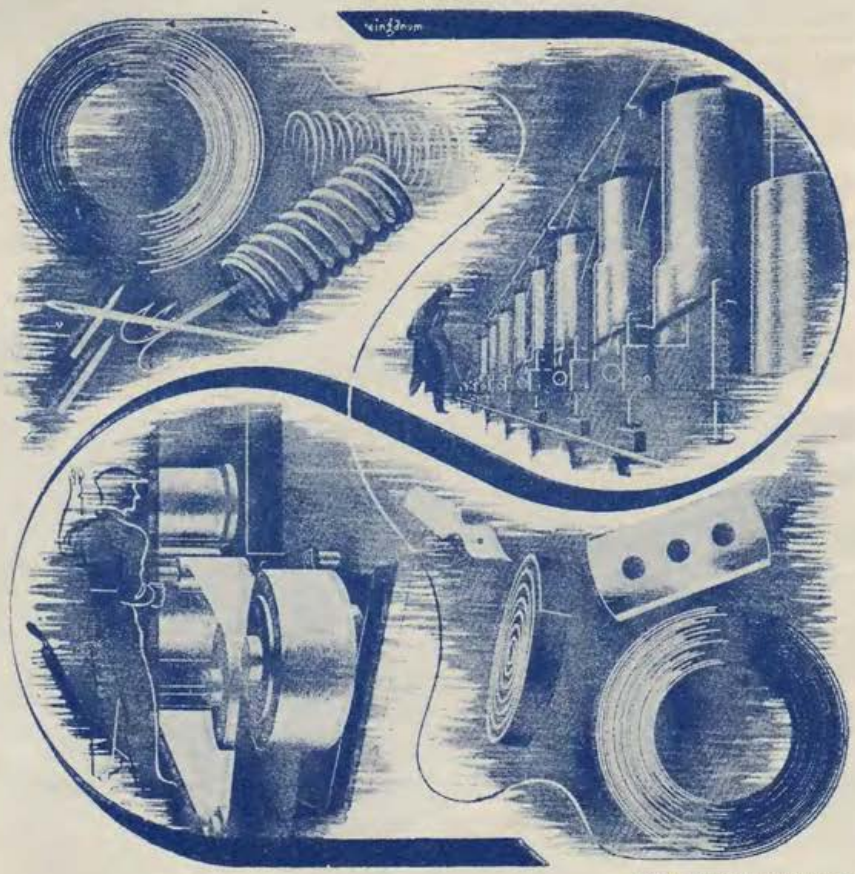
The FOX MAGAZINE

VOL. 1. No. 2. SUMMER, 1946. THREEPENCE.

SAMUEL FOX & COMPANY LIMITED, STOCKSBRIDGE WORKS, NEAR SHEFFIELD.

THE UNITED STEEL COMPANIES LTD



Design by Victor Reinganum

MOSAICS OF STEEL

NUMBER EIGHT

Samuel Fox produced the first cold rolled steel strip in 1854, having twelve years earlier established his works for the drawing of high grade wire. The products of this pioneer work now serve every kind of industry. Serving the present needs of aircraft and other mechanisms requiring reliability, they will once more be released for the production of the strip and wire required by the manufacturers of a wide variety of products, from razor blades, pen-nibs, fish hooks, clocks, radiograms, furniture and decoration, to typewriters and sewing machines and cycles and toys. Cold rolled steel strip and fine steel wire are to be found in many articles of ordinary life, in innumerable domestic, industrial and scientific applications.

THE UNITED STEEL COMPANIES LTD

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OUR first number seems to have been well received judging from comments which have reached the Editor's desk. We have been warned that we have set ourselves a high standard, but we leave it to the reader to say whether this has been maintained in the present issue. Criticisms have also been received, and these have been carefully noted.

The next thing—now that the Magazine is on sale—is the required quantity for circulation, and we are hoping that there will be a strong demand from employees in every part of the Works. If the demand exceeds the supply so much the better. We have made an estimate and it is for you to show how wide of the mark we are!

So much is happening these days, and so much has happened since Vol. 1, No. 1 made its appearance that one is almost tempted to turn the Editorial into a column of "Meditations on the modern scene." From Bikini to bread rationing, from Palestine to Paris, from our one-week summer to the Test Match, from Molotov to Bevin—ah, if only they could *all* shake hands, these leaders of the Nations. The time will come. Perhaps we seem powerless, just we individuals, with our own little circles of interest—but we aren't, really, if only we keep awake. There is so much to send us to sleep if we aren't careful. Not only outside the Works, but inside, we should be reasonably critical. We publish a letter regarding our own Sports Field. How many readers who agree with the letter attend the Annual Meeting? Two men could lift the chairs required for this meeting! What a chance for somebody to send in a resolution and then get up and speak for it. "They" would have to take notice. Of course, you may not agree with the letter.

This Magazine is not just to "put something over." Any reader has a chance, and whilst we are on this subject, let us say that we have met several would-be contributors who say they can't write, or they can't put it into words, or they can't write good enough English. The main thing is to let the Editor have your ideas—he will do the rest. It has been well said that a Works Magazine must spring out of the minds of those for whom it is intended. So do not hesitate if you have something which may interest your fellow workers.

THE EDITOR.

Contents:—

Beauty Spots near the Works.
No. 1—WORTLEY CHURCH.
From a pen drawing by G. W. BIRKS, Test House.

PRODUCTION INTERLUDE—2.

He was having what he would term a "breather" and was vainly trying to ignite a piece of paper at the furnace door in order to light his almost empty pipe.

"Good morning, Tom," I said.

"Wot's so good abaht it?" he replied.

"Well, I ventured, "for one thing it's Friday." And then I knew I had played right into his hands for, immediately I mentioned "Friday," a strange light appeared in his eye.

"Wot's reight wi' Friday?" he demanded.

I decided to take up the unequal challenge, for I knew there was little hope of retreat. "It's pay day, isn't it?" I said.

"Pay day it may be for sum, but Ah calls it stoppidge day; Ah reckon it's fast gettin' t'stage weer there be moor stoppidge 'n pay. Sithee"—and he thrust a crumpled and dirty buff coloured card before me. The card contained much small printing, a few illegible figures and several black finger prints; the whole being liberally and indiscriminately patterned with oblong holes.

"Wot's tha mek on it?"

I stared at the card some time before I realised its purpose. "Ah," I said, "I am not very clear about these things myself—what does it all tell you?"

He borrowed my matches, puffed strenuously away at his old pipe and then answered briefly, "Nowt."

"It must tell you something or how do you know if your wages are correct?" I asked.

"Ah depends on ah'r Ned's eldest wot works in t'Offices; she calkilates it up and wreets it dahn fo' me ivry week. An' wen Ah gits this 'ere card Ah puts two an' two togither. An' they doan't allus mek fower, tha knows."

"How's that?" I questioned. "Your wage won't vary much except when you have been in at the week-end."

"T'wage mebbe doan't vary a deal 'appen, but wot's in t'packet do—'tis this 'ere Pay All You Earn wot does it."

"Yes," I said feelingly, "this Income Tax is a bit of a problem."

"Tain't no problem, neither," he said. "Tha can't fairly call it no problem. Ah reckon a problem's summat tha knows nowt abaht and that knows summat abaht 'tIncome Tax—leastways Ah do."

"Well, what do you know?" I encouraged.

"Nah tha's axed, Ah'll tell thee. T'were putten on in t'fust place as a temp'ry messure to pay for a war they'd been 'avin'. An' like a lot moor temp'ry measures it stuck. An' tha's reminded me on summat naw—Ah were putten on this 'ere sweepin' job as a temp'ry messure an' it seems like as 'ow Ah'm stuck, an' all."

Before I had thought up a suitable answer, he had picked up his wheelbarrow and departed. "Wortle."

Now then, APPLEBY-FRODINGHAM! Have you anything like this behind the "iron curtain" at Scunthorpe?

(The Misses D. and M. Heath (Twins), Stainless Steel Section Staff). →

Photo: R. Lismer.

Films—and Stars!—Examination of returns by the Board of Trade furnished by exhibitors under the Cinematograph Films Act, 1938—the Quota Act—shows that for the year ended September 30th, 1945, the total length of registered films shown in British cinemas was 46,095,000,000 feet. The total length of British films shown was 9,094,000,000 feet, or 19.73 per cent. of the whole, compared with 20.69 per cent. in the previous year, when the total footage was 45,765,000,000 feet. British feature films represented 18.51 per cent. of the feature film total, compared with 19.67. Sixty-seven British long films were registered during the year ended March 31st, 1945, as compared with seventy during the previous year.

Just fancy! Over forty-six thousand million feet of film on our screens in one year! This is equal to 87,030,114 miles—or very nearly the distance from the earth to the sun. Assuming that this film was stretched out from Stocksbridge towards the sun as far as it would go, and that the remote end immediately caught fire—which it would do—how long would it take for all the film to burn up at the rate of 5 feet per minute? The sender of the first correct answer opened will receive the next 12 issues of "The Fox Magazine" free. For mathematicians! Correct answer in next issue.

"FROM OUR PRESS-CUTTING BUREAU."

A cook is a male or female worker of 21 years of age or over wholly or mainly engaged in the preparing and cooking of food requiring the mixing of two or more ingredients with, or without, assistance.—Industrial and Staff Canteen Undertakings Wages Board. Wages Regulations Proposals, para. 9.

A woman startled the crowded central lobby of the House of Commons yesterday by shouting at the top of her voice: "Mr. Bernard Shaw is God's right-hand man!" She was ejected by the police before she could elaborate her statement.—Daily Mail.

Washable Doll, as new, wets nappies when fed with bottle provided, 25/-.—Advt. in Sutton Herald.

Summoned for keeping a dangerous dog, a Derby woman asked the magistrates to keep in mind "how many people it did not bite during its life."—Sunday Express.

Six Barrow-in-Furness gravediggers have begun an unofficial strike for higher wages because, in the words of one of them, they were being "worked to death" in the cemetery.—Manchester Guardian.

When the war was on we did have peace and liberty to look forward to, but now what?—Sunday Express.

The chairman said that he had been served by a young woman who was smoking while handling food, but as she called him "dear," he did not like to report her.—Derby Evening Telegraph.

HOW'S THAT!

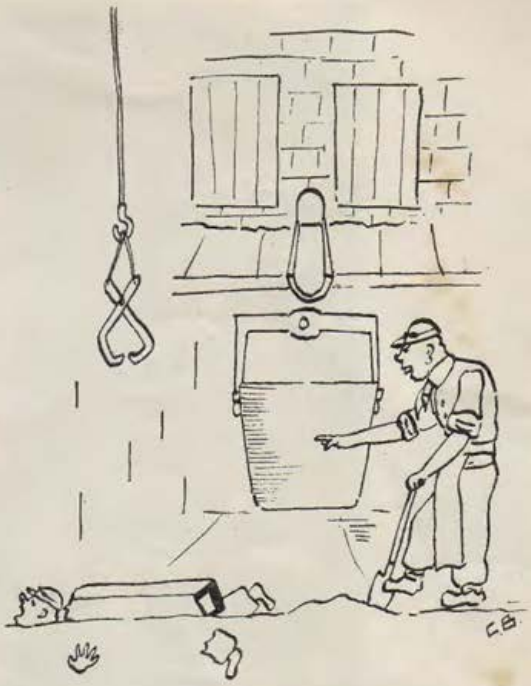
IT is all back again. The first county cricket season since 1939 is now under way and a recent visit to a match showed that it has changed very little because of the war. All the little incidents so familiar to cricket lovers are back. The dignified appearance of the umpires—one tall and one short—on the pavilion steps, the scurry of small boys autograph hunting, the baggy-trousered groundsman with the besom, the hard wooden seats with the spells in, the clergy, the ladies and the man with the thirst. They have all come back.

They are back to see a game that, although it has a set of rules that have changed very little during the years, still causes more friendly discussion than any other game. The cry "How's that" can start an argument anywhere in the world where cricket is played or remembered. What does it say in the rule book? The little volume of "interpretations" issued by the M.C.C. is a never-failing source of interest to the cricket fan and the student with a knowledge of the rarities can earn many an odd half-crown or pint of ale during the weary hours in the pavilion waiting for it to stop raining. As a little test and for amusement only have a go at the following:—

1. Can a man be stumped or run out off a "wide"?
2. Is it true that a batsman can only be out "run out" from a no-ball?
3. A batsman hits a ball towards the boundary. The fieldsman runs after it and stops it with his cap. The batsmen have run 3 in the meantime. How many runs should the umpire add to the score?
4. How big can a cricket bat be?
5. Can an appeal against a batsman be made after "over" has been called?
6. How does an umpire signal "one short" to the scorer?

N. W.

(*Answers on page* 26).



"STOP PLAYIN' ABART IN THAT RUDDY SAND, AND GET SUMMAT DONE."

VISIT TO APPLEBY-FRODINGHAM.

A PARTY drawn from all sections of the Wire Department visited Appleby-Frodingham on a recent fine June evening. This inter-Works visit was one of a series sponsored by the Departmental Production Committee. After a pleasant bus ride to Scunthorpe the party arrived promptly and on being split into smaller groups were escorted to the first point of interest at the South Ironworks to see the giant new blast furnaces and associated ore-crushing and bedding plant. Particularly impressive was the blowing engine house.

The molten iron was next followed to the Appleby melting shop, where the huge open hearth furnaces were converting the mixture of molten iron, scrap steel, and limestone, into plate steel. Here, a furnace tapping required not one but a series of ladles.

The resulting ingots were next seen hot charged into the slabbing mill soaking furnaces. The ingots were reduced in the slabbing mill, and, after shearing to the required dimensions, the slabs were passed to the plate mills via re-heating furnaces. Most members of the party found the heat and noise at the mills almost overpowering, and it was with relief that our guides finally led us out into the cool fresh air. A handsome meal was served in one of the canteens and after a short stay at the Works Sports Club the party journeyed back to Stocksbridge. We had seen the conversion of iron ore quarried from the earth into finished steel plates; we had eaten the dust; we had recoiled from the heat; we had suffered the noise—we had enjoyed it.

D.

Photo: R. LISMER.

RETIREMENT OF MR. T. H. HOWSON.

AFTER 52 years' service with Samuel Fox & Co. Ltd., of Stocksbridge Works, Mr. T. H. Howson, Commercial Manager of the Company, retired on the 30th June, 1946.

Mr. Howson started his career as a boy in the General Office, and by 1911, when he was 30 years of age, had worked his way to the position of Chief Clerk. That was Mr. Howson's first official appointment in an executive capacity, and after the resignation in 1913 of the then Commercial Manager, carried full commercial responsibility.

In 1918 Mr. Howson was appointed Secretary, and later Commercial Manager, vacating the position of Secretary in 1929 to devote his full attention and abilities to the development of the sale of the Company's products, which at that time were being considerably extended by the manufacture of a large range of special steels.

He was elected a director of the Company in 1927.

In addition, he was for many years a director of the Company's two subsidiaries—the Stocksbridge Railway Company and the Stocksbridge Gas Company, taking a prominent part in the incorporation of the Gas Company in 1919.

During the earlier part of his career he devoted much time to Trade Associations, and at the time of his retirement represented the Company on committees and at meetings, of approximately 26 such Associations. He still continues as the chairman or a member of some of these Associations. All these positions carried large responsibilities and have been filled by Mr. Howson with distinction.

Further, Mr. Howson always had the welfare of the staff and old employees of the Company at heart, and many members of the staff pay tribute to his valuable guidance.

Mr. Howson continues as a director of Samuel Fox & Company and of the Stocksbridge Gas Company.

He is succeeded in the position of Commercial Manager by Mr. H. P. Forder.

Presentations marking the occasion of Mr. Howson's retirement have been made as follows :—

On the 22nd June, 1946, at the Royal Victoria Hotel, Sheffield, by Mr. Gerald Steel, in the presence of the directors and other officials, of a gold dress watch from Samuel Fox & Co. Ltd., and a gold fountain pen from Mr. Howson's co-directors and intimate colleagues.

On Friday, the 28th June, 1946, on behalf of the clerical staff, of a silver cigarette case, by Mr. H. C. Butcher, Secretary. This ceremony took place in the Board Room in the presence of senior members of the General Office staff.

On Friday, the 28th June, 1946, at Clifford House, Sheffield, of a pair of binoculars, presented by Mr. K. Lampson on behalf of the Commercial Managers' Committee of the United Steel Cos. Ltd.

NEW COMMERCIAL MANAGER.

MR. H. P. FORDER, who succeeded Mr. T. H. Howson as commercial manager at Messrs. Samuel Fox & Co. Ltd. on 1st, July, 1946, entered the steel industry in 1930, when at the age of 19 he joined the United Steel Companies, Ltd., as an apprentice. After four years at various branches of the Company he became a junior member of the staff of Mr. T. H. Howson and served under him for a number of years. He was appointed assistant commercial manager in January. For some time Mr. Forder has been on production engineering work in the aeroplane industry and he is an Associate Fellow of the Royal Aeronautical Society. He was born and lived for many years in Winchester. His home is now in Sheffield.

WORKS VISITS.

NEARLY 200 people from the Sheffield Section of the National Trades Technical Societies visited the Works, in five separate parties, during the month of May. DURING the early part of June a party of 60 from the Foremen and Chargehands' Association of Messrs. David Brown (Tractors) Limited came round, and a similar-sized party from the Gainsborough Technical Society were entertained towards the end of June. Approximately 50 members of the Sheffield and Stocksbridge Branches of the W.E.A. visited the Works during the early part of July, when another series of visits commenced, this time from the Foremen at Appleby-Frodingham. Nearly 200 Appleby Foremen have now seen parts of the Works on five visits and all their Foremen will have been over when the sixth visit completes the series on September 25th. We are expecting a party from the Sheffield Ramblers' Association on November 6th.

The question of obtaining suitable Guides to conduct parties round the Works has always been rather a problem, and seeing that so many requests were being received for parties from various organisations to visit the Works, it was felt that it would be an excellent idea to compile a Rota of Guides.

In view of the fact that several Foremen had already shown their effectiveness in this capacity, an appeal was made to all Foremen to act as Guides, and serve on the Rota; up to the present time the response has been fairly satisfactory, just over 30 Foremen having volunteered.

A special write-up is now being prepared for these volunteers, giving quite a lot of useful information about the main Works Departments, and this will enable the Guides to answer the sort of questions usually asked by visitors; the Guides themselves will also obtain useful knowledge of other parts of the Works than their own.

The ultimate aim is to have a Rota of Guides capable of conducting parties anywhere in the Works, without the assistance of Departmental Guides.

Photo : J. C. SWALLOW.

"EWDEN VALE."

What place on earth is fairer
Than Ewden's pretty vale,
Where eyes may scan the beauty
Of field and moorland trail,
One hears the tinkling music
From the river's murm'rous bed,
'Tis nature's age-old melody
That down the years hath sped.
From o'er the purple moorlands
Comes a fragrant summer breeze,
That cools the peaceful cattle
Seeking shade beneath the trees,
And there within thy bosom
The placid waters lie,
And lingering clouds are mirrored
From an ever-changing sky.
The guardian hills surround thee,
Eternal, wild and bleak,
Like sentinels of nature
That men can never break,
Oh, lovely vale of Ewden
Thou holdest peace and rest,
And casts thy spell o'er wandr'ing men,
Surely! thou art England's best.

ALBERT HIRST
(The Claycraftsman Poet).

We were pleased to welcome on a visit to the Works in June, Mr. Harold Dawson, late Traffic Foreman, who retired in 1923.

FOX WATER SUPPLY—by O. INMAN, Chief Engineer.

THE broad outlines of the history of the developments of Stocksbridge and its works have been recorded by Joseph Kenworthy, and Joseph Sheldon and recently Dr. Robertshaw has given a lecture which adds many pages of interesting information.

There are still certain parts which have received little or no notice, and which, besides being of interest, govern or influence developments in our congested valley.

The maps showing the area in 1850, and the works at the present day, included in the last issue, reveal at first glance, the alterations that have been made to the course of the river. This was an undertaking which added considerably to the area, and simplified the layout of the works.

The first portion to be straightened was from the present Spring Works to the east end of the Wire Department. The river curved northwards from here, and the present General Office was partly built on a culvert which it spanned. The river continued in the open for some time, and then flowed under the bridge near the works house, which is the original John Stocks' bridge, built in 1795.

The laying of the railway connection to Deepcar was the next reason for river alterations. It was then culverted in a straight line from the previous diversion, and made to go under Smithy Hill. At the same time, a railway tunnel was constructed for the new line which ran parallel with the river but at a higher level.

At the period of the first diversion, a mill dam 2.6 acres in extent was made to ensure a larger and more continuous water supply for the water wheels which drove the earliest wire benches and flattening mills. This dam extended westwards from the present umbrella hardening shop and roughly occupied the area of the Billet Mill, Chipping Bay, Machine Shop and Billet Heat Treatment Shops.

The third large diversion did not take place until the project started for the erection of the Coke Ovens on their present site in 1917. This straightening as far as the bridge near the foot of Underbank, opened up the present scrapyard area for development. In 1937 a certain amount of river diversion was carried out to accommodate the new Stainless hot mill, the river was culverted eastwards from Smithy Hill to permit the construction of the Special Strip Department, and its offices also for about half the length of the Bar Mill.

In 1874 the Wakefield Corporation were seeking powers to construct a reservoir at Langsett. Samuel Fox and other mill-owners objected and carried their appeal as far as the House of Lords, claiming that their businesses would be ruined by the shortage of water power for the mills. Their objection succeeded and as a result, the Little Don was left undisturbed until the commencement of the present century, when the Langsett reservoir was made for collecting drinking water and the Underbank one for maintaining a certain flow of water down the river. The rates fixed were 255,000 gals. per hour from 6 a.m. to 6 p.m. Monday to Friday and 6 a.m. to noon Saturday; 152,000 gals. per hour 6 p.m. to 6 a.m. Sunday to Saturday, and 44,500 gals. per hour noon Saturday till 6 p.m. Sunday. During the week the works take 100,000 gals. per hour from the river for various cooling purposes, most of which returns again to the river after being used. The present course of the river naturally imposes restrictions on buildings adjacent to or over it, and its old course has to be taken account of when arranging foundations. The impounding of the waters of the Little Don for the benefit of Sheffield and Stocksbridge entitled the firm to a compensation supply of filtered water from Langsett. This was fixed at approximately 30,000 gals. per hour during the day, and 15,000 gals. per hour during the night, omitting the period from Saturday noon till Sunday 6 p.m. and certain general holidays.

To receive this water, the consulting engineers of the firm, Messrs. Fowler & Marshall, designed and constructed the Croft tank which has a capacity of 250,000 gallons and is about 30 ft. below the level of the Langsett filter beds, also the Hill Top tank which has a capacity of 500,000 gallons and is roughly 530 ft. above the level of the works.

Water is pumped from the former to the latter and with the head of pressure thus obtained, we are able to feed all boilers in the Works without pumping—a most unusual condition, but one which provides a very sound safeguard and an excellent fire hydrant supply. Samuel Fox had a well prepared near the present Rod Mill for a water supply to his first boilers and wire cleaning plant. This is not now used, but in 1936 a water diviner was engaged to locate a site in the Brigade Field for a water supply to the new Stainless department. This was bored to a depth of 200 ft. and from it a continuous supply of 11,000 gallons per hour has been obtained.

Certain departments which use water for cooling only, recirculate it instead of allowing it to run to waste. Thus the high frequency furnaces return all their cooling water to the Croft Tank and the Siemens Department recirculates its water through the cooling tower on the hillside and the steel tank adjacent. The advantage of this is, besides using less power and water, we have a storage in case of a power failure which otherwise would have very serious results at the furnaces.

Owing to the pollution of the river by a natural material locally called "ochre" which comes out of old workings in the wood beyond Midhopestones, we installed in 1942 a filtration plant on land near the Croft cottages. This plant filters the ochre out by means of large beds of sand after the particles of ochre have been persuaded to coagulate by the addition of chemicals. Beneath the filter is a storage tank of 400,000 gallons capacity, which is level with and equal to the steel tank just mentioned. The large clock face visible on the side of the filtration plant indicates the depth of water in the tank beneath it.

The amount of power required to keep the various water services functioning in the Works as it is to-day, totals 303 H.P. and costs the firm the not inconsiderable amount of £3,937 per annum. Whilst undoubtedly most of its usage is essential, this article will have served a useful purpose if it assists in bringing home the injunction "DON'T WASTE WATER."

EARLY ENGLISH MANUSCRIPT IN DEEPCAR MUSEUM.

CORRESPONDENCE.

To THE EDITOR.

SIR,

A PLEA FOR BETTER SPORT.

Our Social Services must be one of the most wealthy Clubs of its kind in the country. Yet we can hardly boast that our Club is a successful one, and there are still many people who go elsewhere for their sport—and even those who leave the district for the pleasure of playing in better company.

This is a district where the arts and crafts of cricket and football are really understood and appreciated by the many sportsmen who work or live here; and they are most anxious that the standard of play in these Sections should be improved to a level more befitting to the Club, particularly in a township of such importance.

The most obvious step in the right direction would be (and this seems to be the opinion of all Social Service sportsmen) the improvement of the Sports Ground at Brackenmoor. Surely the time has come at least to plan a Sports Ground that would be a credit to the Club and to the district—where spectators and players alike could be assured of the greatest degree of pleasure. How grand it would be to invite the famous sportsmen, footballers, cricketers, and athletes to the Sports Arena at Brackenmoor, knowing that, having been once, they would be sure to want to come again.

The construction of the ideal sports ground at Stocksbridge has been a sparkling thought in the mind of many a fine man who, lacking the power and initiative to tackle such a project, has sadly allowed the thought to become obscured. Our Social Services, however, are a powerful organisation, who could, with a good lead from the helm, place Stocksbridge on the map—at least as far as sport is concerned.

L. HUDSON, Billet Bank Office.

SIR,

Many valuable hours are spent in the Works every month by a large number of people sitting in meetings to discuss this, that, or the other, from higher policy down to the team for next week's cricket fixture. No person has an idea that cannot be expressed, or a grievance that cannot be aired. The most humble individual in the Works has access to the General Manager on any subject through the appropriate Committee. The result should be a happier, a more efficient, an elastic, a satisfied, and a successful community.

But does it work out like this? Is Committee time always well spent time? Is there unnecessary duplication of effort? Do members always take the job as seriously as they should? Is there tie-up between the members, the people represented, and the subject? The answer is doubtful! Committee work is a responsibility and should be undertaken seriously—but it is not just a question of meetings and discussions. It is a form of leadership, and like all leadership it can be good or bad, effective or ineffective, or worse still—merely lukewarm. This leadership should be an immense power for good in the Works. I ask you, Sir, and your readers— is it? E. V. W.

Foreman: "How many men are there down that hole?"

Labourer: "Five."

Foreman: "Well, tell half of them to come up!"

SIR,

I was very pleased to read in Mr. Hampshire's article "Sidelights on Spring Production" that the employment of women in the Spring Shop during the war had proved satisfactory. I would like to take this opportunity of saying how well the women picked up and tackled tiring, heavy, and often intricate jobs, and I think most Managers in other Departments will agree that thanks are due to the many women who were able to take on men's jobs at the time of emergency. Many of them had homes to look after, children to care for, and long 'bus rides to and from "Fox's" each day. These had to be fitted in with working hours—sometimes at the cost of necessary sleep. I have spoken to many of them who say that they never got used to the night shift, but many have worked this shift for five or six years. They say they never feel rested when they have to sleep during the day, but I have never heard complaints about this—it was all part of the job.

So let us remember our women crane drivers, machinists, and welders, and those who worked on heavy, dirty, and always tiring work all through the war years and so helped to make Victory possible by keeping our home front going.

Yours faithfully,

YVONNE JOHNSTON SMITH,
Women's Welfare Supervisor.

[We are rather surprised that there have been no replies to the letter from "Outsider" in our first number.—EDITOR.]

Photo: R. LISMER.

WORKS PERSONALITIES—No. 1.

Mr. Herbert Littlewood started at Fox's in October, 1909, with the Bricklayers, and after a spell in the Siemens he joined the Traffic Department in 1913. He was put on the Staff in 1926 and is now Low Yard Traffic Foreman. There is little he cannot do in the traffic line and it was only recently that we saw him driving one of the locos and hanging out of the cab like the driver of the "Flying Scotsman" waiting for the guard to blow his whistle! You know him—the man with the notebook and pencil who decides which of the numerous labels on a wagon is the one that means anything.

VICTORY PARADE.

WHIT SATURDAY, 8TH JUNE.

6.30 a.m. and everyone in the York Hotel seemed to be awake and preparing for the procession. Breakfast over, we had all to line up in Berners Street to receive final instructions. You could hear remarks such as "they will never get us away in time"—but at 9.15 a.m. everybody was in their place on the 'buses to take us to Hyde Park Corner. When we arrived at the Park the Royal Horse Guards were just turning out and a grand sight they looked. The Army contingents were passing to take their place in front of our section—the 51st Highland Division with their pipers leading, the South African native troops, the Indian Division, each with their own band and each receiving a special cheer from the men who had fought with them—then the lads from Arnheim—they received a special welcome. Then came the A.T.S. and the Commandos.

Now it was our turn—900 industrial workers representing every trade in the country, men and women from Ireland, Isle of Man, Channel Islands, Wales, Scotland, and, of course, the old Mother Country. The march started at 10.15 a.m., everyone trying to hold their end up and being belittled by the regulars. As we were leaving the Park we passed the R.A.F. contingent waiting to fall in behind us. Along Bond Street the pavements, every window, and every flat roof were packed with cheering crowds. The miners came in for a special welcome with cries of "good old miners." In Oxford Street we had a long wait until the Mechanised Column took the lead and then we were off again, down Charing Cross Road, Parliament Street, along the Embankment, round by Westminster, and up Whitehall for our first salute at the Cenotaph. Here we could see people who had been up all night to get a good view. Many sitting on the causeway edge seemed to be nodding, but when the band struck up they came to life! Then on to Trafalgar Square, through the Marble Arch where the crowds seemed greater than ever, down the Mall—now was coming the great moment—we were passing the Chiefs of Staff, and now the Saluting Base. I was fortunate in being on the side nearest the Base. Eyes left was ordered. His Majesty the King was taking the salute. On his left side was the Queen with a smile for everyone, and just behind her Queen Mary with the two Princesses, one on either side. Just past the Base stood the Prime Minister, Mr. C. R. Attlee, with Mr. Winston Churchill, Mr. McKenzie King and General Smuts.

It was now beginning to rain but who cared—we marched into Regent's Park where we had to wait until the W.A.A.F. and the W.R.N.S. passed with their own bands. I thought they looked as smart as anyone I had seen that day. It was raining hard as we were dismissed and returned to the York Hotel for dinner. The walk had been only 4½ miles, but it was strenuous. Approximately 20,900 had marched, and this was apart from all the Mechanised Sections. It took 1 hour 48 minutes for all to pass the Saluting Base. Everything had been well organised and timed, and when we realised that 900 had to be catered for at the Hotel, 20,900 to be marshalled and prepared for marching, an estimated crowd of 6,000,000 to be looked after, and everything go off without a hitch—it just speaks for itself.

In the evening it was impossible to get near the Embankment—the nearest I got was on the edge of the crowd in Trafalgar Square. Here was a sight to see—the floodlighting, with two powerful searchlights throwing a shadow of Nelson on to the sky—and the base of the column lit with red, white, and blue lights. The fireworks bursting in the sky had a wonderful and brilliant effect, everyone expressing their appreciation. It was indeed a glorious sight. On my way back I could see parents finding somewhere to rest hreir weary limbs—some on steps—some at the base of lamp posts—the children in many cases just asleep. It was a week-end to remember and a sight worth watching. To the Management of the Works I would like to express my thanks for the way in which they gave every consideration and help to make my visit possible, and the B.I.S.A.K.T.A. for selecting me. I say thank you one and all.

T. HUSH,

Secretary, Stocksbridge No. 1 Branch,
British Iron & Steel & Kindred Trades
Association.

"THE BACK-ROOM BOYS."

Our Office is small and very elect,
Here are some examples we've tried to select,
Widdowson first, because he's our chief,
—When he's not around we smile with relief—,
Our next comes from Chapeltown, Horn is his name,
—When he takes a walk the effect is the same—,
Thirdly comes Etchells, a Lancashire Lad,
—He's got a small family, which makes him a Dad—,
Nunn is a fellow both calm and serene,
—Who smokes an old pipe, which is often unclean,
A dark horse named Rawlins comes next on our list,
—A newcomer from Brightside where he must have
been missed—,
Garner and Aspinall are the first of the few,
—Who add local blood to this imported crew—,
Dent is the fellow with red curly hair,
—His trousers are striking—a corduroy pair—,
Two slick youths from Hoyland are Dudley and Sid,
—Both very willing to do as they're bid—,
The pride of the office are our tracers three,
Chrissie and Mabel; and Gwennie the Wee,
Together with Marjory, our female clerk,
They earn many a whistle and passing remark,
Their charms are abundant, their figures are cute,
But, at tracing, and clerking, they're not so astute!
Two Dougs and two Bobs, Rex, Wilf, Neville and Pete,
With young Keith and Eric, our staff is complete,
We hope you, who read this, will all realise,
The technical skill which within us lies,
—And if you're in trouble and life seems bitter,
Don't curse and swear at some innocent fitter,
But remember the proverb, as the Management does,
And if at first you don't succeed———ASK US!

ANON.

FORTHCOMING EVENTS.

August 31st—Garden and Horticultural Section's Annual Show in the Victory Club.

September 7th—Official opening of Photographic Section's new premises at Belmont, Stocksbridge, and Exhibition of members' work.

November 6th—Orchestral Section's first Celebrity Concert of the 1946-47 Season in the Victory Club. Artistes: Kendall Taylor (Pianoforte), Joan Butler (Soprano).

November 9th—Garden and Horitcultural Section's Chrysanthemum Show in the Victory Club.

WORKS COUNCIL.

THE Council consists of representatives of the Management and employees of the Works. The Management representatives are *ex officio* and the employees' representatives are elected annually.

The object of the Council is to promote a closer co-operation between the Management and employees of the Company.

To provide facilities, whereby employees may make suggestions for improved methods and economy of production.

To provide means of discussing questions affecting general welfare.

The Chairman (one of the Works Representatives) is elected at the first meeting of the year.

Meetings are held on the first Monday of each month in the Lecture Hall.

The Works Council each year elect a number of Sub-Committees to deal with the different services in operation.

We give below the employees' representatives elected for this year, who will be pleased to bring forward any items an employee may desire to be discussed at any particular meeting.

WORKS COUNCIL REPRESENTATIVES.

Mr. D. SANDERSON (*Chairman*) (Machine Shop).
Mr. A. KEELING (Siemens).
Mr. A. G. MATTHEWS (Umbrella).
Mr. W. GRIFFITHS (Heat Treatment).
Mr. A. WITHERS (Billet Mill).
Mr. F. ALLOTT (Top Yard Elec.).
Mr. W. MCKEOWN (Elec. Steel).
Miss A. GREEN (Umbrella).
Mr. K. JAQUES (Wire).
Mr. E. TURNER (Coke Ovens).
Mr. J. MOXON (Cold Rolled Strip).
Mr. G. H. GLOVER (Bar Mill).
Mr. T. J. GREGORY (Stainless).
Mr. C. LEE (Traffic).
Mr. W. E. KING (Spring).
Mr. J. DIAMOND (Builders).
Miss J. HAIGH (C.R.S.).
Mr. F. FRENCH (Billet Bank).
Mr. T. MURPHY (Blacksmiths).
Mr. J. GASKELL (Joiners).

SUB-COMMITTEES:

Hospital Committee.

Mr. S. S. HENDERSON (*Chairman*) (Siemens).
Mr. H. BROADHEAD (Pattern Makers).
Mr. A. HUTCHINSON (Coke Ovens).
Mr. D. SANDERSON (Machine Shop).
Mr. T. GLEDHILL (Blacksmiths).
Mr. F. ALLOTT (Top Yard Electricians).
Miss V. HILL (C. R. Strip Offices).
Mr. W. E. KING (Spring).
Mr. R. MITCHELL (Billet Mill).
Miss J. HAIGH (C.R.S.).
Mr. T. J. GREGORY (Stainless).
Mr. H. CLIXBY (W.M.O.).
Mr. A. G. MATTHEWS (Umbrella).

Suggestions Committee.

Mr. D. SANDERSON (Machine Shop).
Mr. A. G. MATTHEWS (Umbrella).
Mr. K. JAQUES (Wire).
Mr. F. ALLOTT (Electricians).
Mr. W. E. KING (Spring).
Mr. T. MURPHY (Blacksmiths).
Mr. A. KEELING (Siemens).

Transport Committee.

Mr. D. SANDERSON (Machine Shop).
Mr. F. ALLOTT (Top Yard Electricians).
Mr. W. E. KING (Spring).
Mr. A. KEELING (Siemens).
Mr. T. MURPHY (Blacksmiths).
Mr. W. MCKEOWN (Elec. Steel).

Canteen Committee.

Mr. D. SANDERSON (Machine Shop).
Mr. C. LEE (Traffic).
Mr. T. MURPHY (Blacksmiths).
Miss A. GREEN (Umbrella).
Mr. T. J. GREGORY (Stainless).
Mr. A. G. MATTHEWS (Umbrella).
Mr. K. JAQUES (Wire).
Mr. W. E. KING (Spring).

Works Magazine Advisory Committee.

Mr. A. G. MATTHEWS (Umbrella).
Mr. D. SANDERSON (Machine Shop).

WELDING.

An important Stocksbridge contribution to The War Effort.

INTRODUCTION.

MANY readers of "The Fox Magazine" will have seen the electric arc welders from the boilershop at work, either in their own departments, when carrying out repairs, or in the boilershop itself. This process of fusing metal together so as to make a joint is at least 30 years old, and has been in use at Stocksbridge for a very considerable time.

In the early days, it was developed as a means of repairing defects in castings and structures, such as fractures, porous areas, etc., and then, as the quality of the metal deposited by the electrodes was improved, it was appreciated that structures could be fabricated entirely by welding at less cost than by the conventional methods of bolting, etc. From 1930 onwards the quality of electrodes was notably improved and their cost progressively reduced under the conditions of keen competition between the electrode manufacturers. This led to a general widening of the field of usefulness of electric arc welding so that, when the war began, it could be said that practically every industry in the country was dependent upon welding in one form or another. Inevitably the welder became a common sight in the engineering industry and was taken for granted as being an essential unit in the country's industrial effort.

WELDING IN WAR-TIME.

It is felt that readers may be interested in a very brief outline of the major developments in welding in recent years. This will enable them to appreciate the extremely important part that welding played in the country's war effort and the very great difficulties that had to be overcome to apply the potential benefits of this fabricating process to war-time industry.

The ability to wage war in an up-to-date manner depends entirely upon mechanisation. Taking the army first, the requirements in 1939 were for armoured fighting vehicles, armoured transport vehicles, ordinary transport, amphibious transport and finally mobile guns of all types. The main point is that all these had to be produced in vast quantities as quickly as possible and to a great extent by people who had never produced such things before. Therefore the principle of making small units at numerous different plants and assembling them into the completed vehicle at a few large ones had to be adopted. If all the various parts could have been made of mild steel there would not have been sufficient equipment in the country for drilling, punching, etc., to permit the complete job to have been done by bolting or rivetting. Further, a large proportion had to be made of hard armour which obviously is not suited to drilling. This is where welding came to the rescue. The combination of gas cutting by blowpipe followed by welding, enabled firms to take on contracts for work which they could not have attempted in any other way. The machine tool industry was the bottle-neck in the first world war and there is no doubt that the production of welding transformers and electrodes saved the situation in the recent one. The advantages of welding as a production tool are the simplicity of the tools, the adaptability and the ease with which people can be trained to operate it as a repetition job.

In the case of the naval expansion, the principle of sub-assembly was applied where possible, but, apart from this, there was a very great increase in the use of arc welding in the construction of fighting ships and cargo boats.

HIGH TENSILE ALLOY STEELS.

It will be useful to deal with one or two of the outstanding welding problems that had to be overcome in the effort to supply the land and sea fighting services with the equipment they required.

As mentioned above, the success of the land war depended mainly upon motorised transport, but tactical advantages in the fighting often required speedy movement. This meant that guns, scout cars, etc., had to have maximum strength with minimum weight. This is where high tensile alloy steels are most useful. Again, transport requires to be passed over rivers, needing many bridges of a temporary type which must also be as strong and light as possible; another occasion for the use of high tensile steel.

As regards the naval service, strength with lightness has always been the aim because a greater percentage of the total weight of a fighting, or cargo, ship could then be allocated to guns and armour or cargo weight. This again called for high tensile steel.

A special problem was that of the actual armour used for fighting vehicles and ships. This may be regarded as a super-high tensile steel.

It has been indicated that welding had to be used to get speedy output and the special problems that arose were due to the fact that the welding process had to be applied to these high tensile alloy steels. Readers of "The Fox Magazine" will be well aware that high tensile steels are so named because they harden on rapid or even normal air cooling. In welding, the steel is heated to high temperatures and very rapidly quenched by the cold metal near the weld; the result is extreme hardening adjacent to the weld with the formation of brittle structures if the metal is of the wrong composition. At the same time, a component made of hardened high tensile steel, such as an armoured fighting vehicle, is very rigid during assembly and this imposes such stresses on the cooling weld metal that it is liable to crack in the weld.

At the beginning of the war the main problems facing those responsible for production of welded tanks and high tensile steel gun carriages, etc., were cracking in the hardened zone of the plate and cracking in the weld metal. It was found out around 1930 by Krupps that the super high tensile steels could be welded with stainless steel electrodes without cracking, whereas cracking was inevitable with ordinary mild steel electrodes. The tank welding programme went ahead therefore on the basis of using stainless steel electrodes but it was found that, although the armour itself did not crack, the weld did so. As a result of much research on the part of electrode makers and others, a special composition of stainless steel was evolved which overcame this difficulty.

While this work was going on, a great deal of research was being carried out to find out what was the best analysis of alloy steel to give maximum resistance to projectiles with minimum tendency to hard zone cracking, these being mutually opposing. Eventually, a standard analysis of stainless steel electrode wire was adopted and also a standard alloy plate. The effect of the researches and experience is indicated when it is pointed out that at the start of the war many experienced people thought that armour could never be welded satisfactorily, but at the end no other method of fabrication would have been considered.

As regards the ordinary high tensile steels, as used for welded Bailey Bridges, gun carriages, etc., research showed that welding with carefully controlled procedures gave crack-free joints with mild steel electrodes. Research has now progressed far enough to suggest that the super-high tensile steels will be weldable with special mild steel electrodes.

Stocksbridge Contribution.

Summarising this short article, it may be said that co-operative research by many people solved one of the most important problems of the war, i.e. that of welding high tensile steels. Readers may be interested to know that Stocksbridge works played no small part in this outstanding contribution to the war effort. On the production side, experiments were carried out to arrive at a composition of stainless steel electrode wire, which could be roll cogged in the Billet Mill, it being essential to be able to roll the ingots to get rapid production. On the wire drawing side, the Wire department product has been highly commended for quality of surface finish, uniformity and suitability for making into electrodes.

As regards research, the R. & D. Department was engaged on work to provide data for the selection of alloy plate composition, electrode composition and also welding procedures and at all times there was ready assistance from the Boilershop. It is felt that we may take pride in having very materially contributed to an engineering development which, without doubt, was a most important factor in the great effort to produce the equipment of modern warfare.

H. F. Tremlett, A.R.S.M., B.Sc.

Obituary.

It is with deep regret that we record the passing of the late Mr. Harold Vardy, Tool Room Foreman. Mr. Vardy started as an apprentice in 1917 and was made chargehand in January, 1936. In October, 1939, he was placed in charge of the Tool Room. He will be missed both inside and outside the Works, as he was Organist at the Parish Church, and had given unsparingly of his time to many worthy causes in the district. He leaves a wife and two children.

Mr. G. R. Bolsover Leads Oilfield Trade Mission.

Mr. G. R. Bolsover, one of our Directors, and Chief Metallurgist to the Company, is the leader of a Mission now on a three months' tour to the oilfields of Trinidad, Venezuela, and Colombia for the expansion of the market in special steels for drilling and refining plant. Mr. Bolsover is representing the United Steel Companies and there are 9 other distinguished technical experts representing British industry in the party. The Mission has been organised by the Council of British Manufacturers of Petroleum Equipment, with full approval of the Ministry of Fuel and the Board of Trade. We await Mr. Bolsover's return with great interest and wish him every success in this adventure.

A Note on the Geology of Stocksbridge.

By W. H. WILCOCKSON, M.A., F.G.S., Lecturer in Geology in the University of Sheffield.

Stocksbridge lies on the south bank of the Little Don about a mile above its confluence with the Don at Deepcar. The rocks through which the river has cut its valley belong to the upper part of the Carboniferous System and include the highest beds of the Millstone Grit and the lowest strata of the Lower Coal Measures. These formations are both composed of alternating beds of sandstones and shales with coal seams, fireclays and ganisters and only differ from one another in that the sandstones of the Millstone Grit are generally coarser and more massive than those of the Lower Coal Measures, while in the latter formation coal seams are more frequent.

The succession of the measures with their approximate thicknesses is given in the vertical section Fig. 1.

The sandstones of both formations are similar in composition. In the coarser Millstone Grits angular quartz grains, fairly fresh felspar and scattered flakes of mica are bound together with a cement partly clay material and partly silica. It is this composition that made the Millstone Grits suitable for the purpose from which their name is derived. The cement is good, but not too good so that the rock wears away slowly and evenly and constantly exposes a fresh rough surface, a condition that is assisted by the more rapid wear of the felspar with respect to the quartz. This habit of wearing rough is common to many of the Carboniferous sand stones and is the reason for their employment through long years as grindstones and scythe stones. In the finer grained sandstones, particularly of the Coal Measures, the mica flakes are often concentrated along certain bedding planes and when these are close together the rock, on weathering, tends to split into thin slabs or flags which can be used for pavements or roofing. Such a bed of flags is the Greenmoor Rock which has been extensively quarried above the River Don on Green Moor. The thinly bedded sandstones often show what is known as current bedding, i.e., each main bed of sandstone is made up of thin beds inclined at a fairly steep angle. These small beds, in most places, are inclined from the north-east to the south-west. This indicates that the sands of the Millstone Grits and Lower Coal Measures were laid down as sand banks by currents flowing from the north-east.

(THE GEOLOGY OF STOCKSBRIDGE—*continued.*)

Between the sandstones are the shales. These are finer grained but have a variety of textures from the finest consolidated muds, the blue binds and dark binds, to those containing a considerable proportion of sand, the sandy or stone binds. As deposited the mud contained up to 70 per cent. of water. On drying and consolidation the flaky mineral particles were turned round to lie parallel to the bedding of the rock, thus giving it its property of splitting into thin laminæ. The shales can be divided into two groups according to their mode of origin; the marine shales and those deposited in fresh or brackish water. The latter are by far the most abundant; they comprise all types from stone bind to blue bind and sometimes contain fossil remains of plants or of a group of shells allied to the modern fresh water mussels that are often concentrated in thin bands known as "mussel bands." There are one or two such bands in the shales a few feet above the Coking Coal and another that forms the immediate "roof" of the Pot Clay Coal. In addition to the above there is a black platy kind of shale that often contains the teeth and scales of fish. Such a bed is found over wide areas of South Yorkshire resting immediately upon the Coking Coal. The marine shales are fine grained and often exceedingly well laminated, they are usually rich in iron pyrites and weather to give a rusty surface of the yellowish powder of some sulphur compound. They generally have in them one or more bands very rich in fossils including wide thin ribbed shells of the Pecten type and small coiled shells known as goniatites. These are often replaced by iron pyrites and are consequently usually badly weathered at the outcrop. The marine shales are usually in thin bands a few feet in thickness. In the Stocksbridge area two such bands crop out, one resting on the Ganister Coal and the other a few inches above the Pot Clay Coal. Other bands are known in the shales of the Millstone Grit formation. Because of their thinness and the distinctive character of their fossils these beds are of great value in the recognition of horizons and it is only by their aid that the detailed mapping of the Millstone Grit has been carried out.

Several beds of coal ganister and fireclay crop out in the immediate neighbourhood of the Little Don Valley. These are mostly in the Lower Coal Measures, only one, the Upper Meltham Coal, being in the Millstone Grit and this is of no importance in this district. Coals are consolidated beds of vegetable matter that were formed in much the same manner as beds of peat. Their relations to their associated rocks, coupled with their wide lateral extent indicates that they must have been formed near to sea level, and that they were more nearly allied to the fen peats of East Anglia or to the mangrove swamps of tropical countries than to the high level peats seen on the nearby moors. The trees and other plants that contributed to the original peat grew with their roots in the mud underlying the swamps and, in course of time they extracted some soluble compounds from it and by continuous disturbance enabled water to enter and leach out other soluble material. This process eventually left a rock composed largely of aluminium silicates and quartz. If the quartz was low a fire clay resulted, while if the quartz was present in considerable quantities a silicious fire clay or even a ganister was produced. Ganister is a very fine grained quartzite with remains of plant roots and often containing 98 or 99 per cent. of silica.

The lowest of these beds worked in the Don Valley district is the Pot Clay, a bed of fireclay with a thin coal above it resting directly on the Rough Rock. It has been mined at many places in and around the Don Valley, but is most famous in the Loxley Valley. About 130 feet higher comes the Coking Coal or Halifax Soft Bed, a thin coal important in the Little Don and Upper Don Valleys as a source of low sulphur coke. It is usually little more than a foot thick, but at Stocksbridge it is thicker and supplies the greater part of the coal for the local coke ovens. Nearer Sheffield its thickness and quality fall off and it has been little worked. About 80 feet above the Coking Coal is the Clay Coal or Middle Bed, a thin coal resting on a fire clay and often associated with sandstones above and below which, in places, are quarried as a source of silica rock. Some 70 feet higher lies the Ganister Coal or Halifax Hard Bed. This is a thicker coal usually about 2 ft. 6 ins. thick and, in some places, as near Langsett, swelling to more than 3 feet. It rests on a seat stone of ganister which, in its turn, rests on a silicious fireclay. The ganister always forms the immediate floor of the coal, its thickness is variable, anywhere between 6 feet and 6 inches, and its base, where it rests on the fireclay, is very irregular. The coal is high in sulphur and sometimes contains large nodules of iron pyrites, but the ganister is one of the highest grade silica rocks known. Unfortunately it is becoming exhausted. About 140 feet above the Ganister Coal comes the Hard Bed Band or 36 Yards Coal. This is a thin and unimportant coal seam, but is underlain by a fireclay, the White Car Clay, which has been mined in the district for the manufacture of semi-silica refractory goods.

The geological structure of the area is simple, the rocks have been tilted towards the north-east and now strike about north-west to south-east and are broken by a few faults all of small throw and with a general north-west and north-east trend. The strike of the rocks is reflected in the direction of the high ridge of Hunshelf Bank and of the course of the Little Don River through Stocksbridge.

As may be seen from Fig. 2, the shapes of the hills are determined by the character and inclination of the rocks; the hard sandstones make the tops of the hills, as on Hunshelf Bank and Green Moor, where the Green Moor Rock, stripped of its overlying shales, makes a high plateau parallel to the dip of the rock and known as a "dip slope." The face of Hunshelf Bank overlooking Stocksbridge is an example of an "escarpment" where the edges of the beds of shale with thin sandstones and coal seams crop out below one another in more or less parallel bands protected from erosion by the Green Moor Rock. In a typical series of escarpments and dip slopes the rocks that form the escarpment face should have been eroded from the opposite side of the valley, i.e., the rocks cropping out below Hunshelf Bank should not be found at outcrop on the slopes south of Stocksbridge. The Little Don River has, however, overdeepened its valley and, as can be seen on Fig. 2, the Coking Coal and Clay Coal both crop out on the north and south sides of the valley. The southern outcrop of the Ganister Coal does not show on the section, but it makes an outlier on Allman Well Hill north of More Hall. The Hard Bed Band is too high in the measures and does not appear on the hills to the south of the Little Don.

The population of England and Wales was estimated at December, 1945, at 39,111,000. Marriages last year totalled 395,458—the highest figure since 1940—when 470,549 created an all-time record.

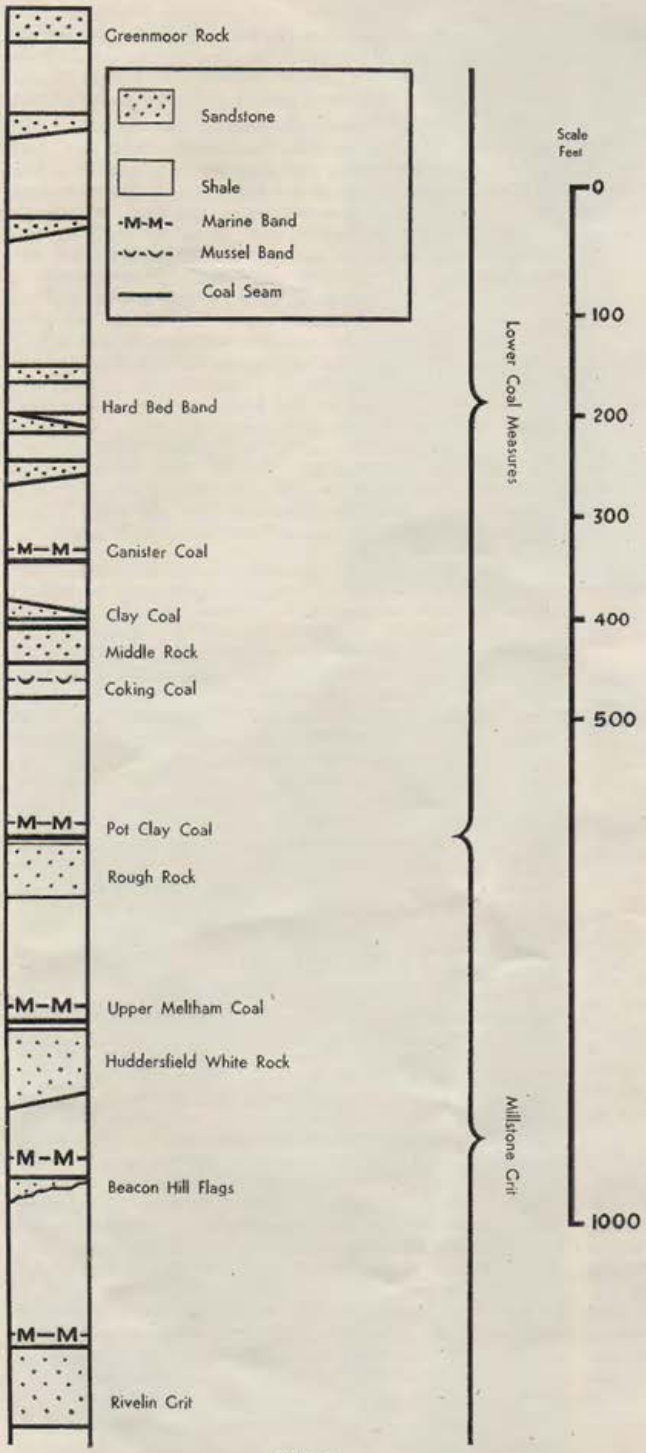

Greenmoor Rock
Sandstone
Shale
Marine Band
Mussel Band
Coal Seam
Hard Bed Band
Ganister Coal
Clay Coal
Middle Rock
Coking Coal
Pot Clay Coal
Rough Rock
Upper Meltham Coal
Huddersfield White Rock
Beacon Hill Flags
Rivelin Grit
Scale Feet
0
100
200
300
400
500
1000
Lower Coal Measures
Millstone Grit

Fig. 1.

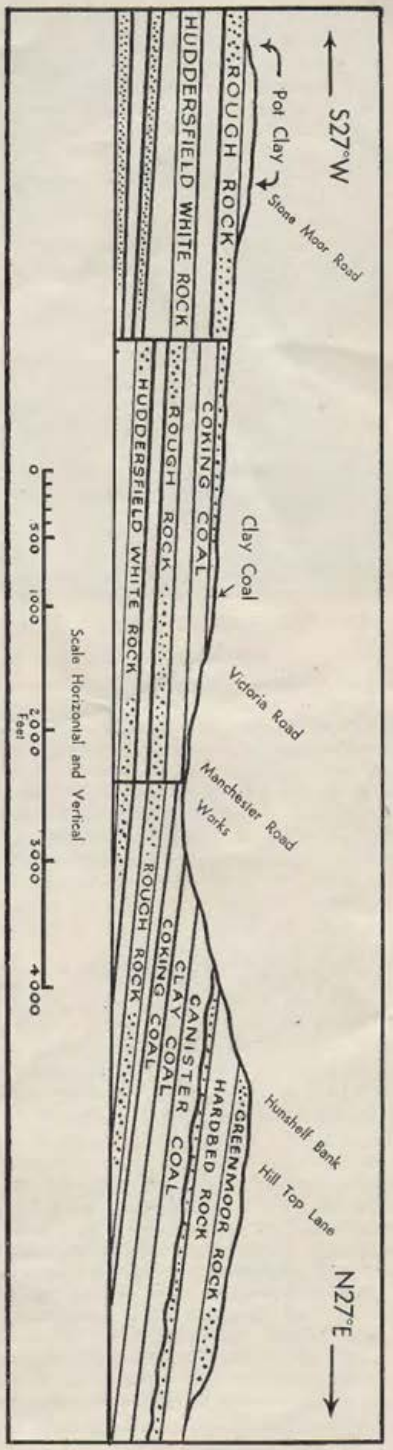

S27°W
N27°E
Pot Clay
Stone Moor Road
ROUGH ROCK
HUDDERSFIELD WHITE ROCK
COKING COAL
Clay Coal
Victoria Road
Manchester Road
Works
Hunshelf Bank
Hill Top Lane
GREENMOOR ROCK
HARDBED ROCK
CANISTER COAL
CLAY COAL
COKING COAL
ROUGH ROCK
HUDDERSFIELD WHITE ROCK
ROUGH ROCK
COKING COAL
Scale Horizontal and Vertical
0
500
1000
2000
3000
4000
Feet

Fig. 2.

CRICKET RESULTS.

THE results of the Inter-Departmental Knock-Out Competition are as follows :—

First Round :—

Chemical Laboratory beat Joiner's Shop.
Deseamers beat Spring Works.
Electricians beat Research.

Second Round :—

Chemical Laboratory beat Billet Mill.
Colliery beat Builders.
Stainless beat Bar Mill.
Billet Bank beat Boilersmiths'.
Electric Steel beat Fitters.
Wire beat Deseamers.
C.R. Strip beat Umbrella.
Electricians beat Offices.

Third Round :—

Electric Steel beat Colliery.
Chemical Laboratory beat C.R. Strip.
Billet Bank beat Electricians.
Stainless beat Wire.

Semi-Final :—

Billet Bank beat Chemical Laboratory.
Stainless beat Electric Steel.

Final :—

Billet Bank beat Stainless.

Hard luck, Stainless, after getting so near the top !

SHEFFIELD WORKS LEAGUE.

STOCKSBRIDGE HAT TRICK.

ONE of the best bowling performances in junior cricket this season came the way of G. Birks, of Stocksbridge Works, at Bracken Moor on July 6th. Using the wind to advantage, he had a devastating spell against City Surveyors, who were dismissed for 33, and after achieving the hat trick went on to take six wickets for no runs. At the other end, S. Palmer bowled 11 overs, of which seven were maidens, and took 4 for 7. Stocksbridge, after 7 for 11, made a good recovery to reach 63 (D. Hirst 26, T. Hocknall 12).

ARE you THINKING of—having a trip to another Works, a dinner, a dance, a talk or lecture, on any special event ? If so, just let the Editor know and he will then get the "official information" about it. We don't want to miss anything ! Our news collecting system is almost perfect—but not quite, and we sometimes hear of things after they have happened. If we know beforehand it is sure to be "in the Mag."

At a recent Works meeting, the Welfare Officer, Major W. G. A. Carrington, O.B.E., reported that employees were still coming to him with their personal problems. Quite a number of domestic troubles had been dealt with which could be traced to the housing shortage. A further item of interest mentioned was that he had obtained over £450 worth of Railway Travel Tickets for employees taking their holiday during Stop Week. The outside Nursing Service was now in operation and functioning satisfactorily. We hope to give details of this in the next issue.

OBITUARY.

We regret to report the passing of Mr. E. C. Greig, late Chief Labour Supervisor, at Sheffield, on 13th May.

REHABILITATION.

REHABILITATION, meaning the setting to rights, is a word which has become increasingly used during the last few years, particularly to describe the process of restoring an injured person to complete fitness for his job, or to as full a state of fitness as his disability allows.

To show what rehabilitation of the injured really means let us compare what happened in the past with present practice—take, for example, the case of a man who fractured his leg as the result of a works accident. In the past, he would, of course, be kept in hospital until the fracture united and probably until he was able to get about the ward ; he would then be discharged as "fit"—but fit for what ? Fair enough if he had a sedentary job as a clerk, but not so good if he was, say, a miner. Clearly the miner was not immediately fit for his heavy work, and about all he could do was to hang around on compensation until in the course of time, and as a result of his own efforts, he became fit enough to start work. At worst, he might never become fit and unless he was lucky enough to get a light job he remained permanently unemployed. To sum up past practice, we see that many injured persons were deprived of full earning capacity for unnecessarily long periods—this was not only a loss to the individual but also to the nation as a whole.

To remedy this state of affairs, Rehabilitation Centres were established by all the large hospitals, and nowadays those injured persons who are not fully fit for their jobs after hospital treatment are sent to a Rehabilitation Centre for a week or two. Here they are engaged in graduated exercises to suit their particular condition, they play suitable games, and in many other ways their muscles are toned up and mobility is restored to stiff joints. After a stay at the Centre, about half of the injured are fit to return straight away to their own jobs ; the rest, because of their varying disabilities, are not immediately fit for their previous employment and jobs have to be found for them. Letters explaining the position are written to the Welfare Officers of the firms concerned and in many cases suitable jobs are found. In other cases the local Disablement Rehabilitation Officer of the Ministry of Labour is able to find suitable employment, or if necessary arrange for training to assist the injured man to take up a new occupation. Thus the process of Rehabilitation not only has the object of restoring physical efficiency to an injured man but also that of finding suitable employment for him if he is not fit for his former occupation.

The changed national outlook towards the treatment of the injured is also reflected in these works, and has been largely responsible for the establishment of our Physiotherapy Department under Mr. S. Steel, C.S.M.M.G., L.E.T., M.C.CH.A. Many of the less serious works accidents are now "rehabilitated" in the works, and prolonged lying up at home is avoided by the treatment available. Treatment is not, of course, confined to works accidents and many conditions can be alleviated, especially those of a rheumatic nature. The Department, which has now moved to new quarters in the Top Yard, is fully equipped with up-to-date apparatus and provides a range of treatment only equalled by the largest hospitals—and, incidentally, a degree of individual attention rarely possible in a hospital.

The development of the Physiotherapy Department is certainly an indication of the changing outlook in industry, and of the realisation that the "human machines" are the most important machines in any plant.

Inside the new Physiotherapy Department.

(Top Yard.)

Right—Short wave diathermy apparatus for treatment of rheumatic conditions, sprains, strains, and certain types of infection.

Below—Ultra-violet ray (sunlight) apparatus used as a general tonic to increase resistance to infection and for certain skin diseases.

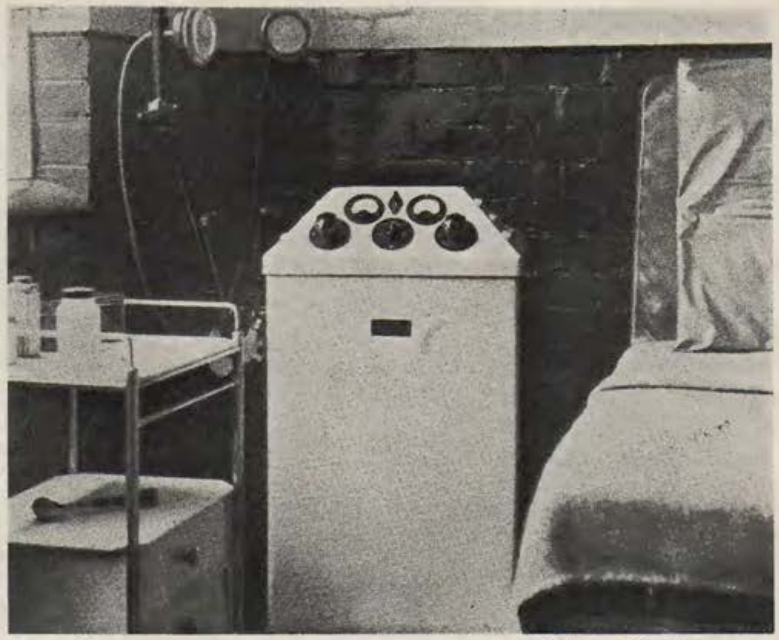


Photo : D. KELLETT.

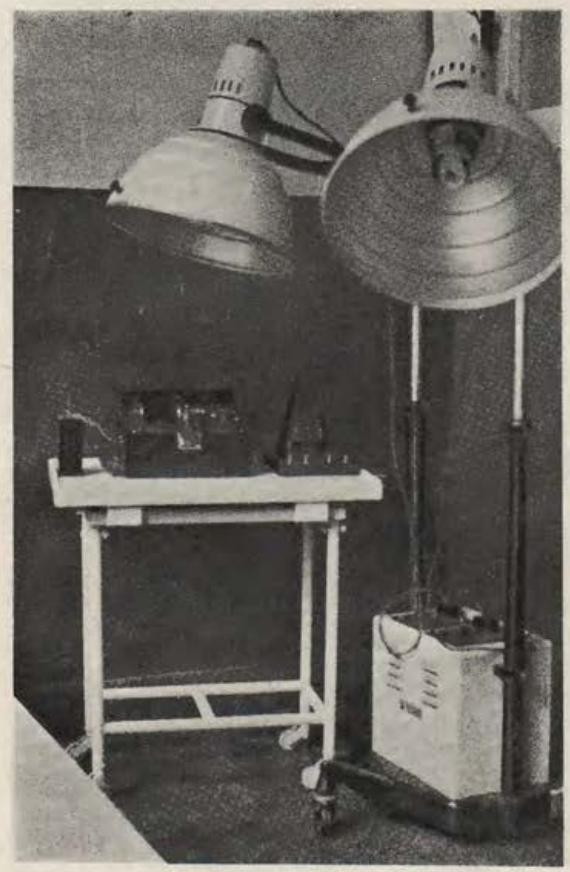


Photo : D. KELLETT.

"1d. in the £" Scheme.

FOR some considerable time the members of the Works Hospital Committee have been concerned about the position of our retired employees, in connection with the "1d. in the £" scheme, the reason being that according to rules and regulations, persons in receipt of the Old Age Pension, plus any other income, are expected to continue contributing to the Scheme, at the rate of 2d. per week, in order to be fully covered for Hospital treatment, etc.

The Committee felt that this position was rather unfair, particularly in cases where a man had been contributing to the Scheme since its inception, and as a first step towards putting matters right, a rule was made some time ago that all retired employees and their wives should be entitled to apply for convalescent treatment the same as an employed contributor.

The matter has now been taken a step further: arrangements have just been completed, whereby the Works Hospital Committee will make an Annual Grant to the Sheffield Hospitals Council, to cover all our old employees and their wives or widows. This scheme will come into operation on July 1st, 1946, after which date it will not be necessary for any of our retired employees or their widows to contribute to the "1d. in the £" scheme through the Local District Secretary (unless, of course, they still wish to do so), and should any of these people then require Hospital Treatment, a "Letter of Introduction" will be issued to them in the usual way.

All the people concerned are being informed about the new scheme by letter, but present employees who are now approaching retiring age should not forget to make a note of this new arrangement.

Some of the boys from the Works Day Continuation School will be paying a visit to County Hall, Wakefield, shortly, to see the County Council in Session and gain a first-hand impression of their work.

OUR COMPETITION.

The winner of our competition for the best "Competition" sent in is Mr. H. Riding, Low Yard Electricians, who submitted the following which is our official Competition in this number.

Prizes of 10/-, 5/- and 2/6 are offered for the readers who in the opinion of the Editor send in the best "last line" to complete the following limerick :—

A feller went home from the "Wire,"
And was greeted with words, "Thar a liar,"
Gave wifey his pay,
Said—"I'm sorry to say,
.....,"

(*Example :* "I've lost blooming five on a sire").

The second and third prizes have been awarded to Mr. J. Horsfield, Low Yard Electricians, and Mrs. M. Matthews, Works House, respectively.

"TAKE A DEEP BREATH."

WE take deep breaths for quite a lot of things when you come to think—passing a chip shop on a frosty night, smelling the first sweet peas, or just before diving in the six foot end ! This time we are asked to "hold it" for just half a second while one of the marvels of modern science takes a photo right through our "works." What it does in effect is to take a look at the engine of the human motor car without lifting the bonnet, and the photo it takes tells an amazing amount of the truth—and nothing but the truth. There is no "Stop-Week" for our own machinery, no shutting down to take it to pieces and see if everything is all right. For the three score years and ten the human heart never stops beating and the human lungs never stop extracting that precious fraction of oxygen from the air we breathe.

We all have a chance during September for a quite confidential check on the state of our own hearts and lungs, and the notice in your wage packet announces a really unique opportunity to have this check by means of the Mass Radiography Unit of the City of Sheffield which is visiting these Works through the kind co-operation of the West Riding County Council. The Unit will be stationed in the Lecture Hall above the main Ambulance Room in the Low Yard.

Long Service Awards.—The Company have now a scheme in hand for recognising length of service in their employment. It applies to men with 45 years' service or over, and to women with 40 years' service or over—who are at present on the Company's books or who retired during 1945. There are 136 men and 4 women eligible. It will be appreciated that the obtaining of suitable presents for such a large number is rather difficult under present conditions, and a short time will elapse before a further announcement is made.

Do you Fire a Boiler ?—Then your motto is "Little and often, level and bright." Hackneyed ? Maybe—but do you follow it ? If not, try to and you will find that you fire less coal in a shift and there are fewer ashes to rake out, therefore your work will be easier.

MR. J. WHEELAN recommenced duties with the Company on the 27th May, 1946, as Salvage Officer.

Mr. Wheelan, at the outbreak of hostilities, was in the Company's employ as a junior clerk in the Stainless Steel Sales Section.

THOSE RATES.

THIS is not an article about the rates which you pay —or owe—to the Local Authority, although a great deal has been said and written about those rates being too high, or occasionally about them being too low, and at times heated arguments have arisen on the question of whether or not the services provided are an adequate return for the money paid out. No, this article is concerned with accident rates.

Now, accident rates are statistics. At times you may hear remarks, humorous or otherwise, on that subject but notwithstanding, if they are properly prepared they are valuable.

If effort is not to be wasted, our statistics must be accurate and they must also tell us something which is useful. For instance, it may be possible to prove that the number of cigarettes smoked in Stocksbridge Works in a week, if placed end to end would stretch, say, from the level crossing at Henholmes to the bridge at Underbank. This no doubt would be interesting, but would it be useful ? If it is not useful it is wasted effort.

The whole basis of success in accident prevention, as in any other serious activity, is the desire to succeed. In this particular case success cannot be measured by any other means than a statistical one.

The use of an adequate system of statistics has certain definite advantages.

(1) It enables the progress of the campaign to be judged.
(2) It gives well founded and valuable encouragement when the methods used to prevent accidents are successful.
(3) It shows by a rising tendency (*a*) when any of the propaganda methods need revision or replacement, and (*b*) if any new hazards have arisen unnoticed.
(4) When the statistics are published it brings to the notice of all concerned the success or otherwise of the campaign.

An important item in the accident statistics is the accident frequency rate.

This rate, if it is to be useful, must show quite clearly the frequency with which accidents happen.

An elementary method of preparing an accident frequency rate is to compare the total number of accidents in one period with the total number in another period. This method, however, is not an accurate measure. For example, if in one period a shop employing fifty men had five accidents, and in the next period, when the number employed had dropped to forty, there were only four accidents, a rate based on the total number of accidents would indicate that the position had improved, whereas it is exactly the same, viz., one accident per ten men employed. Again, if in one period fifty men working forty-seven hours per week had five accidents while during the next period the same number of men working fifty-four hours per week had five accidents, it would appear that there was no alteration in the frequency of accidents, but there would really be an improvement because in the first period we have one accident per four hundred and seventy hours worked, and in the second period we have one accident per five hundred and forty hours of employment.

An accurate frequency rate must therefore compare the total number of accidents with the total hours worked.

An ideal method of compiling an accident frequency rate would be to take into account ALL accidents which occur, but unless we can be sure that all accidents, however slight, are reported, we lack the fundamental facts on which to base our calculations. We know that

at present many slight accidents are not reported ; we cannot therefore base our frequency rate on all accidents. We do, however, know when any person is off work as a result of an accident, therefore a frequency rate calculated on a comparison of the total number of accidents causing loss of time from work with the total number of hours worked will be reasonably accurate.

A lost time accident is an accident which causes loss of time beyond the day or shift on which the accident occurred, and in calculating the accident rates we take into account the total number of lost time accidents and the total of the hours worked by all employees, excluding office staff and foremen.

The frequency rate is expressed by the following formula :—

$$\frac{\text{Lost time accidents} \times 100{,}000}{\text{Man hours worked}}$$

which gives the number of lost time accidents per 100,000 man hours worked.

The reason for multiplying the number of accidents by 100,000 is to get a readable figure for our answer. For example, our frequency rate for April was 4.59. If we had just divided the number of lost time accidents by the number of hours worked, the answer would be .0000459, which is not such an easy figure to read and talk about as 4.59.

A graph showing the accident frequency rate for the last year and this year up to date is fixed on the outside wall of the Wages Office and also on the Clocking Station at the Spring Works entrance. This graph is reproduced in Fig. 1.

You will note that in April, the 1946 line rose above that for 1945 and that although it came down in May, it is on the average slightly the higher of the two. As a frequency rate is similar to a golf score in being something which should be kept down, this shows that we are not doing quite so well as we did last year.

Now look at Fig. 2, which shows, in a different form, the frequency rates for 1942-3-4-5 and this year up to date, the rate being indicated by the height of the stick men. This year's man is taller than last year's, but we have more than half a year left to reduce this height.

We have had a steady and almost uniform reduction in the frequency rate in the four years 1942 to 1945. Let us all do our best to maintain this reduction by constant vigilance and by doing everything possible to avoid accidents to ourselves and our fellow-workers, thus ensuring the continued success of our accident prevention campaign.

A. Elson,
Works Accident Prevention Officer.

(Mr. Elson has recently been promoted to the grade of Officer in the Venerable Order of the Hospital of St. John of Jerusalem in England).

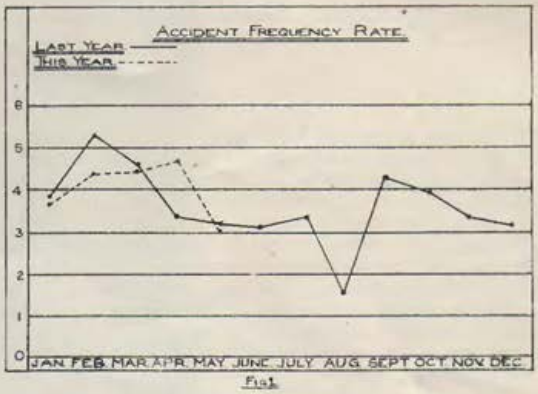


Fig 1.

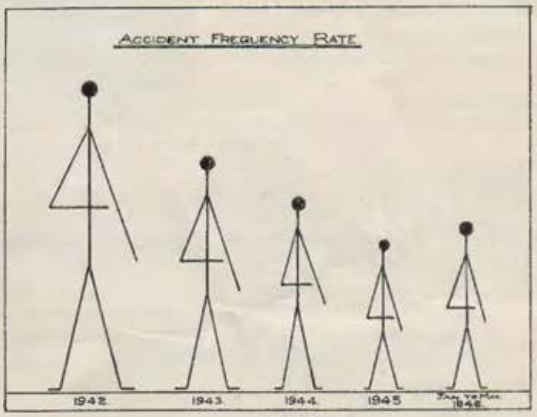


Fig. 2.

ASSOCIATESHIPS IN METALLURGY.

Our congratulations to Mr. Reginald Cook and Mr. Maurice Birkhead, of the United Steel Companies' Research and Development Department at Stocksbridge Works, on being awarded Associateships in Non-Ferrous Metallurgy at Sheffield University recently. Mr. Cook had the added distinction of being awarded the Nesthill Medal as top student at the examination.

Why go in for chance shots ?

Why waste time and money upon contests that offer you very remote chances of winning ? It will pay you better to spend your spare moments in finding ideas which will help to get things done more efficiently, more economically or more speedily in the Works. Concentrate upon suggestions. No entrance fee. No stakes. No stamps. No envelope. Nothing to lose. Much to be gained. Put your ideas in the Suggestions Box.

L. P. Hesp,
Development Engineers.

"The Fox," having introduced our first number, has had second thoughts and now wants to know—

Can a saw tell ?

When the rains came ?

If they wade into it in the Billet Mill ?

Why a slater with the plumbers when the tiler is with fuel ?

Where the pond is in the machine shop—they have the swann ?

If the cutler ever inspects the canteen cutlery ?

What would our Herbert do without the senior day clerk in the Billet Bank ?

If they've caught the crookes in the Siemens ?

Why we can't have a butcher in the Canteen ?

The Electric Steel Department

by F. T. BAGNALL.

ALTHOUGH it was not until 1930 that we entered the field of Electric Steel makers, we were amongst the pioneers of High Frequency Induction Melting. The 500 lbs. unit started up in October, 1930, was the third or fourth such unit to work on a commercial basis in the world, and proved to be the forerunner of what was in 1934 the largest induction installation in the country. The following eleven years saw continued expansion of electric furnace capacity at Stocksbridge, in both Induction and Arc types, and to-day S. Fox & Co. have a reputation second to none for high quality alloy and plain carbon steels.

The expansion of the Electric Steel Department from 1930 to 1941 is detailed below :—

October, 1930—
One 500 lbs. H.F. Induction (150 K.V.A. Generator, 500 f.)

February, 1933—
One 1200 lbs. H.F. Induction (150 K.V.A. Generator, 500 f.)

February, 1934—
One 2 ton H.F. Induction—625 K.V.A. 1120 f.
One 5 ton H.F. Induction—625 K.V.A., 1120 f.
One 5 ton Basic Open Hearth, working in conjunction with the 5 ton H.F. in a duplex process.

September, 1937—
One 5 ton H.F. Induction—an alternative body to the existing 5 ton H.F., increasing the output of duplex to 60 tons per week.

August, 1939—
One 10 ton Arc—3500 K.V.A.

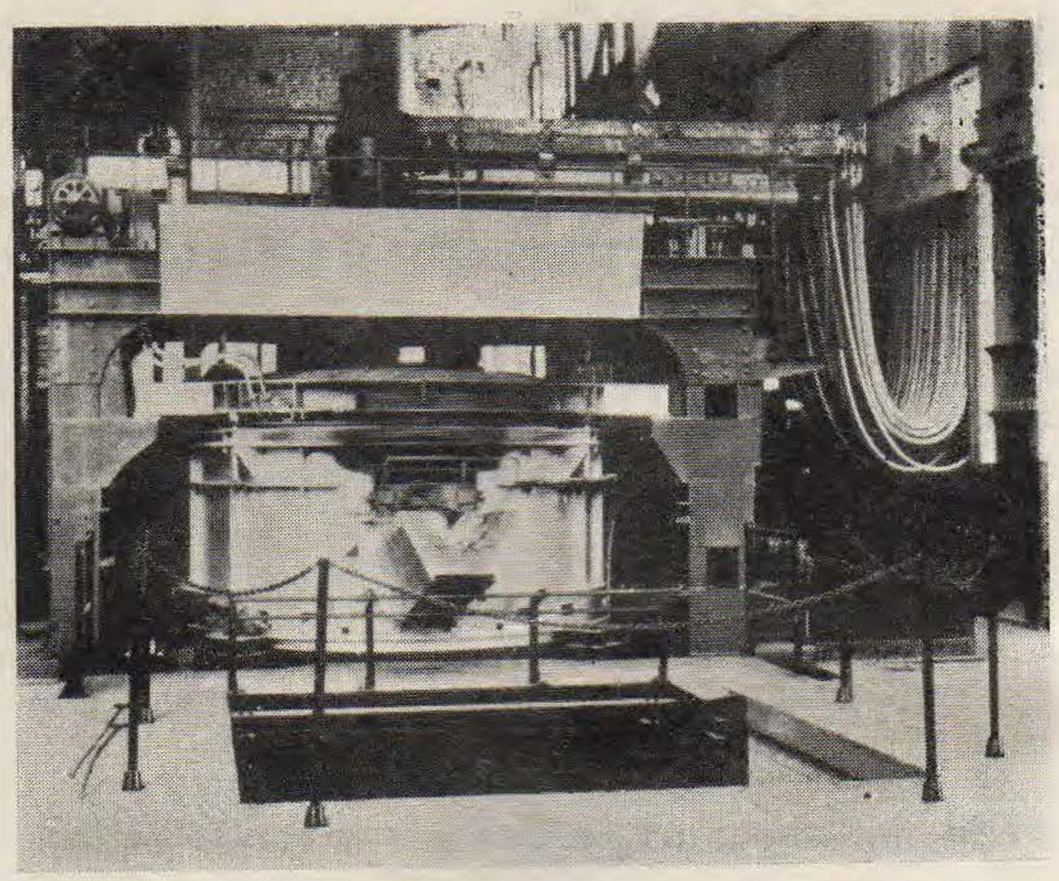
December, 1940—
One 2 ton H.F. Induction 625 K.V.A. 1120 f.

February, 1941—
One 10 ton Arc—3500 K.V.A.

The output of the Electric Steel Department during the peak year of 1943 was 42,000 tons. In September, 1944, the duplex process was finally discontinued. The original 500 lbs. H.F. Induction Furnace was installed more as an experimental unit, but within a few months was working in full production making high quality steels previously produced by the Sheffield crucible process, and during the last 16 years has been fully employed in supplying steel to the Sheffield trades and in the production of higher alloyed steels for our own use. The alternative 1200 lbs. H.F. Induction body was put in as a means of making an ingot large enough to be rolled in the Billet Mill.

From experience gained in this small plant a more ambitious scheme was developed which resulted in what is now known as the E.S.P., and was started up in February, 1934. The Management of those days must be congratulated on their foresight in spending this money during the slump years of the early thirties on a pioneer installation and the largest of its type in the country.

From the outset a very high standard of cleanliness was demanded from this new Shop both as regards the steel product and the Shop in general. Distinctive green overalls were issued to the men and in time they began to realise that a melting shop need not necessarily be the most untidy and dirty department in a Works.

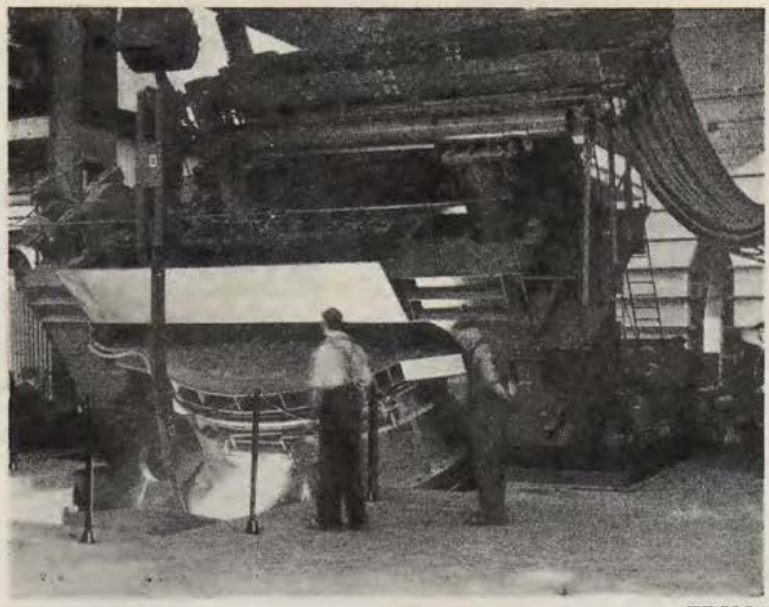


No. 1 ARC FURNACE—TAPPING SIDE.

Much experimental work was done during the ensuing two years in the larger Induction units, and in the development of a unique duplex process, so that immediate advantage could be taken of the improvement in trade towards the end of 1936. "Silver Fox" Stainless qualities were rapidly developed during these years and a reputation gained amongst aircraft manufacturers and other special steel markets.

With the increasing demand for still cleaner steels giving improved mechanical properties it was decided to add an Arc Furnace to the electric melting capacity. This Furnace was started up in August, 1939, and

BASKET CHARGING—NO. 1 10-TON ARC FURNACE.



No. 1
Arc Furnace Tapping.

although introducing an entirely new steelmaking technique, was in full production within a month. The following year a further 2 ton H.F. Induction Furnace was put in, and finally a second 10 ton Arc Furnace in 1941.

It will be of interest to Stocksbridge readers to know that with two exceptions only, all the melting personnel has been recruited from local lads, and they in turn have taken full advantage of the opportunity to learn a new and remunerative trade.

During the war, electric melting capacity increased rapidly throughout this country due to the heavy demands for aircraft and other special steels. Numbers of these war-time plants have since closed down, but, with the exception of the duplex process, the Electric Steel Department here has continued in full production during the last year on peace-time requirements, and can look forward to the future with every confidence.

EDUCATIONAL STAFF.

Apologies.—Our apologies for omitting to mention in the first number in the article "What We Are Doing for the Younger End" that the Staff of the Day Continuation School includes Mr. C. Watkinson, Coke Ovens Under-Foreman, who takes the second year "A" class in Mechanical Drawing and Technology, and Engineering Science and Electricity.

RETIREMENT.

Mr. F. Knowles retired from the service of the Company on the 31st May, 1946.

Mr. Knowles entered the Company's service in 1902. During a great part of his period of employment he occupied the position of Chief Sales Clerk for the Company's heavy carbon steel products. He always had the Company's interests at heart, and his long and loyal service was highly appreciated by the Management.

A presentation of a Lever-movement timepiece was made to Mr. Knowles by Mr. T. H. Howson, on behalf of the General Office staff, on the occasion of his retirement.

Photo : R. Moxon.

A Table in the Wire Department Canteen.

The "SILVER FOX" Lawn Tennis Racquet
with the Stainless Steel Frame.

Special Features :—

1. The special stainless steel frame, which will not warp and does not need a press, is practically indestructible. It possesses the all-important quality of flexibility. It literally "moves" in play and will give an extra zip to the extra pound put behind the stroke.
2. The stainless steel frame is eyeletted, so that gut passes through over a smooth surface and there is no chance of breakage on acute bends. Furthermore, where the bend is sharp, as in the case of the eight centre main strings, these are rubber cushioned which will permit of play without stress.
3. The stainless steel frame is so constructed that the gut is protected from contact with the court. An important feature when the susceptibility of gut to dampness is considered.
4. Speed and accuracy are the essentials of firt-class tennis. These qualities the stainless steel frame possesses.
5. The handle is a normal one of wood, but it is secured without a screw by a "bonding" process perfected in aircraft construction, thus, for the first time, "marrying" metal to wood.
6. Weight, which for so long has been a major problem for the average player, is in the "Silver Fox" a scientific solution. The standard model is suitable for the average man and the light model for the average woman. Any old favourite may be copied but the handle sizes provided will be found pleasing.
7. Finally, the Gut. It is not possible to "better" the best, so Samuel Fox & Co., Ltd., rely on two of the leading manufacturers of English Tennis strings using only the best quality.

Below— **Waiting for his partner to arrive.**
On the Right—**Two stages in the stringing operation.**

Photo : G. CASTLEDINE.

PHOTOGRAPHIC SECTION.

THE Photographic Section is not, of course, a newly-formed branch of the Social Services. The Stocksbridge Works Photographic Society, as the section is known to the outside world, was formed in 1937, and its headquarters were where the Top Yard Medical Department now stands. In 1939 the membership had risen to 60. With the outbreak of war, however, the headquarters were taken over by the A.R.P. and the members found themselves homeless. In the autumn of 1944 a few of the diehards thought it was time to start again and a winter programme of lectures and a portrait group were arranged. The response was so encouraging that a programme of summer outings was arranged for 1945 and negotiations were begun with the Parent Committee for permanent headquarters again. The Society met weekly in the Low Yard First Aid Post during the 1945-46 winter, and late in 1945 premises were obtained at Belmont Drive, Stocksbridge.

These have now been completely equipped and will be formally opened on Saturday, 7th September, when an exhibition of members' work will be held from 3 to 8 p.m. Facilities are provided for members to undertake almost any branch of photographic work and there is full studio equipment for portraiture. Outings are being held this summer and the Committee are hard at work preparing a really fine programme for the winter which will include demonstrations of all kinds as well as talks and exhibitions of prints and lantern slides. The Society issues its own monthly Bulletin to members and circulates a monthly portfolio of members' prints for mutual benefit and criticism. Membership stands at 48 at the time of going to press but the Committee's target is at least 100, as it caters for all—from the beginner to the expert. The day is perhaps not far off when the Stocksbridge Works Photographic Society will be well known outside the Works and its members' efforts on view in the country's leading exhibitions as well as in this Magazine.

D. A. KELLETT, *Hon. Sec.*

HOCKEY SECTION.

This Section commences its winter season at the beginning of September, and extends a hearty welcome to anyone interested. All equipment is provided. Last season's team gained first place in the second division of the Sheffield & District League. Full details may be had from the Secretary, Miss E. Walton, Cost Office.

AMATEUR DRAMATIC SECTION.

SINCE its last production, the Society has been reading a number of plays, with a view to producing one of them to open its winter season.

Whilst reading these plays, the Society was informed of the British Drama League's intention to hold a "Full Length Play Festival." For this purpose any Society, affiliated to the League, is invited to submit any one play which will be criticised when produced by a competent adjudicator. From these criticisms, the winning Societies from each of four areas will take their plays to an agreed centre, early in 1947, for final criticism.

It has now been decided that this Society's entry for the Festival will be its next production, "LIVING ROOM," a comedy drama in three Acts by Esther McCracken, to be presented on Wednesday and Thursday, October 23rd and 24th.

There is still plenty of room in the Society for new and interested members, and all will be welcomed on Thursday evenings in the Victory Club at 7 p.m. More information can be obtained from either Mr. A. Richardson, Chairman, or Mrs. E. M. Charlesworth, Secretary and Producer, Electric Steel Department.

GUARANTEED WORK.

A NATIONAL Agreement has recently been signed by the Iron and Steel Trades Employers and the Iron and Steel Trades Confederation which sets up a new standard of security for the steel worker—guaranteed work. At the time of writing, this agreement has only been signed by the Confederation and of course is only in operation in departments which are governed by agreements with the Confederation. But it is expected that, before very long, the other Unions concerned at these Works will have signed this or very similar agreements.

During the war employment was regulated by the Essential Works Orders, which restricted the freedom of a worker to leave his job, but in return gave him certain rights, one of which was the right to a full week's work at a wage determined by the rate of his normal job. Now these Orders have ceased to operate, the worker is free to leave his job, and the employer is free to release him subject to the normal one week's notice on either side. But the new agreement continues the principle that every man and woman should have the safeguard of a guaranteed number of days' work in any week, at a wage related to that of his normal occupation no matter what work he is given to do. This guaranteed period is four days or shifts during any week. This means that, so long as you are employed in these Works, and so long as this agreement is in force, you can rely on getting four days' work in every week. There will be no need to stress the importance and value of this to those who can remember the days of depression when departments only worked five or six shifts a week.

What will you be paid during these four days? Firstly, if you are working at your normal job for any of this time, you will be paid the normal wages for that job. But if there is not enough work for you at your normal job for the rest of the four days, you will be found alternative work, and will be paid at 90 per cent. of your normal job with a maximum of 20/- per shift. If you are lucky enough to be employed temporarily on a job with a higher rate than your normal one, you will be paid the higher rate. The Cost of Living bonus is not included in your rate when fixing the 90 per cent., but is added in full to the day's wage.

Four days' employment is all you are entitled to in any week, but if you are found a job for the full week, the remaining time will be paid at the rate for the job you are actually doing.

Let us take an example to illustrate how this will work. A man who is usually paid 2/6 an hour plus Cost of Living Bonus of 5/- per shift (at the time of writing) when he is employed at his normal job, works at his job on Monday and Tuesday, and then for some reason there is no more of this work available, and he is given labouring work for the rest of the week. He is therefore paid as follows, assuming that he works 8 hours on each day.

Monday, 8 hours at 2/6, i.e. normal wage 20/- plus 5/- C.O.L.

Tuesday, 8 hours at 2/6, i.e. normal wage 20/- plus 5/- C.O.L.

Wednesday, 8 hours at 90 per cent. of 2/6, i.e., guaranteed payment, 18/- plus 5/- C.O.L.

Thursday, 8 hours, at 90 per cent. of 2/6, i.e. guaranteed payment, 18/- plus 5/- C.O.L.

Friday, 8 hours at 1/3 (approx.), i.e. labouring rate, 10/- plus 5/- C.O.L.

Saturday, 8 hours at 1/3 (approx.), i.e. labouring rate, 10/- plus 5/- C.O.L.

In the above example there was no obligation for the Company to find more than the first four days' work.

It is laid down that in order to claim "guaranteed work" the worker must present himself at the proper time and be willing to perform any reasonable alternative work.

There are several other provisions; for instance, in order to be eligible for guaranteed work and payments you must have been employed by the Company for not less than four weeks, and you must not have been absent from work without proper cause or permission at any time during the preceding three weeks. There are also clauses which deal with the effects of strikes; plant being closed down through avoidable absenteeism of the workers; shortage of raw materials, fuel or power, and the effect of holidays. Broadly speaking, the disciplinary rights of dismissal and suspension are restored to what they were before the War and the Essential Works Orders.

This article is not an official pronouncement of policy by the Company, or even an interpretation of the agreement, but an attempt to explain the broad general principles. The detailed interpretation of its clauses must be made as particular questions arise, and will of course be subject to discussion between the Management and the Unions in the usual way. Copies of the agreement are in the hands of the Managers, Foremen and Trades Union Officials in the departments, and you should go to them for further details.

COLD ROLLED STRIP DEPARTMENT TRIP TO GILLETTE INDUSTRIES LTD.

ON May 17th a large party of C.R. Strip employees, together with friends from other Departments, had their annual outing in London on a visit to Gillette Industries Ltd., Isleworth. The party, numbering 85, left Stocksbridge in two coaches at 6.30 a.m. for Sheffield L.M.S. and arrived in London 11.30 a.m., where coaches were waiting to convey them to the Royal Hotel which was their headquarters during the stay in London. After dinner the journey to Gillette Industries was made by coaches on a twenty minutes' run in brilliant sunshine. On arrival the party were met by Mr. F. C. G. Harris, the Manager of our C.R. Strip Department, and were then split up into groups of ten, each group being introduced to their guide and conducted on a tour of the Works.

In passing through the various Departments it was indeed a revelation to the visitors to see the product of *their* labours taking shape in the form of the world-renowned Gillette blade. Twenty-five Departments were visited and when one remembers that 75 per cent. of the razor strip output of our C.R. Strip Department is for Gillette there was no surprise at the number of questions asked by the visitors of their guides. A few of the Departments visited included Stores, Perforating, Degreasing, Inspection, Hardening, Etching, Lacquering, Joining, Laboratories, Grinding, Wrapping, Polishing, Plating, Packing, Printing, etc. As time and space will not allow for an outline of all these Departments' operations, I will mention one or two processes which were of outstanding interest. The Stores Department, where strip steel direct from Stocksbridge is taken from the racks, examined, and gauged to ensure an uninterrupted flow of steel through the furnaces. Perforating Section, with a machine which stamped blades in pairs at the rate of 500 per minute. It was in this operation that the visitors began to realise the importance of accuracy in gauge of strip and the edges being free from fash. Any faulty section of strip is cut out. Joining and Grinding: the machines which do this are on an exacting precision basis and are completely dependent upon accurate and, above all, uniform steel. They were being fed by coils 2½

GROUP PHOTO TAKEN AT GILLETTE INDUSTRIES LIMITED, ISLEWORTH, MIDDLESEX.

miles long, sufficient to produce 95,000 blades which are ground at the rate of 400 per minute, and finally cut into individual blades and loaded on to chargers by air-jet. The operator controls the product of the machine by microscopic inspection, checking width and centrality with special gauges. The Valet Auto-Strop Razor, also a product of Gillette, was seen in production. In this Department were the presses turning out razors at the rate of 25,000 per day. All other Departments were of great interest to the visitors, but I must hurry along and leave them to your imagination. A wonder to the eye were these machines, designed and built by Gillette, turning out 2,000,000 blades per day.

The tour of the Palace of Industry will be remembered for a long time, and when I say that it was two hours of wonder, admiration, and appreciation, I am sure I am voicing the opinion of everyone who took part.

After the tour the party assembled in the Works Recreation Room to see a talkie film entitled "Bother that Beard." Our General Works Manager, Mr. S. R. Howes, expressed our pleasure and appreciation on our visit in a most admirable manner, not forgetting to mention during his remarks his first contact with Gillette in 1935. Continuing, Mr. Howes made reference to the great changes which had taken place since then, how the years of uncertainty and doubt had been finally swept away, and how we were now hoping for closer co-operation and goodwill in all branches of the steel industry.

Sir E. H. Cooper, Chairman, Gillette Industries Ltd., responded, thanking Mr. Howes for his kind remarks and hoping that everything we had seen had been of interest and to our mutual advantage. Each member of the party was then presented with a Gillette razor and 12 blades and entertained to tea in the Canteen. After this we said "good-bye" to Gillette, and, still conducted by our guides, made the journey to the London Palladium where seats had been reserved for us by our hosts. Our gratitude left its mark in feelings best expressed by one who spoke at random :— "Thank you, Gillette, for your kindness."

Nor can we forget the persons responsible for this well-organised trip and would like to thank personally Mr. Hobbs and Mr. Brooker of Gillette for their kind co-operation with Mr. F. C. G. Harris, who had made contacts before all this could be achieved, and also Mr. A. Laycock, Secretary of the C.R. Strip Outing Club.

What's in a name ?—when that name is Gillette fashioned with such honesty of purpose, craftsmanship, and integrity. Let us try to do likewise, for, believe me, we at Fox's are a part of it.

In conclusion, Saturday morning was spent in a tour of London. Both Houses of Parliament, Westminster Abbey, and St. Paul's were amongst the places visited, and I believe some saw the Panda in Regents Park. The party left London 10.45 p.m., arriving Sheffield 3.40 a.m., where coaches met and conveyed us to Stocksbridge. Thus ended the two days' trip to Gillette, the Palace of Industry. J. DEE.

Miss N. SHEPHERD, Road Transport Manager, with her Staff at S. Fox & Company. Mr. G. JAGGER (*left*) and Mr. T. BIRKHEAD (*right*).

Photo : R. LISMER.

ROAD TRANSPORT.

Owing to the growth of transport by road, about 1928 Stocksbridge Works found it necessary to establish some separate control of this work. It was found useful to do this by lodging the work under its garage organisation, where not only private cars were housed and repaired, but also a number of lorries acquired for the Works use. The Clerk-in-charge, viz., Miss Shepherd, readily took on these additional duties with zest and interest.

In addition to the outside use of the two lorries then owned by the Company and primarily bought for local haulage, Miss Shepherd soon began to provide useful service to the Company by hiring hauliers for outside journeys. This new and quick mode of transport proved attractive both to the Company and the customers, it being found helpful in delivering light steels to the Birmingham area and other parts of the country where deliveries could be made either the same day or over-night, thereby avoiding delay and damage to goods with a saving in packing or "boxing."

Within a couple of years the Management decided that expense could be saved if the Road Haulage of the Combine were concentrated under one control. Miss Shepherd was, therefore, appointed Road Transport Manager for the Sheffield Group of the United Steel Companies. The success of this control can be judged by the fact that estimates showed a saving to the Company of something like £3,000 in the first year.

Prior to 1930 there was little or no authoritative control of the growing road traffic but, from that period, there started and continued a succession of rules, regulations and laws affecting road vehicle drivers and even the very roads on which the vehicles ran, e.g.: In 1933 the Road and Rail Traffic Act imposed a licensing system on all Goods Vehicles which brought them under the jurisdiction of the Chairman of Commissioners, making them subject to "Fair Wages and Conditions of Employment for Drivers," also regulations in regard to speed of travel, safe loading and satisfactory maintenance of vehicles.

During all this time road haulage became more popular and the use of road traffic grew apace. Firms, like ours, acquired more of their own vehicles. This Company found it worth while to obtain vehicles specially for use in connection with Strip, Wire and Umbrella Ribs for delivery specially to the Lancashire and West Riding areas.

We have no records of "Check Weigh" figures prior to 1937, but the total tonnage of outward traffic from these Works alone in that year was approximately 48,000 tons, and by 1944 this had increased to 75,000 per annum.

During the war period, 1939 to 1945, the approximate outward and inward tonnage carried by road for Stocksbridge Works amounted to the colossal figure of 675,000 tons. Surely a notable contribution to the war effort.

CRICKET QUIZ.

(*Answers to questions on page* 5).

1. Yes. Law 12—The ball is not dead.
2. No. Law 16 says he can be out run out or by breaking laws: 26—Obstructing the field—pretence of running; 27—Hitting the ball twice; 29—Handling the ball; 30—Obstructing the field—obstructing a fielder.
3. 8 runs. Law 41 says add 5 runs to those already made when fieldsman stopped the ball other than with his "person."
4. $4\frac{1}{4}''$ maximum width x 38″ maximum length (Law 5).
5. Yes—see Law 50. Although the ball is dead an appeal can be made before the delivery of the next ball.
6. By bending one arm upwards and touching the top of the nearest shoulder with the tips of the fingers of one hand. N. W.

FOX TRAFFIC by O. F. LEWIS, Traffic Superintendent.

OUR railway system comprises about 20 miles of track. The length of the system end to end is 4 miles, and from Exchange Sidings, Deepcar, to the Slab Reduction Plant, is 2¾ miles.

The main-line traffic received from the L.N.E.R. totals some 9,000 tons per week, and the traffic sent out is approximately 3,000 tons per week. These 9,000 tons are brought into the Works in nearly 1,000 wagons —most of which have to be weighed full and empty— and all of which have to be marshalled for setting, set, unloaded, and marshalled again for return to the main-line. Incoming traffic is :—

Coal, slack and coke	350	wagons per week.
Scrap and pig iron	320	,, ,,
Other raw materials	240	,, ,,
Goods	60	,, ,,
Private traders	30	,, ,,
	1,000	

Besides main line wagons the Traffic Department handles a considerable amount of internal traffic.

Wagons set for loading	250	wagons per week.
Wagons set for discharging	250	,, ,,
Rubbish to Morehall Tip	100	,, ,,
Ingot bogies	200	,,
Slag wagons	50	,, ,,
Charging pan bogies	1,000	,,

The rolling stock and other plant under the Departments' control consists of :—

14 locomotives (eleven 6-wheel, and three 4-wheel),
14 steam cranes,
350 Fox wagons,
12 Iron wagons for crop ends,
12 Slab tippler wagons,
6 Ingot bogies,
6 Landaus,
129 Charging pan bogies.

Some 20 per cent. of these, however, are normally under repair.

The chief purpose of the traffic organisation is to give prompt service to all Departments in the most economical manner possible, and to do this in the face of difficulties of maintenance, of the conflicting claims of many Departments and of the layout of some of the plant. As for the economics of Works traffic, one very important factor is the standage charge levied by the L.N.E.R. for the use of main line wagons. This is a charge of 3/6d. per day for every loaded main line wagon. Certain credits are allowed in the standage charge for wagons discharged and wagons loaded out. The longer a wagon remains loaded the higher the standage cost and therefore the reduction of this charge is purely a question of speeding up the discharge of full wagons. This speed depends upon the Traffic Organisation promptly setting wagons in the correct location, and upon Departments promptly discharging them. It is of interest to note that standage charges have been as much as £500 for a week and that on occasion they have been NIL. None of us would entertain paying money and receiving nothing in return for it. Yet our Company face this loss because we leave until to-morrow the discharging which should be done to-day.

The natural contours of the land and particularly the steep valley sides have limited expansion in the middle and created a congested system which is costly to operate. Schemes are under consideration to overcome some of these natural obstacles so that our products will not be unduly burdened by excessive transportation costs.

The complications of our railways are such that a scheme was devised to reproduce the actual traffic position throughout the Works in a pictorial manner so that central control could be made effective. There are up to 1,500 wagons at any one time on the system and their location is clearly shown on the Control Panel. A description of the control system will be given in a future article.

S.W.S.S.C. (TENNIS SECTION).

LEAGUE Tennis has been resumed this season, with a men's team on Saturdays, and a mixed team on Thursdays, playing in the Sheffield and District Parks League, which is now affiliated to the L.T.A.

Both teams are meeting first-rate opposition, but are having a fair measure of success.

The mixed team are joint leaders of the League, they and Firth Park having lost one match only to date.

"A" and "B" Teams were entered in the "Rowlinson Cup" Knock-out competition.

The "A" Team have reached the semi-final and are due to meet Frecheville, and this is expected to be a very even match.

The "B" Team went out of the competition after playing Hillsboro' "A" away.

Several members entered the Sheffield Parks Singles and Doubles Tournaments and of those to earn chief praise are Mrs. Roebuck and Miss K. Beaumont, who have reached the final in the Ladies' Doubles which is yet to be played.

C. Morton and Miss M. Charlesworth lost in the semi-final of Mixed Doubles, after a long and very hard game against B. Rosen (Weston Park) and Miss I. Thorpe (Firth Park), who are both players with great experience.

Many juniors are showing good promise and to gain them experience friendly matches have been arranged for them with Frecheville Juniors.

They won their match at home by 7 rubbers to 1, after some very good and keen games, and they are looking forward to the return match when they go to Frecheville. T. OATES, *Secretary*.

Our congratulations to Mr. T. Oates, on being elected Chairman of the Sheffield Parks and Associate Clubs Lawn Tennis Association. Mr. Oates has now completed 20 years on the Executive of this Association.

On Sundays, the difference between the four races inhabiting these islands :—

The Scotsman keeps the Sabbath and anything he can lay his hands on !
The Irishman doesn't know what he believes and is prepared to fight for it !
The Welshman prays on his knees and on his neighbours !
The Englishman is a self-made man and worships his maker !

"THEY CAME TO A VALLEY."

A Story—almost—but perhaps, not quite, true.

by E. B. LARGE.

THE scene is a Mill Office. The Mill Manager arrives. He scans the previous day's output figures of his various sections, and, as he reads, sticks out his chest with pardonable pride (or flatulence if it's his bacon-for-breakfast morning), and prepares for work. The conversation with his immediate assistants (this one has two) then goes something like this :—

M.M. : Send the boy for the Mill Foreman.

A.1 : The boy is at school to-day.

M.M. : We have two boys, I believe.

A.2 : The other one has gone to see Mr. Goodram, the Education Supervisor, about a change of occupation.

M.M. : Well, will you just get the Foreman in ?

A.1 : The Foreman is at T.W.I. this morning.

M.M. : Oh ! — let's have the Furnaceman in then about this question of gas.

A.2 : The Furnaceman has gone to see Mr. Elson, the Safety First Officer, in regard to some protective clothing.

M.M. : Bring in the Canteen cleaner—I'll have a word about the tea leaves and eggshells in that outside grate.

A.1 : The Canteen cleaner has gone to see Miss Johnston-Smith, the Women's Welfare Supervisor, about the difficulty in getting cleaning materials.

M.M. : Do you think I might have a word with the ex-soldier who started yesterday ?

A.2 : I don't really—he's gone for a pow-wow with Major Carrington.

M.M. : Where's the labourer who is tipping his rubbish outside the Mill door ?

A.1 : He's gone up to Mr. Steel, the Masseur, to have his rheumatism rubbed.

M.M. : Is it possible for me to have a word with the man who is complaining of fumes affecting his chest ?

A.2 : Not at the moment—he's gone to see Dr. Hartley, the M.O.

M.M. : Please, may I tender a word of sympathy with the man whose wife was taken ill yesterday ?

A.1 : I'm afraid not ; he's gone to see Mr. Peace, of the Hospitals Committee, for a "Hospital Recommend" for his wife.

M.M. : Well then, fetch in that fellow who has been late three mornings on the run.

A.2 : We can't ; he's gone to Mr. Walton, at the Works House, for a permit to buy an alarm clock.

M.M. : Is the Works Council Representative available ?

A.1 : No. He's gone to a Sub-Committee meeting !

M.M. : Fetch in the Union Secretary.

A.1 : He's gone to see the Chief.

M.M. : If it's not asking too much—is anybody working ?

A.2 : Oh, yes. Robson's men are laying concrete outside !

At this stage the Mill Manager picks up his homberg (the one with the wavy brim), and slowly leaves the Office, with a look of infinite sadness on his face.

A.2 : Warm again !

A.1 : Sez you !

This is not the end of the story—oh dear no—these good people return, eventually, and want to see the Mill Manager, and this is what happens :—

The first one to return knocks on the Office door and puts his head inside—there's nobody in. He gets hold of that blessed institution—the nearest Chargehand—and the conversation follows these lines :—

First Return : Where's the Mill Manager ? I want to speak to him.

Chargehand : You'll not see him any more to-day, son.

First Return : Why—where is he ?

Chargehand : He's showing a party of ex-Admirals, Generals, and Air Marshals round the plant.

First Return : Well, where's Assistant One ?

Chargehand : He's showing some Technology blokes round.

First Return : Is Assistant Two about ? He'll do.

Chargehand : No. I'm afraid you've had it, chum ; he's trying to show some junior student wallahs what they can't read in books, and it'll take him all afternoon.

First Return : Cor, Blimey ; you can never see anybody in this dump !

Chargehand : Well, now, if you really want to see one of 'em so urgent to-day, if you care to wait after half past five, you might get a chance then 'cos they'll be here until nine o'clock showing three parties of visitors from Appleby round.

First Return : What ! Me stop after five thirty, to see them ! What you take me for ?

FOOTBALL SECTION.

BRIEF REPORT ON LAST SEASON'S ACTIVITIES.

THE following Leagues and Cup Competitions were entered :—Amateur League ; Intermediate Leagues, 14 to 16 years and 16 to 18 years ; Junior Cup and Intermediate Cup.

The Amateur League team had a very good season and finished fourth in the League.

P.	W.	L.	D.	F.	A.	Pts.
22	13	7	2	50	28	28

Junior Cup.—We reached the third round in this competition.

1st round v. Lowoods at Bolsterstone	Won 4—0
2nd round v. Oughtibridge at Bracken M.	Drew 1—1
2nd round—Replay at Oughtibridge	Won 4—2
3rd round v. Green's Welfare at Ecclesfield	Lost 4—2

Intermediate League (16 *to* 18).—This team consisted of old and new players and one or two were played in the Amateur Team on odd occasions.

P.	W.	L.	D.	F.	A.	Pts.
18	7	9	2	72	69	16

Intermediate League (14 *to* 16).—This team was a new venture and in order to run this team we had to apply to the Football Association for an allocation of coupons to purchase a set of football kit. We found some promising youngsters who will be an asset to the Club in future years.

P.	W.	L.	D.	F.	A.	Pts.
21	11	10	0	72	70	22

Intermediate Cup.—The 16 to 18 team competed in this competition but did not survive the first round, losing to Atlas and Norfolk away 8-1.

A match was arranged with Huddersfield "A" for the benefit of the Stocksbridge Welcome Home Fund. The match was drawn 1-1.

BAR MILL TEAM.

Back row : Spooner, Shale, Newton, Green, Crawshaw, Gains.

Front row : Tomlinson, Burton, Hoyle, Holmes, Marsh.

Photo : A. SCOTT.

ELECTRICIANS' TEAM.

Back row : Smethurst, Marsden, Copley, Pryce, Plant.

Front row : Moss, Wood, Booth, Hunter, Smith, Davies.

Photo : A. SCOTT.

Inter-Departmental Knock-out Competition.—The Committee again decided to promote this competition, and plenty of enthusiasm prevailed throughout the competition. The semi-finals and final attracted 4,000 people.

SEMI-FINAL :—

Electricians	4	Strip	1
Bar Mill	5	General Office	1

FINAL :—

Bar Mill	2	Electricians	1

(After extra time).

Five players were injured in this competition and were unable to work for short periods. The Committee arranged a Dance for their benefit.

H. COOK,
Hon. Sec., Football Section.

1946-47 *Season.*—The Section is running three teams this season : 2 Senior and 1 Junior, and they have entered the following Leagues : Amateur League, Premier League, Drake League, and the following Competitions : Wharncliffe Charity Cup, Junior Challenge Cup, and the Amateur League Cup.

"THE SCRATCH THAT TURNED SEPTIC."

Insignificant said the Worker,
Inattention said the Foreman,
Inflammation said the Works Doctor,
Incurable said the Hospital Surgeon,
Incredible said the Mourners,
Interred said the Undertaker,
In peace said the Tombstone!

—*Improvisation on a theme of common occurrence by one of our Staff.*

Photo : R. LISMER.

The Works Gardener, Mr. G. Ruffel, in a plot of fine autumn-sown cabbage on the Company's premises. Thanks to the efforts of Mr. Ruffel and his staff, there are few bare patches of any size in the Works not covered by flowers or vegetables.

OVERHEARD IN "THE LOCAL."

"There's enough tea supped in Fox's in a week to float a submarine."

Resident of Bolsterstone's opinion of the local U.D.C. : "As long as yon clock tower's awreet, that's all they care."

THE PAY ROLL.

At the time of going to press we have 5,034 men and 964 women on the pay roll—a total of 5,998 employees. There are still 626 employees in H.M. Forces, giving a total of 6,624 on the Company's books.

GARDEN AND HORTICULTURAL SECTION.

August.—Make another sowing of cabbage and Tripoli onions, as these will come in very useful next spring before the spring sown are ready. Feed runner beans with a solution of one tablespoon of sulphate of ammonia per gallon of water ; keep away from stems and leaves. If you are considering planting a few fruit trees or flowering shrubs you should study catalogues and note progress of trees in your own particular district. Remember we are approximately 700 feet above sea level, and if planting fruit trees choose the mid- and late-season varieties to miss the late frosts. A few good flowering shrubs, starting February, are : Jasmine (climbing) ; March and April : Daphny ; April and May : Forsythia ; all these flower before any leaves appear. Burberry, double cherry (Kiza Kura) ; May : Almond, Ribei (red and white), Lilac, Japonica, Azelea ; June : Rhododendrum, Laburnum, Wiglearea, Hydrangea ; July : Cotoneaster (berries during winter), Lavender, Veronica (blue and white) ; August : Fuchsias and Buddlura. Take cuttings of geraniums and pinks, layer carnations, disbud early chrysanthemums, thin out old wood from black currants and raspberries and mulch to encourage new growth.

September.—Harvest onions and keep only the best. Hang these up in an airy shed after drying outside. Sweep worm casts from lawns. Plant cabbage on ground cleared of potatoes. Lift dahlias and gladioli. Hedges and shrubs should be finally trimmed for the season. Trim rockeries up. Cut out old wood from rambler roses and tie new growths into position.

C. HARROP, *Chairman.*

THE ANNUAL VEGETABLE & FLOWER SHOW

will be held in the Victory Club on Saturday, 31st August. Classes include open and closed vegetable and flower, and bottled fruit in closed class only. The usual prizes will be awarded, with special prizes for firsts in both classes. The potato-weight lifting Competition is being held as usual this year.

The Grow More Food Garden and Allotments Competition is being held again this year by the Urban District Council. Prizes awarded are one of 30/- and two of 15/- for firsts, and one of 30/- and two of 15/- for novices who have not previously won a money prize. The Committee hope that members will give the Competition their whole-hearted support at this time of food shortage. The Section's Store Shed is open every Tuesday night, 6 to 8 p.m., for members to buy their goods and place orders. For slugs on lettuce, try our Campbell's slug killer, and for black fly on broad beans our Campbell's Nicotine dust.

G. S. HAGUE, *Secretary.*

If "Yendis" will send his name to the Editor his poetry may be published.

If anyone in your Department hasn't got a copy of this issue it may be that they haven't signed their name on the lists which have been sent out. We know we have not covered every corner of the Works but we have tried to. The best thing to do is to see your Works Council Representative—he may have a few copies left.

Readers may be interested to know that other Branches of the United Steel Companies are publishing Works Magazines—Appleby Frodingham are issuing theirs every two months ; Steel, Peech & Tozer every month ; and Workington every week in the form of a Works Bulletin.

The Evolution of Factory Law.

At the end of the 18th century, following the invention of the steam engine and other mechanical devices, the textile industries began to change from cottage employment to factory life, and, in this transition, vicious commercial considerations demanded cheap labour which included the exploitation of children. Many of these were pauper children who by virtue of an Elizabethan Act, were apprenticed, with little or no regard for humanity, to various trades by the Poor Law Authorities. These "pauper apprentices" were treated abominably. They worked long hours both night and day, sleeping in each other's beds alternately. The home amenities and the food were of the meanest kind.

In this rotten soil the seed of factory legislation was planted in 1802, when an Act was passed "for the preservation of the health and morals of apprentices employed in cotton and other mills and factories." It required the employer to provide the children with clothing and proper living accommodation, limited their day employment to 12 hours and prohibited night work altogether. The Act also demanded attendance at Church once a month and some daily school instruction.

Not much came of this until 1819, when another Act was passed limiting the employment in cotton mills of all children under 16 years of age to 12 hours a day and 72 in a week. The minimum age for employment was 9 years.

Owing to lack of administration, which lay with the Justices of the Peace, who were often interested parties, this Act did not go very far either, and in 1833 the famous "Althorp Act"—so named from Lord Althorp who introduced it—applicable to all textile factories was placed upon the statute book. It defined "children" as those between 9 and 12 years of age, and for them the maximum day employment was 9 hours and 48 per week. The older children up to 17 years of age were designated "young persons" and they were permitted to work 12 hours per day and 69 weekly. Children had to attend school for 2 hours daily and the onus of providing this instruction was put upon the employer. For the first time Government Inspectors were appointed, with judicial functions, including powers to make rules and orders necessary for enforcing the Act. As there were about 3,000 textile factories and only 4 Inspectors, the difficulties were extreme. The only State social service was the Poor Law, and there was no compulsory registration of birth. As the only record of birth was usually an entry in the family Bible the ages of children were difficult or impossible to obtain. Thus, it was easy for unscrupulous or impoverished parents to defy the Act. There was no system of compulsory education and there was a dearth of schools; in some large industrial areas none at all. A common educational establishment was the "Dame School" in most of which the standard was deplorable. Some of the mistresses were not averse to giving false certificates of attendance, others were most illiterate, as witness the following extract from a list of school certificates :—

> "this is to certify that 1838 thomas Cordinly as attend martha insip school two hours per day January 6."

The Inspectors persuaded some factory owners to set up their own schools, but these were often unsatisfactory, as it was a common practice to employ as teachers former employees who had been injured and incapacitated from working in the mills.

As could be expected there was much opposition between philanthropically minded people on the one hand and a section of employers backed by politicians who deprecated the Government meddling in industrial affairs. The former gradually triumphed, and it must be said also that there were quite a number of well-minded employers who exhibited some regard for their workers.

Next came an Act of 1844, followed by another in 1847. The former instituted legislation for safeguarding certain parts of machinery. The employment of women and young persons was limited to 10 hours a day and 58 a week, but this was countered by the employers working on the shift system in relays so that it was most difficult to check the precise hours worked by any individual. The length of compulsory attendance at school for children was increased and from this the "half-time system" was evolved whereby the children spent their time alternately at the factory and school. This system remained legal until 1918.

The year 1864 was marked by further progress when an Act extended the provisions of previous statutes, applicable only to textile factories, to certain non-textile factories and workshops. Two further Acts were passed in 1867 dealing with safety and sanitation, and it was small wonder that it was found necessary to consolidate the patch-work of previous legislation. This was done by the Factory and Workshop Act, 1878, which applied practically to all manufacturing industries.

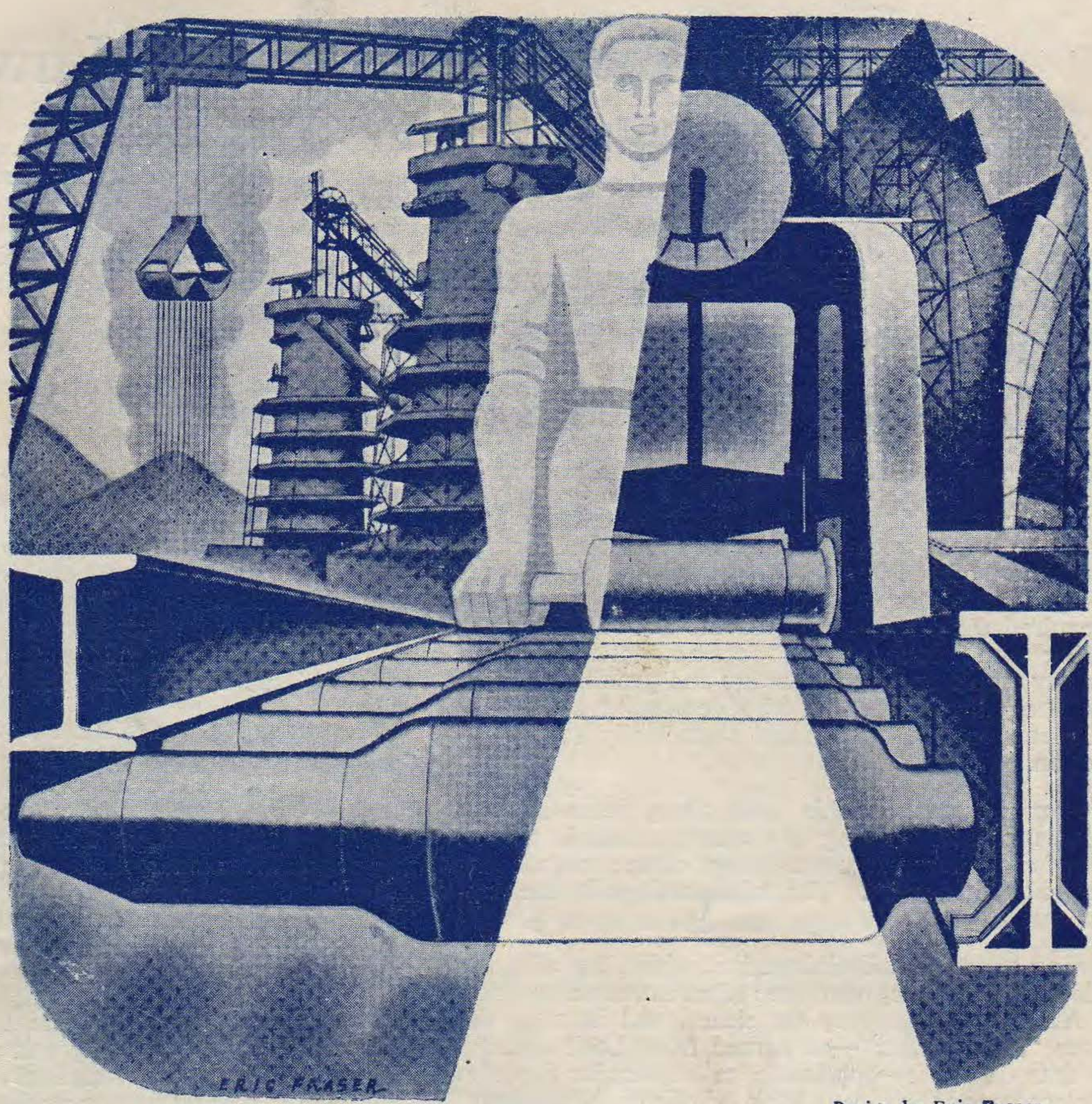
The current of improvement still flowed on and following various amending and strengthening Acts in 1883, 1889, 1891, 1895 and 1897, the need for consolidation was again urgent, and the Factory and Workshop Act, 1901, followed. This Act included the power of the Secretary of State to make Special Regulations relating to proved dangerous processes to which they applied automatically.

Again, amendments followed, including the application to laundries in 1907, the compulsory provision of certain welfare amenities in 1916, and the requirement of first-aid equipment for all factories in 1923.

Finally came the Factories Act, 1937, which had the two-fold object, to consolidate the previous statutes and also to bring the law more into line with modern ideas of working life and industrial environment. The Bills preceding the passing of the Act were discussed on all points of detail by representatives of employers, employees and the Home Office; ultimately agreement was reached and the final Bill had a smooth passage through Parliament. The Act embodies practically every aspect of safe, healthy and comfortable conditions of work and is a glorious milestone at the end of the long road from 1802.

E.L.M.

Contributions for the next number are invited. They should be addressed to the Editor, Mr. John A. Atkinson, Stainless Steel Section, and the closing date is Saturday, 28th September, 1946. The Editor requests that employees wishing to write under a nom-de-plume should send their name and Department, otherwise their contribution cannot be published. The Editor does not necessarily agree with opinions expressed, nor do these necessarily represent the Company's policy.



Design by Eric Fraser

MOSAICS OF STEEL

NUMBER TWO

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