

The Haltonian Magazine and the Daedalus

Volume 1 No. 2

December 1930

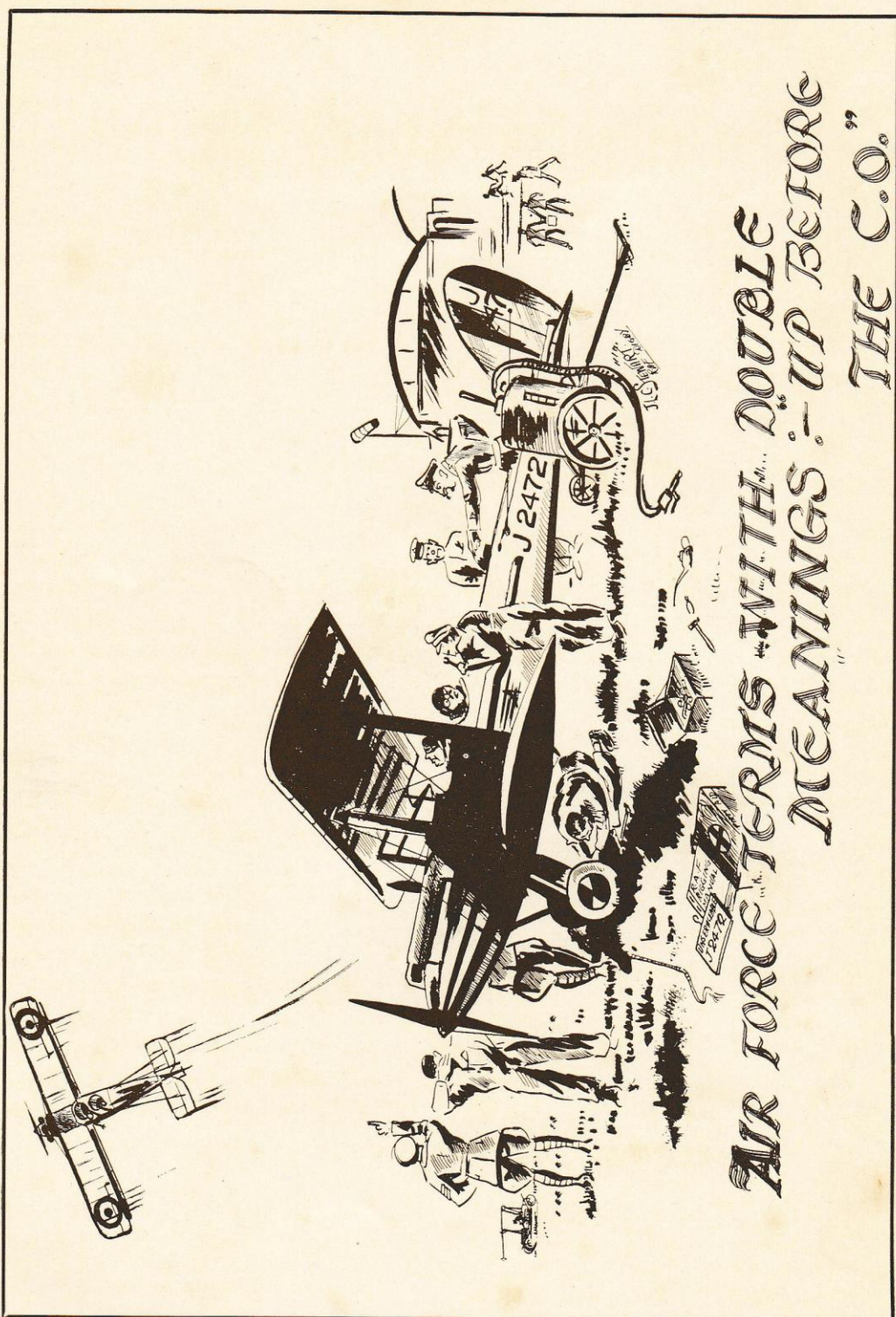
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THE  
HALTON MAGAZINE  
AND THE  
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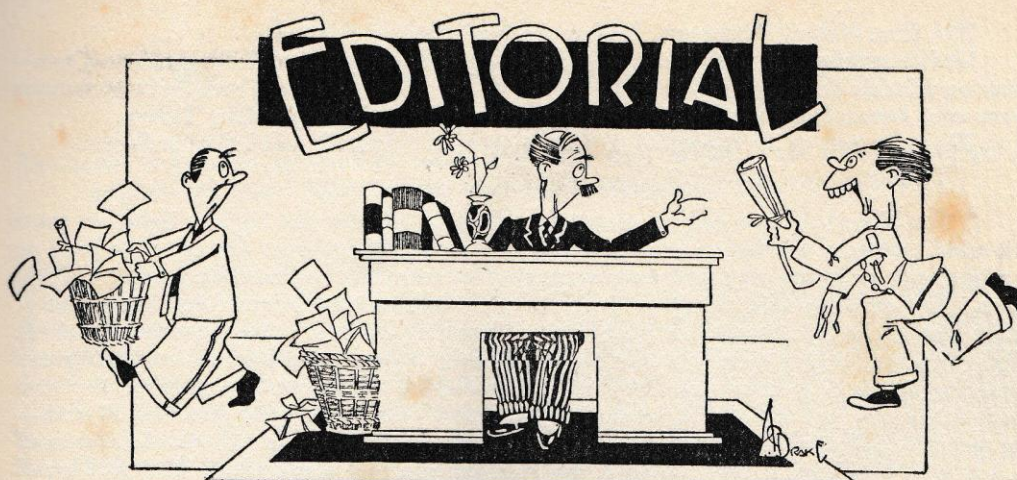


VOL. II, No. 2

DECEMBER 1930



AIR FORCE TERMS WITH DOUBLE  
MEANINGS :- UP BEFORE  
THE C.O."



At this time, when we are all looking forward to happy Christmas holidays, our thoughts should go to those bereaved by the tragedy of R.101. Thanks to the kindness of Professor Southwell and the Editor of *The Times*, we print elsewhere a letter on this subject.

\* \* \* \* \*

Readers of *The Aeroplane* will be interested in No. 11 of Vol. XXXIX, September 3rd, 1930. There they will read about old friends in Ft. Lt. Comper and Capt. Pobjoy.

They may also be puzzled by one paragraph. Writing on the rivalry between Liverpool and Manchester, the author states:—

“... Actually it (the feud) is almost racial, seeing that Lancashire is largely Celtic and Yorkshire almost pure Dane and Saxon.”

We have had so much help from the Editor of *The Aeroplane* that we may be allowed a mild leg pull on the principle that one only ventures on this amusement with one's friends. We know that modern inventions are said to be annihilating space but to bring Yorkshire into Lancashire, or vice versa, is a feat the reactions of which should be world wide.

\* \* \* \* \*

Again we are proud to record fine achievements by pilots of English light aeroplanes. The flights of Kingsford Smith, Hill, Gardner and, once again, Sir Alan Cobham, emphasise the pre-eminence of engines and planes.

\* \* \* \* \*

We congratulate T. G. L. Gale, R. A. C. Carter and S. J. Marchbank on gaining Cadetships. Gale won the Sir Charles Wakefield Scholarship.

\* \* \* \* \*

Congratulations are due also to A/Sgt. A. F. Johnson, A/Sgt. C. F. James and A/Sgt. R. V. Moxey.

The first-named passed out of the Flying Training School at Netheravon, with “Special Distinction”; the other two with “Distinguished Pass.” We wish them good luck as pilots.

\* \* \* \* \*

All our artist readers are reminded that the Committee of the Royal Air Force Display is offering a prize of £100 for the best poster advertising the Display. This is confined to members of Royal Air Force personnel.

The First Halton Tattoo was held at the beginning of this term.

Unfortunately cold and unsettled weather kept many away, and the profits—£350—bear no relation to the artistic merits of the display. The P.T. and Torch-light evolutions were even better than those given with so much success at the Wembley Tattoo.

We print part of an appreciation sent to us by a poetically minded contributor.

MEMORIES OF THE TATTOO.

“The Tattoo is now only a memory, with little left but the highest lights to catch the mind that goes wandering back to it. It was one of those things that are built high on a mighty pile of hours filled with careful, meticulous rehearsal, and then are gone in a single hour. The most striking thing about it was the seeming simplicity of it. Hundreds of limbs and minds and colours moving in an astonishing oneness; huge blocks of colour, sliding compactly and silently under the arc-lights; a great twisting and swooping and threading across in a maze—and then surprising sudden alignment, line meeting line and torch torch—all in a wonderful, soundless simplicity. And that is the proof of all skill—the more complicated the work, the more effortless it should seem. To the hundreds of A.A.’s who took part in the Tattoo it was perhaps not very wonderful. They had heard the tunes, marched in those formations, done those exercises, every day of their lives, but to us, the audience, none of those things was commonplace. Even if they were, there is a magic that darkness makes of music and figures and woods and lights that can turn the most commonplace thing into a mystery.

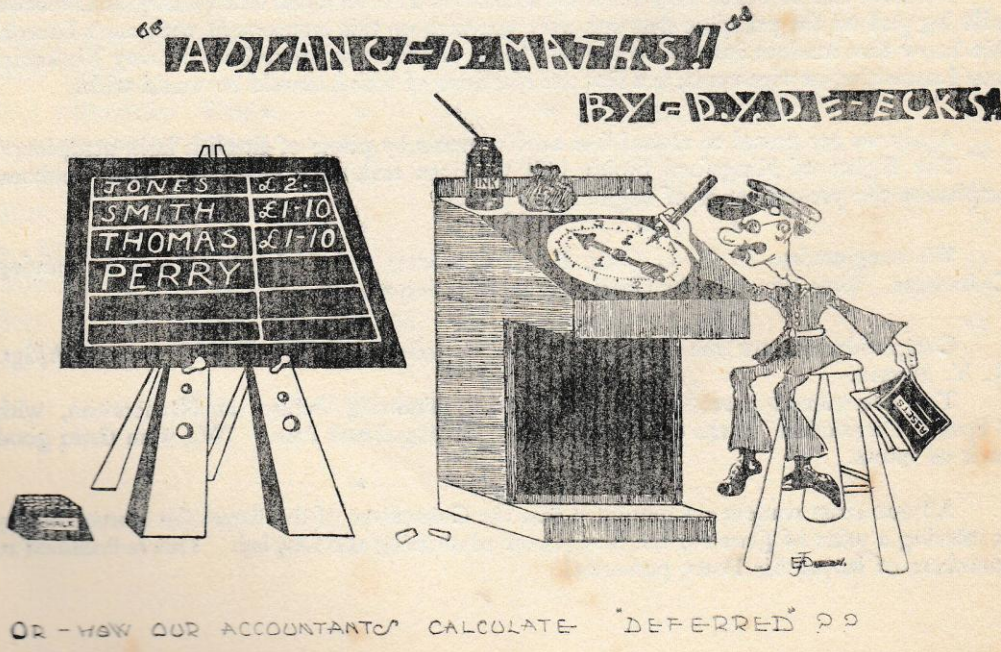
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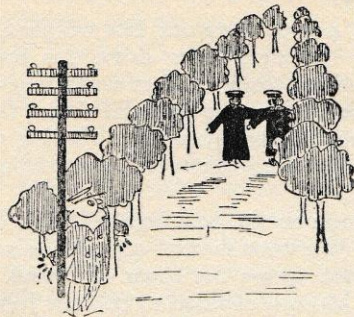
Old Boys are asked to read the O.B. notes in this number carefully.

We hope, by the arrangements therein detailed, to be of more use to Old Boys than we have been, especially to those overseas.

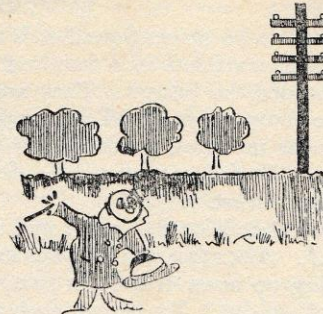
\* \* \* \* \*

We are sorry to lose the services of Mr Bateman from the School Staff, but we congratulate him on his appointment as assistant lecturer on the Civil Engineering side of Birmingham University.

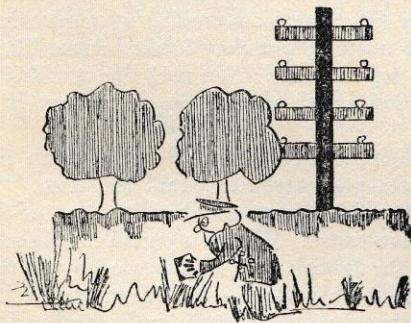




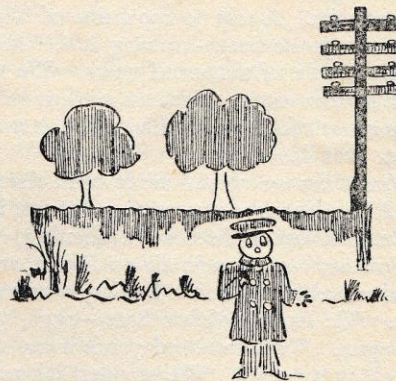
A/A PROCEEDING TO HALTON SEES  
6P'S IN DISTANCE AND RETIRES TO



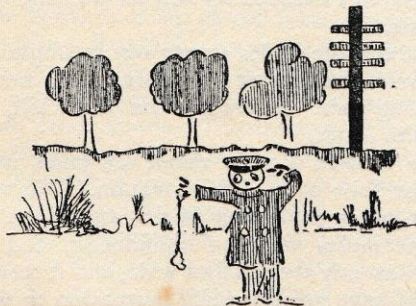
CHEST-NUT PARALLEL. REMOVES  
3"x $\frac{1}{2}$ " OF S11 FROM CAP



HIDES SMOKING MATERIAL WHERE  
SAME CAN EASILY BE RETRIEVED  
LATER



DOES UP ALL BUTTONS AND  
COLLARS



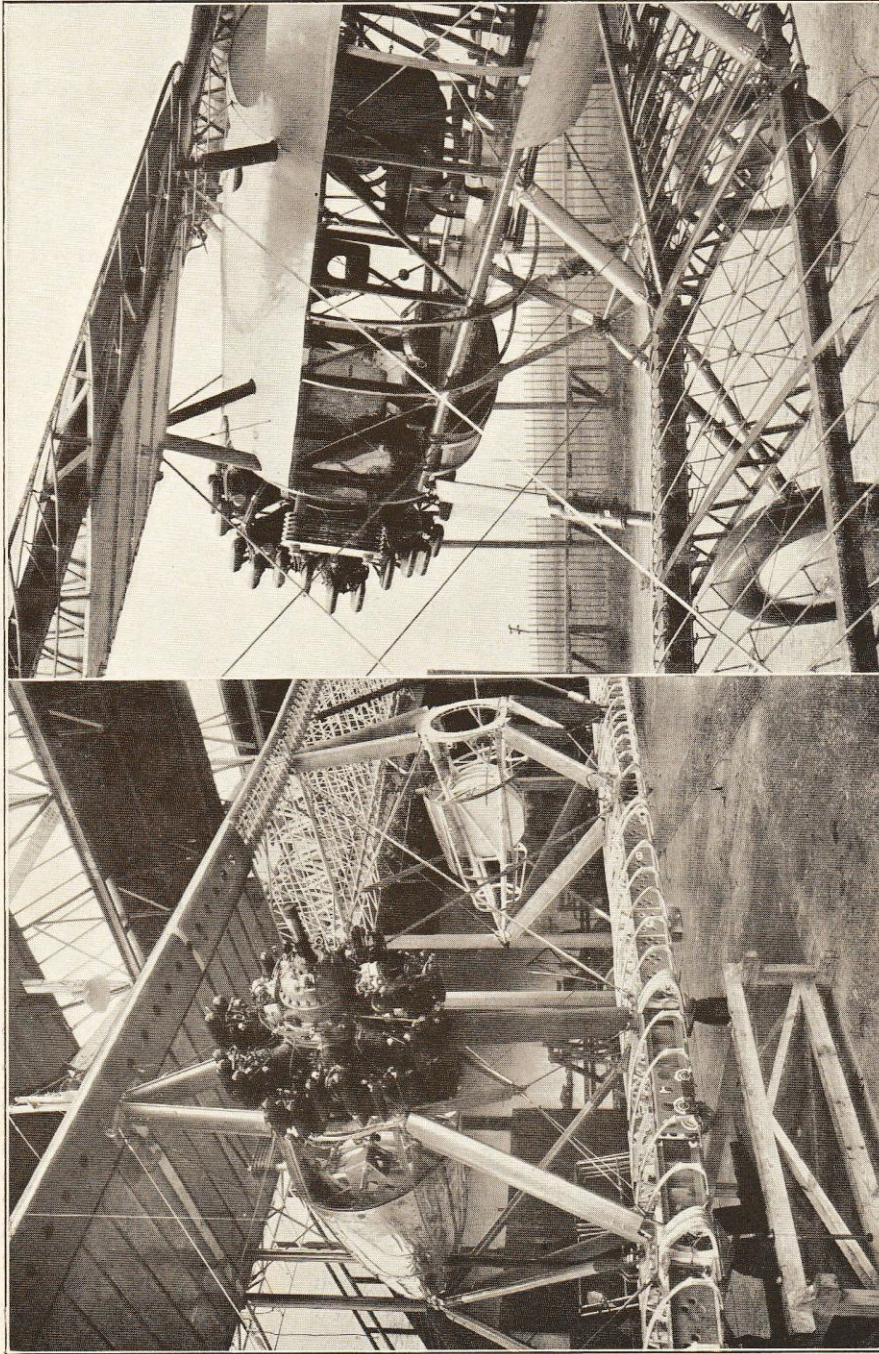
PUTS CAP ON STRAIGHT - AT SAME  
TIME THROWING AWAY CHEWING GUM  
OF ONLY THREE WEEKS SERVICE, AND



STRIDES SMARTLY INTO CHEST-NUT  
AVENUE - TO BE CONFRONTED WITH  
TWO ROOKIES - IN ISSUED "MACS"

PLATE II.

*Block presented by Messrs. Vickers.*



Replacement superstructure by Messrs. Vickers for the metal Southampton X. Sesqui-plane type. Wing section Clarke Y.H. Three Jaguar engines with oil coolers on top. Fabric cover except near engines.

Vickers Vespa two-seater reconnaissance landplane for Irish Free State Department of Defence. Jaguar engine. Tanks in top wing. Vickers-Pottis oil cooler. Vickers oleo landing gear. Duntop disc wheels.

## A Visit to the Works of Messrs. Vickers (Aviation) Limited, at Weybridge

THE name Vickers calls to mind thoughts of war and in particular the machinery of war. The firm has a history of a century and a half, during which it has built up a capital of sixteen million pounds and a big business in heavy engineering, shipbuilding, armaments and aviation.

Vickers' interests have also been interlocked with those of other firms, resulting in combines of which the best known are: first, Vickers-Armstrongs, Limited, responsible for nine large works, including various Naval Yards, the Thames Ammunition Works, and the Whitehead Torpedo Company; secondly, the Metropolitan-Cammell Carriage, Wagon and Finance Company, with ten large works; thirdly, the English Steel Corporation, with nine large works; fourthly, Vickers (Aviation), which includes the works at Weybridge, the works of Messrs. Supermarine, and the Airship Guarantee Company; fifthly, eight firms dealing with a variety of products and processes, such as separators, internal combustion locomotives, rubber and waterproofing, variable speed gears, and train lighting. The Vickers Group is now represented in nearly every country in the world, and in shipbuilding, armament, transport and aviation has federated a wealth of accumulated experience, technical knowledge, organisation and equipment.

Messrs. Vickers began to make lighter-than-air craft for naval purposes in 1908, their *H.M.A. No. 1*, with a gross lift of twenty tons, being completed in 1911. Their latest effort *R100* has a gross lift of 156 tons. During the war years, 1914 to 1918, they produced 4,500 aeroplanes of different designs, including the "Vickers Gun-bus" (designed and first built in 1912). After the war their aircraft put up a number of notable flights, including the first direct flight across the Atlantic (June 1919), the first flight from England to Australia (1919), and the first flight to South Africa (1920). Also in 1920 they won the Air Ministry's prize of £10,000 for an amphibian with their *Viking*.

The factory at Weybridge, alongside the Brooklands motor track, has a floor area of about six acres. The hangars are on the far side of the track, and the test flying field is within its circuit. In this factory are working about eight hundred men and four hundred women, the main products being large military aeroplanes and a great variety of aeroplane accessories. Major H. J. Payne, the assistant designer, said that about a dozen machines are designed each year, and generally five or six of these are produced. The firm employs fifty draughtsmen, and the average machine occupies ten thousand man-hours in the drawing office.

Particulars of some of the large aeroplanes may prove interesting. The *Victoria* Troop Carrier (see Plate IV) has a span of over 87 feet, with an all-up weight of nearly eight tons; it has seats for two dozen people. Its loading is only eight pounds per square foot of wing, and its range, cruising at 82 miles an hour, is over five hundred miles. There are spare petrol tanks in the wings which can be filled if only sixteen passengers are carried, increasing the cruising range to over nine hundred miles. This type of machine was used in the evacuation of civilians from Kabul to Peshawar.

Not quite so large as this are various types of bomber and torpedo carrier, notably the all-metal *Virginia X*. One of these monsters carries a dozen bombs, apparently of the four hundred-weight size, beneath the fuselage. When they are all in position, with half of each bomb excrescent, the resultant effect is a bit of good stream-lining. It must be admitted that after the bombs have been released this effect will be lost. The gears for loading, carrying and releasing the bombs are all devised by Messrs. Vickers. As the bombs are out of sight from the cockpit, it is important that all this mechanism should be reliable.



On the large machines a simple re-arrangement of certain struts, with the addition of a spare strut and pulley-block, provides a crane with which an engine can be hoisted clear of its mounting and lowered to the ground for repair or exchange.

The large military machines have a gun-pit at each end of the fuselage, a walk-way connecting them to the cockpit. Mr. F. Richards, responsible for the preliminary lay-out of new machines, took me over the latest. It is a trying experience crawling through narrow triangles of framework in a dark fuselage. Mr. Richards assured me that he could get from the rear gun-pit to the main cockpit in twenty something seconds by the stop-watch: a very good performance. The triangle is the ideal rigid frame unit; the rectangle and ellipse are more negotiable as obstacles.

The next fuselage to this was devoid of triangles, the whole interior being unobstructed. A rail ran fore and aft along the centre line of the fuselage roof, carrying a travelling pulley-block and chain. About forty square feet of the fuselage floor could be swung open, the tackle being used to hoist engines or other heavy freights from the ground into the fuselage, where they travel along the rail to be stowed.

A commercial machine produced by Messrs. Vickers is the *Vellore* freight carrier. This is a particularly handsome machine. The gap is large and the beautifully streamlined fuselage stands well away from both wings. This machine can be supplied with single engine or with twin engines. The land undercarriage can be replaced by twin metal floats.

Among lighter machines of this firm are a single-seater fighter with a ceiling of 27,800 feet, and a speed at 19,680 feet altitude of  $143\frac{1}{2}$  m.p.h.; an Army Co-operation two-seater, the *Vespa* (see Plates II and IV); also the *Vixen VI* and the *Vivid*, both two-seater military machines. In the hangar was a graceful little single-seater interceptor monoplane, carrying two Vickers guns; its whole surface, including wings and empennage, was covered with duralumin.

The Wibault patent method is used to fix a stressed duralumin skin on duralumin ribs. The ribs are of tubes with a flange projecting outwards, the skin being folded round and in contact with both sides of the flange, rivets accessible from both sides piercing the skin and the included flange. Great torsional rigidity is obtained, and internal drag struts and bracing are eliminated.

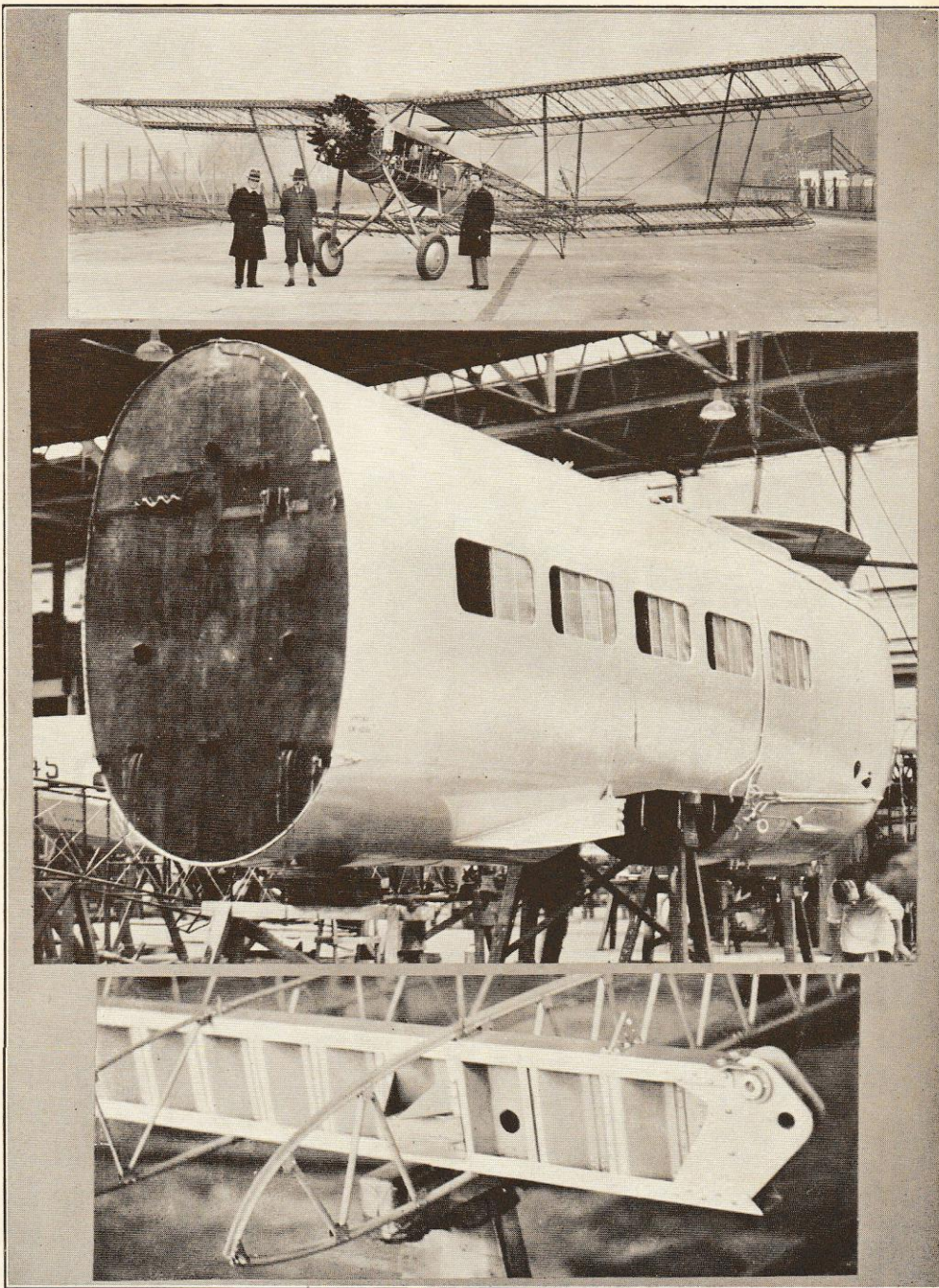
Except for wires and for certain fittings, Messrs. Vickers use very little steel, and their standard spar is in duralumin (see Plate IV). In this two extruded channels form the flanges; between them is a "ripple" web going from side to side of the channels, and rivetted to the sides of the channels. The rivets are easily accessible from both sides and the whole spar remains open for inspection.

Aircraft accessories form a large part of the output of these works. They are generally of duralumin, anodically treated. Occasionally steel is used; it is generally either stainless or coated with cadmium. The more notable accessories are:—

(a) The Oleo-Pneumatic Shock Absorber; in this, air compressed to 750 lbs. per square inch takes the initial shock, and the energy of landing is converted into heat by forcing oil through a variable orifice.

(b) "Hydraulic" brakes in which pressure is transmitted by oil through a simple pipe system to a plunger operating three shoes in the drum of each wheel. This system is remarkably sensitive in "feel"; with small hand pressure it reaches 500 lbs. pressure per square inch in the oil; it can be released instantaneously; the oil used freezes at  $-30^{\circ}$  C. Without distraction, using only the left-hand, a pilot can pull up an eight ton bomber in less than a hundred yards when landing at 45 m.p.h.

(c) Vickers-Potts oil cooling radiators, with an automatic cut-out for frozen oil. These have an odd number of fins up to a maximum of seven. Each fin has a surface area of a square foot. One of these radiators is shown in the photograph of the *Vespa* (see Plate II).



Vickers Vespa two-seater reconnaissance land plane. Jaguar engine.  
 Wooden cabin of the Vickers Victoria : ash longerons ; spruce box frames and floor girders ; birch three-ply : rear lower spar carried through.  
 Ripple spar in duralumin for the metal Virginia.

(d) Besides these, many other accessories, including navigation lights, fuel systems, oil systems, hand and centrifugal pumps, the Vickers-Reid control indicator, stream-line wires and swaged tierods.

Mr. T. S. Duncan spent much time and trouble in showing me the manufacture of the various accessories, and the many processes employed in the factory: forging, pressing, annealing, normalising, tinning, and copper plating on steel followed by nickel plating. In the cleansing process for steel a 300 amps. current at 10 volts is run through a bath of caustic soda at 212° F. for two minutes, followed by a two minute bath of cold cyanide of potassium. After this cleansing, steel is coated with cadmium for three-quarters of an hour in a bath with a current at 2 volts. In the anodic treatment of duralumin, parts are immersed in a 3 per cent. solution of chromic acid for one hour in a mild steel tank at 40° C. ( $\pm 4^\circ$ ). The voltage is increased from 2 to 50 during the hour. The old surface layer of the duralumin is purified but not removed.

The four-foot wind tunnel at Weybridge is kept in continuous use. Electrically driven scale size airscrews are mounted on separate tiny stream-lined supports in front of models (see Plate III). The interpretation of these model tests enables the firm to predict the performance of an aeroplane to within two per cent. over its whole flying range. For the testing of hulls and floats the Vickers-Supermarine Group use their tank at St. Albans; on Plate V two photographs of tests are given.

Perhaps a note of criticism will be pardoned at this stage. Messrs. Vickers are in the front rank of British aviation and therefore in the front rank of the world's aviation; the criticism offered applies to many British military machines of various well-known firms, namely that designers know far more about stream-lining an aeroplane than they put into practice. The difficulty can hardly be finance, as a thirty per cent. reduction in drag gives a corresponding reduction in engine weight, with a useful reduction in structure weight, accompanied by increased range and decreased upkeep. Yet, in design, common production lags several years behind the occasional effort. Two occasional efforts which are fresh in public memory are the S6 and the Fairey long-range monoplane. In the S6 the fuselage sides were used as oil coolers, and the wing surface as water radiators. The sides and floors of fuselages and the under surfaces of wings between spars have so little curvature that these practices might become standard. In the Fairey monoplane the total drag was reduced to one-fourteenth of the weight. To the lay mind it appears that a bomber with 2½ tons of bombs and one ton of petrol could have as fine lines as a non-military machine carrying 4½ tons of petrol. Every designer knows that a close formation of eight or ten streamlined units is not itself a streamlined unit, but this fairly describes the engine mountings of many large machines. It is probable that the biplane type encourages the Christmas tree tendency in design, for notable exceptions are usually of the monoplane type, such as the Blackburn *Nile*. Some English designers object to incorporating engines in a wing: there seems no reason why they should not use a mounting like the *Dornier Do X*, making the horizontal struts work their passage by giving a lift. But these criticisms are not intended to apply to this firm in particular.

Mr. R. P. Phillips, the Commercial Manager, took great trouble to ensure that my visit should be a success. I am also indebted to the Superintendent, Mr. Muller, and to Major Payne, for giving me much of their valuable time, and to Mr. Victor Paine for photographs.

L. C.

### A Rooky's Effort

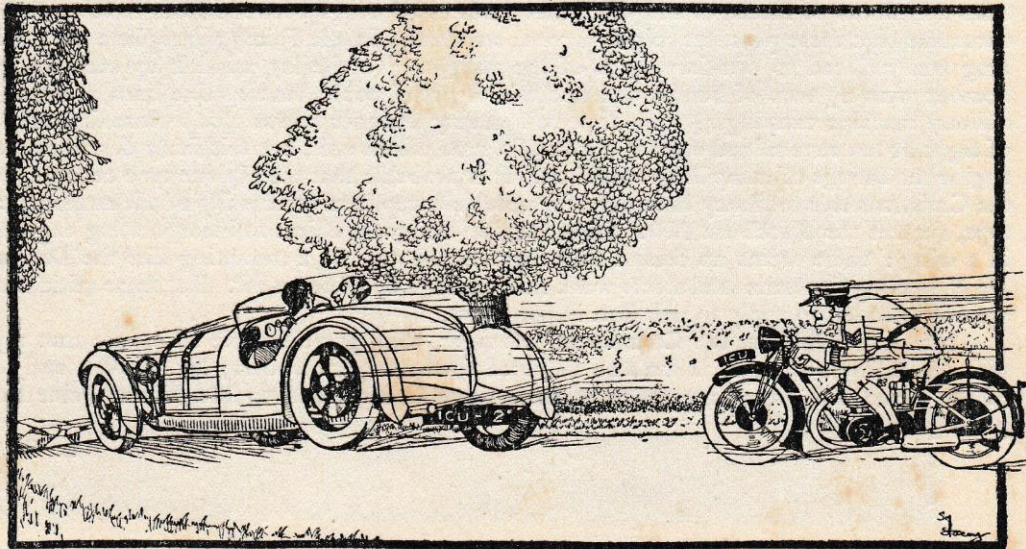
I want to be an Airman,  
And shoot into the clouds,  
To race the sky  
And fly;  
I wonder if I can.

I want to gambol 'mid the storms,  
To chase the spirits and the birds,  
To swoop and dive  
And be alive,  
Afar from all the crowds.

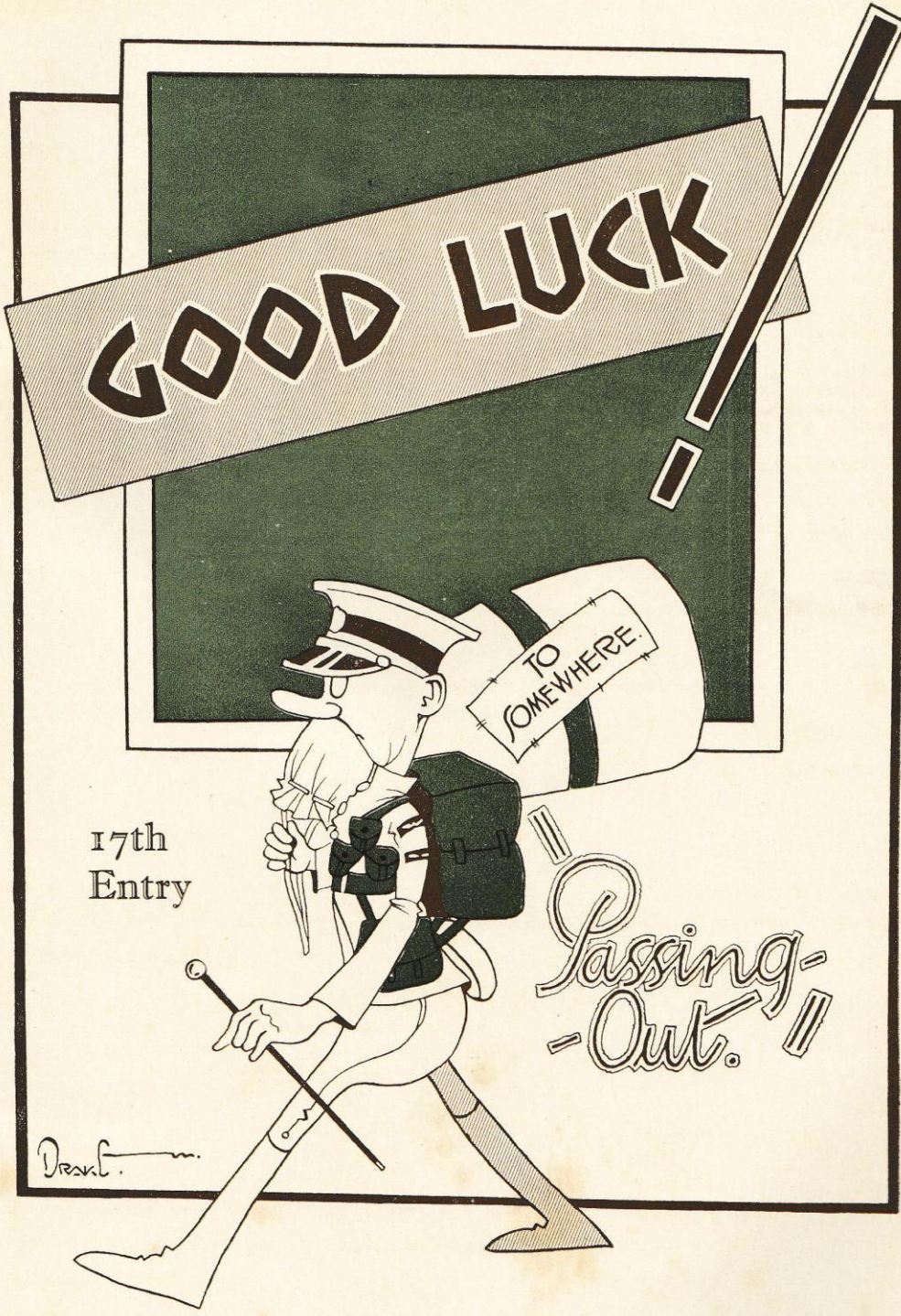
I want to fly to distant lands,  
To hold the people there in awe,  
With wondrous plane  
Which to them came  
From Nature's gnarled hands.

I want to fly from every place and town,  
To be alone with just my throbbing steed  
Up in the silent air  
To do and dare  
And by the winds of Heav'n be blown.

I want to be an Airman,  
To soar into the clouds,  
To race the sky  
And fly,  
For now I know I can.



FAIR DAMSEL 'STEP ON IT, PHIL, HEAH'S A BALLY SPEED COP TRYIN' TO PAHSS US!'



17th  
Entry

Drank.

Passing-  
-Out!

ROYAL AIR FORCE RIFLE ASSOCIATION—10th ANNUAL MEETING.

A representative team was sent to Bisley from this Command. This is the first year that an A.A. has been selected to compete for the Command. The team was composed of:—

Sgt. Kirby (Captain).	Sgt. Deane.
F/Sgt. Ford.	Sgt. Mitchell.
F/Sgt. Bow.	Cpl. Wheatley.
Sgt. Osborne.	A.A. Brett.

Miniature ranges are now being used in the evening and are well attended.

SHOOTING.

Considerable interest has been displayed during the last year in Rifle Shooting—especially in Miniature Competitions. A comparison of results in the B.K. Competition, in which the conditions remained unchanged, show an improvement of 12 per cent. better scores during 1929–30 as compared with those obtained in 1928–29.

## No. 1 Apprentices' Wing

1. SCHOOL NOTES—17th ENTRY.

The Entry has now taken its Passing Out School Examination and by the time these notes appear they will all know how they have fared. It is hoped that the standard shown will be up to average. This term attention is fixed mainly on the technical examination which has still to be faced; but the time allotted to Schools is being well spent in revision of those parts of the syllabus which bear directly on technical problems and in practising viva voce work.

It is hoped that all apprentices will pursue some form of study on their new station. They will find the Station Education Officer ready to assist them, whatever their needs. Previous Halton Entries have built up a reputation for keen work and they should take every opportunity to continue their education. Some have already ambitions towards acquiring qualifications as A.M.I.C.E., or F.R.Ae.S. Aim high, look well ahead, keep up your "school work" and you will reap the benefits both in your service career and later on if and when you return to civilian life.

WORKSHOP NOTES—FITTERS.

Calmness has been the keynote of the 17th Entry's career, and their progress through the Shops has been serene. The usual feverish excitement just prior to the passing out has not occurred yet and they are proceeding unruffled and hopefully to the impending cataclysm.

RIGGERS.

The 17th Entry has done well in the face of adversity, with an entirely new and untried syllabus and all the delays entailed in the production of the first of a type. Constructional difficulties with the first Mussel have been cheerfully and patiently dealt with and overcome. Float construction has been impossible owing to non-arrival of material. This is our first entry of Riggers Metal Aircraft and they will take with them into the Service the good wishes of the Staff.

ARMOURERS.

The Armourers have done very good work and they should do well.

COPPERSMITHS.

Coppersmiths have done rather improved work in their Syllabus exercises recently.

SCHOOL NOTES—20th ENTRY.

This Entry has completed its first year of the course and, on the results of examination, classes in School have been reconstituted. Some apprentices have made very marked progress and are to be congratulated. There are others who are unfortunately feeling the effects of a year rather too easily spent; but they have two years in which to remedy their early failings and to show what they are really worth.

WORKSHOP NOTES—FITTERS.

After a well spent year in the Fitters' Shop the Entry are settling down to their labours in the Engine Shop, and have the making of a good Entry.

RIGGERS.

The 20th Entry will have the advantage of a more ordered, more comprehensive syllabus than that enjoyed by the 17th Entry, and there is every reason to hope that they will make full use of the training. They are well up to standard and should be able to lay a very sound foundation in a new Service trade.

ARMOURERS.

The 20th is much larger than previous entries. It is too early to say how they will develop, but already their work shows that their basic training period was used to the fullest advantage.

COPPERSMITHS.

The Coppersmiths have made good progress and are well up to average.

2. WING SPORTS.

Our first duty is to congratulate the cricket team on their very fine show in winning the B.K. Cricket Trophy. It seemed that only a miracle could prevent 4 Wing winning, but, with every one doing their utmost, probable defeat was turned into a splendid victory. L.A.A.'s Armstrong, Clive and A.A. Burden played for the Station XI during the season. The Inter-Squadron Cricket Cup was won by "A" Squadron. Regarding athletics, the Wing did not do so very well. There were one or two outstanding performers, but on the whole the track performers were poor. The Wing won the Senior Tug-o-War and should have won the Junior event. The Inter-Squadron Athletic Cup was won by "A" Squadron. The sporting spirit in the Wing now is very much better than it has been for a long time and if success is gained in the various winter games the incoming Entry in January will have a good atmosphere provided for their initial term at Halton.

## No. 2 Apprentices' Wing

### PERSONAL NOTES.

Since the issue of the last number various staff changes have taken place or have been announced for the near future. The most regrettable fact, from Halton's point of view, is that Squadron Leader P. Hunter is about to relinquish the post of C.T.O.; Capt. D. E. Williams is being missed on the school side, and on all sides of Station life in which he played so prominent a part, and Mr. Newman who has taken over as W.E.O. is still finding many activities in which Captain Williams' absence is seriously felt. Mr. Bateman, Capt. Garrard, Dr. Reeve and Major Wight have been lost to the Wing, their places being taken by Mr. Fox, Mr. Hutchinson, Colonel Pillers and Mr. Platt; Mr. Sheppard should have joined us by the time this goes to press.

### SCHOOL AND WORKSHOP NOTES.

The Senior Entry is embarking upon the most important period of training. Time is now short and unless good resolutions are put into practice quickly, it will be too late. This reminder may be unnecessary as all instructors are agreed that this Entry have an excellent record for steady work and good behaviour.

After the second local V. V. Board, the next will be the final classifying board held in May 1931. A.A.'s should note this, and make full use of the lessons learnt, preparing themselves seriously for this board, which will have a great influence upon the final classification by the C.T.T.B.

The Aerodrome course is under the guidance of Flight Lieutenant J. P. Angell. The training flight is again co-operating to make the course as interesting and instructive as possible. A few improvements have been introduced in the syllabus, and it is hoped that now all Wings have used the syllabus introduced under A.M.W.O. 25 of 1929 it will be possible to standardise it.

Set tasks are keeping everybody busy. The work involved is useful in more ways than one. Apart from the direct knowledge gained, the practice in the use of books should be valuable in next term's revision work. The period allotted for revision is all important. Our memories are not infallible, and, for various reasons, many have lost some ground. Much can be improved, amplified and perfected if opportunities for revision are taken systematically.

The first rigging course ended in June, and the bay was immediately occupied by the Junior Metal Riggers, who are doing the same course of practical elementary rigging. This brings the first rigging course into the latter half of the first year's training. The policy is to give each A.A. eight weeks rigging every year. The experiment is having satisfactory results in increasing the interest of the Riggers' course, and it has proved that no subject is too advanced if tackled in the right way.

The Junior Fitters A.E. are taking a short practical course on the Internal Combustion Engine, designed to demonstrate the lessons learnt in I.C.E. Lectures. The engines used are the Austin Lighting set engines, which are simpler than the Lynx engines used for the same purpose by the 12th Entry. The course is also shorter. It is hoped that it will prove an equally useful stimulant to interest and give better results than were obtained with the Lynx.

However important the immediate future may be for the Senior Entry, the Junior Entry will soon be starting a critical term, critical because experience has shown that the fourth term is less satisfactory than previous or subsequent ones. The Intermediate examination is too often regarded as a milestone, after passing which one is entitled to sit down and take things easily.

In reality the Intermediate is more of a springboard than a milestone. May the 21st Entry set a fresh example. Juniors will very soon be seniors, and now is the time to show themselves worthy of responsibility.

### WING SPORTS—CRICKET.

At the commencement of the season cricket in the Wing was an unknown "quantity." No member of last year's team was available and a new Entry having arrived the selection committee had no little difficulty in getting together a really representative Wing side. However, the team eventually chosen to represent the Wing in the B.K. Competition performed very creditably.

### SWIMMING.

The Wing has been, on the whole, very successful in swimming during this period, easily winning the Junior B.K. Swimming.

Cpl. Roe, L.A.A.'s Huggett, Upham and Disbrey, and A.A. Winder represented the Station in the R.A.F. Championships, in which Halton were second.

Cpl. Roe, L.A.A.'s Huggett and Upham swam for the R.A.F. in the Inter-Services Championships, and Cpl. Roe and L.A.A. Upham have been chosen to swim for the United Services.

Nearly all our best swimmers this year were under 18, so that next summer we should do well in the Senior B.K. events, and it is also hoped that the present Junior Entry will produce the required talent to make a good team.

### ATHLETICS—INTER-SQUADRON SPORTS.

The finals of the Inter-Squadron Sports were held in the Stadium on the 21st May, in good weather. The eliminating heats were held in Bulbeck field on May 19th and 20th, and the events were keenly contested throughout.

"A" Squadron won the Junior Tug of War, and "C" Squadron the Senior. Headquarters Squadron won the Senior Cup and "C" Squadron won the Junior cup with 36 points, "B" Squadron being second with 31 points.

### B.K. ATHLETIC SPORTS.

As Junior Wing we were satisfied to win the Junior event with 19 points.

#### STATION SPORTS.

The finals of the Station Sports were held at the Stadium on June 25th in order to pick the best team from the Station for competing in the King's Cup.

From No. 2 Wing, W.O.1 Parker, W.O.1 Davey, Cpl. Moffatt, A.C. Foley, L.A.A. Finlay and L.A.A. Smith were chosen.

#### CROSS COUNTRY RUNNING.

The 1930-31 season started with the first Station Trial on October 15th, in which the Wing was well represented. Many of our last year's runners are showing their form again, and amongst the Juniors there is already a useful team in the making, headed by Mangham, of "C" Squadron, who generally seems to bring in a bunch of four or five others with him.

Sgt. Wooberry has taken over the duties of N.C.O. in charge of Wing Cross Country Running, which were so ably carried out last year by Sgt. Bramley, who has now been posted.

Cross Country Running calls for zeal and steady training to improve stamina and pace, and A.C. Foley's assistance in training the Wing Teams will, we feel certain, ensure these qualities in the season's events, but individual effort is of little avail unless backed up by the remainder of the team, and our ambition is—

"To set the cause above renown,  
To love the game beyond the prize."

#### INTER-SQUADRON BOXING COMPETITION.

The annual Inter-Squadron Boxing Competition took place in the Station Gymnasium on Tuesday and Wednesday, October 14th and 15th, 1930.

The Squadron placings resulted as follows:—

JUNIOR ENTRY.	"C" Squadron (Winners)	12 points.
	"A" Squadron	6 "
	"B" Squadron	6 "
SENIOR ENTRY.	"A" Squadron (Winners)	15 points.
	"C" Squadron	6 "
	"B" Squadron	3 "

#### SQUADRON NOTES—"A" SQUADRON.

In Boxing we have succeeded in winning the Senior Cup easily. Downham, Gartery, McKinley, Marshall and Page play in the Wing Hockey team, and Gartery has been playing for the Station. The Squadron is not too good at Swimming—in the Wing Inter-Squadron Swimming we were runners-up in the Juniors, and had to be content with third place in the Seniors. The Soccer team is playing well, and we are hoping to occupy a high position in the Station League. At Cricket we showed more enthusiasm than skill, but look forward to better results next year. We are represented in the Wing Rugger XV by Brightwell, Hall, Phillips, Sutton, and 932 Williams, and are doing well in our own matches. Two Seniors and three Juniors ran for the Station Cross Country Team against Luton Harriers, and the Juniors show much promise. At Golf, Braithwaite and Jenner are left to hack a lonely divot.

#### "B" SQUADRON.

At Swimming we have won the Senior Cup, and we finished second in the Inter-Squadron Sports. Several Seniors did well in the Inter-Wing Swimming.

We are quietly confident about our prospects in Athletics, Cross Country Running and Golf.

#### "C" SQUADRON.

We now hold the Wing Challenge Cup for Swimming. Disbrey, Upham and Winder represented the Station in the R.A.F. Championships; Upham has since swum for the United Services, and took third place in the 100 yards in the Inter-Services Championships at Aldershot.

We have won our first three Water Polo matches, and hope to win the Station Water Polo Cup.

Great interest was taken in Athletics during the past season, and we must congratulate the Juniors on securing the Inter-Squadron Challenge Cup. Training was thorough, and there was close co-operation between the coaches and the teams.

We tied with "B" Squadron for the Cricket Challenge Cup, and congratulate Gauntlett, Johns and Pettitt on having been chosen to play for the Wing.

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## No. 4 Apprentices' Wing

#### WORKSHOP NOTES—FITTERS' SECTION.

The results of the Passing Out of the 16th Entry reflect great credit on both the instructional staff and the Aircraft Apprentices themselves. The high percentage of A.C.1's obtained is very gratifying. Of these a large number obtained over 70 per cent., and with a little experience at their new units, they should soon be ready for reclassification to L.A.C. We wish them good luck in their new units.

The 19th Entry are now receiving instruction on their Specialist Engine. The rearrangement of classes, in which the number per class has been reduced, should prove advantageous to both the instructors and A.A.'s. The Metallurgy and Installation Courses are being carried out this term and these should help to relieve the monotony of engine instruction.



The standard of work in the advanced fitting exercises is very good, and the Entry as a whole shows promise. Although the 22nd Entry has only been a short time in the Workshops, it has shown considerable keenness, which we hope will be maintained throughout its training.

The experiment of including an Aero Engine in the first year's training and spreading the Basic Fitting more evenly over the three years' course is being tried for the first time with this Entry, and the results of this experiment will be very closely followed. It is hoped that an even distribution of the practical and theoretical work of the syllabus throughout the three years' training, and the abolition of a long preliminary period of "chipping" and "filing," will minimise the tendency of boys to get "stale," and help them to keep up a steady pressure of work throughout the whole course.

#### 16th ENTRY—FITTERS ARMOURER.

Owing to sickness, only seven Fitters Armourer were examined by the Board. The results obtained showed a very high average. In educational subjects all obtained L.A.C. standard. In Armament subjects the class average was 75 per cent. Two Apprentices obtaining 80 per cent. were graded L.A.C., the remaining five obtained high standard A.C.1 marks.

#### 16th ENTRY—METAL RIGGERS' SECTION.

This Entry which is the first of the trade of Metal Rigger to be trained at Halton has been posted away to Units, having very successfully passed the C.T.T.B. during July last.

Considering the difficulties under which this Entry carried out their training, the results of the passing out were excellent and reflect credit both on the instructional staff and on the Aircraft Apprentices themselves.

From what one hears the Entry is doing well at its new Units.

The C.T.T.B. results were as follows:—

L.A.C.	..	..	30 (2 Cadets—Gale and Marchbanks).
A.C.1	..	..	97
A.C.2	..	..	46
Failures	..	..	Nil.

Flight Lieutenant Rapley hopes to visit one or two of the Units to which the Entry were posted with a view to seeing first-hand the results of their training at Halton.

The 19th Entry are now carrying out their advanced training.

This Entry shows signs of increased keenness and a certain amount of thirsting for knowledge, which is a good sign. It has the advantage of working to a syllabus of training based on the experience gained in the training of the 16th Entry. This syllabus has been amended and greatly improved. The Apprentices of this Entry are being given air experience gradually, and it is hoped that every A.A. will be given a flight before passing out. Priority for flights is given to those Aircraft Apprentices who do well in their examinations and tests.

The 22nd Entry at the moment shows considerable keenness and is advised to keep this keenness up throughout training.

The Basic training of this Entry is being spread over a longer period, which will avoid a continuous stretch of chipping, filing and cutting, etc. Very little can be said of the Entry owing to their short time in the Service, and it is up to the boys themselves to show what they can do during the next term. Flights are being arranged for A.A.'s who do well in examinations and tests.

#### 16th ENTRY—COPPERSMITHS AND METAL WORKERS.

This Entry passed through the hands of the C.T.T.B. in July 1930, and although the results were not quite up to expectations, they were not too bad. Out of ten candidates we had one L.A.C., two A.C.1's, seven A.C.2's, and no failures.

The 19th Entry are on the whole shaping very favourably. Since the commencement of their training we have lost one, discharged on medical grounds, but have gained two others, from the 18th Entry, No. 2 Wing, who had lost considerable time through illness, thus making the total of this class up to sixteen.

The 22nd Entry have just started to get their bearings in the shop. So far the outstanding feature is the number who want to be Fitters Aero Engine!

#### SCHOOL NOTES.

The 16th Entry have now departed, leaving behind them a fine tradition of high all-round efficiency. Does not the flag in the Institute bear tangible witness of their efforts? Though by no means does one wish to belittle the strivings of their successors in seniority, the 19th Entry. The burden of authority is now fully laid on their shoulders, and so far as can be seen is being borne most sturdily. Satisfactory progress is being maintained in all the school work, and the lower classes of Metal Riggers are making the improvement one expected.

The 22nd Entry have made a most promising start and have earned praise in all directions for their keenness and ability. The standard of theoretical knowledge they possess is considered higher than that of any previous Entry, and if keenness is maintained, correspondingly high results should await them ultimately.

We welcome H. G. Morcom, Esq., B.Eng., A.M.I.E.E., who has come from the Electrical and Wireless School to take charge of Science in the Wing, vice J. A. Critchley, Esq., B.Eng., A.M.I.Mech.E., who has been appointed Group Education Officer at South Farnborough, after having been over eight years in the Wing. We wish him the best of good fortune.

We should like to take this opportunity of congratulating L.A.A.'s Gale, Carter and Marchbank on winning Cadetships at the Royal Air Force College, Cranwell.



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