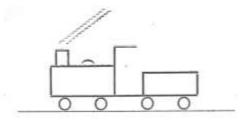


THE CIRCULAR



No. 13

FEBRUARY 1947

he Bradford Hailway Circle

he Centre, Manningham Station, Bradford

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D.Butterfield, 11 Chatsworth Road,

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ditorial

With this issue "The Circular" attains its first irthday. Upon glancing through the back copies of the preceeding twelve months, one feels that much rogress has been made since the first number made its modest, amateurish and uncertain appearance; and it is confidently expected that the ensuing lear will see further improvement on the standard dready attained.

To mark the occasion the Editors have made an attempt at producing an issue of rather more than mual interest, not so much as regards the format the quality and variety of the matter published. It is hoped this will meet with members' approval.

Members are reminded that "The Circular" is published entirely for their convenience and pleasure. he Editors welcome articles and correspondence. and it is againstressed that criticisms and comliments alike are received quite impersonally.

The Secretary has pleasure in announcing that

our esteemed member Mr. G. E. James has accepted co-option to the Committee. One feels sure that this gentleman's experience and ability will be of the utmost value in the deliberations of the Circle's executive.

Again, for the benefit of new-comers, it should be explained that the cleaning of the Centre is done by the members in turn. The cleaning materials are kept in the porch, and the key for the premises may be obtained from the Booking Office upon production reached Preston 10-20 dead "on time." of membership card. The periods for which one is responsible will be found under the heading of Duty lastow express, which drew out at 10-37.1/2 (1-1/2) Rota.

Members will no doubt be aware that a small class brock. Hest Bank was passed at 60-1/2 and the of light moguls is being built by the L.M.S.R. As emine seemed to be nicely settling down when we these are fitted with a tender cab they are obvious-were brought to a dead signal stand of 4m.45 secs; ly intended for branch line service, and in view of this was later obviously explained by the new track their light axle loading and moderate power (2P) it laying in progress at Carnforth, which station was is reasonable to assume that such service will be over routes on which severe weight restrictions obtain. One member suggested that these machines are \$6.569\$, supported by a class 2, with his 402 ton intended for the Cockermouth. Keswick and Penrith line but as extensive bridge reconstruction has been stop the minimum at the top of the 1 in 134 ending undertaken on that like in recent years this is very 1-1/4 miles before Burton & Holme was 44 61 unlikely. A correspondent informs one that they are intended to replace the few remaining Kirtley double-framed 0-6-0s which, although ideally suitable for certain restricted routes, are about worn out. If any member has any authoritative information on the subject the Editors would be pleased to hear from him.

Finally, the Editors take this opportunity of expressing their thanks for the many appreciative comments passed on "The Circular". They particular-12.22.5 secs. In view of the lateness of the train ly desire the members' commendations to embrace Mr. Lea and Mr. Butterfield; the former for his invaluat maines to pick up lost time, but possibly factors le professional assistance, the latter for his work in connection with the distribution.

Two Thousand Miles in One Week on the L.M.S.R. By R. L. Clare.

Foreword: Of the many and varied ways of holidaymakin much has been written; the following diary shew how one 1936 holiday was spent on the express trains of the L.M.S.R., in search of noteworthy Locomotive Performance.

Monday, September 26th, 1938 Left Blackpool (Central) on the 9-37 a.m. and

Joining the 9-35 a.m. Manchester to Edinburgh & . late), good time was kept to Lancaster, passed at 11.1 - top intermediate speed being 87 through bassed severely slowly.

Now. Driver Groome on the train emine "Arethusa" train got down to business, and in spite of the aximum on the level just before Milnthorpe started the climb up to Grayrigg, 32 being the minimum at the summit, passing time 11.41.8 secs. Low Gill at 53. Tebay at exactly 60, showed quite satisfactory running, and 28 at Scout Green box and 27 at Shap Summit concluded the climb.

Shap Station was passed at 60-3/4; 66 at Thrimby Frame box; 66 through Clifton; the slack through Penrith was scrupulously observed at 54 and maximum thence to Carlisle only 67 through South waite at I was somewhat nonplussed at the failure of the two existing which I did not wot of. Carlisle was reached 12.30-1/2, 13 mim. late; incidentally, the leading loco, drew off before I had time to have a word with the driver - surely a bit of smart

uncoupling there!

Leaving Carlisle on the 12-47 (6m. late) a brief run to Dumfries behind 5621 "Northern Hodesia" with only 205 tons proved quite interesting, with a maximum of 65 m.p.h. between Ruthwell and Racks. Dumfries was reached at 1.34.0. Transferring to the Up platform, after asking the young lady in the book-stall a question merely to hear her intriguing Scots accent. I awaited the 12-15 from Glasgow (St. Enoch) which turned up at 2.1.30 p.m. 8-1/2 minutes late. Luckily getting a corner seat on the Up side (Query to the powers-that-be ... why aren't there the 63.9 miles run to Appleby, which, apart from railway interest, is scenically wonderfully pretty,

especially near Armathwaite, in my opinion. 65-1/2, at Rigg, was attained - Carlisle being reached at 2.39.40 - steady running at about the milea-minute mark securing an "on time" arrival. Rather heavy delay at Carlisle, however, made us leave there nearly 3 minutes late at 2.47.25, but "Vindictive". No.5725, secured a prompt arrival at Appleby at 3.25.15; splendid running up the almost unbroken 8 miles at an average gradient of 1 in 132 to Cotehill being a pleasure to observe - minimum at Cotchill was 47 and maximum 64 for quite a few miles near Lazonby, passed at 3.8.30. Crossing the line at Appleby, a delightful country station, although serving the County Town of Westmorland, I was just in time to see the "pegs off" for the Down "Thames-Clyde" running spot on time, fortunately for ition to the above he has also presented a small my pre-arranged plan which had somewhat riskily only easel for the display of illustrations, diagrams a "headway" of nine minutes on this occasion! Drawing out of Appleby at 3.35.45, most enjoyable running was the order of the day - 71 at Culgaith and 73 at Little Salkeld being the "high spots" of this most beautiful stretch of the old Midland main line. Cumwhinton, run through at 4.0.52 was, however, the last notable speed, our train being brought to a dead stand for signals outside Carlisle Feb. 6th. - Feb. 19th : for 3-1/2 minutes - we drew along side platforms at Feb. 20th. - Mch. 5th.: 4-22 p.m.

Leaving Carlisle again 14m.10 secs. late at 4. 29.10 secs., No.5645 "Colling wood", with nine coaches, topped 60 through Rigg and attained a maximum of 67 passing Eastriggs - even so our arrival at Annan at 4.49.30 secs, remained 14-1/2 min, late and one would almost think the timing over this stretch is on the "tight" side. After a brief look round Annan the 5.19 p.m. took me sedately back to Carliste, the time (5-50) allowing me just enough margin to attend to the wants of the "inner" man which by now were beginning to become somewhat insistent. Returning to the Citadel station I boarded the 7-2 non-stop to Preston, reached at 8-49 - "on time" mile-posts on both sides always?) I settled down for again; unfortunately as darkness fell at about Penrith my stop-watch and gradient profiles had to be reluctantly put away until the morrow.

Preston departed at 9-20, arriving Blackpool (N) Out of Dumfries at 2-3 p.m., no higher speed than at 9-51 (again "on time"), completed a most enjoyable day.

(To be continued)

Recent Gifts to the Circle

As a sequel to Mr. J. Thormill's talk on the Smith Compounds, that gentleman has donated to the Circle the two working diagrams used to illustrate his paper. These consist of an imenious device showing in diagramatic form the various methods of working according to the setting of the controls. and a large sectional model of the Deeley regulator valve showing the different port openings. In addetc., used in connection with lectures, which has already proved most useful. Thank you Mr. Thornhill!

Duty Rota

J. T. Grierson.

To the Editors: Dear Sirs.

I should very much like to thank Mr. James for his most enlightening article on the Midland class 2 engines.

To me, the non-superheater engines seem fascinating with the chimney at the extremity of the smokebox, and their straight running plates. There are one or two points I should like to raise however. In the case of the engines with 6'-6" and 6'-9" driving wheels and those with 7'-0" driving wheels, there is a slight difference in the shape of the cab roof, the 6'-9" engines. Nos. 328 to 357 having a moderately sharp radius curve at the eaves. the 7'-0" ergines, Nos. 358 to 376 had a roof similar to the class 2 with superheaters, in each case the side opening being very similar. The 386 class with 6'-6.1/2" driving wheels had a roof similar to the 6'-9" series, but the side opening was deeper. identical with the class 2 superheater ergines. An unusual feature of all these non-superheater emines is the smokebox, or rather the position of the chimney, which is situated as far back as possible. giving them a most distinctive appearance. Incidentally, one of these ergines in its original condition was named "Beatrice", then numbered 1757. later 377.

During the last few years of their career the non-supers have been largely used on stopping trains but have occasionally been called upon to pilot the ex-L.N.W.R."Claughtons" when they were in difficulties. We are fortunate, however, in having a representative shedded across "The Road", No. 391 of the 356 class. As the days of this most interesting class are numbered, I feel sure that Mr. James's article has been greatly appreciated.

Yours sincerely, DAVID IBBOTSOM. Correspondence

To the Editors: Dear Sirs.

Regarding Mr. Thornhill's article on Three Christmas Eves".

It may be of interest to your readers to know that a Christmas Eve accident occured at the south end of Derby station as recently as 24th.

December 1944.

Two light engines, a "Jubilee" and a crwich "Crab", collided and both turned over on to their sides, the fireman of one, I believe, being tilled. I was on the 1-7 p.m. train from Sheff-ield to Birmingham, which was held in platform 6 at Derby for nearly an hour.

There was no publicity given to this accident and it was not even mentioned in "The railway Lagazine". As we passed the scene of the ristan I had a perfect view.

So that makes <u>four</u> Christmas Eves.
Yours sincerely,
DAVID IBBOTSOF.

"The Amazing Railways of Switzerland"

On Thursday, 23rd. January, a small party of sembers, headed by Mr. Butland, had the pleasure of listening to Mr. Cecil J: Allen when he gave a lecture on the above subject in the Temperance Hall at leighley.

Mr. Allen was introduced by the Rector of Keighley, the Rev. Canon Eric Treacy, well known as a railway photographer of the highest order, and his lecture was admirably illustrated by many excellent slides projected on to a large screen.

As the proceeds of the admission were in aid of the Bradford Diocesan Forward Movement appeal the audience was composed mainly of non-railway minded elements, but so skilful was Mr. Allen's approach to his subject that everyone thoroughly enjoyed the lecture, as was evident by the very hearty applause at the close.

J.T.

It was with no little regret that as soon as I had joined the Circle I was posted to the Manchester area. The arrival of "The Circular" with unfailing regularity kept me in touch with you, and I should like to pay a tribute to those hard working members who are responsible for so excellent a publication - trains, for I well remember a train consisting of a may their shadows never grow less!

My wanderings, however, took me into a wide area of railway activity, causing me great pleasure. It

was mainly the L.M.S.R.

My chief centre was Manchester, and here the black 5s reigned supreme and almost without opposition. There is a sprinkling of red 5Xs, and on two occasions I saw "Royal Scots" on Victoria-bound trains - normally, however, this is not their own ground. An occasional Hughes 4-6-0 comes in too. but their happy hunting ground is Blackpool. Here also I saw a class 5 oil-burning loco. Newton Heath sheds also include a L.M.W. 4-6-0 of the mixed

traffic type.

In the running of trains in this area I would care to draw a veil as on some sixty occasions on journeys between Bradford and Manchester I regret to state that time was kept on one occasion only. and on another journey, for some reason best known to the driver, we failed to make a scheduled stop. Pemaps it is the Liverpool area which provides us with a somewhat greater locomotive variety. Here "Royal Scots", rebuilt and unrebuilt, are in regular attendance, as well as the "streamliners" (or is it "air smoothed"?) including No.6236 "City of Bradford"; in contrast are plenty of old L.N.W. 0-6-2 tanks. And talking of old L.N.W. stock, quite a few appreciate that I had value for my penny. of the old Webb four-footers work hard around . Widnes, whilst a "Precursor" works daily through Runcorn.

A holiday on the Ayrshire coast afforded a further experience of the old G.S.W.R. line. Here again the main line trains are handled by that evergrowing family of black 5s, whereas on my previous visit five years ago, Pickersgill 4-6-0s took pride of place.

To me this part of the L.M.S.R. seems unique, for not a single class 4F goods is to be seen - the bulk of the freight traffic seems to be efficiently tackled by ex-C.R. 0-6-0s of the smaller type. wilst the more serious side is left to the "Crabs".

I think that they must be very proud of their class 2 and two bogies being heralded by a porter with a stentorium voice as "Boat Train for Arran"; it made me think what his reaction would be in laving to hail the "Golden Arrow".

Ardrossan station is as bleak and uninteresting as ever, whilst Wemys Bay still retains its charm.

Spending a night in Carlisle suggested to me that the Citadel station is a happy hunting ground, and the evening found me presenting a platform ticket to the Collector, giving me "Open Sesame" to the wide acres of the platforms. Within five minutes I had contacted another chappie on a like purpose and we were soon in earnest conversation. Dusk came all too soon but the somewhat brief period of daylight

had provided plenty of interest.

Three "Pacifics" of different vintage in a quarter of an hour wasn't bad I thought. They were, if you will pardon statistics, 6212 "Duchess of Kent"; 5250 "City of Lichfield" and 6239 "City of Chester" Later in the evening I had an even pleasanter surbrise by the arrival of the Newcastle train headed by L.N.E.R. 2-6-4 tank, No. 9000, which, I understood, was being tried out on the route; she looked good inher bright green livery. There was, in addition, the usual bevy of 4-6-0 types already mentioned, and I think that any Scotch friends will

By official influence and unofficial methods, a ermit to go over the St. Rollox Works of the ex-C.R. was forth coming, so to Springfield I trekked and enjoyed a perfect afternoon. No new work is indertaken here now, the output being entirely rebuilding or renovating, and I gathered that something like 130 passenger coaches and 27 locos. are dealt with weekly, to say nothing of goods vehicles.

The wood machine shop was particularly interest-

ing to me and here I learnt, through asking many pertinent questions, that L.M.S. Mahogany is actually mainly jarrah wood. Incidentally, the increasing costs were brought home by an illustration of a sawing machine in operation which, 60 years ago, had 2663 "George the Fifth" marked the beginning of a cost the C.R. £600, and would now cost £5000.

Coaches in for re-fit are lifted from their bog ies then stripped completely and often re-upholstered. The endless rolls of material gave one visions of countless coupons, or are railways exhempt from these domestic limitations? The bogies are dismantled and scoured in caustic baths, and it was interesting to see the wheels being turned - one cutting tool only is used, turning the flame and tread at the same time.

A visit to the loco, shop was equally impressive in the thoroughness of the procedure, the locos. being dismantled until only the frames remain. Boilers are rebuilt and tested, and cylinders are re-bored (so different from the same operation on an the ever increasing loads, and to avoid piloting, a Austin 7), in fact every part is dealt with and an almost new ergine is eventually pulled out for test- January 1913, only two years after the introduction im.

A particular engine in a partial state of dismantling was No. 123, the old C.R. single-wheeler. I am sorry to say I was not able to discover whether it was to be re-built for museum purposes. Out in the yard stood the old Jones 4-6-0, where it had remained throughout the war, its boiler covering was red with rust, but the tender still showed a glimpse of the old H.R. green livery. Let us hope that one day this famous ergines will be burnieded up again and given a more suitable stable.

A 4-6-2 C.R. tank was also in for overhaul. though another of the same class was in the breakers yard, along with, regretfully, many others of classes now fast becoming extinct.

Mr. Poster's advert, is not to hand at the time of going to "press". If is received before "The Circular" is distributed it will be included as a loose insert.

The London and North Western "Claughtons" and their subsequent Development. By David Ibbotson.

Just as, in 1910, the appearance of emine No. new era on the North Western, so in January 1913 did the advent of No. 2222 "Sir Gilbert Claughton" herald the participation of the L.N.W.R. in the movement towards the four-cylindered, big boilered 4-6-0 for express passemer work.

During the year 1906 an exchange of locos, was arranged between the G.W.R. and L.N.W.R, the engines concerned being "Polar Star", G.W.R., and an "Experiment" class engine "Worcestershire". As might well be expected, the G.W.R. engine came out with flying colours, largely due, no doubt, to the higher boiler pressure, the long valve travel and the bigger boiler.

The Crewe authorities decided that, in view of class of larger engines was essential, so that in of the "Princes", the first of the "Claughtons" made its appearance. The principal dimensions were as follows: Cylinders (4): 16" x 26". Heating surface: tubes 1,574.2 sq.ft., superheater, 24 sets of tubes, 379.3 sq.ft., firebox 174.5 sq.ft. Grate area 30.5 sq.ft. Boiler pressure 175 lbs.sq.inch.

Walschaerts valve gear outside, the inside valves being operated by means of rocking levers from the outside gear. The total weight of these reines was 77-3/4 tons, and with tender. 117 tons. later 118-1/2 tons.

In all, there were 130 engines built between Janary 1913 and June 1921, being numbered variously rom 6 to 2511. Of these, 59 had names, largely hose of L.N.W.R. Directors and executives. The first of the un-named engines was No. 162, built n 1917.

After World War I, in 1920, it was decided to e-number a "Claughton" with a view to having one of his class as a war memorial engine. The machine mosen was No. 2097 which was re-numbered 1914 and

at the same time named "Patriot", a plate being fitted bearing the inscription "In memory of the fallen L.W.R. employees, 1914-1918". Both as ex-L.N.W.R., 1914 and L.M.S.R. 5964 this engine figured for many years in an annual Armistice Day service at Rugby steam shed.

ed from the register of L.M.S. names, but in 1936 the L.M.S.R. decided to bestow this name on No. 5500 given ex-R.O.D. tenders from ex-G.C.R. 2-8-0s which (originally 5971 "Croxteth"), the 52 engines of the 5XP parallel boiler series now he ing known as the "Patriot" class.

It was with number 1914 that the fitting of Ross "pop" safety valves became standard for the "Claughtons", all of which had been previously built with Ramsbottom type valves.

The first engines of the class had not been in service very long before it was felt that the boilsequently, the fifth and sixth emgines were given 15-3/4" x 26" cylinders, the next four reverted to the 16" x 26", the eleventh 15-3/4" x 26", the twelfth 16" x 26", and all the remainder 15-3/4" x 26", with the exception of four: these were L.M.W.R Nos. 668, 856, 1567 and 2401, which had cylinders 15-1/2" x 26". Another notable weakness was that all four cylinders drove on the first pair of drivim wheels.

Upon the formation of the L.M.S.R., the "Claughtons" were dealing with all the heaviest expresses south of Crewe; between Crewe and Carlisle the L.Y.R. class 8 ergines were mainly used. Although the "Claughtons" did occasionally put up a few startling performances up Shap, the "Lanky" 4-6-0s were deemed a better ergine for the banks.

The "Claughton s" were numbered 5900-6029 in order of construction, when the L.M.S.R. was formed in 1923.

When the "Royal Scots" came on the scene in 1927 many of the "Claughtons" were sent to the Midland main line, particularly between Leeds and Carlisle. It may be mentioned here that the "Claughtons", together with the "Princes", and a few other L.N.W.R. types had their can roofs altered to conform to the

loading gauge of the Midland Division - this was at the eaves of the cab, meaning that the shoulder of the cab was removed. Several of the "Claughtons" at the same time had their boiler mounting reduced in height to enable them to work on the Northern Div-With the withdrawal of 5964, "Patriot" disappear- ision in Scotland, where the overhead clearances are not so generous. Also, most of these engines were were purchased by the L.N.W.R.

In 1926, Mo. 5908 was experimentally fitted with Caprotti valve gear. Early in 1927, tests were carried out between No. 5917, a standard engine with Walschaerts valve gear, and No. 5908, on the Euston-Crewe and Crewe-Carlisle sections. The result favoured No.5908, with a decided advantage in fuel

economy.

Subsequently 9 Others were fitted with Caprotti er was inadequate to meet the maximum demands. Con-Eear, these being Nos. 5927-45-48-57-52, 5975, 5013, 5023-29, of which Mos. 5927, 5948-57, 6013-29 had cranks set at 135 degrees. The latter five were balanced for 50% of reciprocating weight in the 1st. pair of driving wheels, with the exception of No. 6013, wherein the 50° balancing was distributed between the 1st. 2nd.and 3rd. pairs. Nos. 5908 and 5975 were fitted experimentally with a Kylchap blast pipe, as was No. 5912 of the unrebuilt engines. Here It may be stated that Nos. 5908 and 6029 were the only engines to run in original condition with the Caprotti gear. In the case of the other eight it was part of rebuilding, including No 5908 and 6029, together with ten others not fitted with Caprotti gear but retaining the original Walschaerts gear.

This rebuilding embraced the fitting of a considerably larger boiler, almost identical with those of the "Patriot" class. The first engine to be rebuilt with the larger boiler was No. 5999 "Vindictive" and this was carried out under the supervision of Captn.H.P.M.Beames in 1928. This retained the Walschaerts gear. The numbers of the ten non-Caprotti rebuilds were 5906-10-53-70-72-86, 5993-9, 6004-17. The ultimate effect was an increase in boiler capacity, tractive effort being 25,577 lbs. at 85%, and the appearance greatly emanced.

(To be continued)

"The Smith Compounds"

The last speaker in 1946 was Mr. J. Thormill who read an unusually interesting and instructive

paper on "The Smith Compounds".

ersie Smith, the man whose system of compounding bears his name, Mr. Thornhill described its development and application to various locomotive types and classes.

N.E.R. 4-4-0 No.1619 was first dealt with, and it was explained how, in 1898, this ergine was rebuilt as a three-cylindered compound, thus becoming the first Smith Compound. Smith was at that time chief draughtsman at Gateshead works. This locomotive was fully described and the various methods of working; simple, semi-compound and compound, were illustrated by means of an impenious working model diagram, complete with regulator handles, steam gauge, diagrammatic steam passages, etc .. This device in itself is a work of art, and Mr. Thormill delightfully informal atmosphere obtaining. is to be con ratilated on the painstaking effort he has shown in its conception and construction.

The main section of the paper dealt with the famous 4-4-0s of Johnson, Deeley and Fowler design for the M.A., and the machines built to Fowler's specification during the immediate post-grouping

years.

All the different modifications in a long line of locomotives were fully described, and another working diagram was used to illustrate Deeley's patent regulator valve, by means of which engines could be worked as simple or compound machines. Fowler's design for a large compound 4-6-0 which got no further than the drawing board stage was touched upon, and the paper concluded with a brief reference to the compound 4-4-0s of the G.M.R. (Ireland).

Envelopes

Members are reminded that Mr. Butterfield would like to receive "The Circular" envelopes for re-use. [an Railway" Ed.)

"The Railways of the Isle of Man"

Following on the Annual General Meeting, the Circle was favoured with a very interesting and Commencing with a brief biography of Walter Mick-comprehensive talk by Mr. R. D. Brearley on "The

> Being by far the largest unit on the island, the Isle of Man Railway took up most of the limited time at Mr. Brearley's disposal and was fully described in all its various aspects.

By the aid of a black-board map the speaker briefly outlined the development of the system from the opening of the Douglas-Peel line in 1874 to the aquisition of the Manx Northern Railway thirty years later.

Mr. Brearley, having visited the island as recently as last year, entertained his listeners with colourful descriptions of the operating methods in vogue, and in so doing created something of the

He stated athat late running of the trains was buite an accepted practise, but as the lateness was remarkably consistent on all the various lines it resulted in time-table connection being duly honoured, albeit a matter of several minutes behind the schedule.

The locomotives, rolling stock and stations were dealt with and illustrated by many excellent photoraphs of the speaker's own taking. Reference was hade to the projected 2-6-2 tank engine to be built y Beyer. Peacock. Having a boiler pressure of 200 lbs.sq.inch and using superheated steam. this machine will be a considerable advance upon existing designs and it should be most useful during the summer months.

A point of interest was that a ticket printed in 1878 was issued to the speaker in 1945.

The talk concluded in a brief reference to the other railways of the island, and was followed by the usual discussion. J.T. Those interested in the above are advised to read the late Ian Macnab's excellent book "The Isle of

Some five members availed themselves of the kind invitation of the above body to attend a lecture by Inspector J. H. Fowkes, Derby, on "The Development of the Locomotive", held in the Bradford Technical College, on Thursday evening, 16th January. The lecture proved to be very interesting, and was followed by an entertaining discussion. G.H.B.

Looking Ahead

Wednesday 5th . February: 7-30 p.m.

A talk by Mr.G.E.James on "The Locomotives of the Midland Railway in the Twentieth Century" Part I: The Passenger Classes.

Tuesday

Meeting of the Committee. 7-30 p.m. 11th .February: (Committee members please note)

Wednesday 7-30 p.m.

Continuation of the talk by Mr. 19th .February: G.E.James (above) Part II: The Goods Classes.

Wednesday 5th. March: A talk by Mr. D. Ibbotson on "The Pennine Tunnels" at 7-30 p.m.

Wednesday 12th . March:

"Two Rail Propulsion" A discussion led by Mr. G. W. Lush (pro) and Mr. V. Boyd-Carpenter (contra), at 7-15 p.m. prompt.

Wednesday 19th. March:

A Film Show, by courtesy of Mr. A. G. Thompson and kind permission of the Bradford Cine Circle, in the Cambridge House Annex, Little Horton Lane, Bradford. Ladies cordially invited. Synopsis of films and details later

Wednesday 30th .April:

A Lantern Lecture, by the Rev. E. Treacy. Subject later.