newsletter

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DAVID BROWN AND SONS (HUDDERSFIELD) LTD.
THE DAVID BROWN FOUNDRIES COMPANY
THE DAVID BROWN TOOL COMPANY
THE KEIGHLEY GEAR COMPANY
THE COVENTRY GEAR COMPANY
DAVID BROWN-JACKSON LTD.
DAVID BROWN GEARS (LONDON) LTD.
DAVID BROWN MACHINE TOOLS LTD.
DAVID BROWN TRACTORS (ENGINEERING) LTD.
ASTON MARTIN LTD.
LAGONDA LTD.

SALES ORGANISATION

THE DAVID BROWN CORPORATION (SALES) LITD.,
INCORPORATING:
ASTON MARTIN DIVISION
AUTOMOBILE GEARBOX DIVISION
COVENTRY GEAR DIVISION
FOUNDRIES DIVISION
GEAR WORKS DIVISION
JACKSON DIVISION
KEIGHLEY GEAR DIVISION
LAGONDA DIVISION
LONDON GEAR DIVISION
MACHINE TOOLS DIVISION
TOOL DIVISION
TRACTOR DIVISION
TRACTOR DIVISION, SCOTTISH BRANCH

OVERSEAS COMPANIES

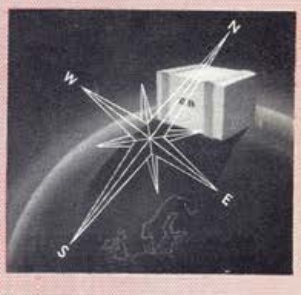
ASSOCIATED COMPANIES IN AUSTRALIA,
CANADA, EIRE AND SOUTH AFRICA

NEXT ISSUE

The next issue of NEWSLETTER will be distributed on 7th May. Closing date for contributions will be Thursday, 15th April. Copy received after that date cannot be guaranteed inclusion.

This Month's Cover

The cover of the 1953 Annual Report of The David Brown Corporation Ltd., of which this is a reproduction, was designed by the Publicity Department to symbolise the world-wide ramifications of the David Brown organisation and the universal application of its products. Another reproduction from the pages of the Annual Report, which is circulated to the Company's shareholders, also appears in this issue.



Aspects of Gear Drives

Among the group touring Park Works under the guidance of Mr. R. Horn (front centre), were the Branch chairman (Mr. C. L. Forbes) and the secretary (Mr. W. Johnson), seen on Mr. Horn's right and left respectively.

LEADING engineers and industrialists from all parts of the county were among a party of members of the Yorkshire Branch of the Institution of Mechanical Engineers visiting David Brown and Sons (Huddersfield) Ltd., on Thursday, February 25th. Their afternoon tour of the company was followed by an excellent lecture at the George Hotel, Huddersfield, by Mr. F. J. Everest, Manager of Park Gear Works.

The Yorkshire Branch alone has a membership of 2,400, while the Institution has a national total of some 40,000 members. The groups visiting Park Works included the branch chairman, Mr. C. L. Forbes, B.Sc., M.I.Mech.E., and the secretary, Mr. W. Johnson, B.Sc., A.M.I.Mech.E. Guides, under the direction of Mr. J. P. G. Rhind, took charge of small parties, and for two hours were taxed with questions from as knowledgeable a body of men as they are ever likely to meet in the execution of such duties.

The members visiting Park Works had tea in the canteen before proceeding to the evening lecture. In reply to a speech by Mr. A. Avison welcoming the visitors to Park Works, Mr. Forbes expressed appreciation for all that had been done to make the visit a success. At the George Hotel the party was joined by other members, the audience finally totalling well over a hundred. A civic welcome to the Institution on their visit to Huddersfield was extended by the Mayor (Councillor Wilfred Mallinson), who remarked that the welcome was sincere for three reasons: first, he was an engineer himself—a structural engineer; secondly, engineering was a very important section of the town's industry; and thirdly, Huddersfield always gave its visitors a warm reception. Huddersfield, said the Mayor, was a thriving place of industry where engineering ranked in importance with chemicals and textiles. The town spent a lot of money on education, and the Mayor emphasised the value of such bodies as the Institution of Mechanical Engineers in continuing education in working life.

The purpose of Mr. Everest's lecture on "Aspects of Industrial Gear Drives" was to stress the importance of due care and attention in the installation and maintenance of gears to ensure satisfactory operation. Mr. Everest emphasised that the care, skill and workmanship put into the design and manufacture of gears must be matched by equal care and attention in their alignment, rigidity and mounting, lubrication, protection against external thrusts, overloads, shock load conditions, and cyclic or torsional vibrations in the system as a whole.

Each of these conditions was discussed in detail. Demonstrations were given of lubrication in a Radicon worm reducer by means of a transparent plastic model; noise analysis in a David Brown S.430 automobile gearbox, using a sound analyser and a cathode ray oscillograph; distribution of hydrodynamic oil pressure in a high-speed plain bearing; and photo-elastic images of rotating gears under load, projected by the David Brown polariscope.

Mr. Everest was able to illustrate his points with slides showing David Brown gears and units before despatch from the works, or in operation on site.

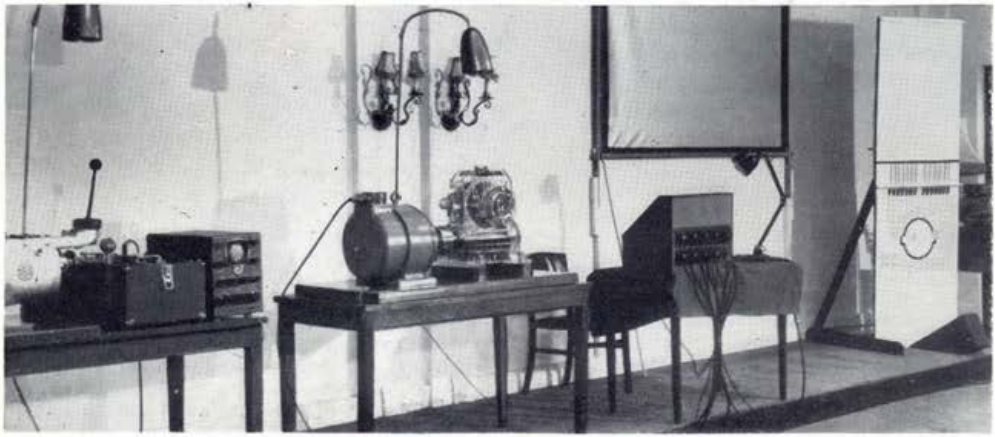
In the early hours of Thursday, members of Park Works Development Department were still

putting finishing touches to the intricate equipment designed and built to illustrate the main features of Mr. Everest's paper. To the credit of Mr. H. J. Watson and his staff, it should be stated that all the equipment functioned perfectly during the lecture.

To say that the lecture was well received would be an understatement, and a few days afterwards Mr. Everest was asked to repeat it for the benefit of David Brown employees. Consequently the equipment was set up in the Park Works ballroom the following Wednesday evening, and Mr. A. Avison presided over an audience which again numbered more than a hundred. Without the aid of notes or reference, Mr. Everest repeated the lecture in its entirety and received a loud ovation at the conclusion. An intriguing half hour's discussion followed the lectures, covering such subjects as the relative efficiency of types of driving units, gear tooth loading, and lubrication problems.

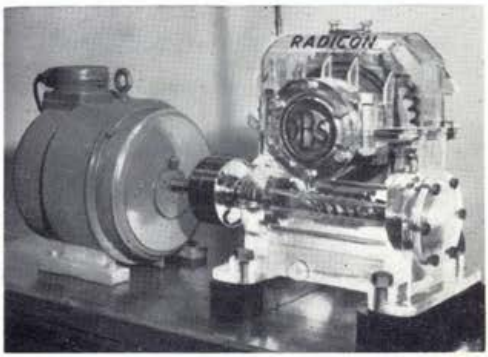
There is still an opportunity for David Brown employees to hear the lecture, for the paper is to be given at the invitation of David Brown Tractors Engineering Society in Meltham Hall at 7-30 next Monday evening.

The apparatus used to illustrate Mr. Everest's lecture is seen in position at the George Hotel, Huddersfield.



The group present at the George Hotel when The Mayor was introduced to Mr. Forbes (the Branch Chairman) included Mr. F. J. Everest, Mr. A. Throp, Mr. A. Avison and Mr. W. Johnson (Secretary). (Photo: "Huddersfield Examiner".)

From the outside looking in. The transparent plastic Radicon was one of the pieces of equipment which attracted high praise from the Institution and Park Works audiences.



Kane–Johnston at Journey's End

Arabs (the children can't get near for grown-ups) gather round at Hama, Syria.

RIGHT now, a David Brown tractor and caravan occupy a place of honour in the Royal Easter Show at Sydney, Australia. The Kane-Johnston expedition has reached its destination, but not by the means intended. Last-minute changes in plans were decided by compulsion, not choice, for as we reported last month, Tom Kane followed Rod Johnston as a chicken pox victim. With a driver out of action, there was bound to be delay, and by the time the tractor rolled into Colombo the ship to Adelaide was a day out to sea.

The shipping position was such that delay was inevitable—weeks, not days. Time has been the most sought commodity throughout this trip, and calculation showed that the drive across Australia would be impossible; arrangements and bookings in Sydney were complete, and it was decided with regret that it would be necessary to ship direct from Colombo.

However familiar one may be with this trip, reading the story in detail still evokes amazement. Incidents which happened in countries already briefly covered compel a "recap".

To tackle first the day to day diary notes brings to light an entry as far back as December 14th which reads: "Followed the Euphrates quite a distance; villages the most primitive we have seen. Mud 12 to 18 inches deep on the roads; with anything but the tractor it would have been impossible."

Three days later: "Track now non-existent, no signposts. Direction maintained by keeping the railway in sight". Then next day: "No railway to follow. Nothing from here to Basra. Some 30 miles from Basra a few old 40 gallon drums appeared on the desert, marking the way at two-mile intervals".

Monkeys visited the caravan on January 14th, and the following day came this incident: "Drove from Kholopur to the outskirts of Belgaum. Here an Indian youth attempted to set fire to the units by lighting the long grass surrounding us. Luckily we saw the flames and managed to drive clear in time. The fire just missed our petrol cans; spent an hour beating out the rapidly spreading flames with the help of farmers".

Near Bangalore on January 19th came the first puncture, caused by a bullock shoe piercing a caravan tyre. Next day there was adventure of a very different kind—the girls were chased by monkeys!

While sitting on a wooden bed in a breezy quarantine camp hut, Tom Kane wrote a report which he entitled "Asia Completed". He started off by saying: "At times I wonder if D.B. doesn't stand for diabolical. The colour is right, but no devil could stand the temperatures encountered the very day we left the Mediterranean. Within sight of Beirut we drove over snow-covered roads, and when we camped in the Lebanon mountains the mercury had dropped below 18 degrees of frost, the lowest reading on our thermometer.

His report goes on: "The Syrian desert proved to be a more exciting part of the world than I had anticipated. The ground itself is treeless, and undulating like a petrified ocean. The surface varies from large black boulders to small stones packed and graded by nature as evenly as any road grader could do the job. In many parts we found the desert a much smoother surface to drive on than the asphalt pipeline road, a black man-made ribbon across the shining desert. Pumping stations and camps are situated approximately every 100 miles along the pipeline, and at these places we

stopped at night. Only once, between Rutba and Baghdad, were we forced to pass a solitary night in the empty expanse of sand and sky.

"There were caravans other than our own in the desert, the originals. We encountered lines of camels with their riders simulating the Wise Men who crossed the desert in the same season. The Bedouin, however, does not appear to possess much of gold, frankincense or myrrh, but lives frugally in his sprawling black tent and drives his flock to treeless oases. An Arab travelling on his donkey stopped us to ask for water. We were astounded to learn that he was crossing the desert from Baghdad to Damascus and that it was not taking him much longer than it was taking us.

"Baghdad is a jumble of a city, above which protrude mosaic minarets, each with its set of loudspeakers for calling the faithful. I learned why Baghdad is called a one-street town as I drove our 'monster' down Al-Rashid Street during the evening rush hour. Bedlam is only an approximation to a description. The people at Autoworks Ltd. refuelled us for the last dash to the Persian Gulf. To dash was, however, impossible on the 400 mile stretch skirting the great mounds of earth that once were Babylon. On arrival in Basra we were told that many people had become lost on this uncharted route.

"India contains a strange demon that sits in the trees and says 'poink-poink-poink' with slow deliberate precision. The sound, so we were told, was that of a water pump, a frog, an insect, and a bird, but we know it to be a demon. It was heard in the distance when Rod went down with chicken pox, and when a box fell on Joan's head at Poona. The first puncture was followed by the raucous laughter. Even though Rod discovered that the sound came from a small green, red and yellow bird, we still know that it is really a demon. As I sit here in the quarantine camp with chicken pox and the others drive through Ceylon, I hear the cursed sound. Believe it or not, I hadn't heard it for days and thought I should have to take journalistic licence to say that it was still with me when it actually did call out 'poink-poink-poink.'

"India itself was a long road, sometimes bumpy, sometimes smooth, past an endless parade of humanity in white trunks and saris, past bullock carts and holy cows. Whenever we stopped, peering faces accumulated. Even the monkeys stared. After travelling on the skirts of winter for four months, we were floored by the 90 to 95 degrees of India, and not a beer to be had in the prohibitionist States! The only relief was a two-day visit into the Nilgris mountains, a place of glorious scenery and tea plantations. Advisers told us we should never negotiate the 'ghat' road into the mountains, but second gear took us all the way. We camped beside the British Club and indulged in wonderful cold beer".

The entry into Ceylon, it seems, was one round of trouble—trouble with the quarantine camp officials, the Stationmaster, the Customs, and almost everyone encountered. But Tom concluded: "The tractor and caravan are safely in Ceylon, but I couldn't bluff the quarantine people: so here I sit on a wooden bed in a breezy hut—'poink-poink-poink'.

Now, for the first time, we have a woman's account of a section of this trip, for Joan Johnston takes up the tale from the time of arrival in Ceylon. Getting the tractor and caravan on the freight train at Madura had been a nightmare, for the truck was just 6 ft. 8 in. wide—exactly the same as the caravan wheeltrack. Rod managed that manoeuvre, but Joan says that he confessed afterward how worried he had been.

Joan goes on: "Reaching the Ceylon quarantine camp at 8 o'clock next morning, the freight train was supposedly held up for us while we visited the doctor. It was Ceylon Independence Day and 'red tape' kept us; the train went off, but just in time we bundled Tom out of the office, chicken pox scabs covering his face, and he ran for the train. After abusing the clerk for refusing to get the doctor, we tramped until we found the latter gentleman's bungalow. The doctor, a strict regulation type just out of university, insisted that we should have another cholera innoculation—that we had had in London was three weeks outside the official period.

"We rushed round Government offices trying to get embarkation papers, stamps, etc., in time to catch a later train and join the tractor and caravan at the ferry, but as we dashed from the last desk the train was pulling out. Still panting, we arrived at the station to be told that if we 'hurried' we could catch the same train some two miles up the line. As we went tearing along the track, Judy leading, Indians turned and stared, speechless—more crazy English!

"With the innoculation stiffening up our arms and the sun beating down, we ran on and on, hoping to see the train at every turn. Suddenly it was in view, and coming down the line to meet us was a little rail trolley. A well-dressed Indian jumped off, pushed us on to the trolley, and two coolies began propelling the vehicle back towards the train. Completely out of breath, we sat in style as the two coolies pushed for dear life down the last quarter of a mile, but even so we had only just time to thrust a rupee into their hands as we leapt on to a slowly moving train. Arriving in Dhanushkodi, we had to get to work immediately in order to move the units off the railway and on to the ferry which was due to sail at 4 p.m. We had the unpleasant job of telling Tom that he had no chance of by-passing the quarantine camp, so back he went on the two-hour journey, to be detained for a week".

Negotiations with irresponsible railway officials caused frayed tempers and hours of delay, but a friendly native captain delayed his vessel for nearly three hours and helped to get the tractor and caravan aboard. The demon had a last try, for a rope broke as the caravan was suspended.

Judy and Joan mingle with a shopping group near Cetty, 7,800 feet up in the Nilgris Mountains of Southern India.

A brief halt to take on water at Bangalore. India, and the local populace is drawn as if by a magnet.

As the caravan lurched towards the side of the ship, crowds of coolies rushed forward and stemmed the crash; with little more than a few dents the caravan settled on the deck.

To quote Joan's letter again: "The crossing in that flat-bottomed tub was ghastly, with Judy and I soon seasick. However, we arrived at Talaminaar at 9 p.m., where the captain used the crane to hold the caravan four feet above the wharf while Rod re-attached the wheels, Judy and I keeping pace with nuts and tools.

"Next day was one of perfect rest, spent on the beach in swimming and resting. We did the first silly thing of the trip on the second day at Talaminaar, for after unhitching the tractor to take the three of us to the post office we took a drive down the beach. It was low tide, and a mile or so along we halted for a moment before returning. In the tractor sank. We tore, we strove, we heaved, we did everything to pull her out of the sand, and every moment the tide was coming in. Two hours later it looked hopeless as an exhausted and worried Judy set off to get help to pull us out. Rod and I worked on, and we managed to get the tractor to lurch on to a large palm tree trunk. Enormous lengths of loose rope which we found on the beach (getting it was hell, for the sand was burning) were thrown into the holes and at full power the tractor roared backwards on to the hard sand. Having driven into the palm forest beyond the beach, we threw ourselves (clothes and all) into the sea. Then we hurried back, to meet a lobster-faced Judy, worried stiff and almost in tears after having failed to get the hopeless natives to give a hand.

"The greenness of Ceylon is exotic, with its paddy fields, oyster beds, swamps and jungle. The peasants and coolies all have good whole shirts on, and sarongs—unlike the Southern Indians, who either wore a few rags or nothing at all. We reached Colombo a week ago and spent the week-end in the Grand Oriental Hotel—a week-end of glorious relaxation. On Monday we left the hotel and have set up house in the caravan on Mount Lavinia beach beneath coconut palms, with the surf twenty yards away on our left."

Last of all, a brief summary of what has been achieved in terms of cold figures. In covering 7,650 miles from Meltham to Colombo in 830 hours' running time, the tractor consumed 710 gallons of petrol. The whole of that running was completely trouble free; the engine has not been touched apart from regular oil changes, replacement of spark plugs and oil filters. The only replacement part needed was a glass petrol filter bowl which broke due to excess changes of temperature.

The Stephenson "Sitemaster" caravan, like the tractor, has stood the test magnificently, with only slight warping of some exterior panels due to the heat. Recently the interior has been completely painted and decorated.

Incidentally . . .

NEWS AND GOSSIP
FROM NEAR AND FAR

Water Turbine Plant

Among recent orders for water turbine plant completed by David Brown and Sons (Huddersfield) Ltd. was this particularly interesting combined helical and bevel increasing gear unit, destined for the North of Scotland Hydro-Electric Board's scheme at Mullardoch Tunnel, Invernesshire.

Designed to transmit 3600 h.p. continuously 24 hours a day at 208/755 r.p.m., the unit has a vertical input shaft and horizontal output shaft. The single helical gear which is located on a roller bearing (above) and heavy thrust Michell bearing (below) is of 32 in. centres and 32 in. facewidth, while the spiral bevel gears have an 8 in. face with 27 in. cone distance. All gears are of alloy steel. Fitted with ball and roller journal bearings throughout, the unit has a forced lubrication system and is enclosed in a fabricated case.

Tractor in Church

A David Brown tractor and plough will be among local products on show in Holmfirth Parish Church on Industrial Sunday, May 2nd.

Social Plans

Following the annual meeting of the David Brown Machine Tools Sports and Social Club annual meeting on February 24th, the newly elected committee have lost no time in getting down to planning social activities. The first event takes the form of various works competitions—table tennis, darts and crib—followed by an evening visit by coach to the Waterhead Social Club, Oldham.

Guests at Salford

On the evening of Thursday, February 25th, a group from the Salford branch of the National Association of Local Government Officers visited the works of David Brown-Jackson Ltd. Mr. G. Bustard welcomed the visitors, and members of the Shop Stewards' committee acted as guides during a tour of the works. Refreshments were afterwards provided by the canteen staff. The visitors expressed to the Management their appreciation of the facilities extended to make their visit so interesting.

Students from Accrington Technical College visited the Salford works on Wednesday, March 10th, and spent an enjoyable afternoon under the guidance of Mr. H. Nichol and Mr. A. D. Jones.

Mr. H. Dixon (Foreman, No. 2 Machine Shop) explains to the N.A.L.G.O. visitors the operation of a large gear planer. On the left of the picture are Mr. G. Prince and Mr. J. Hardman, the two shop stewards who acted as guides.

David Brown Tractors Engineering Society

MR. F. J. EVEREST, M.Sc.,

will give a paper on

Aspects of Industrial Gear Drives

in Meltham Hall

Monday, April 12th. 7-30 p.m.

This will be an open night; all David Brown employees and their friends are cordially invited to attend. All amenities of the D.B.T. Sports and Social Club will be available to visitors.

Theatre Visit

Members of The Coventry Gear Company Sports and Social Club, their wives and friends, are making up a party of thirty to visit "Peter Pan" at the Coventry Hippodrome on Friday, April 9th.

Is This Your Line?

Anyone interested in sketching, water colour drawing, oil painting, etc., and living within easy reach of Meltham Hall, is invited to contact Miss M. Gibson (D.B.T. Drawing Office), Mr. E. L. Kenyon (D.B.T. Sales Dept.), or Mr. L. Craven (Spares Dept.), with a view to forming a section of the D.B.T. Sports and Social Club to cover these activities.

A Reminder of Home

Surprise visitor to the Benoni (South Africa) factory of David Brown Precision Equipment (Pty.) Ltd. a few weeks ago was Mr. A. E. Shackleton, well known in Huddersfield as head of A. E. Shackleton Ltd. At the present time, Mr. Shackleton is combining business and pleasure in an extensive tour of the Union, the Rhodesias and East African territories.

His genial and breezy disposition soon made him at home at the David Brown works, and Mr. A. Brindle writes that during the day he spent with them "he brought a nostalgic breath of Yorkshire countryside, particularly for the ex-Huddersfield members".

A Prize for YOU?

No matter what your age, there's a chance to share in the excellent prizes (total value £200) to be awarded at the annual David Brown Gala.

In addition to the races and shows, there will also be awards for competitions and novelties; in fact, everyone will have an opportunity to be among the winners.

Saturday, July 3rd is the date; Penistone is the venue.

It's one thing for a husband to be a slave to a car, but when that car belongs to another woman, well . . . This is as Barry Appleby put the situation in the "Sunday Express", introducing an Aston Martin DB2 into the Gambols' domestic strife.

A party scene from David Brown Gears (London) Ltd.; there were more than seventy young guests.

Proof of the Pudding

When it's a question of which type of tractor to use for a farm job demanding really hard slogging for hours on end, the obvious answer, in most cases, is a Diesel machine. Ask Mr. H. B. Jesse, of Pangdean Farm, Pycombe, near Brighton the same question, and you would get a rather more precise answer—a DAVID BROWN Diesel.

Mr. Jesse farms about 2,440 acres on the Sussex downs. In addition to several other makes, he owns four David Brown Diesel tractors—two wheeled models and two crawlers.

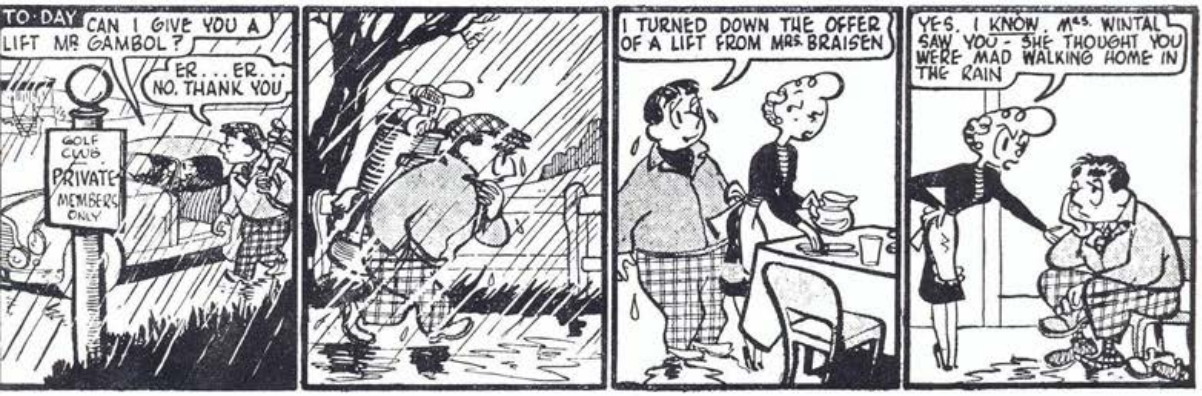
Three years ago Mr. Jesse installed a Kennedy and Kempe grain dryer and a new tractor (not a D.B.) was coupled up to it. However this tractor had to be taken off after three hours running because the v.o. engine became overheated and boiled. Another tractor of similar make, but with a Diesel engine was then tried, but after five hours' running this one too, boiled and had to be stopped.

Since then, various types of tractors have been tried, but none had done the job really successfully until last year, when Mr. Jesse decided to use a David Brown Diesel machine, of the "Cropmaster" series, which he bought in May 1951.

Before switching to grain-drying, this tractor had already done approximately 1,600 hours' work on various farm jobs—ploughing, baling, combining, etc., Yet during the succeeding eight weeks this tractor drove the grain dryer 24 hours a day, five days a week without any trouble, stopping only once every 12 hours for topping up with oil, fuel and water.

Although the engine ran between 1,350 and 1,450 r.p.m. the whole time, fuel consumption was only between 6 and 6½ gallons per 12 hours' running.

Do you wonder that Mr. Jesse has decided opinions on the subject of Diesel tractors?



A happy crowd at the Penistone Social Club's annual dance. (Photo: "Barnsley Chronicle)".

No Charge!

Over 300 members of the Penistone Works Sports and Social Club received free tickets for the annual dance, held on March 5th in the Arcadian Hall, Barnsley. Music was provided by the Regent Dance Orchestra, and during the interval a display of hand balancing was given by the Marcel Trio. One member of the trio, Cyril Johnson, is a joiner at The David Brown Foundries Company. The event was organised by the Social Club secretary, Mr. H. Jebson.

Personal

BIRTHS

To Mr. J. Wadsworth (*Machine moulder, Penistone*) and Mrs. Wadsworth—a son, Wilson.

To Mr. Duncan Ross (*Patternmaker, Penistone*) and Mrs. Ross—a daughter, Gillian Frances.

To Mr. F. Peace (*Machine moulder, Penistone*) and Mrs. Peace—a son.

To Mr G F. Burgess (*Inspection Dept., Penistone*) and Mrs. Burgess—a daughter, Linda.

To Mr. Terence Dixon (*Auto Setter, D.B.T. Farsley*) and Mrs. Dixon—a daughter, Patricia Elizabeth.

To Mr. J. Race (*Foundry, David Brown-Jackson Ltd.*) and Mrs. Race—twins, David and Ann.

To Mr. D. Stanger (*Park Gear Works Drawing Office*) and Mrs. Stanger—a son, David Martin.

To Mr. A. Butterworth (*Gearbox Assembly, Park Works*) and Mrs. Butterworth—a daughter, Andrea.

To Mr. Ted Shaw (*Development, Park Works*) and Mrs. Shaw—a daughter, Anne Carolyn.

To Mr. A. Maugham (*Estimating, Park Works*) and Mrs. Maugham—a son, Andrew Richard.

MARRIAGES

Mr. B. T. Mellor (*Experimental Progress Dept., Meltham*) to Miss Esme Baskeyfield (*formerly a tracer at D.B.T. Meltham*).

Mr. John Denby (*Draughtsman, D.B.T. Lee Mills*) to Miss Margaret Shore.

Miss F. Jessop (*Metallurgical Dept., Park Works*) to Mr. B. Bamforth.

Miss S. Illingworth (*Accounts, Park Works*) to Mr. E. Dean.

Miss D. Holmes (Research Library, Park Works) to Mr. G. L. Thorburn.

DEATHS

Mr. G. Wilson (aged 70), an employee of Heat Treatment Department, David Brown Machine Tools Ltd., for eight years.

Mr. F. Thewlis, an employee of Gearbox Division, Park Works for 17 years.

Contact

quarterly supplement

A two-car unit completed and on test prior to delivery. Passengers will travel in comfort, with speeds up to 55 m.p.h. (Photo: Gloucester Railway Carriage & Wagon Co. Ltd.).

For Toronto's Underground

DAVID Brown and Sons (Huddersfield) Ltd. recently completed delivery of more than 400 railcar hypoid axle units, one of the largest orders of its type ever undertaken at Park Works. The company has in recent years supplied considerable numbers of similar units to transport undertakings in various countries.

The units in question are being incorporated in a fleet of high-speed subway cars which the Gloucester Railway Carriage and Wagon Company Ltd. are building for the Toronto Transportation Commission. The opening of the new underground rail service, the first such system in Canada, was arranged for March 30th.

Constructed under Yonge Street to relieve congestion in a main artery of the city, the subway is 4¾ miles long, of which just over 2½ miles are underground. Two tunnels of reinforced concrete are each 13 ft. 6 in. wide, separated by a 1 ft. 6 in. wall, and with a 2 ft. footpath on each side.

There are twelve stations along the line, each with a platform 500 ft. long and nearly 12 ft. wide, accommodating a train of ten 48 ft. cars.

Weighing just over 10 cwt. each, the hypoid units are designed for use with 65 h.p. motors, giving a maximum speed of 55 m.p.h. The gear ratio is 7:52, the wheel having a pitch circle diameter of 20 inches.

The hypoid gear and pinion are made from high quality nickel chrome case-hardened steel, die quenched after hardening. The "Parco Lubrite" process of phosphate coating is applied to the gear and to the pinion teeth.

Forged solid with its shaft, the pinion is carried in a cast steel housing. The bearings are accurately positioned by a steel distance piece, with the length carefully adjusted to give the requisite pre-load for each individual shaft and housing assembly.

A forged steel centre to which the gear is securely bolted and dowelled is extended at each side to form a sleeve. Roller bearings are used for mounting. With this method of construction, the complete unit can be pressed direct on to the axle without dismantling, thus simplifying assembly in the car frame. Gears and pinions are lapped in matched

The cover illustration of this CONTACT supplement was taken in the Welding Division of David Brown and Sons (Huddersfield) Ltd. An operator is building up a fabricated case for one of the 400 railcar hypoid axle units which the company has supplied for the Toronto Transportation Commission, using a specially designed jig which enables the case to be held in the most convenient position.

Careful checks were made at each stage of assembly of the fabricated cases in the company's Welding Division.

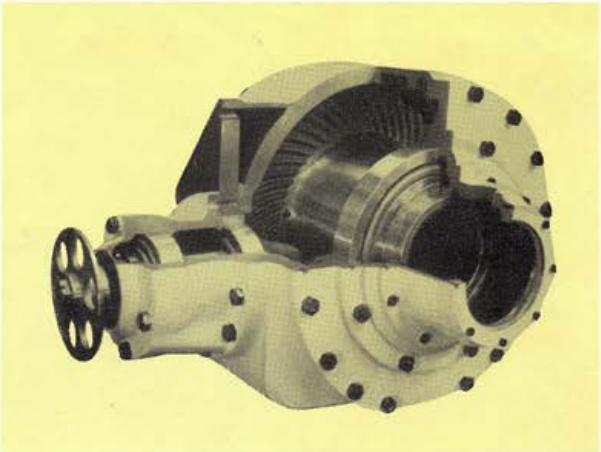
pairs, with the serial number allotted to each pair etched on both gear and pinion.

The main casing forms an oil bath, providing adequate lubrication for the gears and bearings. When the gear revolves, oil is directed into the pinion bearing housing irrespective of the direction of rotation. The gear bearings are lubricated by oil thrown off the gear and collected in pockets formed on the bearing housings. An inspection cover also incorporates a ventilator, and a combined oil filler and level gauge is fitted at the rear of the casing.

Prototype units were tested in the David Brown works at full load and at all speeds. Each unit was given an hour's run—half an hour in each direction—before despatch.

A particularly noteworthy feature of the design is that the cases were fabricated from steel plate. This was the first time the Huddersfield company had used fabrication methods in the manufacture of this type of product, and it is believed that they are the first to do so.

Strength and rigidity are among the main features of the David Brown units; tests have shown that the bearing arrangement has cut down the deflection of the pinion in running to less than one fifth of that normally found in a unit of this type.



The cases were made by the Welding Division of David Brown and Sons (Huddersfield) Ltd., a well equipped section housed in a separate works at St. Andrew's Road, Huddersfield.

At the request of the parent company, this Division prepared a special welding design to provide maximum strength with economy of material and accessibility of all joints.

Sixty-six separate drawings were made. Of these, the wheelshaft bearing housings and earthing brush cover accounted for twenty individual prints. Twelve types of jig, together with all special pressing and forming tools, and handling equipment were designed and made on the premises.

The welding procedure covered 24 separate batch pieces, of which eight were pre-formed in special dies and three others were passed through special sub-assembly stages before reaching main assembly. Normal methods of butt and fillet welding were employed and all parts were inspected at each operation.

The material used was mild steel varying in thickness from $1\frac{1}{8}$ in. to $2\frac{1}{2}$ in. Using a special jig, all main parts were brought together and securely tacked. After checking this preliminary assembly, the inner ribs were welded into place. With the aid of balanced positioners the remaining welding work was then completed.

Prefabrication of each outer case called for the welding of 750 inches of metal, while the outer bearing housing entailed 70 inches of welding. All necessary pre-machining of the main pinion bearing housing was carried out, and other pre-assembly work included the punching of full sets of shims for both the pinion and wheel bearing housings, and the drilling and tapping of inspection cover facings and oil drain plugs.

It was not found necessary to build wooden models of the unit to work out the welding design, but six prototype cases were made, without the aid of jigs and fixtures, before the design was finally approved.

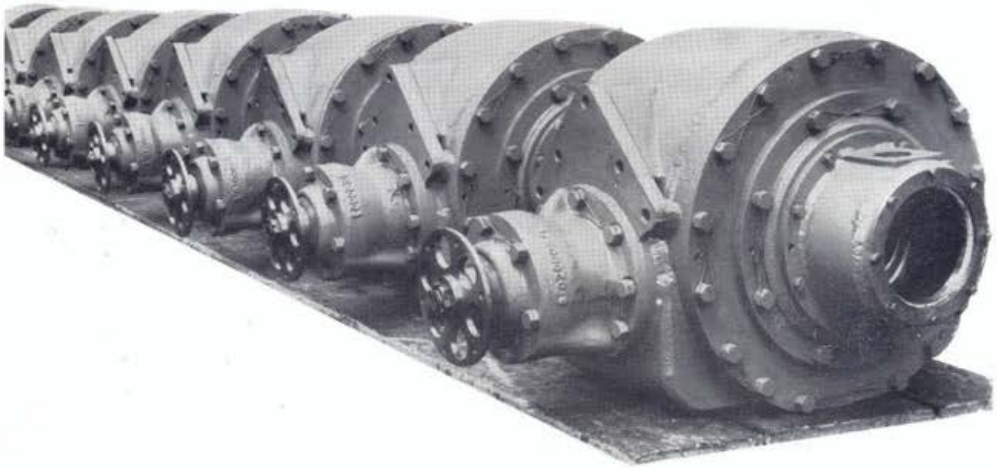
As was only to be expected with such an intricate welding design, initial difficulties were encountered during assembly in bringing all the parts together within the comparatively fine limits required. (The machining allowance on the outer faces, for example, was less than $\frac{1}{8}$ in.). However, these problems were satisfactorily solved and none of the finished units were rejected.

By careful planning, the application of sub-assemblies and the judicious use of the jigs and fixtures, finished cases were produced in batches of forty and components in batches of up to 200.

All welded components were stress-relieved to ensure dimensional stability. Six separate sets of welded samples from each case were subjected to exacting load tests, and in each instance a breaking load of 12 tons per lineal inch of weld was reached, with each tensile test piece finally breaking in the plate, well clear of the weld.

Several advantages are claimed for the pre-fabrication method of producing this type of case, compared with the normal technique of employing steel castings throughout. Apart from the fact that no patterns are required, the welded case is stated (a) to be both cheaper and lighter, (b) to offer fewer machining difficulties, (c) to be capable of being assembled more accurately, (d) to enable facings to be pre-machined, drilled and tapped as necessary, and (e) to entail less fettling.

A group of finished hypoid units ready for despatch for assembly in the car bogies.



Mission to Argentina

by David Brown

The Managing Director photographed at London Airport as he was about to leave for the Argentine.

THE evening of January 16th, a Saturday, found me sitting in London Airport waiting for the B.O.A.C. "Monarch" Service to take me to New York. It was a cold, raw, winter's evening and, as I sat there, I reflected on how much cosier it would have been sitting beside my own fire at home. Frankly, I wondered if I wasn't going on rather a wild goose chase. The circumstances were that during the Smithfield Show we had been very cheered to receive news to expect a large tractor contract from Argentina. Two days later came the information that the import permit for the tractors could not be obtained; the Argentine Government had decided to grant no import permits unless they were accompanied by a plan for progressive manufacture in the Argentine. All potential importers were given until 31st March, 1954, in which to prepare their plans.

It so happened that a sports car race was scheduled to take place in Buenos Aires on January 24th and we had been persuaded to enter a team of three Aston Martin 3/S type cars for this race. This was thought to be a good opportunity to try and kill two birds with one stone by seeing the motor

Mr. David Brown and Mr. MacKenzie in discussions with the Governor of Buenos Aires and other Argentine officials.

car race and also trying to get the "low-down" on the tractor situation. I was going to Argentina therefore, to endeavour to see the President, His Excellency General Juan Domingo Peron if at all possible, and if not, then to talk with officials upon the highest possible levels. In the middle of these reflections I, together with the other passengers, was called into the 'plane and in due course we took off.

Our route was due north because of the very strong westerly wind which was blowing and we expected to reach Iceland at about 1 a.m. Within an hour we were flying through heavy snow-storms but that did not hinder the passengers partaking of a very good dinner, after which I turned in, only to be awakened from a sound sleep by touching down at Reykjavik. Here the runways were piled up with snow on either side and it was bitterly cold. After a wait of about an hour for re-fuelling, we took off again hoping to make New York in one, and I fell into a rather fitful sleep. The night seemed interminable—when looking at airways timetables one is apt to overlook the alteration in the clock as one travels from East to West. Awakening at my normal hour of 7 a.m., it was only 2 a.m. by New York time, but at a very early hour I was relieved to see the coast of Newfoundland—again all covered in snow. After an uneventful trip we reached New York, a flight of some seventeen hours.

It was bitterly cold in New York, but fortunately I was not there for very long as I immediately caught my connection to Nassau in the Bahamas, where I had decided to break my journey for a day or so. At this time of year Nassau is delightful, with near perfect climate. During my short sojourn it was very pleasant to meet Lord and Lady Ranfurly—the new Governor and his Lady—who were near neighbours of mine in Buckinghamshire, and also to spend a very delightful evening with Lord Beaverbrook and Max Aitken. I then took off for Miami en route to Buenos Aires, flying via Panama and down the West Coast of South America, calling at Lima in Peru, Santiago in Chile, and finally across the breadth of the continent to Buenos Aires—situated on the banks of the muddy Rio de la Plata and not, as one would expect from a cursory glance at a map, on the coast: the coast proper is 400 miles from Buenos Aires. By comparison with my landing in New York, the temperature at M. Pistarini airport was so high that passengers were casting aside their jackets, removing neckties, opening shirtnecks and loosening belts in attempts to keep cool, and this was at 7-30 in the evening!

Buenos Aires itself is a well laid out, wide-streeted city, with the usual mixture of the old and the new—the old showing very much a Spanish influence and the new showing a leaning towards height rather than ribbon development. Circling

Our Argentine agents, Messrs. Buxton Limitida, were represented in the discussions by Mr. Arthur Buxton (left), and Mr. Norman Danby (right), both photographed in the grounds of the Hurlingham Club.

A reproduction of the signed photograph which President Peron handed to Mr. David Brown at the conclusion of their talks.

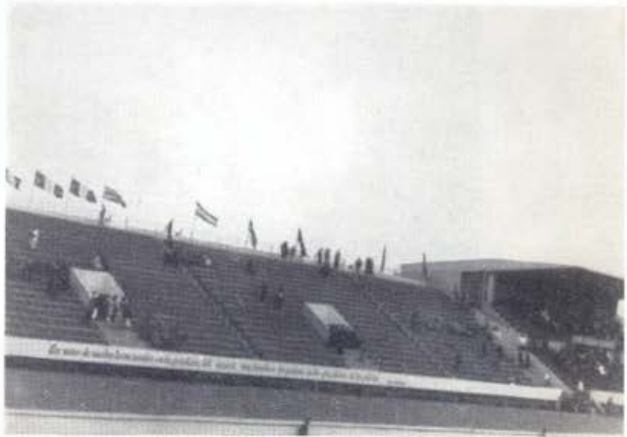
the town is a magnificent four-track fast "Autobahn" featuring the over-and-under traffic diversions and thereby relieving congestion in the city. The main shopping street—Florida—is closed to traffic during certain hours of the day: on the whole it is a very pleasant city. Concerning the population, there did not appear to me—as a casual observer—to be the extremes of poverty such as one finds in Italy and Spain for instance, and the city of Buenos Aires has an air of prosperity.

On the second day after my arrival, following a reception held by the Governor of Buenos Aires, and through his good offices, I had an interview with the Minister of Economic Affairs, Senor Gomez Morales, to which I was accompanied by Mr. Norman Danby of Buxtons Ltda., and our Mr. Ian MacKenzie. (On my way to this interview I called in to see the British Ambassador, Sir Henry Bairstow Mack and his Commercial Attache, Mr. Unwin, at the Embassy). The discussion was conducted on the friendliest of terms and owing to the fact that it lasted so long and that President Peron left his desk at about 6 p.m., it was impossible for him to see me that day. I may say that I was told that the President starts his day at 6-20 a.m. and frequently holds Cabinet meetings at 6-30 a.m.!!

In between various meetings with Buxton Limitada and the Minister of Economic Affairs, I had been watching the team practising and on Sunday the race was run. It was obvious that unless some mechanical trouble developed with the 4½-litre Ferraris our 3-litre Aston Martins would not be able to keep pace with them. The whole story of the race has been written elsewhere and the results are now well-known. The event was marred by the tragic end of Eric Greene: his privately owned Aston Martin on going very fast round one of the bends went on to the grass verge and so into the ditch, which caused it to oveturn and subsequently catch fire. Eric was badly burned and died from his burns 24 hours later. We extend our deepest sympathy to all his relations and pay sincere tribute to Eric for all his help to us in our pre-race arrangements and also in assisting me to my high level discussions.

On the following day I was telephoned and told that His Excellency would see me that morning. On arrival at Government House at 11 a.m., accompanied by Messrs. Danby, Buxton and MacKenzie, we passed through several Secretaries' offices before finally reaching the President's ante-room. His Aide-de-Camp requested me and MacKenzie to enter the President's office to be presented. As we entered the long room at the opposite end to the desk and conference table, President Peron rose from his desk and walked forward in a quick and friendly way to greet us. He is a man of virility, possessing great charm of manner: a very energetic man, one who would

The grandstand on the Buenos Aires autodrome, showing the President's stand on the right.



move quickly to his desk for a paper to illustrate a point of discussion. His office is full of mementoes and I noticed, amongst many other things, model cars and tractors on his desk. Although His Excellency speaks very little English, it was obvious that he understood it quite well.

We first of all discussed the unfortunate accident of Eric Greene, who had not died at the time of the interview. President Peron assured me that Eric would receive the best available medical attention and that he had personally sent his own doctor and the greatest burn specialist in the Argentine to see him. Eric had been very friendly with the President, having motor racing as a common interest. We then talked of the wonderful motor racing circuit that the President had built—certainly one of the finest I have ever seen—and he sketched on a piece of paper certain improvements he is going to incorporate. And then, getting down to the business in hand, that of progressive manufacture of our tractors in the Argentine, the President outlined his policy, indicating that he was most interested in our larger tractors, and had in mind not only agriculture but also earth moving, road making, etc., etc. The whole interview was conducted in an atmosphere of great harmony, the President finally handing me an autographed photograph of himself. His Excellency then called in his official photographer and as we posed under a giant stuffed bird, he hold me the story of how it came to be in his office. It is a most magnificent bird—a Condor—with its wings outspread as if in flight. This bird is common in the Andes country; it is a powerful flyer, flies very high and never waivers or becomes dizzy. Before Juan Peron became President he formed and commanded the Mountain Troops which patrolled the border between Argentina and Chile—the mountainous Andes countryside. When he was elected President his fellow officers sent him this stuffed Condor with an inscription to the effect that he, like the Condor, had reached the highest position his country could offer him, and they wished him well and hoped that he would never waiver or become dizzy, but if he did then he should pause and look at the Condor. The photograph taken appeared in the Press that evening with an account of the interview, during which I had promised to submit a plan for progressive manufacture before the end of March.

As I left Argentina—my route lay through Montevideo, Rio de Janeiro, Recife (the East Coast) and thence to England—I reflected on all that I had seen. I was very much impressed, not only by the richness of Argentina in particular, but of South America in general, the vast, exciting potential seemed to me a challenge. I have high hopes that our Organisation will not fail to accept this opportunity and I feel that anything our competitors can accomplish (and there are several factories already established on the outskirts of Buenos Aires through progressive manufacture), we British should be capable of at least equalling.

A Condor, stuffed with wings outspread as if in flight, overlooks President Peron's desk—a reminder of the time the President spent in command of the mountain troops in the Andes border country. It was while standing below this giant bird that the group photograph appearing as the front cover of the March issue of NEWSLETTER was taken.

Taming the Jungle

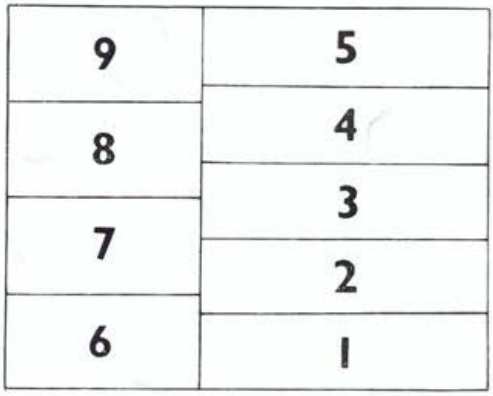
Almost hidden by jungle foliage, the 30TD tracklayer fitted with Blaw Knox hydraulic bulldozer tackles preliminary clearance of a jungle tract in Thailand. From this photograph, it appears that Yip In Tsoi. Co.'s description of the height and density of the vegetation amounts to an understatement.

COMPARED with Britain, the difficulties of staging an industrial demonstration in many overseas countries are multiplied by the scattered habitations of interested people. Keeping this in mind, the following report from Messrs. Yip In Tsoi & Co. Ltd. of a tractor expedition's four-day land clearance demonstration in the north of Thailand late in 1953, is in fact a modest description of a very considerable achievement.

The demonstration, says Mr. E. M. Chu, Managing Director of Yip In Tsoi, was conducted on the farm of Kamnan Ploy Niyomthai (the word Kamnan designates a Government servant whose duties correspond roughly with those of a district sheriff). To reach the farm from the Bangkok headquarters of the David Brown distributors it is necessary to travel directly north by rail to Tapan Hin, about 318 kilometres, then east by truck for another 40 kilometres towards Petchaboon—a journey of over 200 miles in all. This was the method of conveying all the machines, for there is no highway between Bankok and Tapan Hin.

There were two reasons for picking such an apparently inaccessible spot for the demonstration. First, the soil in that area is very fertile but the district is totally undeveloped; outsiders have discovered this fertility and considerable numbers are taking tracts of land. Second, the Kamnan, one of the most progressive men in that part of the country, acts as the district agent on behalf of Yip In Tsoi, and it was felt that this would provide a boost towards establishing him as a successful dealer.

The big problem of the area is that of clearing the land and breaking it so that it is suitable for a crop, and in this case a tract of 15 rai (6 acres) of semi jungle was chosen. Big trees had been logged from the plot a few years ago but vegetation was dense and stood ten to fifteen feet in height, with the largest saplings six to eight inches in diameter. Stumps up to twenty inches were approximately fifteen feet apart. The programme was to clear the land completely and prepare it for planting, with the following equipment on the job: David Brown 30TD with Blaw-Knox hydraulic bulldozer and winch (the bulldozer was fitted with locally made grubbing teeth), David Brown 30TD, David Brown 30D with disc plough (tractor and implement belonging to the Kamnan), ridger, post-hole digger, heavy duty three-disc plough, and heavy duty tandem spading disc harrow.



The bulldozer (note the sprag for winching operations) took care of anything up to eight inches in diameter.

The plot was marked out as illustrated, with ten of the fifteen rai divided into five sections and the remaining five rai sub-divided into four.

The programme was to clear plots 1 to 5 of stumps, etc., beforehand and use them for ploughing and seed bed preparation. Simultaneously during the demonstration period, one of the plots 6 to 9 was to be cleared each day. Owing to very heavy rain after the second day, it was not possible to maintain this schedule exactly.

Mr. Chu's report goes on: "Six of us went to work clearing plots 1 to 5 on Saturday morning, and we had all the stumps and overgrowth removed by the following Wednesday afternoon. Seed bed preparation was started on plot 1 on Thursday morning as the crowds began to arrive, and

Larger trees had been logged from the area some years before, and the bulldozer with locally fitted grubbing teeth moved in to shift the stumps and roots. The resulting craters were filled in later.

clearing operation began simultaneously on plot 6.

Considerable advertising had preceded the demonstration in order to acquaint people with the programme, with announcements over the national radio, letters to all dealers and agents, loud-speaker announcements in the immediate area and in neighbouring towns and villages, and relay system at the site to broadcast details of activities, visiting dignitaries' speeches, and music. Lunch was served for all visitors at noon each day of the demonstration.

In spite of inclement weather during the last two days, the demonstration attracted more than 1,000 people, including all the government officials in the area, three complete schools, a delegation from the Thai Tobacco Monoply, and individual groups from Petchaboon, Lomsak, Uttaraditr and Tapan Hin.

The greatest interest was in the land clearing operations, the most immediate problem of the area. From the sales point of view, results were very satisfactory. The demonstrating 30TD with bulldozer and winch was booked on the spot, and two other groups requested a few days to decide between a 30TD or a 50TD. In addition, orders for six 30D Diesels were expected in the very near future.

Procedure for the actual demonstration was worked out in practice beforehand, and other overseas distributors may well find Mr. Chu's outline of the six-stage programme a help if they decide to tackle a similar project. Phase 1 consists of displacing the shrubs, saplings and stumps, using the 30TD and bulldozer, The 30D is then used to remove the displaced material to a disposal area. As the third phase, the 30TD is employed in direct winching of trees and stumps too big to be tackled in phase 1. Phase 4 consists of double winching through a pulley block of all remaining stumps and trees, again using the 30TD and winch. The residue is again removed to the disposal area as phase 5, and the last stage is the use of the 30TD and bulldozer in filling the holes from which stumps and trees have been removed.

The 30D, Mr. Chu remarks, falls behind in the removal operation during phase 1, but catches up during the slower operation of winching and double winching in phases 3 and 4.

TOP:
A heavy duty disc plough, hauled by a 30TD, was quite an attraction as it went to work on a plot immediately it had been cleared.

CENTRE:
The 30D, with spade lugs, was in action breaking up the virgin ground with a disc plough.

RIGHT:
A woman tries her hand with a 30TD, making a good job of preparing a seed bed from the rugged furrows with the tandem disc harrows.

Feltham's Tradition

Gregor J. Grant, Managing Editor of the motoring journal "Autosport", wrote and published this account of Aston Martins past and present just before the start of the 1954 racing programme.

ON what used to be Hanworth aerodrome is a group of buildings which house some very important machines. For at Feltham, Middlesex, are the works of the Aston Martin and Lagonda divisions of the big David Brown Group of Companies. The very fast DB3S sports racing two seaters are challengers for the World's Sports Car Championship in 1954.

When one sees these handsome cars, whose appearance does not resemble any of the widely-copied Italian makes, one feels that the late Lionel Martin would wholeheartedly approve of the modern bearers of that famous name. Martin believed implicitly in racing as a means of developing production cars—just as David Brown does to-day.

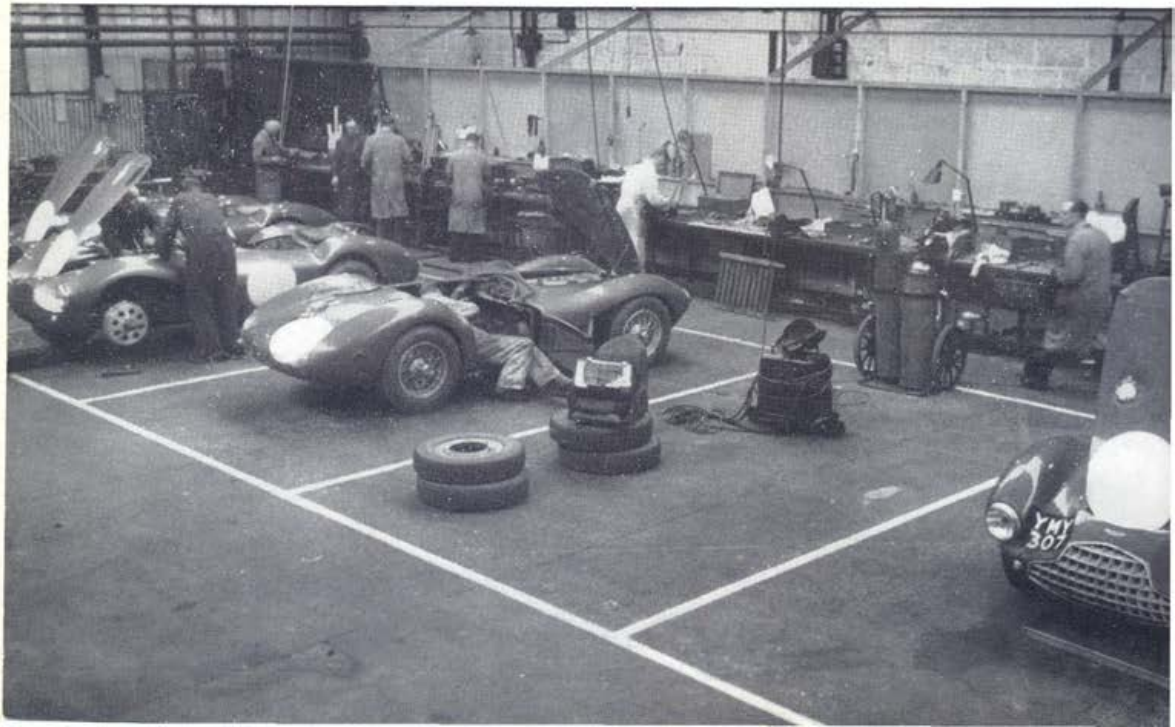
It was in 1913 that Lionel Martin built his 1½-litre car, using a Coventry-Simplex engine in an Isotta-Fraschini chassis. This little machine was very prominent at the early Aston Clinton hill-climbs, and when the Bamford and Martin concern began building cars in the early 1920's, Lionel named the first car the Aston Martin—a name that has never ceased to be associated with motor racing.

In 1947, Mr. David Brown took control of Lagonda Ltd., having already acquired Aston Martins. This was to have an interesting sequel. The late "Jock" Horsfall had a great deal to do with the development of the earlier 2-litre cars, and, indeed, the line of very successful DB cars sprang from the machine with which Horsfall and Leslie Johnson won the 24 hours Race at Spa in 1948.

It was said that, after this race, Johnson and John Eason Gibson sketched the outline of a "hard-top" Aston Martin on the back of a lap chart and showed it to David Brown as a suggestion for a new car!

It will be recalled that the modern style Aston Martins made their first appearance at Le Mans,

Putting final touches to the Aston Martin DB3S team cars before shipping to South America. ("Autosport" photograph by George E. Phillips).



in 1949, with two cars powered by four-cylinder, 2-litre, push-rod engines, and the third having a new twin-o.h.c. six-cylinder unit of 2.6 litres developed from an engine designed originally by W. O. Bentley for the post-war Lagonda. It is this power unit, considerably modified and enlarged to 2.9 litres, which is used in the very rapid DB3S cars of the present time.

The DB3S was, of course, developed from the DB3 which Lance Macklin drove in prototype form in the 1951 T.T. First appearance of the "S" was at Charterhall, Scotland, in May, 1953, when Reg. Parnell demonstrated its speed and remarkable road-holding by running away with a sports car race. The marque was less fortunate at Le Mans when none of the three team cars finished—a great turn-up from 1951, when all five of the DB2's entered ran like clockwork till the end.

Since Le Mans, the DB3S has been outstandingly successful. Reg Parnell won the B.R.D.C. British Empire Trophy Race, Parnell and Eric Thompson repeated the Collins/Griffith Goodwood victory in 1952 with the DB3: the last named pair also won the Tourist Trophy and Parnell led a 1-2-3 victory at Silverstone in the international sports car race.

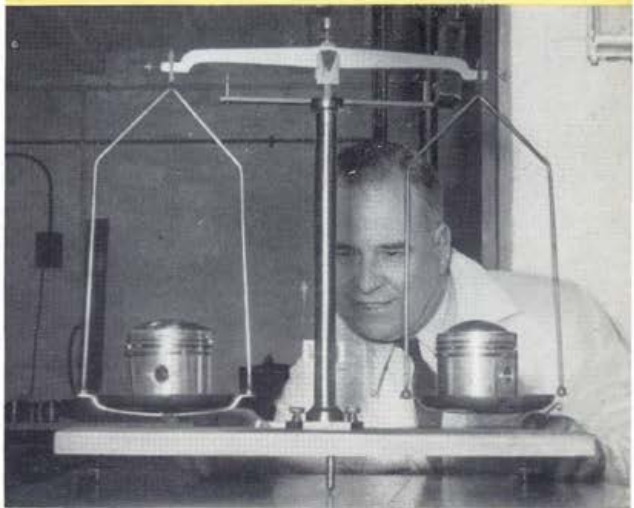
The cars are carefully assembled at Feltham from components made within the David Brown group: Chief Development Engineer and Competitions Manager is John Wyer, whose assistant is Brian Clayton. Wyer controls a team of skilled mechanics and fitters whose passion is—Aston Martin. The main racing and experimental section is contained in a converted aircraft hangar and near the service department is a well-equipped test house, with a couple of Heenan and Froude dynamometers and all the paraphernalia essential to the building up of racing power units. It is here that Jack Sopp and his men attempt to disprove the theories of the drawing office staff—or vice versa.

To cope with an extended racing programme, the test shop is being considerably altered, and the dynamometers are being contained in separate bays. With two engines being revved in an open shop, it is a trifle difficult for operatives to hear their own particular units—hence the separation of the test-beds.

All testing is carried out under John Wyer's supervision. Normally, Snetterton is the venue, but the Avon tyre people often arrange for tests to be done at Castle Combe. Much of the actual testing is carried out by Roy Parnell, who is on the staff at Feltham; he is, of course, Reg's nephew. However, Peter Collins does a great deal of proving

Brian Clayton (left) discussing a clutch modification on a David Brown S430 gearbox with Fred Lowne. ("Autosport" photograph by George E. Phillips).

Engine tuning expert Jack Sopp carefully balances a pair of racing pistons. ("Autosport" photograph by George E. Phillips).



under racing conditions and Reg Parnell is also often consulted.

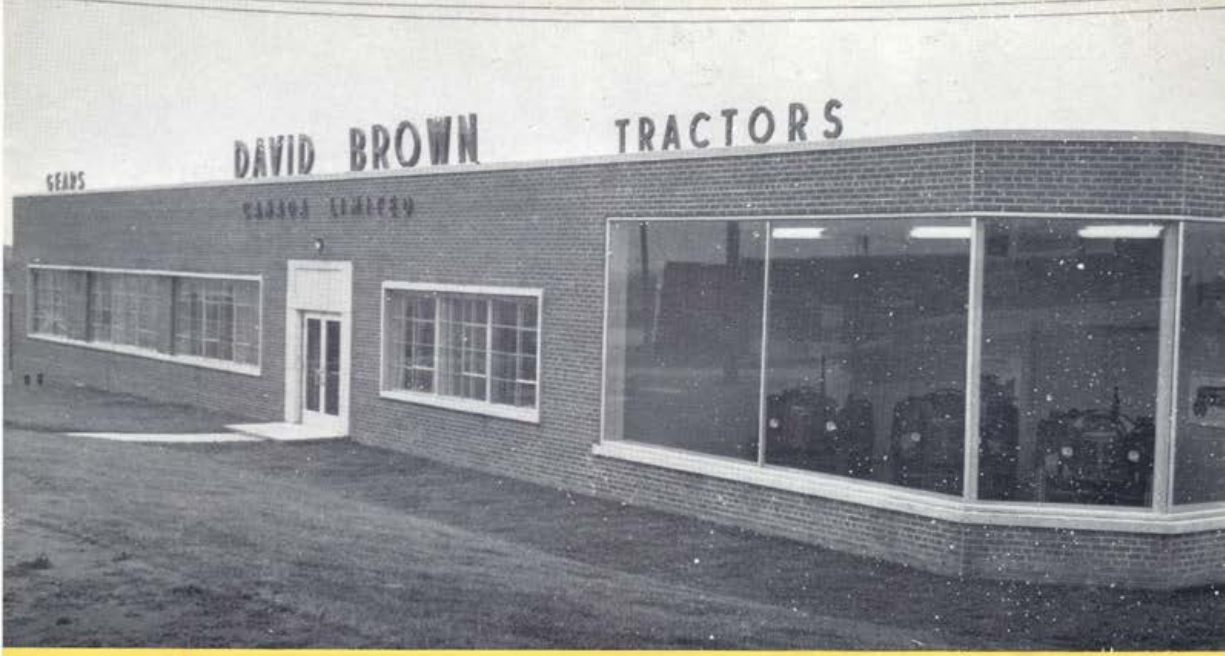
Now, as regards the cars themselves; naturally there are many minor modifications from the 1953 machines, but the chief difference is the use of outboard brakes at the rear on all cars, unlike the prototype which had "inboards". These brakes are Girling hydraulic, and two leading shoes are used at the front: Mintex brake linings are fitted as standard.

The chassis frame is very similar to that of the DB3, but, at the front the tubular side members are slightly "kinked", and entirely different engine mountings are utilized. Piston-type Armstrong dampers control the trailing link front suspension, and telescopic units are used at the rear. Transmission is taken through a four-speed David Brown gearbox via the latest pattern hydraulically-operated Borg and Beck three plate clutch. The 32-gallon rear tank is of Delaney-Gallay manufacture, as also are the oil and radiator header tanks. Electrical equipment is by Lucas and the centre lock Rudge wire wheels are of Borran manufacture.

Dimensions of the six-cylinder engine are 83 mm. and 90 mm. (2,922 c.c.). Apart from valve springs, timing chains and the Hepolite pistons, the entire new engine is built by the David Brown group. Carburation is supplied by three double choke Weber instruments; the two, three branch exhaust manifolds converge to a Servais, straight through silencer.

Undoubtedly the Feltham folk are out to maintain the prestige of British automobile engineering with those very workmanlike examples of the DB3S. However, Aston Martins are progressive people and even their very attractive DB3S is by no means the last word in Feltham sports racing car development. Things are happening behind closed doors, and the results will be produced as and when considered necessary to the maintenance of a fine motor racing tradition!

Mr. David Brown himself takes a great personal interest in the preparation of the team cars, and in this picture he is discussing a technical point with mechanics Fred Lowne (left) and Bill James (right). The picture was taken by Roy Jones, another mechanic in the racing section.



Canada Calling

ON formation in May, 1951, the function of David Brown (Canada) Ltd. was to market the products of the Gear and Foundry Groups of the David Brown Organisation; Tractor Group products were at that time being marketed through a Branch sales office with distributors spread across the nine provinces of the country. The decision to merge the Canadian company with the branch office was made in July, 1952, with the formation of Tractor and Gear Divisions to operate within the framework of one unit.

Distributors in all provinces continue to handle Tractor Group products, except in Ontario, where the company itself acts in that capacity. The parent company at Meltham has taken considerab.e rains to make available to the Canadian farmer the type of machine he needs—not an easy matter in view of the widely different farms. In the Eastern provinces the small farm is the rule, while in the Prairie provinces a farm of 10,000 acres is usual rather than exceptional.

First such special development to emanate from the factory was the "Prairie" Cropmaster, with special features such as pan seat, independent foot brakes, steering column throttle control and swinging drawbar; this has been followed up by the introduction of a range of ploughs specially designed for Canadian soil conditions.

Industrial tractors are also handled by David Brown (Canada) Ltd., and have been adopted by a number of national concerns. The light VIG/1AR and the medium VIG/1C are both in service with the Royal Canadian Air Force, and an initial delivery of the smaller machines was recently made to the Royal Canadian Navy.

The full range of David Brown tractors and implements is available to the Canadian buyer, and sales against the extremely keen competition of Canadian and American tractor builders speak well for the quality of the David Brown machines.

In the case of the Gear Division, all marketing of Gear and Foundry Group products is carried out by the company's own sales staff. Extremely keen competition is encountered from Canadian, American and other British manufacturers, but it is stated with some pride that once a Canadian customer has used David Brown products he cannot be swayed to any other.

David Brown (Canada) Ltd. carry a large stock of "Radicon" worm reducers, and in most cases can offer delivery "off the shelf". The pulp and paper industry is typical of users who have installed

and used "Radicons" with complete satisfaction. Such demanding applications as conveyors and processing plants have proved the strength and durability of the units.

It is interesting to note that fan-cooled reducers are the exception rather than the rule in this part of the world, for this type of unit has not been widely produced by American manufacturers.

The Men on the Job

Manager of the Toronto company is Mr. Eric Percival, a David Brown employee for over 20 years. Before going to Canada on the company's formation three years ago, Mr. Percival was a member of the technical staff at Park Works. Gear Division Sales Manager is Mr. A. G. Whitaker, who has also been with the company since its inception.

The only member of the staff resident outside Toronto is Mr. S. H. Walters, who has been Gear Division Sales representative in Montreal for just over a year. His Toronto based counterpart for Ontario, Mr. A. M. Gibson, joined the company on its formation.

Tractor Division sales in Ontario are handled by Mr. F. Stroback, who was formerly with the David Brown agents in Denmark (Lantraco v Erling Gad) and is also a "founder member". Handling tractor service in Canada is Mr. R. Forrester, one of a trio of former Meltham employees, who emigrated just over a year ago.

Prior to going to Canada some six months ago to take charge of the General Office and Accounts, Mr. S. Barnwell was well known at Meltham as Assistant to the Commercial Director. Mr. F. Wilkinson emigrated to Canada at the time of his marriage and has taken charge of Receiving, Despatch and Spares sections for the past six months.

The staff complement is made up by a Dutch labourer, who had experience of David Brown tractors in Holland, and two shorthand typists.

Just over six months ago, the company moved into new premises at 1550 O'Connor Drive, a single-storey building, 120 feet (frontage) by 105 feet. Of the total floor area of 12,600 square feet, a showroom takes up 600 square feet, and a further 1,440 square feet is office accommodation. A luncheon room, shipping office and parts store are also incorporated, and the remainder of the floor space is taken up by tractor and gear stock.

A brick frontage gives the modern building an attractive appearance, while the warehouse section is constructed of cement blocks. From the start of excavations, the building was completed in twelve weeks.

An automatically fired oil furnace heats the building, and a manually operated thermostatic control maintains any set temperature without further attention to the apparatus.

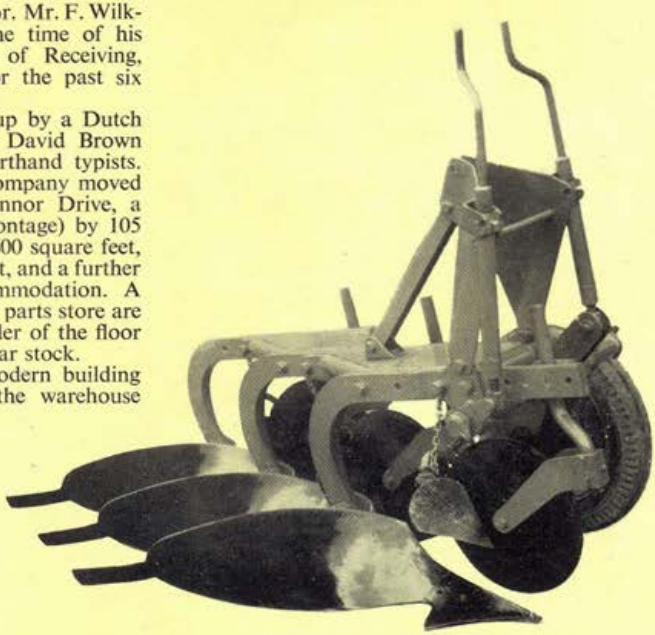
The name "David Brown" is prominently before the public eye, for the premises are alongside a main road which carries a constant stream of traffic.

New American Branch

David Brown representation in Western U.S.A. has recently been strengthened by the establishment of a U.S.A. Pacific Branch Sales Office at Oakland, California. Manager of the new branch is Mr. G. A. Glover, former Commonwealth sales representative of David Brown Tractors (Engineering) Ltd. He will be assisted by Mr. W. W. Nicholson and Mr. F. G. Hendy, who will act as Sales Manager and Service Manager respectively.

The new office, which will function as a branch of David Brown (Canada) Ltd. has its headquarters at 2693 (3a) Alving Room Court, Oakland, 5.

Mr. Percival reports that when he travelled to San Francisco early in the year to discuss with Mr. F. B. Marsh the handling of tractor business on the Pacific Coast, the temperature on leaving Toronto was 10 degrees below zero; in sunny California the thermometer hovered on the 70 mark.



A three-furrow David Brown plough specially designed for Canadian conditions.

SPORTS SPECIAL

HUDDERSFIELD

Football: Reserves Shine

At the end of February, the Park Works first team was still dogged by ill luck, and nothing seemed to go right. For instance, on Saturday, February 20th, they tackled Paddock Athletic at Leeds Road playing fields and our lads looked like playing the opposition to a standstill. Paddock were near our goal only twice in the first half, yet they were winning 1-0 at half time. After the interval, Paddock soon scored again, but from then onwards there was only one team in the picture. That was Park Works, but Betts was the only player to register a goal. The following week Park Works were entertaining Linthwaite United at Moor End, and despite having most of the play and plenty of scoring chances, they lost by 2 goals to 1.

These reverses told their story in the League Table, and we found ourselves near the bottom with a very strong threat of relegation to Division 2. Came the visit to Clayton West, also near the bottom of the table, and there was a general reshuffle of the Park Works team. R. Stevenson moved from right back to centre forward, and D. Blair and G. Brook came in from the Reserves at right half and outside left respectively. What a transformation! At half time the score was one goal each, Stevenson having netted for Park Works. During the second half our team got a grip on the game and ran out winners by 4-1. The two promoted players had an outstanding part in this victory for they scored the three second half goals (Blair 2), besides proving their all-round ability.

Wooldale Wanderers were at Moor End on Saturday, March 13th, and this was another "needle" game as Wooldale had the same number of league points as ourselves. After a good clean game, we ran out winners by 3 goals to 1— a "hat trick" scored by R. Stevenson. In all the games so far recorded, Jimmy Sandford has given brilliant performances as goalkeeper.

The Second team have carried all before them since the last report, and head Division 4. They have also qualified to meet John Haigh's in the semi-final of the Groom Cup.

Some supporters thought that by making first team calls on the Reserves we should jeopardise their chances, but this has been far from the case. On March 6th they had only nine men, yet they beat Lindley Church Reserves 3-1, and on Saturday, March 13th, they visited Holmfirth and won 5-1. Credit is due to this team, which has lost only one match so far; goal-keeper J. R. Earnshaw has proved a real acquisition.

Bowling: Four Teams

Preparations are going ahead for the bowling season, and there is even talk of playing four teams in the Huddersfield Works League. We are honoured and delighted to be asked to provide a team to play Tractors on the occasion of the official opening of their new green at Meltham Hall on Saturday, April 10th.

Badminton Team Win Promotion

The Badminton Section played their last League fixture on Monday, March 15th, and won 9-0 at home against Holmfirth "A". Having gone through the season without defeat, they finished at the head of their section in Division 2 and will consequently be promoted to Division 1 next season.

Betty Hewitt and Bill Husler (with Jack Holdsworth as a very capable deputy for Bill on one occasion) have played 30 rubbers and won them all.

As the Division is sub-divided, the top teams in each section play off for the trophy; we can only hope that our team touch top form in this match.

Our sphere of friendly badminton matches changed somewhat on Wednesday, March 17th. Up to that time our usual location had been in the Wakefield area, but on this occasion we played against a Leeds team.

Darts: "A" Team in the Fight

As the darts season draws to a close (most teams have only one or two matches to play), it is more or less possible to see which teams will be in the play-off. In Section "B", Marchant's and Britannia Works are almost certain to be the top two, but in Section "A" things are more complicated. Four teams are still fighting it out—"The Four Horseshoes", Armitage Bridge, David Brown's "A" and the Bridge Inn. Placings will not be decided until the last match, so interest will be maintained to the end. Although the "B" team have had a bad year, they are a sporting side and will be trying again next season.

In the Lockwood Individual Knock-out Competition, "A" Section representative F. Godber is through to the last eight and is capable of carrying off the title if he maintains present form. E. Willoughby (representing Park Works "B"), has won through the Preliminary Rounds and goes into the last sixteen.

The draw for the Park Works Knock-out Darts Competition has been made, and some very keen games are anticipated. Games were due to commence on Tuesday, March 16th.

L. Broadbent, Hon. Sec.

MELTHAM

New Green Ready for Play

Our new bowling green at Meltham Hall will be officially opened on Saturday, April 10th, at 2-30 p.m.; Mr. J. Whitehead has consented to perform the opening ceremony. The opening will be followed by an exhibition match, and as our friends from Park Works have been asked to provide the opposition, a good game is assured.

C. Knowles, Hon. Sec. (Block C3)

Chess: First-time Winners

The D.B.T. Chess Section's unfinished match with John Crowther's was resumed on February 25th, and after a very exciting struggle we won by half a point.

Reynard drew first blood for us, to be followed by two losers. This left two games to be decided, and when Ernest Drake won by fine play (after sacrificing a knight) the result depended on the last game. All we needed was a draw, and this was obtained amid great excitement. Quite a large crowd gathered to watch play in the final stages.

Our last match against Ravensthorpe on March 18th, was the crucial game. A 5-3½ win, which will be fully reported in the next issue, makes us winners of the Watkinson Trophy in our first season of competition.

Heading for Football Treble

D.B.T. football enthusiasts are still feeling confident that the Works team will achieve treble success by the end of the season. They have retained the League Championship already, two points are required to make certain of the Subsidiary Cup (so far, all five games have been won and there are two to play), and we shall then be able to concentrate on the Hoyle Cup. The semi-final of the cup competition will be played against Huddersfield Y.M.C.A. on the I.C.I. ground at Leeds Road on Easter Monday morning, kick-off 10-30.

The District League team, still with an outside chance of winning the championship, unfortunately slipped against the I.C.I. on March 13th. Probably due to lack of match practice, two previous matches having been cancelled, they never really got going in this match and were beaten by the odd goal in three. This is their first League defeat since October 24th. However, the following week we saw an entirely different team take two points from Upper Cumberworth on the away ground. It was a keen game which we just deserved to win on form. A feature of the match was a reproduction of the play we used to see regularly from Brook and Stead at centre-forward and inside-left respectively. Brook showed shooting as of old times and bagged a couple of goals, whilst Stead's scheming and feeding was a treat to watch.

If this form can be maintained, the position of runners-up is assured—if not the championship.

J. A. Longley, Hon. Sec.

Cricket: Home Match Every Week

Once again the time comes round to invite old and new members to take part in the activities of the D.B.T. Cricket Section. Having been fortunate enough to have two teams elected to the premier division of the Yorkshire Cricket Council, we shall have a first team match at Meltham every Saturday, and for a nominal membership fee of 5s. we can offer cricket second to none in the area.

Owing to pressure of work, Mr. Gallagher has unfortunately had to resign from the captaincy of the Halifax—Bradford section team, but in Mr. L. Boothroyd we have a keen and enthusiastic successor who will not let the team down.

The "free-lance" team will this year be under the captaincy of Mr. Sydney Stead, who was vice-captain last year and has appeared in the role of captain in several matches.

Calling All Athletes

Between the time of writing and publication of these notes, a meeting will have been held with a view to forming an Athletic Section of the D.B.T. Sports and Social Club. The intention is that the section should not only compete in the annual Gala, but should also take part in other athletic events.

SALFORD

Football: Goals Galore

The fortunes of the football team representing David Brown-Jackson Ltd. in the Salford City Amateur League have suddenly soared, and there is good possibility of finishing the season in a position far more respectable than seemed likely a few weeks ago.

Centre-forward M. Maguire deserves our congratulations on having scored fourteen goals in three matches, from the following games:

March 13th, D.B.-J. 6 (Maguire 3)—Greengate and Irwell, 1.

March 6th, D.B.-J. 4 (Maguire 2)—Leamings 1.

February 27th, D.B.-J. 18 (Maguire 9)—Valstar 2.

Bowling: Two League Teams

So great was the interest in the activities of the bowling team last season (D.B.-J. finished fourth in the Salford Workshops League), that two teams have been entered for the coming season, in Divisions 2 and 3 respectively. The teams will play their home matches on the Weaste Conservative Club green, on Tuesday and Thursday evenings.

Forty players have registered for the season, and any other interested bowlers are invited to hand their names to the Bowling Section Secretary, Mr. G. Seymour, Production Control Department.

Annual Report, 1953

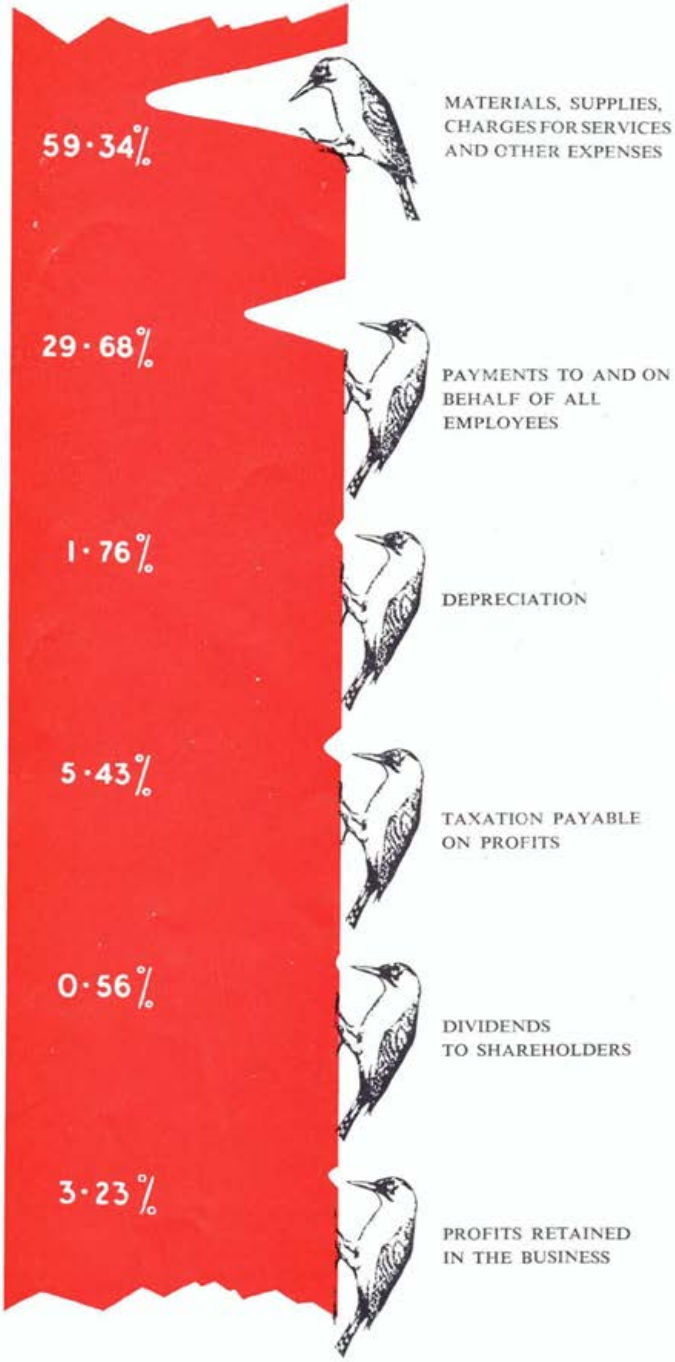
PRESENTED at the Company's third annual general meeting, on 25th March, 1954, the Annual Report of The David Brown Corporation Limited again takes the form of an illustrated booklet.

Covering the year ending 30th June, 1953, the booklet describes another period of outstanding advance and progress.

Reviewing the year as Chairman of the Directors, Mr. David Brown points out that a lower profit was in fact earned on a volume of sales which was slightly in excess of that of the previous year. The Chairman goes on: "This, having regard to the disappearance of the seller's market, means that our products are still in good demand. Higher costs are being absorbed without price increases, hence the narrowing of profit margins. It will be realised from this that we are making a determined effort to meet the competition with which we are faced. We hope to be able to continue to do so".

In addition to the financial statements, the Report also includes an account of Aston Martin successes, an outline of developments of David Brown interests in South Africa, a review of important orders, new products and events affecting David Brown companies, and details of the 1953 tractor range.

On the opposite page is reproduced the feature which shows at a glance "Where the Money Goes".



ABOVE: *The David Brown 25 D was set on the turntable built for its introduction at Smithfield Show, with the salient features of this popular tractor shown as independent exhibits on each side of the octagonal dais.*

The Shows Go On

RIGHT: *Sir Oliver Harvey, G.C.M.G., G.C.V.O., C.B., British Ambassador (right), discusses the David Brown machines on the indoor stand of Ets. Ferga, with M. Robert and M. Brossard.*

BELOW: *The outdoor section of our French distributors' display.*

FOR the David Brown Tractor Division, the 1954 show season opened with two continental exhibitions of national status, attended by more than 2,000,000 people in all.

In February, Belgian distributors Ets. Fr. Vandenabeele had an outstanding display of tractors and implements on their stand at the Brussels show.

The fine exhibition hall housing the machinery section has an earthen floor with coconut matting strips covering the gangways, and granite chips laid on the actual stand areas.

To tour the whole of the exhibition would have taken days, for there are no less than a dozen such halls, each housing a separate section of this great show.

THE 26th French International Agricultural Machinery Exhibition had over 1,000 exhibitors. Held in conjunction with this exhibition and also staged in Paris are a general livestock show, a French National Poultry Show, and the French Ideal Homes Exhibition. The city had something for all during the first week of March, and a British passport gave free entry to any section.

Our products were on the stands (one under cover and one in the outdoor section) of distributors Ets. Ferga in the 125 acres of the agricultural exhibition, and as British tractors account for more than half the total number in use in France at the present time, the farming community were very interested to see what we had to offer.

Just before Mr. David Brown boarded a 'plane at London Airport to attend the Florida Grand Prix and for business discussions with tractor agents, he was asked by B.B.C. commentator Raymond Baxter to record his impressions of the B.O.A.C. "Monarch" Service. The recordings were being made for a feature programme on air travel.

Pit Patter

JUDGED from the results alone, the Florida International Twelve-Hour Grand Prix at Sebring on March 7th was a great disappointment for Aston Martin. Mechanical trouble caused the retirement after some 20 laps of two of the works team of DB3S models—the cars driven by Peter Collins/Pat Griffith and Reg Parnell/Roy Salvadori respectively—and the third car retired two hours later.

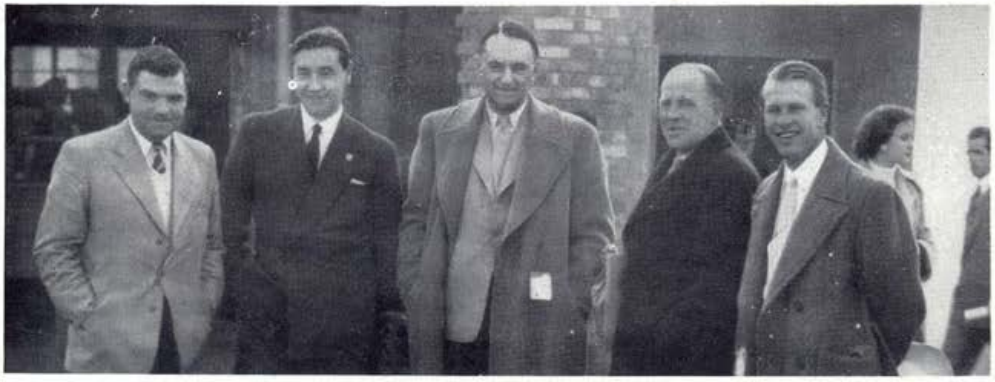
Even so, the race had its compensations for the David Brown organisation. The Aston Martin which was last to retire was driven by two Americans, Charles Wallace and Carrol Shelby, and the company's action in allowing local drivers to compete with a works team earned the Dunlop Trophy for Sportsmanship. This was received after the race by team manager John Wyer.

The regard in which the Aston Martin cars and team are held at Sebring is now permanently exemplified, for a sweeping bend on the five-mile course has officially been named the Aston Martin Curve.

April is the one month of respite for the Aston Martin team in the whole of the 1954 racing season. Early in May, a two-races-per-month spell which continues to the end of August starts with the Italian classic, the Mille Miglia. This is a race which is admitted to favour the driver with local knowledge, but the David Brown drivers always manage to acquit themselves well against the strong foreign opposition.

A fortnight later they will be back to track racing at Silverstone, endeavouring to improve on the third and fourth places and the three-litre class win which the Aston Martin DB3 models claimed in 1953.

Back home from Sebring, and happy if not on this occasion victorious, are the Aston Martin team. Left to right are Pat Griffith, Roy Salvadori, John Wyer (team manager), Reg Parnell and Peter Collins.



Turkish Delight

IF you were told to pack in readiness for a trip to Turkey, leaving the following day, what would you take? That was the problem confronting Mr. George Blackburn, a service engineer in the David Brown Park Works Automobile Gearbox Division, on Monday morning a few weeks ago, as the result of a telephone request made the same morning by Mr. H. Redmond (Joint Managing Director of Seddon Motors Ltd., of Oldham) to Mr. J. T. Riley (Manager of the Division).

If you were to decide on light clothing, you would learn a lesson. Mr. Blackburn did just that, preferring raincoat to overcoat, and found to his surprise that a snowstorm was raging at the time he stepped from the plane at Istanbul. In fact, the temperature was never much above freezing point during the six days of his stay.

Seddon Motors were sending their own serviceman, Mr. P. Ward, to supervise installation and deal with a number of points in connection with lorries which had been sold to Turkey through their agents, Pekin Limited Sirketi, and the David Brown company was asked to collaborate by providing a specialist to handle any problems in transmission units; in point of fact, Mr. Blackburn found that the David Brown model 45 gearboxes installed in these vehicles were giving satisfactory service and he had to carry out only a very small number of minor modifications. (It is interesting to be able to report that since the time of this visit, Seddon Motors Ltd. have received a further order for vehicles to be delivered to their Turkish agents).

In the 30 hours which elapsed between Mr. Blackburn being notified of the trip to the time of setting out on the first stage of the journey, passport and financial details had been arranged, necessitating a dash by car to Liverpool to collect vital documents. On Tuesday evening, Mr. Blackburn joined forces with Mr. Ward at Manchester and the two travelled to London, where they stayed overnight. The following morning they boarded a plane and touched down at Amsterdam by mid-morning, Dusseldorf shortly after noon, Vienna at 3-45 and Istanbul at 8-30 (10-30 local time).

Two weary Englishmen were rather more than surprised to find a snowstorm blowing as they stepped from the plane and, as Mr. Blackburn remarks, it soon became evident why the Turk wears a fez.

Getting down to business early on Wednesday morning, Mr. Ward and Mr. Blackburn met their host, Mr. Leventoglu of Pekin Ltd., and spent some time in discussion at the agent's premises. The vehicles, it seemed, were being built up from the sub-assemblies on arrival at the dockside, and this was the next port of call. In Mr. Blackburn's own words: "Packing cases were stacked one on top of another, and local engineers were assembling the vehicles in the open on the wharf, standing ankle-deep in mud".

ABOVE:
The main street of Istanbul is modern and prosperous but . . .

RIGHT:
. . . it's a different story behind: this is a typical backstreet.

LEFT: *Standing in front of the Istanbul premises of Pekin Limited, Sirketi, are (l. to r.) Mr. Ward, Mr. Pekin, Mr. Blackburn and Mr. Leventoglu.*

BELOW: *Turkey springs a surprise—the point at which Mr. Blackburn and Mr. Wqrd turned back when trying to reach an outlying village. The road ahead is blocked with snowbound vehicles and the drivers of these two cars found that brakes are little use in these conditions.*

To understand the difficulties under which these vehicles will normally operate, it is necessary to describe the general conditions encountered in Turkey. As the accompanying photographs illustrate, the main street of Istanbul is practically the only modern road. Even the backstreets would be described as unmade in this country, and outside the town the roads become worn earthen tracks. Even so, the Turk expects his vehicle to travel at a good speed, and the biggest vehicle seems to have some unwritten right to the road. In winter it is very cold; in summer the heat is terrific in comparison to our own climate.

One of the vehicles which the two servicemen were asked to inspect was at a village 70 kilometres from Istanbul. On Friday morning they set out in a powerful car, but after covering nearly half the distance they found the way blocked by drifted snow. Vehicles of all descriptions snaked ahead, trying to extricate themselves and each other and there was no alternative but to turn back. Next morning they set out again, this time with skid chains fitted and a shovel aboard. At the point reached the previous day, they found that soldiers had cut through the four-feet drifts and finally the car reached the village—a group of wood houses with a well as the communal water supply and sanitation at its most primitive. Huge stones were still being used to grind corn, but, ironically enough, the turning power was provided by a small petrol engine! It was 7 o'clock by the time that day's work finished.

Sunday was the day on which Mr. Blackburn and Mr. Ward were able to see something of historic Turkey. On a sight-seeing tour with Mr. Leventoglu as guide, they were able to gaze at St. Sophia's mosque ("the eighth wonder of the world"), and the Sultan's palace (not normally occupied, but available as a residence for royal visitors). Among other features of the palace, Mr. Leventoglu pointed out the completely enclosed bridges by which women of the harem crossed unseen from one part of the palace to another.

By Monday the work was almost complete, and negotiations were begun for the return. In the afternoon Messrs. Blackburn and Ward joined the shopping crowds of Istanbul, and were amused to watch the system of public transport. The single-deck trams were used for the Turk and miscellaneous luggage; Mr. Blackburn himself saw a tyre thrown on top of one passing vehicle. Like all others, that tram was packed, with "passengers" standing inside and out—the latter hanging on to the framework.

During the whole of their stay in the country the two servicemen saw only two or three British vehicles other than the Seddon contingent, for prior to the Oldham company's venture this part of the world had not been among recognised British markets. Of the small number of British vehicles which they did see, Mr. Blackburn was proud to find an Atkinson lorry also fitted with a David Brown gearbox.

Shopping for the two visitors was restricted to such purchases as Turkish Delight and locally made towels, for the would-be buyers found that a nylon shirt would cost £6, a suit £25 upwards, a raincoat up to £30, a bottle of table sauce 15s., bananas 2s. each, and bacon 20s. a lb.

At 10-30 a.m. G.M.T. Tuesday, the London-bound "Viscount" was airborne, with scheduled calls at Athens and Rome en route. On the outward trip the country below had been obscured, but it was clear during the return journey. Lake Geneva at dusk was a wonderful sight, but according to Mr. Blackburn there was nothing to compare with the view of London by night—a fairyland of twinkling lights.

Reflecting on his six days of travel, Mr. Blackburn found that he had covered 7,500 miles—not bad for a first trip outside the shores of Britain.

The Feltham group, attending the dinner for the first year, are among those seated at this table.

Always on the Job

Mr. Arthur Wellbourne, of D.B.T. Farsley, receives from Mr. J. Whitehead a clock in recognition of six years' perfect attendance.

FOR the first time since its inauguration, The David Brown Tractor Group's Perfect Attendance Dinner was this year extended to include the Feltham Works. As a result, a Feltham group joined colleagues from the Meltham, Farsley and Heckmondwike works at Meltham Hall for the tenth annual dinner, held on Friday evening, February 19th.

A total of 121 employees qualified during 1953, and the record breakers go from strength to strength. Frank Goddard (chargehand) now looks back on eleven years without ever having been absent or late, travelling daily from Marsh, Huddersfield. Miss Charlotte Mellor, a canteen cook, this year achieves double figures, and machine setter Albert Renshaw, of Milnsbridge, completed eight years.

For those who may not be familiar with the routine of awards, it should be explained that a certificate is presented annually, a tankard is the award for three successive years, a barometer for six, and a clock for nine.

John S. Lunn and Albert Redfearn have now completed seven years, while the recipients of barometers on this occasion were Arthur Wellbourne and Charles Boyd.

When Mr. Whitehead presented the awards after dinner, he gave a special welcome to the group who had travelled from Feltham. Looking ahead Mr. Whitehead said he hoped to see Lee Mills represented next year. "To see so many youngsters here is really cheering", Mr. Whitehead remarked.

Entertainment was provided during the evening, and drinks were "on the house".

In addition to those mentioned above, the following also achieved perfect attendance during 1953.

Five years:—Harold Butler, Harold T. Hinchliffe, Herbert V. Windram, Edna Whitham.

Four years:—George Goodall, Gilbert Sanderson, Ernest B. Armstrong, Fred Southern, William Batterham.

Three years:—Dennis H. Mellor, Victor R. Thomas, Harry Haigh, Charles H. Kirby, Arthur L. Garside, Harry Siswick, Vera Taylor, Victor Durrans, Clifford Hirst, Edith Garrett, Herbert Ball, Harry Vickerman, John E. Rodgers, Arthur H. Parker, Annie E. Longbottom, Joe Hall.

Two years:—Geoffrey H. Crowther, John Astley, Eliza Plowman, Wilson Copeland, Herbert Bastow, Arthur R. Bray, Kenneth Denton, Herbert Robertshaw, John M. Wilkinson, Harold Frodsham, Fred Tasker, Jack Hinchcliffe, Hildred Bastow, Peter T. Procter, Frank Ellam, Alfred J. Stokes, Leonard G. Hinchliff, Raymond S. Grundy, Irvin White, Freda Ripley, Vera Reaney, Thomas Kinnear, Leslie Brabiner, Herbert A. Millington, William G. Barker.

One year:—Douglas L. Standley, Herbert Walker, James C. Coldwell, Patricia Saxon, Agnes Jones, Lawrence North, William Littlewood, Stanley Boothroyd, John Cooper, Charles V. Sykes, Margaret M. Farrell, George P. Adamson, Frank Gouldon, Barbara Thompson, Margaret L. Beardow, Dennis Harrison, Eric Beckett, Sam. H. Parkin, Herbert J. W. Smith, Hilda Schofield, Mark Sunley, Veryl Sanderson, Norman K. Dyson, Tom S. Hirst, Frank Mitchell, John H. Brown, Fred Mallinson, William J. Davies, Frank Senior, Clement Heaton, Cyril Watkinson, John E. Garside, George H. Hamer, Harold C. Murphy, Leslie Beaumont, Arthur Redfearn, James Jennings, John Scanlon, Albert Wilkinson, Thomas Haigh, Ernest Sykes, Arthur Wood, George H. Lockwood, William E. Reed, Stanley Braithwaite, Amby Crowther, Ronald Marshall, Edna Watson, Charles E. Hirst, Fred Pearson, Kenneth Dyson, Horace H. Taylor, Daisy P. Garlick, Archibald T. Wellman, James Peck, George Sewell, William Turner, Jack Clarke, Samuel Crosland, Shirley A. Woodhouse, John A. Clews, Albert Clarke, Douglas Hirst, Jack Esslemont.

Game Hunting by Lagonda!

RETURNING from India in July 1950, but knowing full well that I should be returning the following year, I took advantage of export regulations to buy a Lagonda saloon of the then current model direct from the manufacturing company. Early in 1951, the car was shipped from Liverpool, to be unloaded at Tuticorin, South East India, in April, and to be in continual use for the rest of the year. By November it had covered approximately 15,000 miles, travelling Southern India in the area outlined by Madras, Bangalore and Cape Comerin as its perimeter.

Roads in that area are extremely primitive; even the main roads have no surface such as the term road implies in this country, for they are constructed on the Macadam principle with small stones rolled to form a rubble base. As a result they deteriorate rapidly, especially during Spring and Winter, though for two entirely different reasons. The main traffic using these roads consists of bullock carts. In point of fact, these carts have the largest loading per square inch of wheel tread of any known vehicle, accounted for by the fact that the wheels are six feet in diameter, shod with iron tyres, and of a breadth of only about two inches. Carrying heavy loads of cotton they succeed in breaking up all the road surfaces when the crop is coming in during Spring. The rest of the damage is accomplished by the North East monsoon between September and December.

For most of its time in India, the Lagonda was based near Madura, where this photograph was taken. The building in the background is known as a Gopuram, corresponding roughly to the steeple of a church, and is ornamented with clay figures of many Gods and Goddesses of Hindu mythology. It is painted the brightest of colours.

There are practically no tarred or concrete roads, and consequently the Lagonda did 90% of its mileage on the type of surface already described. On the whole, the car stood up well to this treatment, though standard shock absorbers failed under these conditions and American heavy duty replacements were fitted. In point of fact, these are still on the car and seem to be efficient for use in this country.

Not that the car was confined to what could be called normal use, for it was taken up jungle tracks and was used for the transport of hunters and beaters in big game and small game shooting expeditions. While advertised as a five-seater car, the Lagonda has carried many more than this number, besides having camping equipment tied on the bonnet and along the mudguards. Ground clearance proved quite adequate for these conditions, except that the exhaust pipe had to be renewed on three occasions owing to contact with boulders in the roadway.

The great majority of cars in the South of India are either made in America or of American pattern assembled in Bombay. The Lagonda stood up to the local conditions as well as any of these, and really came into its own when driven up to the hills—a fairly frequent journey. This is one of the few concrete roads to be found. In 28 miles it ascends 7,000 feet, has fourteen hairpins and many extremely sharp bends.

Although second and third gears only were normally used during the ascent, the car was ideally suited to this road. To start with, considerable trouble was experienced through boiling when the car was being driven hard at this altitude, but this was cured by advancing the ignition to the maximum. This method has been found to have the desired effect on more than my own car, and is commonly used on many vehicles running in these conditions.

After a year and a half in India, the car was shipped to Cyprus, where it spent a further four months. On arrival in Cyprus it was discovered that the crane man at Colombo had dropped the car on to the deck from about six feet when loading, with the result that the front wish bones had parted company with the chassis. This was welded up roughly in Cyprus, though how roughly was not apparent until the car was overhauled in this country. However, it continued to run in Cyprus without any apparent ill effects, which was surprising in view of the errors subsequently discovered in England as regards the wheel camber and similar angles.

After undergoing overhaul in various hands, the car was ultimately returned to the David Brown works at Feltham, and has just emerged in first class condition.

A. J. CRAIG HARVEY.

"Little Lambs Eat Ivy"

One of the many domestic crises in "Little Lambs Eat Ivy"—the D.B.T. Dramatic Society's recent production in the Assembly Hall—involving, in this case, Tom Rigg (Dougall), Margaret Garside (Bicky), and Dorothy Mansell (Esse).

SO ran the crazy little ditty which swept England in the thirties, and was in turn swept aside with most of its contemporaries, to be remembered again only when we sorted out old records for salvage in the early days of the war.

Playwright Noel Langley remembered it in 1948, and decided that it summarised his new play, which, like the song, was essentially just a piece of nonsense. With this title his play had long and successful runs, first at the Ambassadors and then at theatres all over the British Isles. Later, as a film, it was entitled "Father's Doing Fine", but when the D.B.T. Dramatic Society selected it for their second production this season, the original title was used, with the inevitable result that members of the cast received many kindly enquiries concerning their diet.

The plot revolves around Esse (Dorothy Mansell), the widow of Lord Buckering, who, though she still manages to retain (but not to pay) Corder, the family butler, has little money and even less idea how to manage her financial affairs. The result is that the house is constantly besieged by people demanding money, and the gas, electricity and telephone are always on the point of being cut off.

Esse has four daughters and two sons-in-law, all equally unstable both financially and otherwise, with the result that as one of them explains to the landlord's son at one point: "You will never come into this house when there isn't a family crisis beginning or ending".

There was no particular shortage of crises during the staging of this production, but thanks to the solid determination of Mr. J. Whitehead (our producer), they had all been met by the appointed first night, when we managed to give pleasure to a large audience, including the Press.

Such was the reception that the intended three nights' run was extended by two performances, to one of which we invited 150 local Old Age Pensioners.

Now the show is over, and as I write, some young ladies of the cast may be sleeping under the guardianship of the very delightful little lambs which were passed onto the stage at the final curtain.

In place of the London drawing room we have all the paraphernalia of a pantomime, and before long this will be replaced by the set for our next production, "Spark in Judea", an Easter drama by R. F. Delderfield, which we propose to offer you during the second week in May. T.R.S.

The cast of "Little Lambs Eat Ivy" take a final curtain call—(l. to r.) Ronald Squires (Dr. Drew), Tom Rigg (Dougall), Leah Garner (Pynigar), Anne Charlesworth (Katherine), Thomas Hamer (Corder), Ann Barnes (Gerda), Les Clark (Clifford Megill), Dorothy Mansell (Esse), Alex Davis (Wilfred), Stanley Boothroyd (Policeman) and Margaret Garside (Bicky).