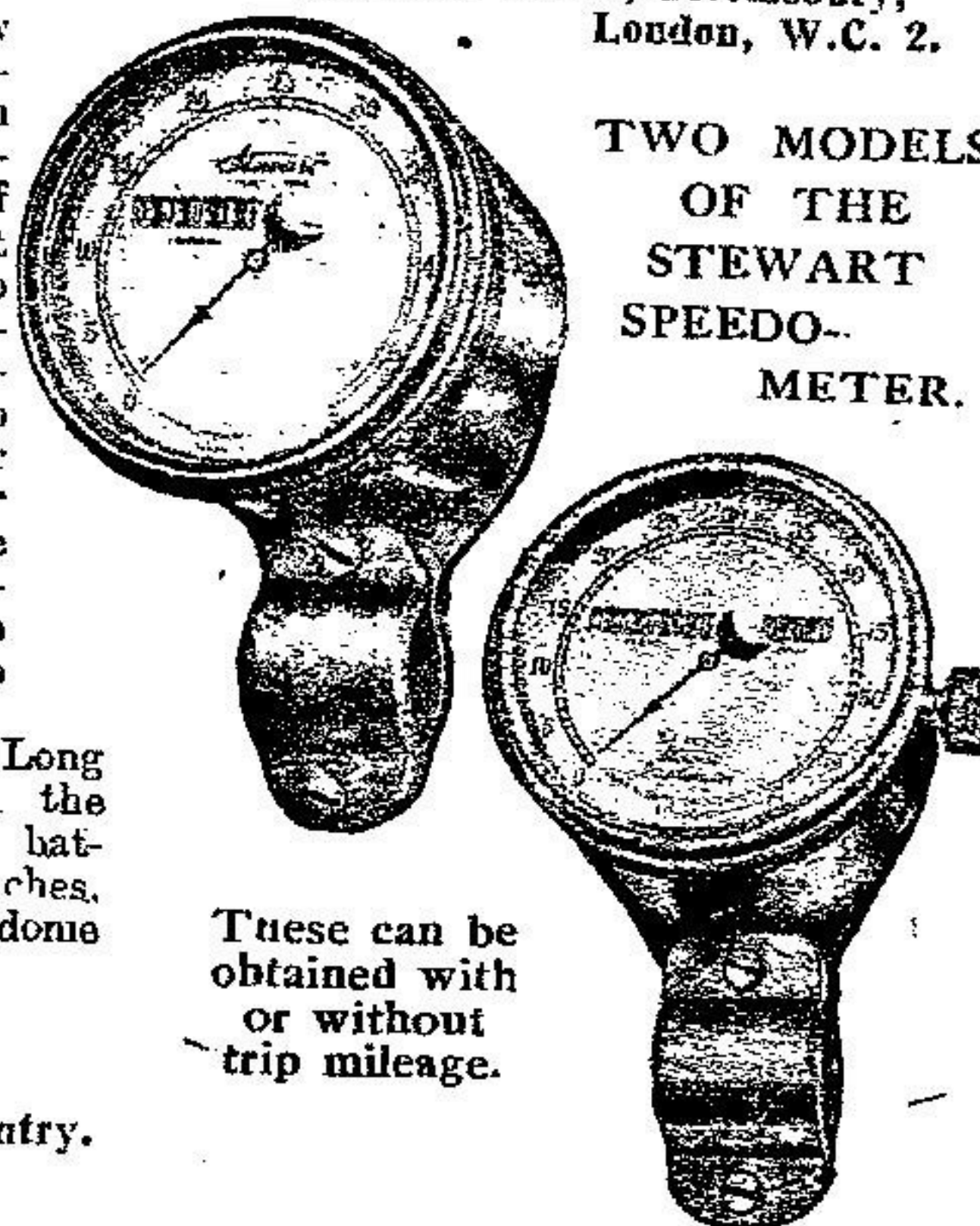
Bonnicksen Isochronous.

THE Bonnicksen Isochronous speedometer is governed by a balance spring, as a watch, and is positively unaffected by vibration. Its dial is calibrated in miles up to 50 m.p.h., after which it repeats, thus its reading powers are actually unlimited.

Stand No. 215.

Cooper-Stewart Engineering Co., Ltd., 11, Broad Street, Bloomsbury, London, W.C. 2.

TWO MODELS OF THE STEWART SPEEDOMETER.

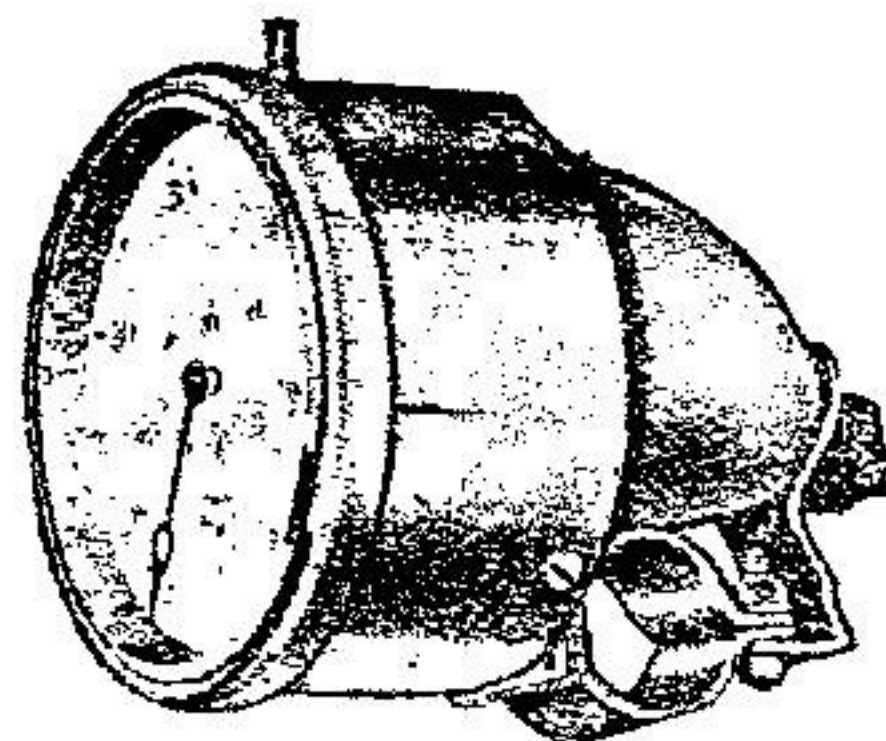


These can be obtained with or without trip mileage.

THIS season's Stewart speedometers are modelled more on the lines of their successful car type, which has a white dial. Two models are shown, No. 43, which is without trip and costs four guineas, and No. 42, incorporating a trip and priced at five guineas. These speedometers are for front-wheel drive only, and register from 5 m.p.h. to 60 m.p.h.

Stand No. 200.

Smith, S., and Sons (M.A.), Ltd., 179-185, Great Portland Street, London, W. 1.



Smith and Sons' speedometer.

THE new Smith speedometer is a great improvement on the pre-war model. The dial has been entirely redesigned, giving a perfectly clear reading, while the hand is claimed to be as steady as a clock hand at all speeds. The speedometer, which can be obtained in nickel or black finish, is priced at £4 10s., including the drive.

Some particularly well-made mechanical horns are shown, which are extremely strongly made and will withstand the hardest wear. They are supplied in ebony or black enamelled finish at £1 15s. or with nickel-plated trumpet at £2 7s.

THE 1920 AMAC CARBURETTERS.

Simplicity of Construction and Control. One or Two Levers.

AMAC carburetters have been very popular in the past, and deservedly so. This fact, combined with the good reports we have heard of the new single-lever patterns should make a description of the new models more than usually interesting. The principle upon which the carburetters work is the same in each case, though the constructional details vary to some extent. We propose first to describe a model which is likely

which surround the sprayer, vaporises the fuel and carries it to the engine.

The throttle has a V-shaped slot, which first uncovers this passage, and provides a small amount of rich mixture, so useful for starting and smooth slow running. The main air orifice is now practically open, but air has access to the engine only through the small passages mentioned. The length of the V slot gives a certain amount of control before the main body of the carburettor begins to open. When this happens the main air is partly cut off by the throttle barrel, which rises across it. This causes the suction on the main vapour hole situated just above the sprayer, and draws up petrol vapour where air had previously been descending into the small passage, and we have a moderately rich mixture for ordinary running. Beyond this point air and throttle open together until at full opening the air is

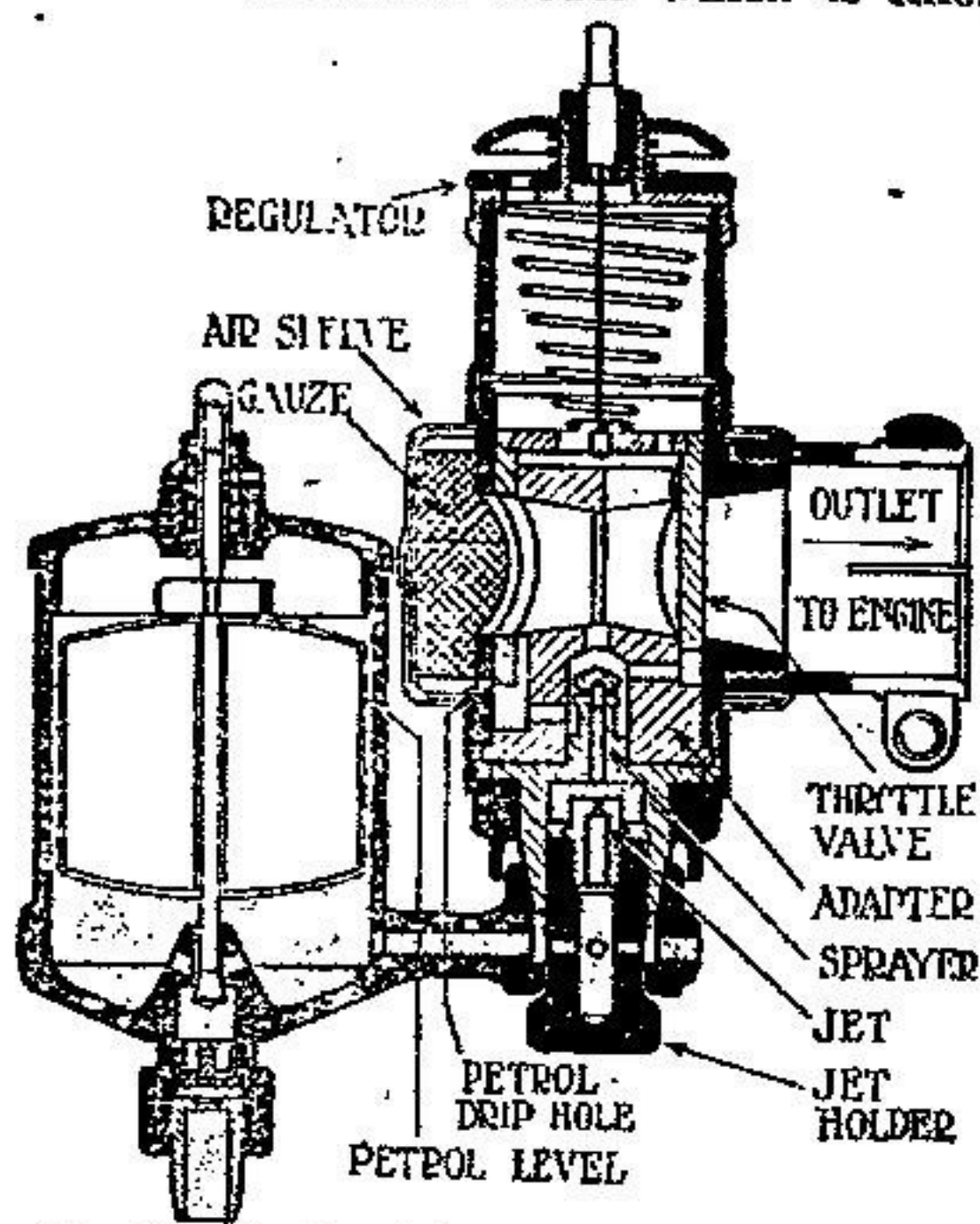


Fig. 1—Sectional diagram of the new single lever Amac Y carburettor.

to become very popular amongst most cyclists, viz., a single-lever carburettor suitable for horizontal inlet pipes.

The Y Model.

Let us follow the course of the petrol in its passage from the tank to the engine. The float chamber is that already familiar to Amac users, having bottom feed and an inverted needle. From the float chamber the fuel passes through the jet, which in the Amac is distinct from the sprayer, and simply controls the amount of fuel fed to the engine. Above the jet is placed the sprayer, from which the fuel issues in a finely atomised condition through small horizontal holes near the top. Previous to this, it has been in a liquid state, but it now encounters a rapidly moving stream of air, which, traversing through the small passages

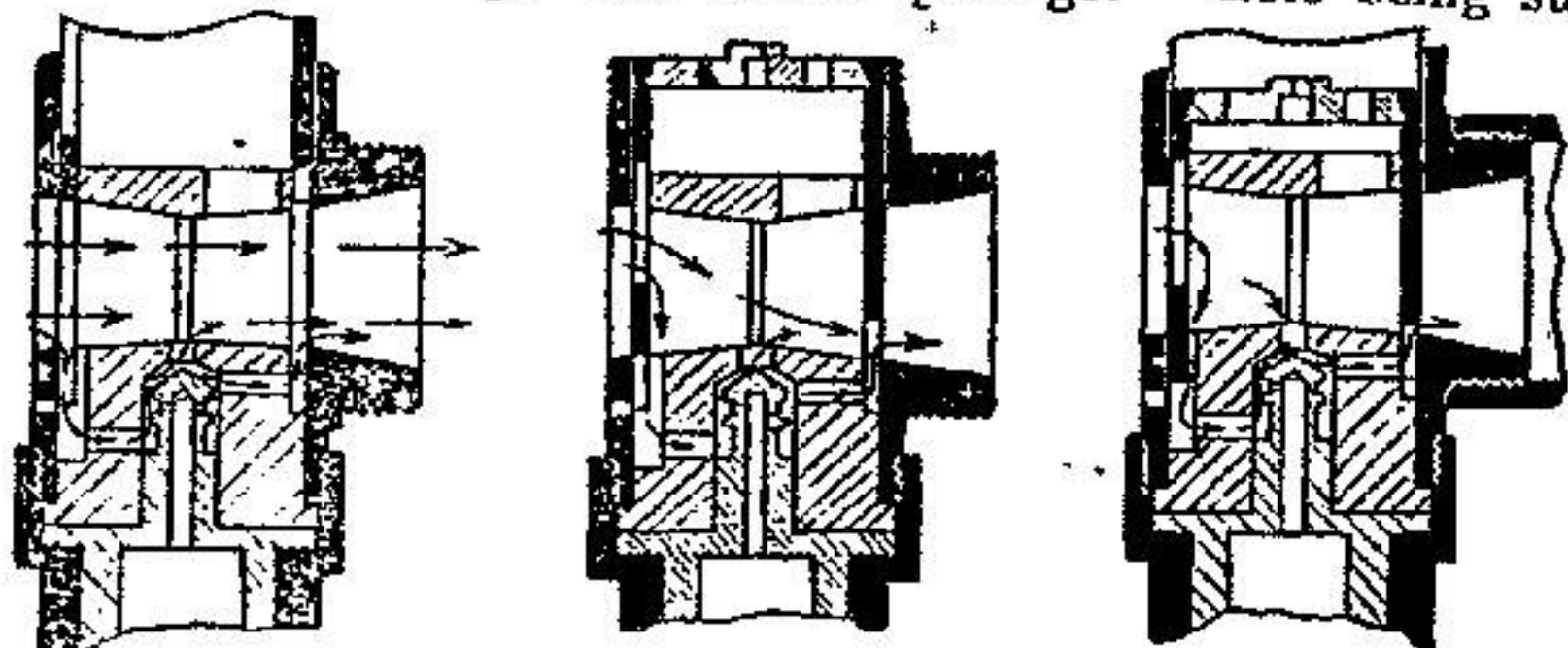


Fig. 2—Sectional diagrams showing the flow of air and mixture at varying throttle openings. On left, full throttle and uninterrupted passage through venturi tube; in centre, moderate throttle opening, air partly cut off; on right, throttle just open for starting and slow running, air passing through small passages around the sprayers.

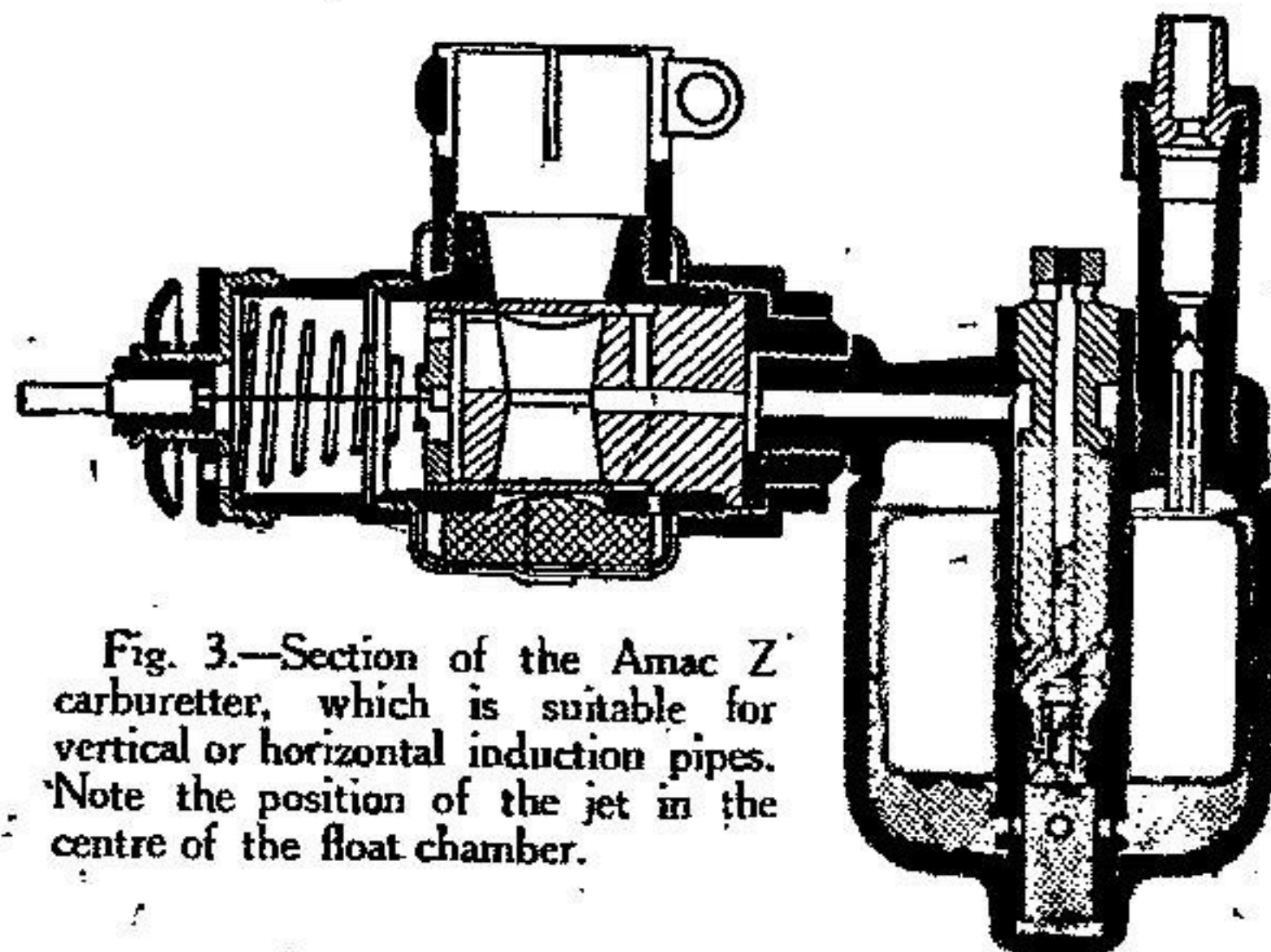


Fig. 3—Section of the Amac Z carburettor, which is suitable for vertical or horizontal induction pipes. Note the position of the jet in the centre of the float chamber.

for racing purposes, but for normal running it should be as small as is consistent with good results, a suitable jet being fitted. The same carburettor can also be supplied with two levers, the extra air valve then forming an adjustable choke, but the single lever is recommended. These carburetters are known as the Y models.

The Z Model.

A second pattern is also manufactured, again with one or two levers, and known as the Z model. These are suitable for both horizontal and vertical inlet pipes. In these, the jet holder is situated in the centre of the float chamber, into which petrol passes through a top feed, the flow being controlled by an annular float. The jet holder has a passage down its centre, communicating with the atmosphere, and down this air is drawn by the suction of the engine into an annular groove, when it meets and atomises the petrol passing through the jet. The mixture then passes to the engine through passages similar to, but rather longer than, those contained in the Y models. From this point the action of both models is identical. A distinct advantage of this model is that the jet holder can be removed for the purpose of changing a jet without disturbing the carburettor in any way or spilling a drop of petrol.

The Amac control giving a straight pull on the wires has, naturally, been retained, and this prevents breakage of the wires. The lever can be placed on either side of the handle-bars, and is made to open either way, as the rider may desire.

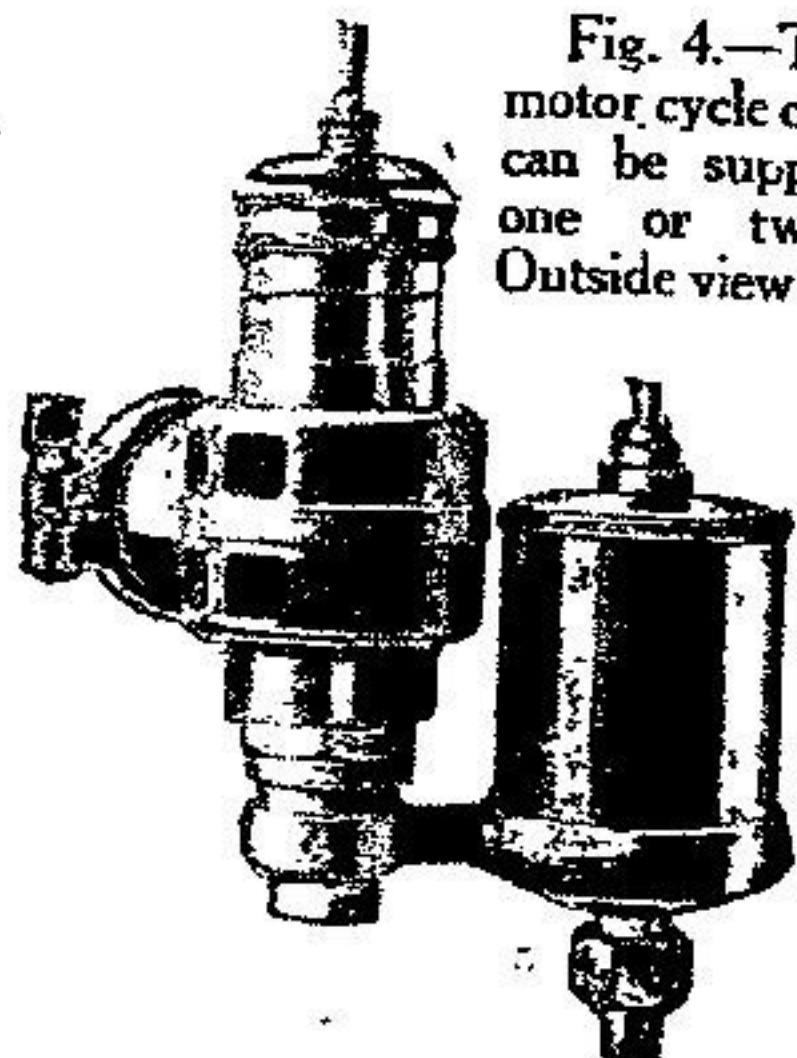


Fig. 4—The Amac motor cycle carburettor can be supplied with one or two levers. Outside view of fig. 1.

drawn through a venturi tube clear of all obstruction and carburetted on its way both through the main and small vapour passages.

The object of the regulator at the top of the carburettor is to assist in the choice of the most suitable jet, and to give an adjustment for temperature, a single hole being suitable for cold weather and

three or more holes when the weather is hot. The positions are numbered 0 to 5. If numbers 2, 3, or 4 give good results the jet can be taken to be correct. Theoretically No. 3 is preferable. If fewer holes are required for good running the jet is too small, and, similarly, more holes suggest too large a jet. Different adapters can be fitted. A larger adapter is suitable for

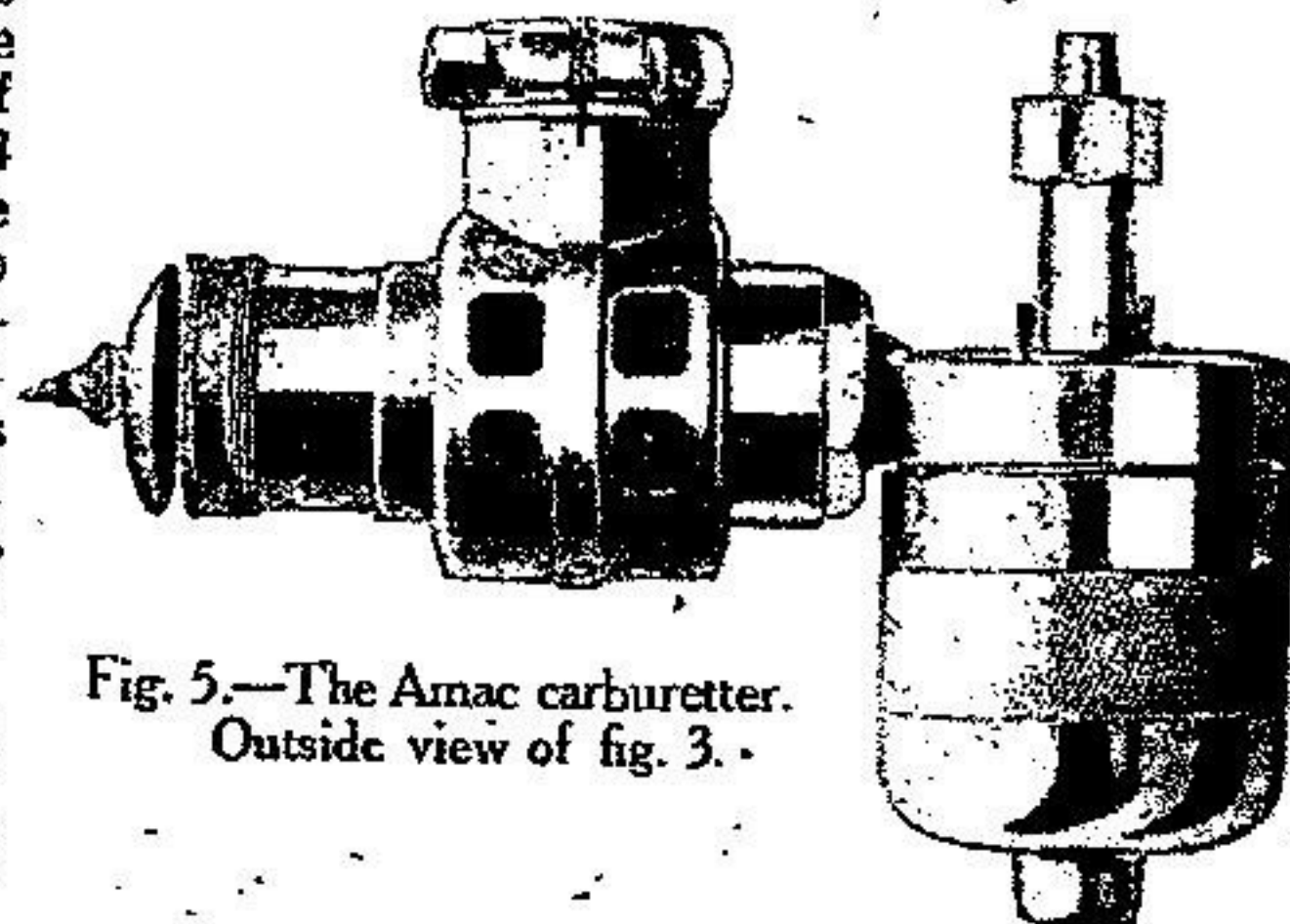
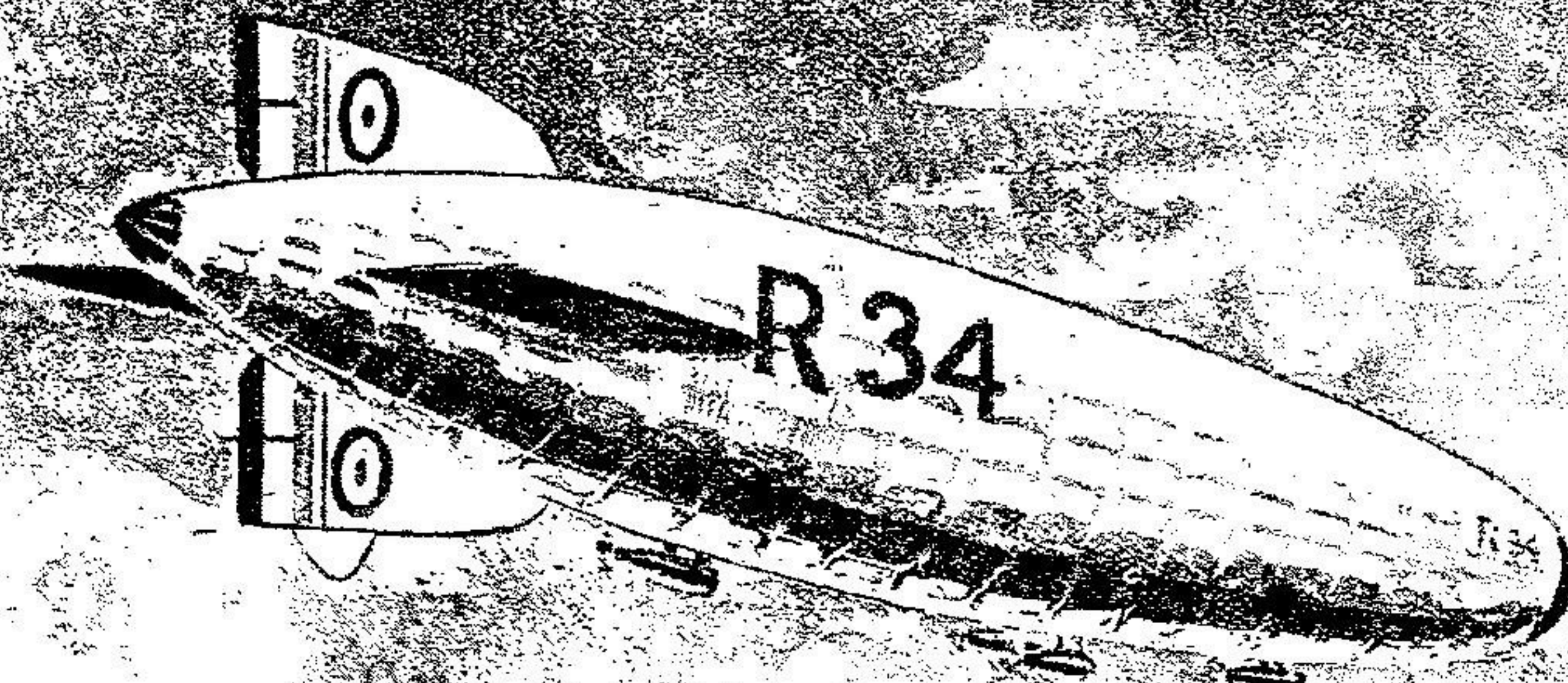


Fig. 5—The Amac carburettor. Outside view of fig. 3.



Started by Lucas.

All the Sunbeam-Coatalen 275 H.P. Engines of the R34—the first airship to cross the Atlantic—are fitted with LUCAS ELECTRIC ENGINE STARTERS.

Famed for their high efficiency and unvarying reliability.

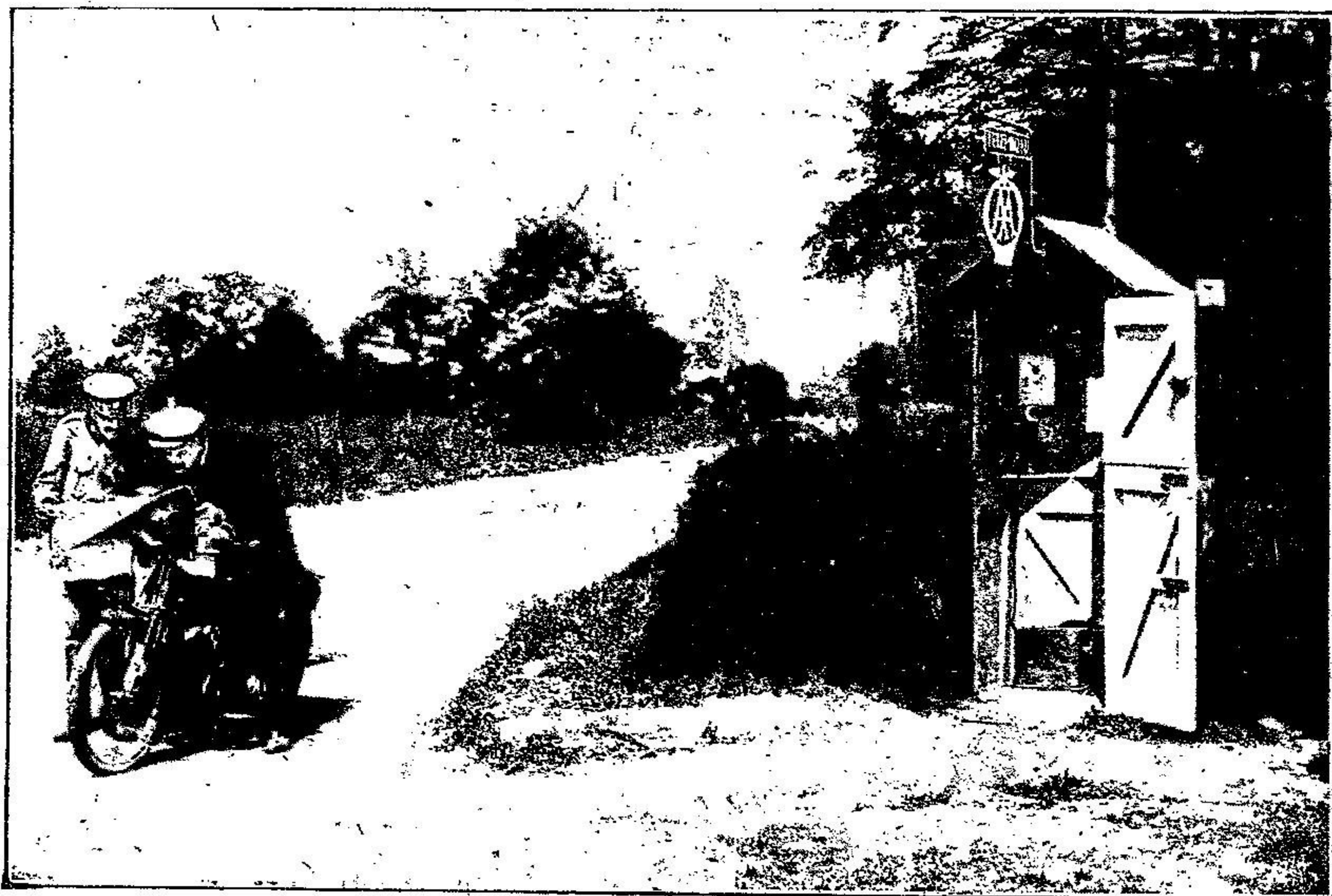
Designed and Manufactured by

Joseph Lucas Ltd., Electrical Engineers, Birmingham

Pioneers of Electric Power on Aircraft.

LUCAS

See that your new motor cycle is equipped electrically by LUCAS.



THE BADGE.

WHAT IT MEANS AND SECURES TO MOTOR CYCLISTS.

The A.A. badge was originally adopted by the Automobile Association as an additional protection against malicious police persecution, and was the first symbol of its kind carried by motorists.

Since its adoption the Association has continuously widened its scope of activities, and every member—car, light car, or motor cycle—now enjoys the following privileges:—

Free Service of the A.A. Patrols, who will be found on nearly every main road in England, and render assistance to members in case of breakdown; obtain petrol, tyres, or other replacements; render first aid; give warning of roads under repair; indicate alternate routes, and are always at the service of members.

Roadside Telephones, which are installed in patrols' sentry boxes all over the country and can be used for all purposes, including messages to home or office, to hotels for accommodation or meals, and to garages for replacements or assistance.

"First Aid" Motor Cycles, driven by expert mechanics who, in the event of a breakdown, render assistance to enable members to continue their journeys.

Free Legal Advice on any matter connected with motoring.

Free Legal Defence in any police court in the United Kingdom to answer charges under the Motor Car Act.

Free Touring Information, including specially prepared routes for business or holiday tours, showing the best roads to any part of the United Kingdom.

Free Touring Assistance to members going abroad with car or cycle, including crating and shipping of vehicle, the supply of routes, necessary triptyques, and other documents.

Other privileges include Engineering Assistance, Special Insurance Facilities, Officially Appointed Agents and Repairers, A.A. Hotels, etc., etc.

Full particulars of the benefits which the Automobile Association extends to its members are contained in the booklet, "The Key to the Open Road," a copy of which can be obtained, post free, from the Secretary, A.A. & M.U., 21, Farnham House, Whitcomb Street, London, W.C.2. Send a postcard to-day. Motor cyclists in London who wish to join the Association without delay are invited to call at Headquarters, where a staff of experts is always in attendance ready to give information on any question relating to Motoring.



I WAS FINED £2 and COSTS AND LICENCE ENDORSED.

That was bad enough, for I am fully convinced that, if my Solicitor had possessed a thorough knowledge of Motor Car Law, the charge would have failed and I should have had a clean licence.

It was irritating to have a stiff solicitor's bill, a big railway fare, and a day's business loss. But what annoyed me most was my own neglect in not joining the Automobile Association, for I find that one of the many services the A.A. renders motorists is a strong **FREE LEGAL DEFENCE**.

They conduct motor cases in any police court in the Kingdom—that would have saved my railway fare and prevented a day being wasted; and they are experts in Motor Car Law.

And all for a small yearly subscription!

Free Legal Defence and Advice is but one advantage of A.A. membership. Other privileges include Free Service of A.A. patrols, Roadside Telephones, Home and Foreign Touring Assistance, etc., etc.

If you are not a member of the A.A., send a postcard to-day to the Secretary, A.A. & M.U., 21, Farnham House, Whitcomb Street, London, W.C.2, for a free copy of "The Key to the Open Road," and learn how to motor in comfort and security.



THE BUYERS' GUIDE.

Current Prices and Delivery Dates for 1919 Motor Cycles.

CONSIDERING that it is scarcely two months since the Armistice was signed, the trade has made remarkable progress towards re-establishing itself as a motor cycle industry. From the following schedule, it will be seen that quite a large number of makes will be available shortly. The majority of the prices given are subject to alterations as time reveals to the makers the actual cost of production. In the meantime, the rise in prices above the pre-war level is not so high as the extra cost of every other commodity from matches to wearing apparel.

No doubt the comparatively high prices of new machines will temporarily enhance the value of the second-hand motor cycle.

It is interesting to note that the Morgan Runabout and G.N. cycle car are quoted at prices competing with the de luxe sidecar combination, while the average price of $3\frac{1}{2}$ h.p. three-speed machines is in the neighbourhood of £80, and the two-stroke two-speed is about £50.

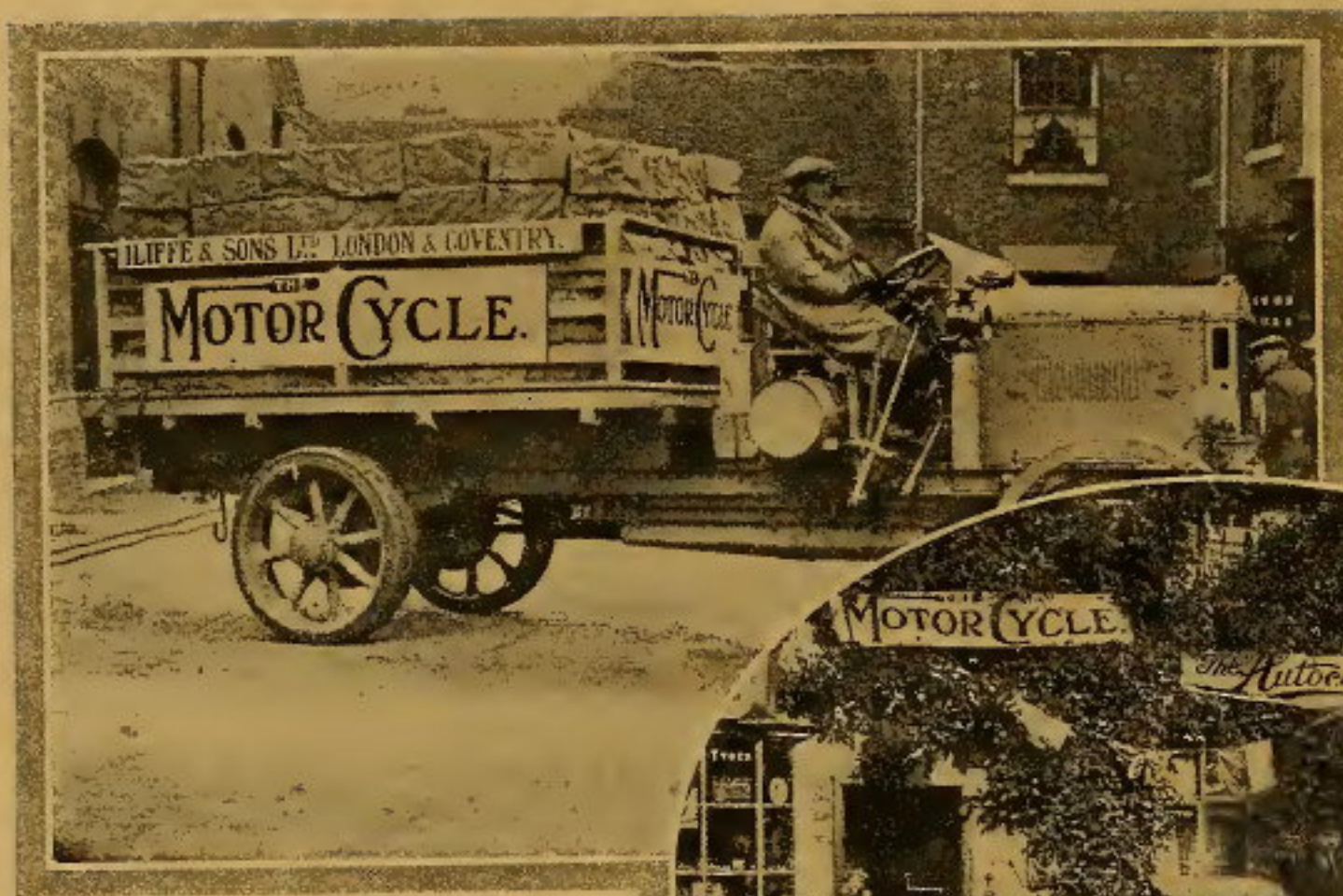
The $3\frac{1}{2}$ h.p. sidecar is now over £100, while 6 h.p. and 8 h.p. models range from £125 to £152. So far, the A.J.S. has the distinction of being the highest-priced motor cycle, while the Norton "big 4" leads the singles.

Space does not allow a detail review of these prices and delivery dates, but in subsequent issues we hope again to refer to these matters, which, at the present time, are of great interest to motor cyclists and potential buyers.

Make.	H.P.	Particulars in Brief.	Price.	Delivery.	Make.	H.P.	Particulars in Brief.	Price.	Delivery.
A.B.C.	3	Spring frame.	£ 70 0 0	May.	L.M.C.	3½	3-sp. countershaft gear.	£ 73 0 0	Delivery at end of January.
A.J.S.	6	Twin, 3-speed.	106 1 0	End of	L.M.C.	4½	Ditto.	75 0 0	
A.J.S.	6	Sidecar combination.	152 16 0	January	L.M.C.	6	Twin ditto.	86 10 0	
ALLON	2½	2-stroke, 2-speed, clutch	55 0 0	January.	MATCHLESS	8	Combination.	140 0 0	—
ALLON	2½	2-stroke, 2-speed, clutch, and kick-starter.	65 0 0		METRO-TYLER	2½	2-stroke, 2-speed	45 0 0	
ARIEL	3½	3-speed.	80 0 0	January	MORGAN	8	M.A.G. engine.	132 12 0	End of January Delivery commenced. Entire output for 1919 booked by various agents.
ARIEL	3½	Sidecar combination	106 0 0		MORGAN	8	G.P., J.A.P. engine	143 17 0	
BLACKBURN	2½	4-stroke, 2-speed, clutch.	60 0 0	—	MORGAN	8	De luxe, M.A.G. (w.c. J.A.P., £8 8s. extra).	143 17 0	
BLACKBURN	4	3-speed.	82 0 0	—	NEW IMPERIAL	2½	2-stroke, 2-speed.	50 8 0	
BLACKBURN	8	Combination.	125 0 0	—	NEW IMPERIAL	2½	2-stroke, 2-speed, clutch.	58 16 0	Shortly
BRITISH EXCELSIOR	2½	2-stroke, 2-speed, kick-starter.	56 10 0	February.	NEW IMPERIAL	8	Combination.	126 0 0	
				Delivery commenced.	NORTON	4	All-chain drive.	87 0 0	Delivery shortly
B.S.A.	4½	All-chain drive.	81 15 0	Orders carried out a rotation as far as possible.	NORTON	4	T.T. countershaft, all-chain.	85 11 0	
B.S.A.	4½	Chain-cum-belt.	79 16 0		NORTON	3½	Single gear, B.R.S. engine.	73 0 0	A limited number during Jan
B.S.A.	—	Sidecar	39 9 0		NORTON	3½	Ditto, with B.S. engine.	80 0 0	
DOUGLAS	2½	W.D. Model.	60 0 0	Delivery commenced.	P. & M.	3½	R.A.F. model.	78 0 0	Early in February (approx.)
DOUGLAS	4	W.D. Model.	75 0 0		P. & M.	3½	Combination.	103 0 0	
DOUGLAS	4	Combination.	95 0 0		RADCO	2½	2-stroke, single gear	42 0 0	Three or four weeks.
ENFIELD	2½	2-stroke, 2-speed chain-drive.	52 10 0	It is hoped to commence delivery in January	ROYAL RUBY	6 or 8	3-speed.	106 0 0	
ENFIELD	3	4-stroke, twin, 2-speed.	69 6 0		ROYAL RUBY	2½	3-stroke single gear.	40 0 0	Early in February.
ENFIELD	6	Combination.	115 10 0		SPARKBROOK	2½	2-stroke, single-speed.	46 4 0	
ENFIELD	8	Combination	117 12 0	Early in April.	SPARKBROOK	2½	2-stroke, 2-speed.	62 10 0	Shortly
G.N. CYCLE CAR	1½	2-cyl. Standard model.	140 0 0		SUNBEAM	3½	3-speed, all-chain.	—	
G.N. CYCLE CAR	10	2-cyl. Vitesse model.	170 0 0	Shortly.	SUNBEAM	8	Sidecar combination	—	Deliveries to agents commenced.
HUMBER	3½	Flat twin, 3-speed.	85 0 0	January. Output booked until end of March.	TRIUMPH	4	W.D. Model.	85 0 0	
LEVIS	2½	2-stroke, single gear	38 0 0		TRIUMPH	2½	2-stroke, 2-speed	52 10 0	Delivery in a few weeks.
					VELOCETTE	2½	2-stroke 2-speed.	40 0 0	
					VELOCETTE	2½	2-str., 2-sp., ladies' mod.	43 0 0	

THE DISPOSAL OF ARMY MOTOR CYCLES.

Up to the time of going to press, the authorities had not published a definite scheme for the disposal of the bulk of ex-army motor cycles. Forty motor cycles were to be offered for sale by auction yesterday, the 22nd inst., at Messrs. Aldridges, St. Martin's Lane, London.

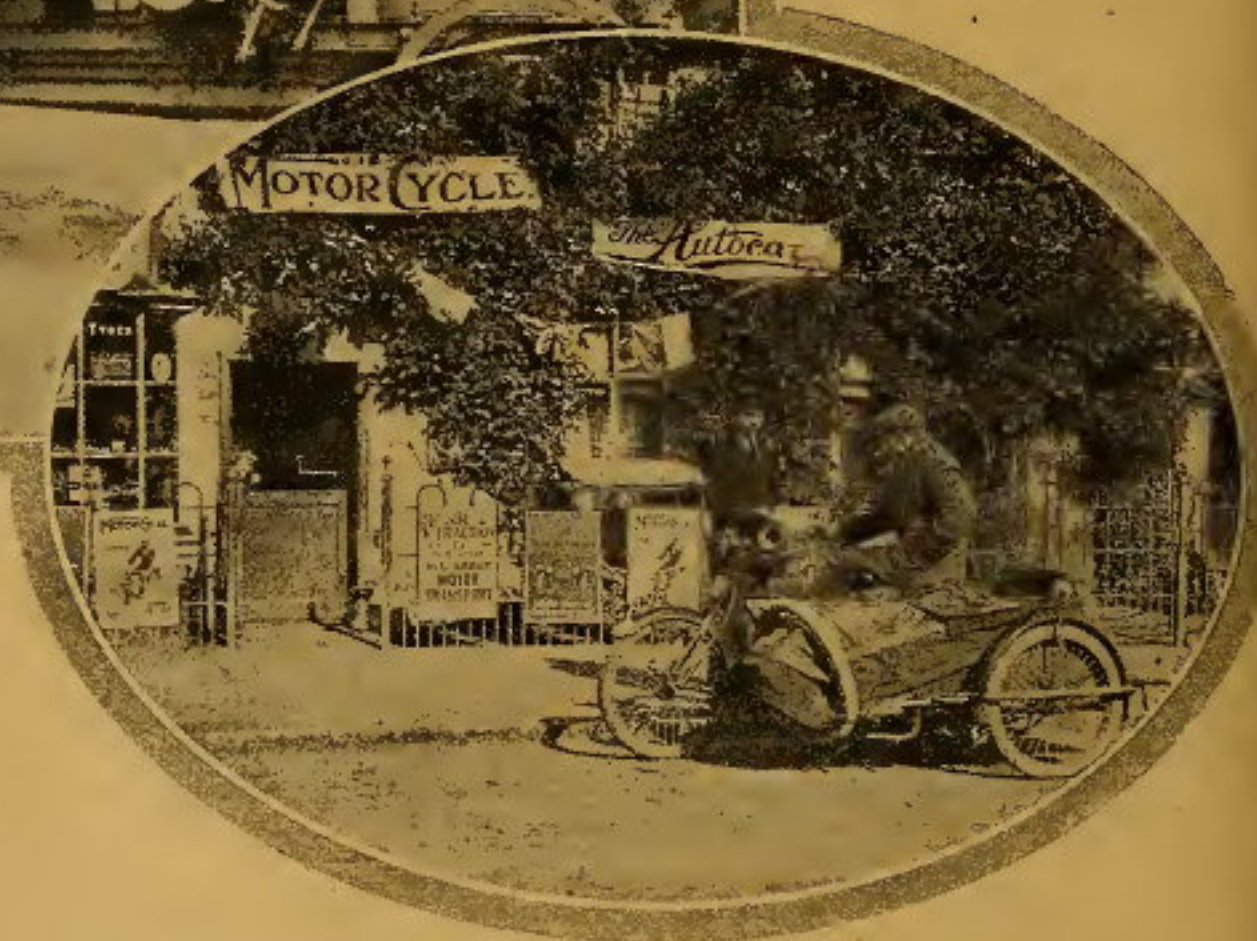


FROM THE PRINTERS TO THE PUBLIC.

One of *The Motor Cycle* lorries distributing last week's issue during the railway strike. The lower picture shows one of the emergency bookstalls placed on the main roads by our publishers.

A New French Two-stroke Lightweight.

THE fact that France is making rapid strides in motor cycle construction, is emphasised by the advent of several new machines, amongst which the Gratioux two-stroke compares favourably with English productions. This machine is of entirely French construction, being built in the factories of F. Gratioux at Billancourt, a firm which gained a reputation during the war for its aeronautical productions. The motor is a three-port



Government Sale of Motor Cycles.

A Reader's Disappointing Experience during his Search for a Bargain.

THE bargain hunting car buyers are evidently suffering as badly as the motor cycle merchants at the Government sales, judging by the prices obtained for the rusted and mud-caked remnants put up for auction. It cannot be denied that a great deal of disappointment has been caused among the many prospective purchasers of motor cycles by the excessive and oftentimes ridiculous prices; but this provides an obvious lesson. There is a clear indication of a large market for a cheap machine, and of the existence of a great number of ardent would-be motor cyclists of mechanical turn of mind with very shallow pockets. Twenty-five pounds is their outside limit on a cash-down basis, and if they could buy one of the Army discards at from fifteen to twenty pounds and put it in order for another ten they would be well content. But it is not to be. The published prices have deterred many bargain seekers from visiting the sales, and the following gives an idea of the impressions of two men who went with the mistaken idea of getting something cheap.

The Trusting Optimists.

"Whilst on leave, I happened to run across an old motor cyclist chum, who suggested we should make our way to the Brixton Garage, where Aldridges were holding an auction of Government stock, including forty Douglases. The prospect of getting hold of a good machine cheaply, as I foolishly thought, naturally appealed to me, as for some time past I had been looking out for a machine against the time when I should get my discharge.

"We found we had sufficient 'ready' between us (strange) for a deposit should we buy anything, and off we went.

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"We arrived there just as the auctioneer had started selling the cars. After a lot of trouble we succeeded in obtaining a catalogue, and made our way to the motor bicycles, where we found a good crowd.

"We went round, making a note of our prices on the catalogue. We had priced about a dozen, and on reaching the thirteenth I said to my chum, 'Shall I put the same down for that?' 'That's right,' he said, 'throw your money in the air; the darn thing has no gear box, nor a contact breaker in the magneto.' We found lots of them minus various parts, such as gear boxes, contact breakers, valves, etc., and on one we tried we found no piston in one cylinder and the timing wheels gone.

"At last we had seen the lot, and 'starred' one or two we rather fancied. By this time we were beginning to feel hungry, so off we went to get something to eat. On our return they were just about to start on the sale of the motor bicycles.

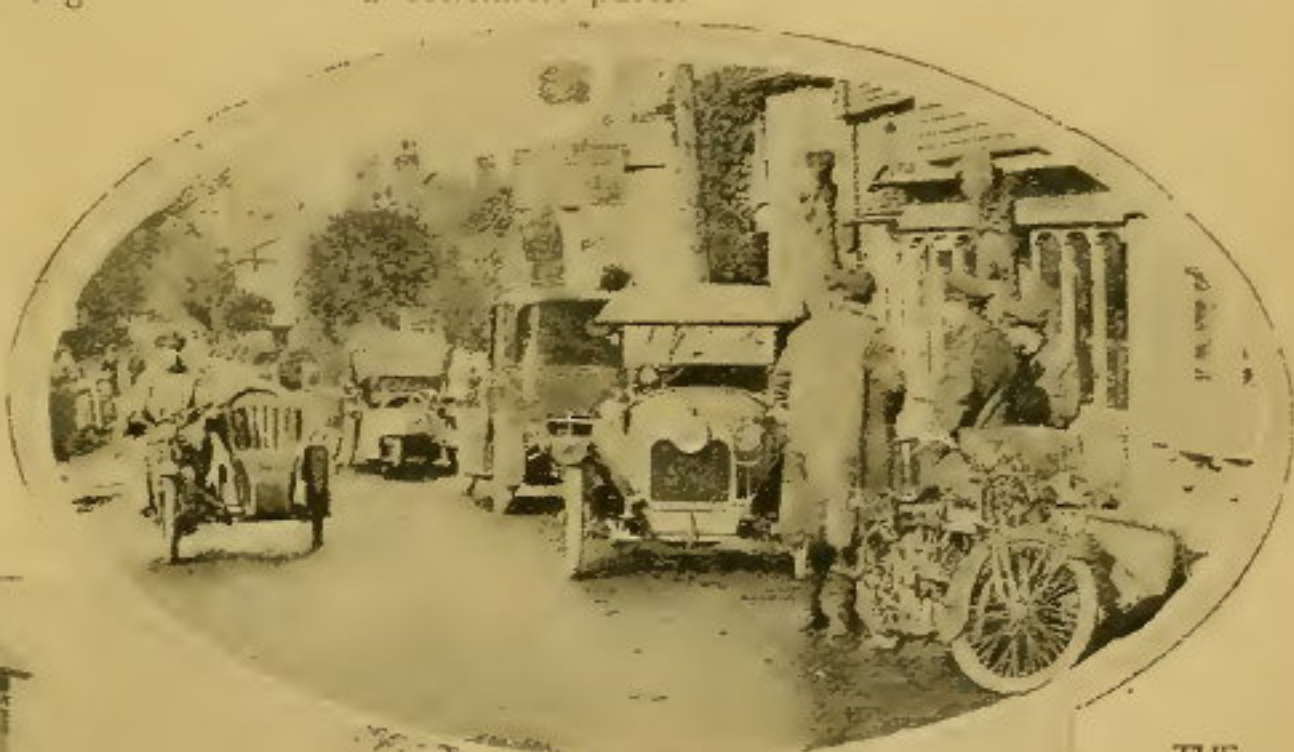
"A hush went through the crowd. 'Lot 108, Douglas motor cycle,' said the auctioneer, 'what can I say for this?' The bidding started, and the motor cycle was knocked down for £29. We had put our price at £20. Others were put up, and mostly fetched £10 more than we calculated.

"In one case, one we estimated at £10 fetched £26, and a voice from the back cried out, 'Put a chain on him; don't let him get away'—a remark which I silently seconded.

"After seeing about thirty go we decided that sales were no good to us, and we had better look out for a push bicycle. We departed, cold, and thoroughly fed up. On leaving, I shook hands with my chum, and remarked, 'Never suggest another Government sale!'—Kyd."

away, scrapes the levers off one end of the handle-bar, and then stabs its tank heavily with the inside grip. If the stop occurs in the country we discover a hump by the edge of the road

(Top) Passing through the village of Downes. (Bottom) Members at the Three Horse Shoes, Knockholt. Douglas, Matchless, Harley-Davidson, and Triumph outfits, also a Morgan, were among the makes represented.

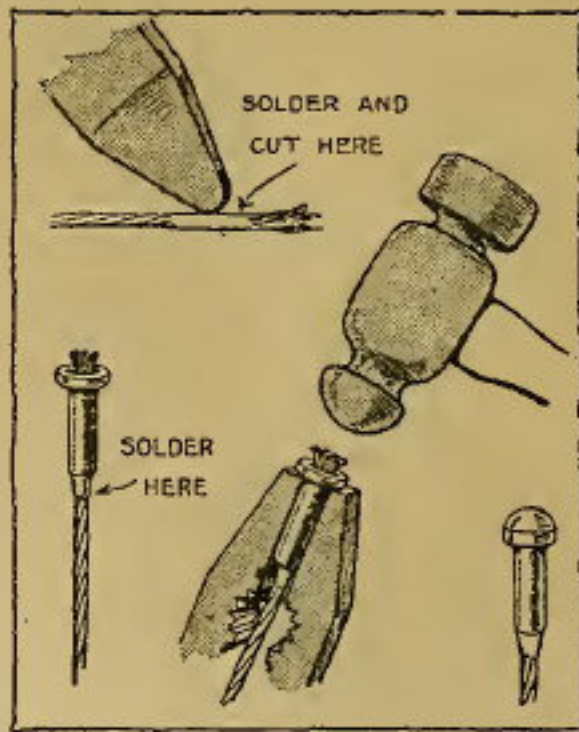


THE
OPENING
RUN OF
THE
WOOL-
WICH,
PLUM-
STEAD
AND
DISTRICT
MOTOR
CYCLE
CLUB.

Fitting Bowden Controls.

THERE are many facts concerning the fitting of Bowden wire of which the average reader is not aware, and the following hints may be of interest to motor cyclists who do their own repairs, and of value to them in keeping their controls in order.

First of all, the rider must remember that the inner member of the mechanism—that is to say, the twisted wire—should be tinned or soldered before it is cut, and unless this is done the strands will become untwisted and the wire generally unmanageable. Once tinned the wire can be cut by a pair of wire cutters. The brass nipple is then slipped over the wire, and the end of the wire nipped flat to prevent the former



Fitting a nipple on to Bowden wire

slipping off. The nipple and wire should then be treated with a non-corrosive soldering fluid, and solder should be applied to the back of the nipple. The nipple should then be held in a pair of pliers in the manner illustrated, and the flattened end burred over with a blob of solder. The wire having been well greased with vaseline, the outer member must be slid on, as well as the adjustable stop, and in fitting up the control it should be seen that the lever is in the "off" or closed position. Before fixing finally the wire should be pulled taut, and the place for the nipple marked with a lead pencil. Solder the nipple tightly in position, test the tension, and if this is correct cut the wire.

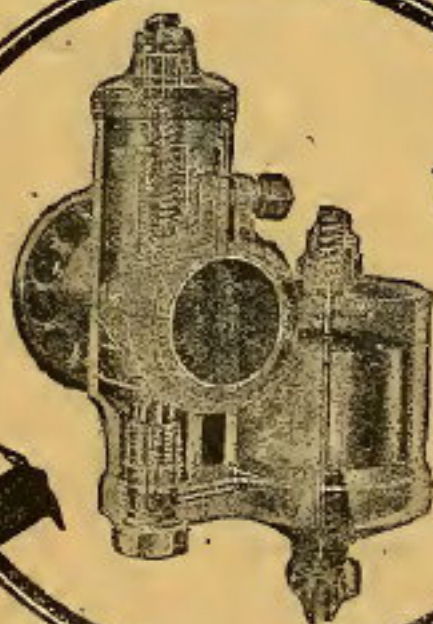
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